Regional Climate Week

Latin America and the Caribbean

Panama City, Panama – 23-27 October 2023

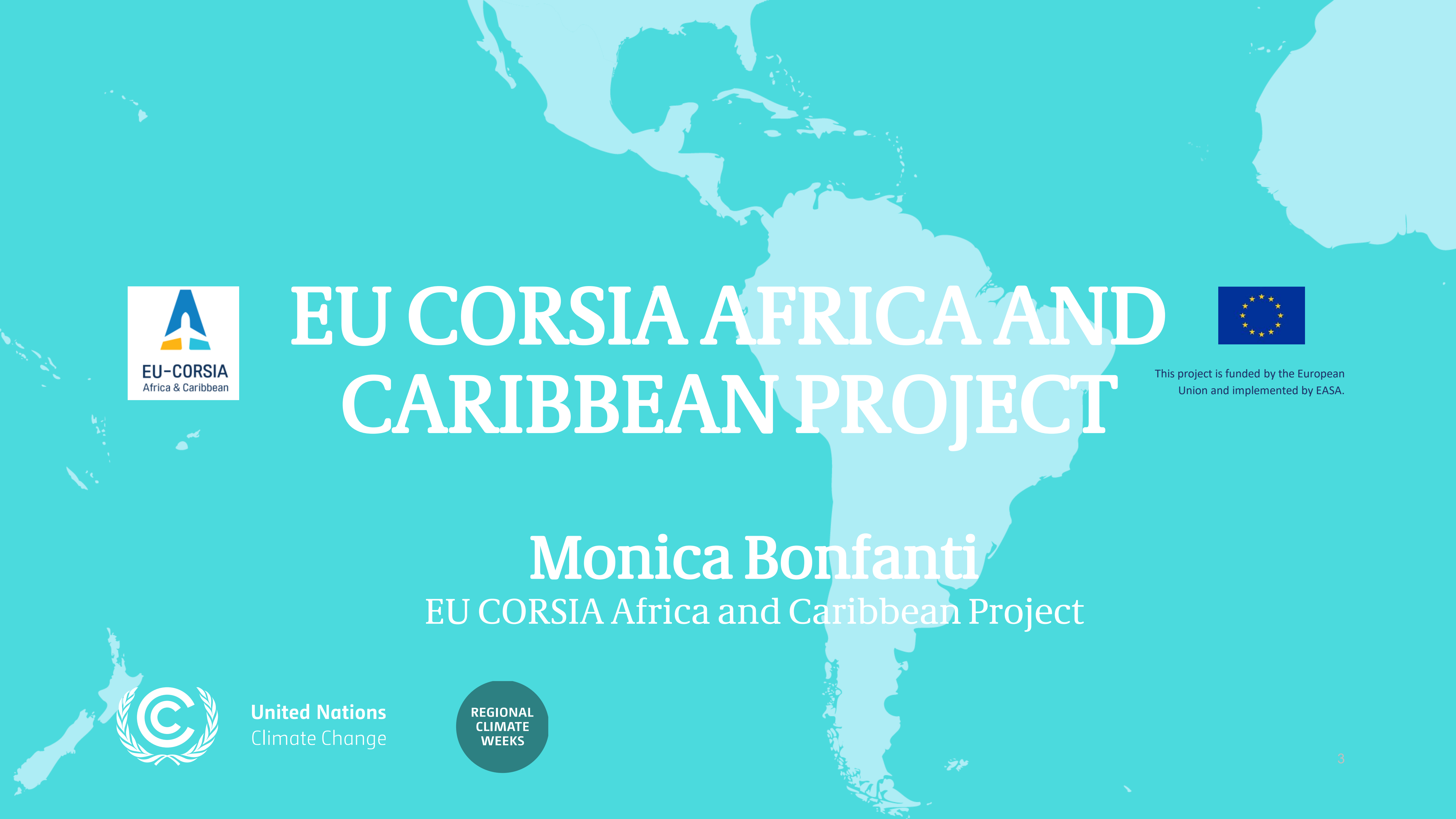
United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Introduction to national and international compliance carbon markets

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS



EU-CORSIA
Africa & Caribbean

EU CORSIA AFRICA AND CARIBBEAN PROJECT

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

Monica Bonfanti

EU CORSIA Africa and Caribbean Project

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

EU CORSIA AFRICA AND CARIBBEAN PROJECT

Capacity building for CO_2 mitigation from international aviation Africa and the Caribbean	
Location(s) of the action:	Sub Saharan Africa and the Caribbean
Financed by	The European Union
Implementing partner	European Union Aviation Safety Agency
Start date **End date**	19 December 2019 12 January 2024

Now extended until 12 January 2025

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Overall Project Objective

The **overall objective** of this project is to mitigate greenhouse gas emissions from the civil aviation sector,

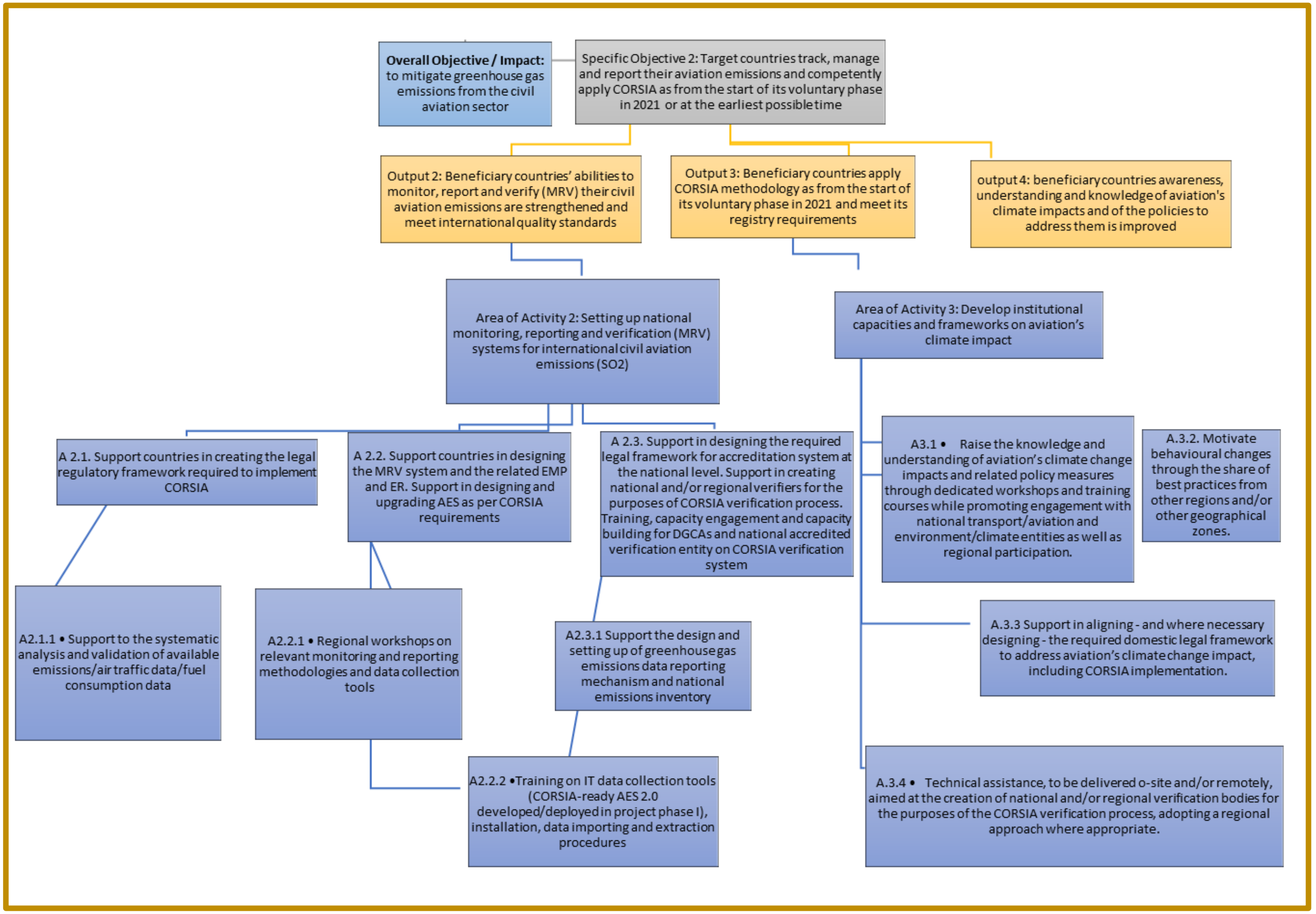
more specifically:
to assist specific states to meet their obligations under the Chicago Convention with regard to the United Nations Sustainable Development Goal (SDG) № 13— Take urgent action to combat climate change and its impacts.

Project Goals and Expected Results per area of activity

States’ abilities to monitor, report and verify (MRV) their civil aviation emissions are strengthen and meet international quality standards

States apply CORSIA methodology, meet its registry requirements and apply CORSIA as early as possible

States’ awareness, understanding and knowledge of aviation’s climate impacts and of the policies to address them is improved



Overall Objective / Impact: to mitigate greenhouse gas emissions from the civil aviation sector

Specific Objective 2: Target countries track, manage and report their aviation emissions and competently apply CORSIA as from the start of its voluntary phase in 2021 or at the earliest possible time

Output 2: Beneficiary countries’ abilities to monitor, report and verify (MRV) their civil aviation emissions are strengthened and meet international quality standards

Output 3: Beneficiary countries apply CORSIA methodology as from the start of its voluntary phase in 2021 and meet its registry requirements

output 4: beneficiary countries awareness, understanding and knowledge of aviation's climate impacts and of the policies to address them is improved

Area of Activity 2: Setting up national monitoring, reporting and verification (MRV) systems for international civil aviation emissions (SO2)

Area of Activity 3: Develop institutional capacities and frameworks on aviation’s climate impact

A 2.1. Support countries in creating the legal regulatory framework required to implement CORSIA

A 2.2. Support countries in designing the MRV system and the related EMP and ER. Support in designing and upgrading AES as per CORSIA requirements

A 2.3. Support in designing the required legal framework for accreditation system at the national level. Support in creating national and/or regional verifiers for the purposes of CORSIA verification process. Training, capacity engagement and capacity building for DGCAs and national accredited verification entity on CORSIA verification system

A2.1.1 • Support to the systematic analysis and validation of available emissions/air traffic data/fuel consumption data

A2.2.1 • Regional workshops on relevant monitoring and reporting methodologies and data collection tools

A2.3.1 Support the design and setting up of greenhouse gas emissions data reporting mechanism and national emissions inventory

A2.2.2 •Training on IT data collection tools (CORSIA-ready AES 2.0 developed/deployed in project phase I), installation, data importing and extraction procedures

A3.1 • Raise the knowledge and understanding of aviation’s climate change impacts and related policy measures through dedicated workshops and training courses while promoting engagement with national transport/aviation and environment/climate entities as well as regional participation.

A.3.2. Motivate behavioural changes through the share of best practices from other regions and/or other geographical zones.

A.3.3 Support in aligning - and where necessary designing - the required domestic legal framework to address aviation’s climate change impact, including CORSIA implementation.

A.3.4 • Technical assistance, to be delivered o-site and/or remotely, aimed at the creation of national and/or regional verification bodies for the purposes of the CORSIA verification process, adopting a regional approach where appropriate.

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Selection of STATES supported by the project

Angola Botswana
Cape Verde
Cameroon
Ethiopia Ghana Kenya
Malawi Mauritius
Mozambique
Namibia Nigeria
Rwanda Seychelles
South Africa
Sudan
UR of Tanzania
Uganda Zambia
Zimbabwe
The Gambia
South Sudan

Antigua and Barbuda
Bahamas Barbados
Belize Cuba
Dominican Republic
Guyana Jamaica
St. Lucia
Trinidad and Tobago
Grenada Haiti
Saint Kitts and Nevis
Suriname

Benin Burkina Faso
Burundi
Union of the
Comoros
Côte d'Ivoire DR
Congo
Equatorial **Guinea**
Gabon (ES)
Mali Mauritania
Madagascar **Niger**
Senegal Togo

TUNESIA
MOROCCO
ALGERIA
LIBYA
EGYPT
WESTER SAHARA
ERITREA
LIBERIA
EQUATORIAL GUINEA
SAO TOME & PRINCIPE
SEYCHELLES
COMOROS
MAURITIUS
AZILAND
LESOTHO

THE BAHAMAS
CUBA
DOMINICAN REPUBLIC
Puerto Rico (U.S.)
JAMAICA
HAITI
IZE
HONDURAS
ANTIGUA AND BARBUDA
ST. KITTS AND NEVIS
DOMINICA
NICARAGUA
ST. VINCENT AND THE GRENADINES
ST. LUCIA
BARBADOS
GRENADA
TRINIDAD AND TOBAGO
STA ICA
PANAMA
VENEZUELA
GUYANA
SURINAME
French Guiana (FRANC
COLOMBIA

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

EU LAC Aviation Partnership Project (APP) II

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

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

EU LAC APP II Key facts

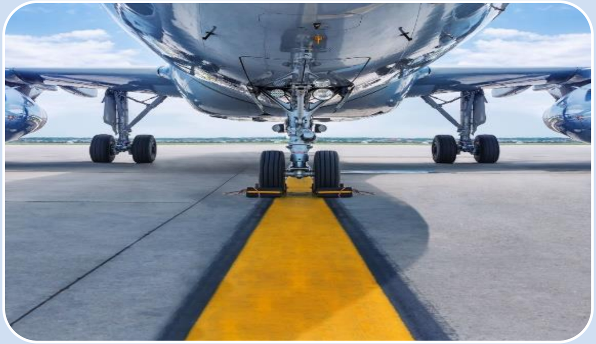
Funded by the EU € 4.000.000	Includes: Argentina, Brazil, Chile, Colombia, Dominican Republic, Mexico, Panama LACAC, SRVSOP, CASSOS, ACSA	Coordinated with international partners	1 June 2022 31 May 2025

Overall objective

Enhance the role of the EU as a global actor in the domain of civil aviation, promoting a level playing field on the aviation market through continued and new partnerships with Latin America and Caribbean key partner countries and at regional level

Specific objectives

Strengthen institutional relations, deepen dialogue and cooperation between aviation authorities, encourage regional cooperation and support implementation of aviation agreements



Promote industrial exchanges and support EU competitiveness in those markets. Facilitate a more secure, more compatible and less restricted access for European industry

Increase mutual awareness of aviation best practices, promote EU standards, raise environmental protection efforts and encourage climate action.

Bilateral activities - Environment

ACSA/COCESNA

Support in fulfilling CORSIA obligations

Participation in the GEPEJTA

National/

Regional Action Plan

COLOMBIA

CORSIA implementation

National Action Plan

MEXICO

Support in fulfilling CORSIA obligations

CHILE

Definition, implementation of a SAF roadmap. Vuelo Limpio. Mesa redonda

SAF and environmental capacity building

ARGENTINA

Process for accreditation of verifiers entities under CORSIA

ICAO CORSIA

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

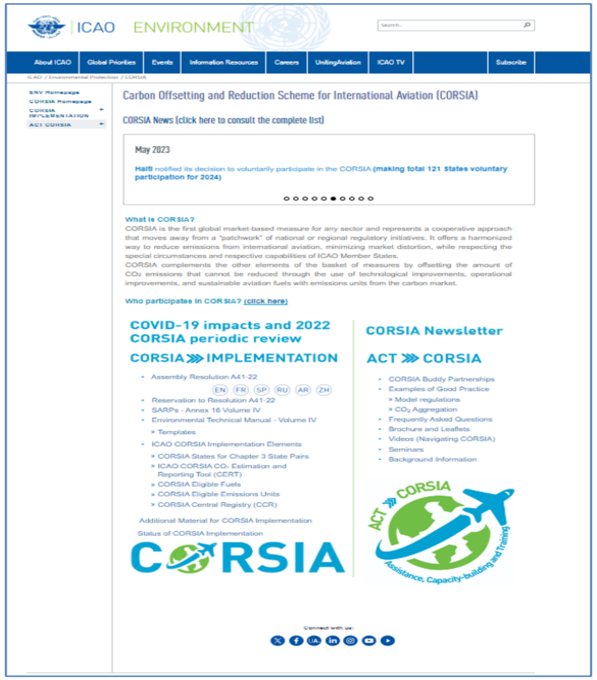
ICAO CORSIA

ICAO ENVIRONMENT
CORSIA
CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION
IMPLEMENTATION PLAN

ICAO CORSIA Website

https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx

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, independently of their participation in CORSIA.


ICAO ENVIRONMENT
Search...
About ICAO
Global Priorities
Events
Information Resources
Careers
UnitingAviation
ICAO TV
Subscribe
ICAO / Environmental Protection / CORSIA
ENV Homepage
CORSIA Homepage
CORSIA IMPLEMENTATION
ACT CORSIA

Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

CORSIA News (click here to consult the complete list)

May 2023

Haiti notified its decision to voluntarily participate in the CORSIA (making total 121 States voluntary participation for 2024)

What is CORSIA?

CORSIA is the first global market-based measure for any sector and represents a cooperative approach that moves away from a "patchwork" of national or regional regulatory initiatives. It offers a harmonized way to reduce emissions from international aviation, minimizing market distortion, while respecting the special circumstances and respective capabilities of ICAO Member States.
CORSIA complements the other elements of the basket of measures by offsetting the amount of CO₂ emissions that cannot be reduced through the use of technological improvements, operational improvements, and sustainable aviation fuels with emissions units from the carbon market.

Who participates in CORSIA? (click here)

COVID-19 impacts and 2022 CORSIA periodic review

CORSIA ≫ IMPLEMENTATION

- Assembly Resolution A41-22
  EN FR SP RU AR ZH
- Reservation to Resolution A41-22
- SARPs - Annex 16 Volume IV
- Environmental Technical Manual - Volume IV
  - Templates
- ICAO CORSIA Implementation Elements
  - CORSIA States for Chapter 3 State Pairs
  - ICAO CORSIA CO₂ Estimation and Reporting Tool (CERT)
  - CORSIA Eligible Fuels
  - CORSIA Eligible Emissions Units
  - CORSIA Central Registry (CCR)

Additional Material for CORSIA Implementation

Status of CORSIA Implementation

CORSIA Newsletter

ACT ≫ CORSIA

- CORSIA Buddy Partnerships
- Examples of Good Practice
  - Model regulations
  - CO₂ Aggregation
- Frequently Asked Questions
- Brochure and Leaflets
- Videos (Navigating CORSIA)
- Seminars
- Background Information

CORSIA
ACT CORSIA
Assistance, Capacity-building and Training
Connect with us:

ICAO CORSIA

C

- Carbon Dioxide Emissions
- Fuel burnt * Emission Factor 3.16

O

- CORSIA is an **offsetting** scheme
- Emissions from one sector are compensated through emissions reductions elsewhere
  1 offset = 1 tonne of CO2 (tCO2)

ICAO CORSIA

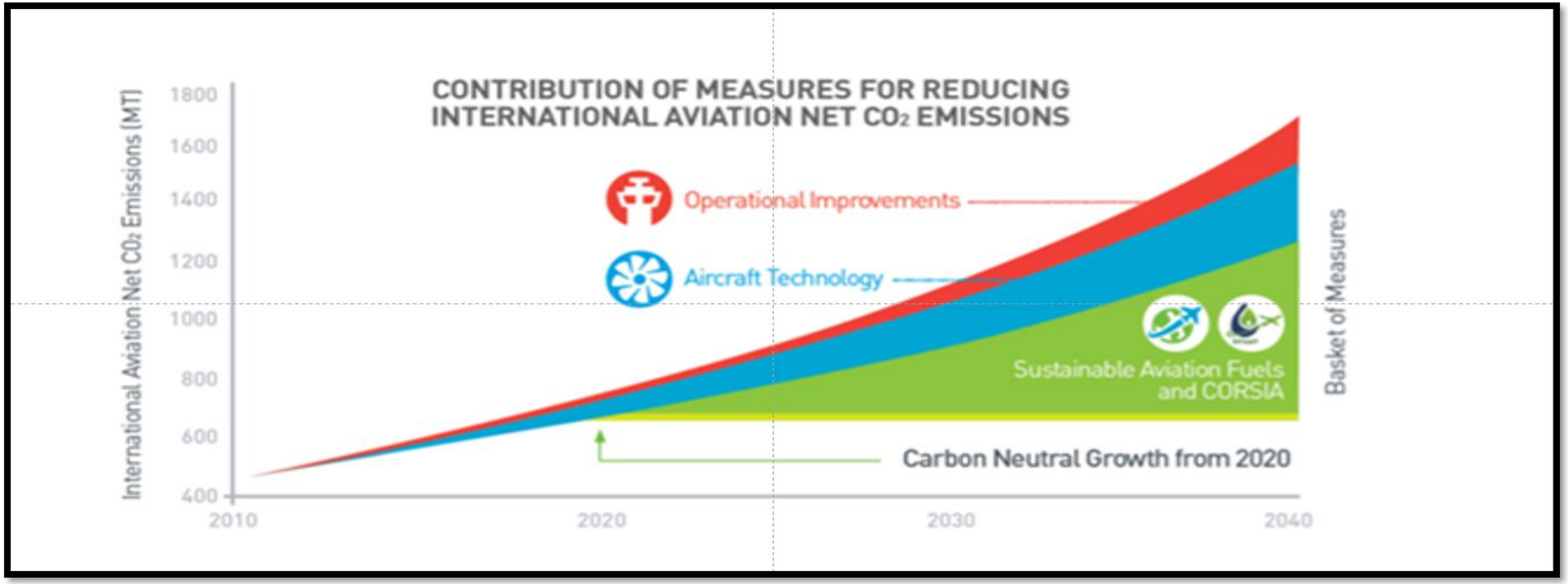
RS

- CORSIA is a global Market Based Measure (MBM) aimed to help reduce emissions to achieve ICAO's goal of carbon neutral growth from 2020 (CNG 2020)
- It is complementary to aircraft technology, operational improvements and sustainable aviation fuels, and fills the gap these measures can't achieve

IA

- CORSIA addresses emissions from international flights
- An international flight is when an aircraft departs from a one State and lands in a different State

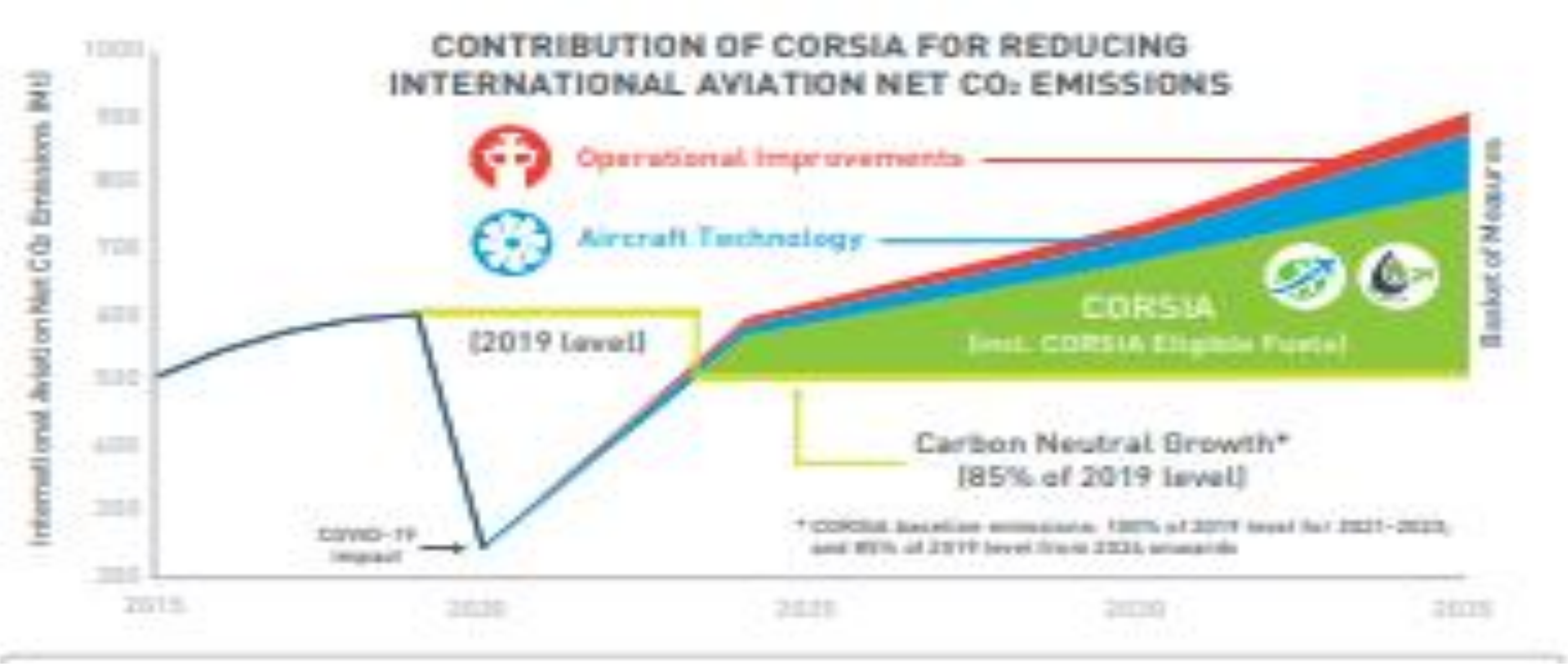
Role of CORSIA as a Reduction Scheme, Market -Based Measure- to decarbonise the aviation sector-



United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

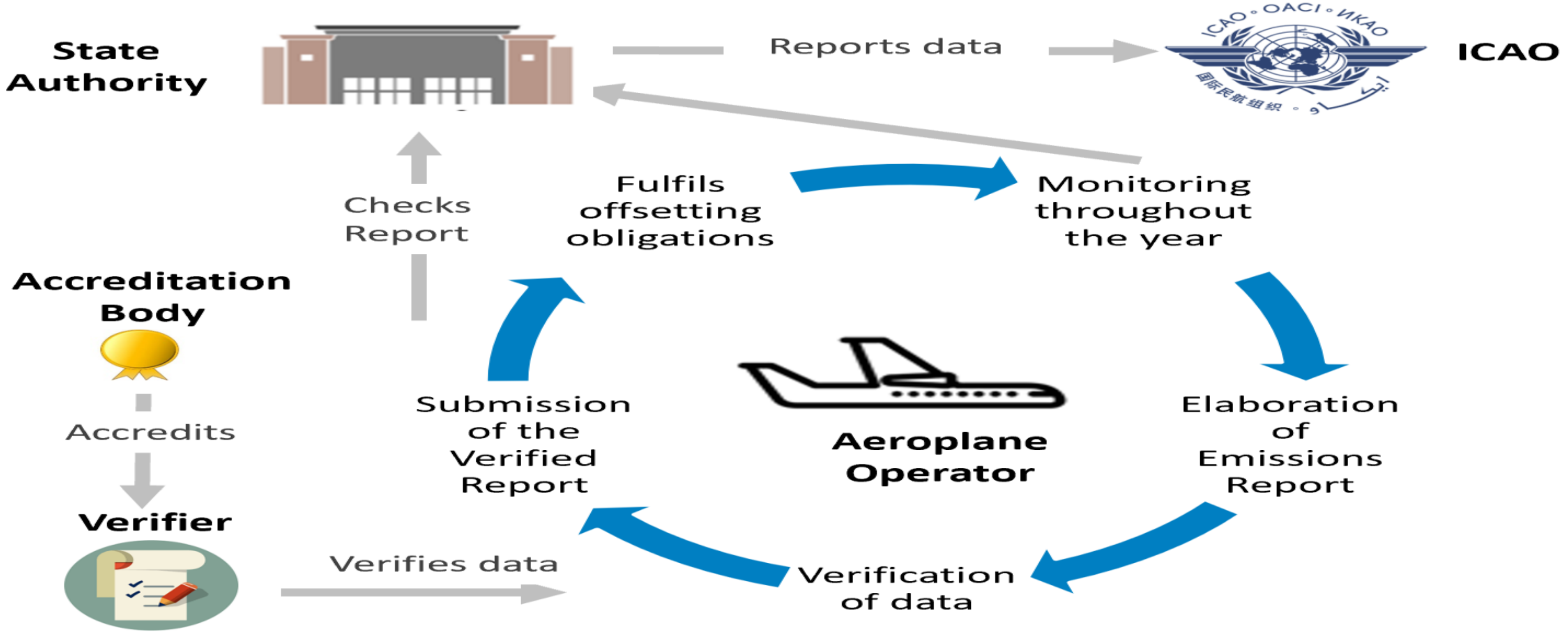
Role of CORSIA as a Reduction Scheme, Market -Based Measure- to decarbonise the aviation sector-reflecting COVID 19 context



United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

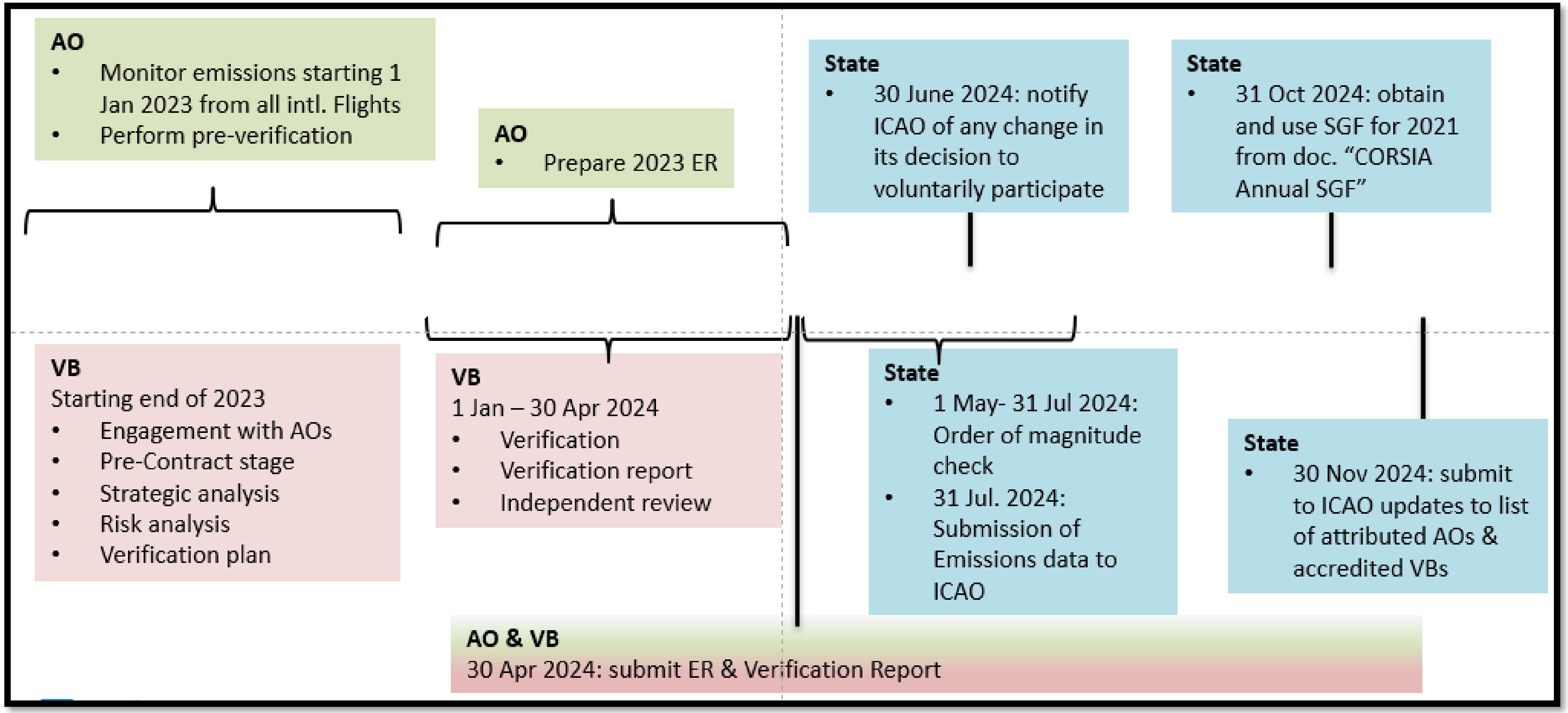
Key features of the CORSIA scheme
- each actor has a role to play by a fixed deadline


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

CORSIA Actors and Roles

State Authorities	Aeroplane Operators	National Accreditation B. and Verification B.
• Establish national regulatory framework • Submit list of attributed Aeroplane Operators and accredited Verification Bodies to ICAO • Approve the Aeroplane Operator Emissions Monitoring Plan • Perform Order of Magnitude Check of Aeroplane Operators Emissions Report and Emissions Cancellation Report • Submit CO_2 emissions data to ICAO	• Prepare and submit the Emissions Monitoring Plan • Monitor and report emissions data according to their Emissions Monitoring Plan • Perform an internal pre-verification of the Emissions Report • Comply with offsetting requirements through submission of Emissions Cancellation Report	• National Accreditation Bodies provide accreditation to Verification Bodies • Verification Bodies verify Emissions Reports and Emissions Cancellation Reports

CORSIA deadlines (reflecting current context)



AO
- Monitor emissions starting 1 Jan 2023 from all intl. Flights
- Perform pre-verification

AO
- Prepare 2023 ER

State
- 30 June 2024: notify ICAO of any change in its decision to voluntarily participate

State
- 31 Oct 2024: obtain and use SGF for 2021 from doc. "CORSIA Annual SGF"

VB
Starting end of 2023
- Engagement with AOs
- Pre-Contract stage
- Strategic analysis
- Risk analysis
- Verification plan

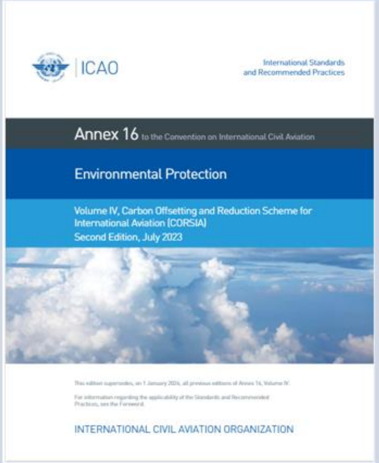
VB
1 Jan – 30 Apr 2024
- Verification
- Verification report
- Independent review

State
- 1 May- 31 Jul 2024: Order of magnitude check
- 31 Jul. 2024: Submission of Emissions data to ICAO

State
- 30 Nov 2024: submit to ICAO updates to list of attributed AOs & accredited VBs

AO & VB
30 Apr 2024: submit ER & Verification Report

CORSIA Reference Documents

SARPs Annex 16 Volume IV	ETM Volume IV (Doc 9501)	CORSIA Implementation Elements (5)	CORSIA National Regulation
 ICAO International Standards and Recommended Practices Annex 16 to the Convention on International Civil Aviation Environmental Protection Volume IV, Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) Second Edition, July 2023 INTERNATIONAL CIVIL AVIATION ORGANIZATION	 ICAO Doc 9501 Environmental Technical Manual Volume IV — Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) First Edition, 2018 INTERNATIONAL CIVIL AVIATION ORGANIZATION	 ICAO INTERNATIONAL CIVIL AVIATION ORGANIZATION ICAO document CORSIA States for Chapter 3 State Pairs September 2021 CORSIA Carbon Offsetting and Reduction Scheme for Intern ICAO INTERNATIONAL CIVIL AVIATION ORGANIZATION ICAO document CORSIA Emissions Unit Eligibility Criteria March 2019 CORSIA Carbon Offsetting and Reduction Scheme for International Aviation	CORSIA National Regulation

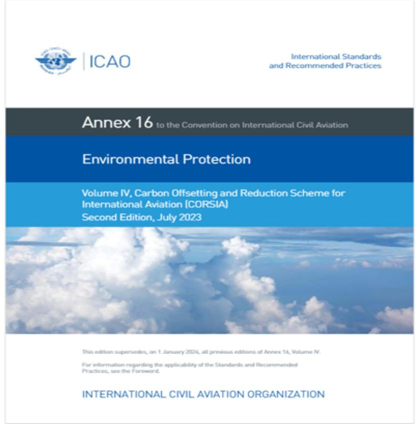
United Nations
Climate Change

REGIONAL CLIMATE WEEKS

CORSIA Normative Document

Updated July 2023!

ICAO Standards and Recommended Practices (SARPs)



ICAO

International Standards
and Recommended Practices

Annex 16 to the Convention on International Civil Aviation

Environmental Protection

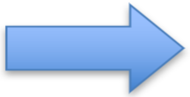
Volume IV, Carbon Offsetting and Reduction Scheme for
International Aviation (CORSIA)
Second Edition, July 2023

This edition supersedes, on 1 January 2024, all previous editions of Annex 16, Volume IV.

For information regarding the applicability of the Standards and Recommended Practices, see the Foreword.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Annex 16 – Environmental Protection, Volume IV: CORSIA



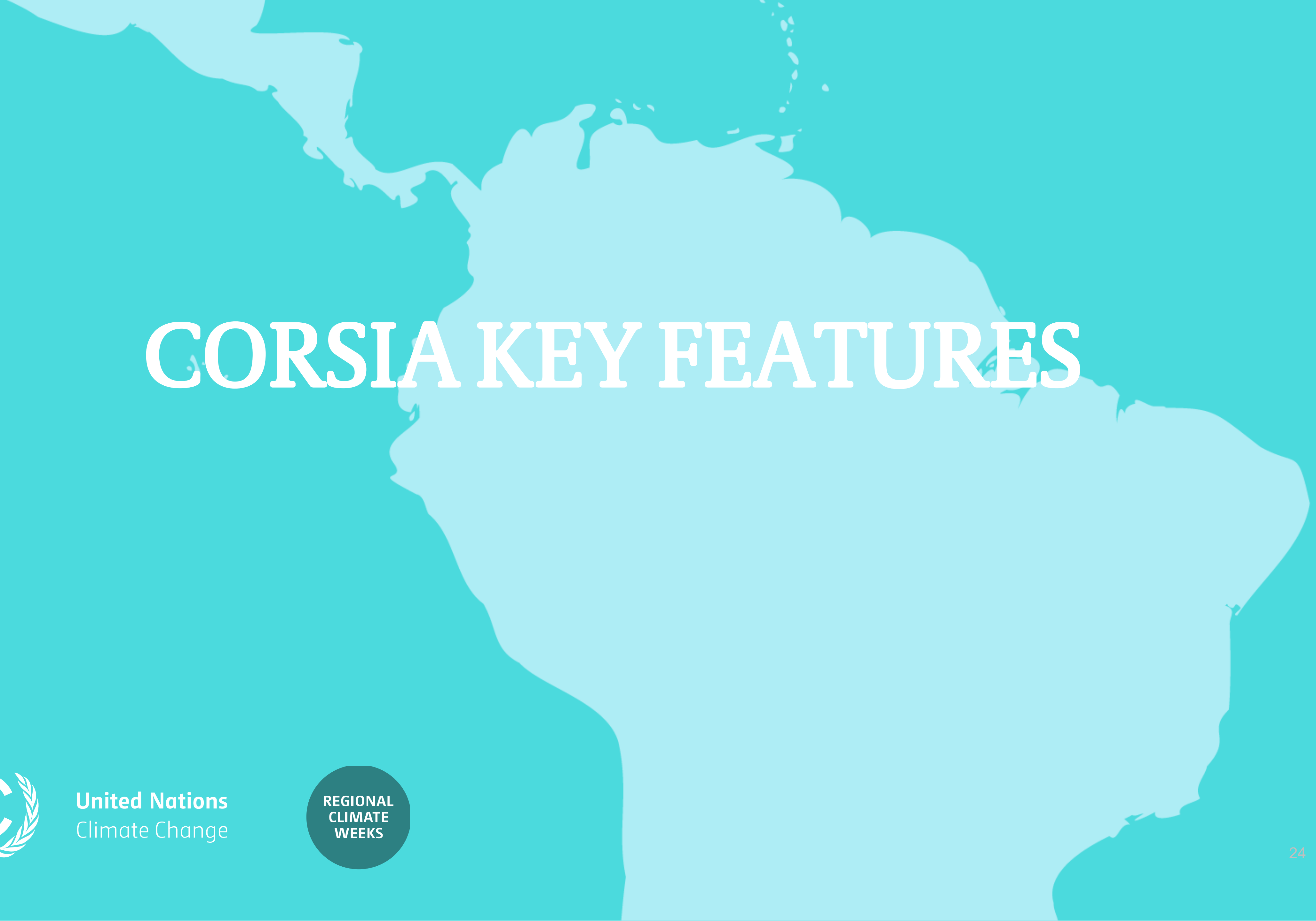
SARPs lay down the responsibilities, requirements and timelines for AOs, State Authorities, NABs and VBs

SARPs establish additional verification requirements to those in the ISO standards, to customise them to CORSIA

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

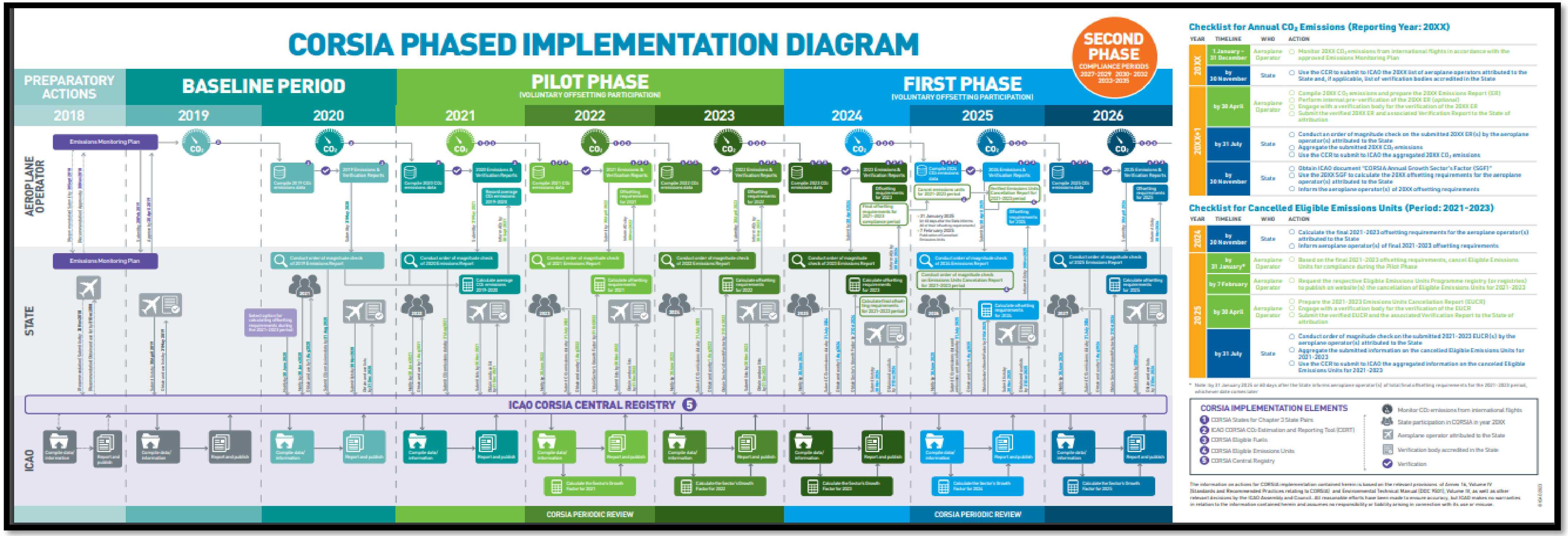
CORSIA KEY FEATURES



United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

CORSIA Phased implementation


CORSIA PHASED IMPLEMENTATION DIAGRAM
PREPARATORY ACTIONS
BASELINE PERIOD
PILOT PHASE
(VOLUNTARY OFFSETTING PARTICIPATION)
FIRST PHASE
(VOLUNTARY OFFSETTING PARTICIPATION)
SECOND PHASE
COMPLIANCE PERIODS
2027-2029 2030-2032
2033-2035
2018
2019
2020
2021
2022
2023
2024
2025
2026
AEROPLANE OPERATOR
STATE
ICAO
Emissions Monitoring Plan
CO₂
Conduct order of magnitude check
Compile data/information
Report and publish
Calculate the Sector's Growth Factor
ICAO CORSIA CENTRAL REGISTRY 5
CORSIA PERIODIC REVIEW
CORSIA PERIODIC REVIEW

Checklist for Annual CO_2 Emissions (Reporting Year: 20XX)

YEAR	TIMELINE	WHO	ACTION
20XX	1 January – 31 December	Aeroplane Operator	○ Monitor 20XX CO_2 emissions from international flights in accordance with the approved Emissions Monitoring Plan
	by 30 November	State	○ Use the CCR to submit to ICAO the 20XX list of aeroplane operators attributed to the State and, if applicable, list of verification bodies accredited in the State
20XX+1	by 30 April	Aeroplane Operator	○ Compile 20XX CO_2 emissions and prepare the 20XX Emissions Report (ER) ○ Perform internal pre-verification of the 20XX ER (optional) ○ Engage with a verification body for the verification of the 20XX ER ○ Submit the verified 20XX ER and associated Verification Report to the State of attribution
	by 31 July	State	○ Conduct an order of magnitude check on the submitted 20XX ER(s) by the aeroplane operator(s) attributed to the State ○ Aggregate the submitted 20XX CO_2 emissions ○ Use the CCR to submit to ICAO the aggregated 20XX CO_2 emissions
	by 30 November	State	○ Obtain ICAO document "CORSIA Annual Growth Sector's Factor (SGF)" ○ Use the 20XX SGF to calculate the 20XX offsetting requirements for the aeroplane operator(s) attributed to the State ○ Inform the aeroplane operator(s) of 20XX offsetting requirements

Checklist for Cancelled Eligible Emissions Units (Period: 2021-2023)

YEAR	TIMELINE	WHO	ACTION
2024	by 30 November	State	○ Calculate the final 2021-2023 offsetting requirements for the aeroplane operator(s) attributed to the State ○ Inform aeroplane operator(s) of final 2021-2023 offsetting requirements
2025	by 31 January*	Aeroplane Operator	○ Based on the final 2021-2023 offsetting requirements, cancel Eligible Emissions Units for compliance during the Pilot Phase
	by 7 February	Aeroplane Operator	○ Request the respective Eligible Emissions Units Programme registry (or registries) to publish on website(s) the cancellation of Eligible Emissions Units for 2021-2023
	by 30 April	Aeroplane Operator	○ Prepare the 2021-2023 Emissions Units Cancellation Report (EUCR) ○ Engage with a verification body for the verification of the EUCR ○ Submit the verified EUCR and the associated Verification Report to the State of attribution
	by 31 July	State	○ Conduct order of magnitude check on the submitted 2021-2023 EUCR(s) by the aeroplane operator(s) attributed to the State ○ Aggregate the submitted information on the cancelled Eligible Emissions Units for 2021-2023 ○ Use the CCR to submit to ICAO the aggregated information on the canceled Eligible Emissions Units for 2021-2023

* Note: by 31 January 2025 or 60 days after the State informs aeroplane operator(s) of total final offsetting requirements for the 2021-2023 period, whichever date comes later

CORSIA IMPLEMENTATION ELEMENTS

① CORSIA States for Chapter 3 State Pairs
② ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT)
③ CORSIA Eligible Fuels
④ CORSIA Eligible Emissions Units
⑤ CORSIA Central Registry

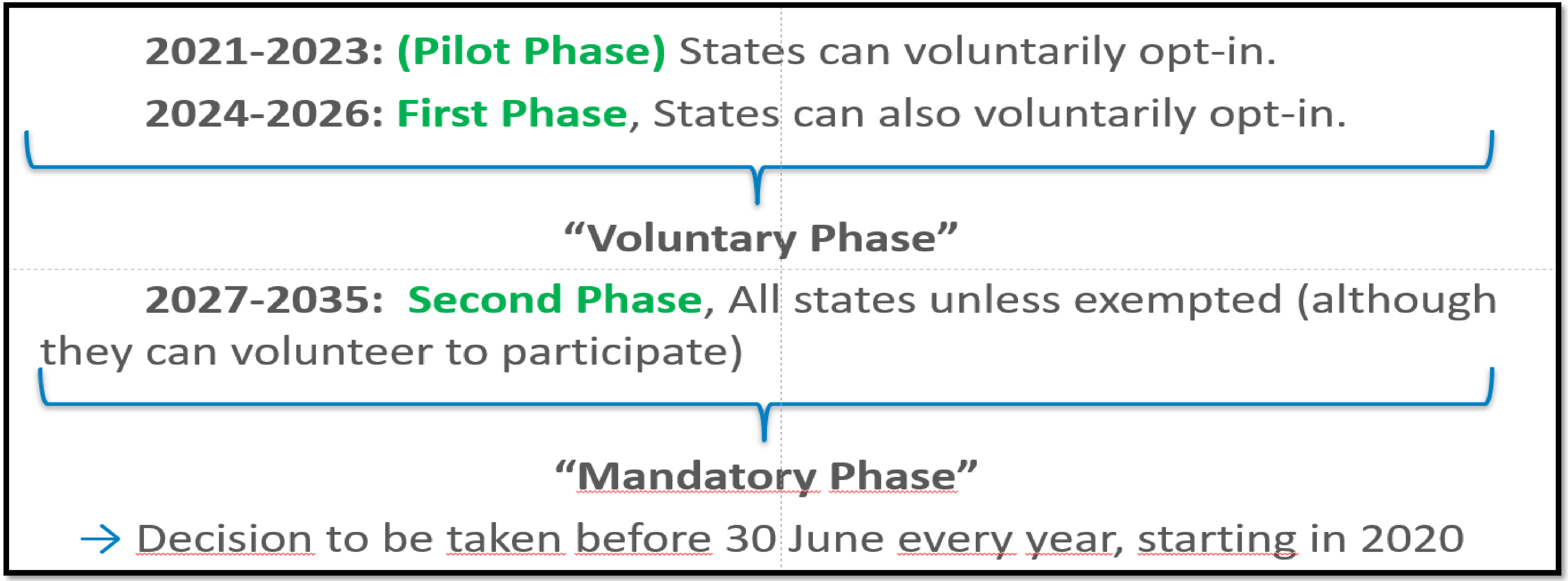
Monitor CO_2 emissions from international flights
State participation in CORSIA in year 20XX
Aeroplane operator attributed to the State
Verification body accredited in the State
✓ Verification

The information on actions for CORSIA implementation contained herein is based on the relevant provisions of Annex 16, Volume IV (Standards and Recommended Practices relating to CORSIA) and Environmental Technical Manual (Doc 9501), Volume IV, as well as other relevant decisions by the ICAO Assembly and Council. 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.

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

CORSIA 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)

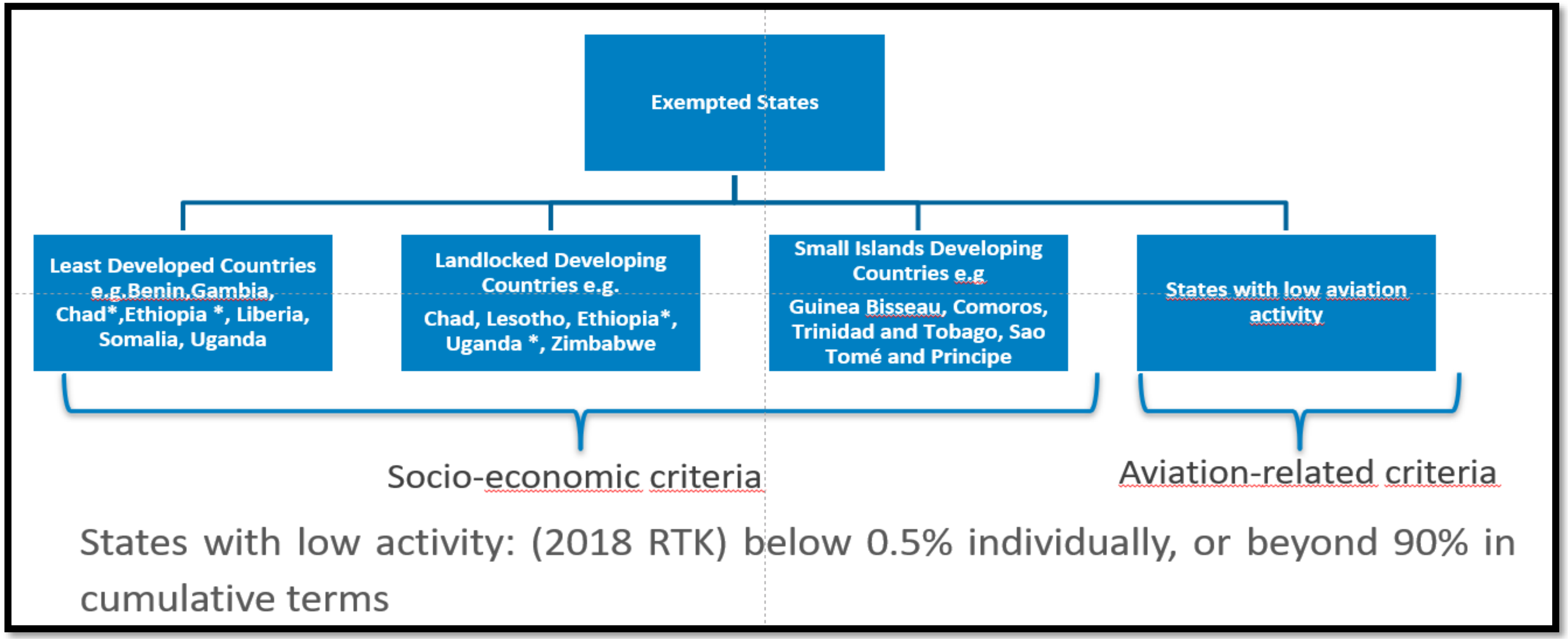
“Mandatory Phase”

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

CORSIA 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

States exempted from CORSIA applicability



Exempted States

- **Least Developed Countries e.g.Benin,Gambia, Chad*,Ethiopia *, Liberia, Somalia, Uganda**
- **Landlocked Developing Countries e.g. Chad, Lesotho, Ethiopia*, Uganda *, Zimbabwe**
- **Small Islands Developing Countries e.g Guinea Bisseau, Comoros, Trinidad and Tobago, Sao Tomé and Principe**
- **States with low aviation activity**

Socio-economic criteria

Aviation-related criteria

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

United Nations
Climate Change

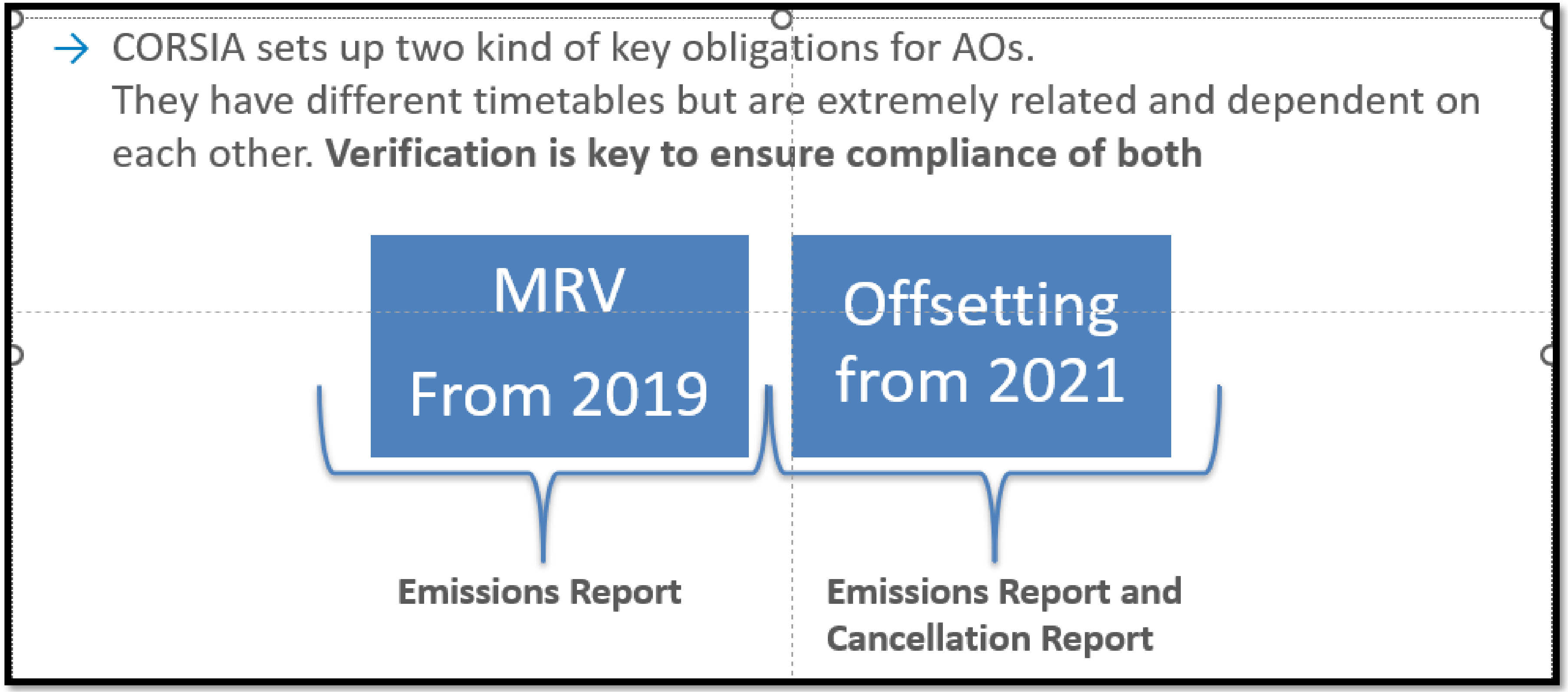
REGIONAL
CLIMATE
WEEKS

Key features: MRV, offsetting and MRV templates

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Key features of ICAO CORSIA- MRV and Offsetting



→ CORSIA sets up two kind of key obligations for AOs.
They have different timetables but are extremely related and dependent on each other. **Verification is key to ensure compliance of both**

MRV

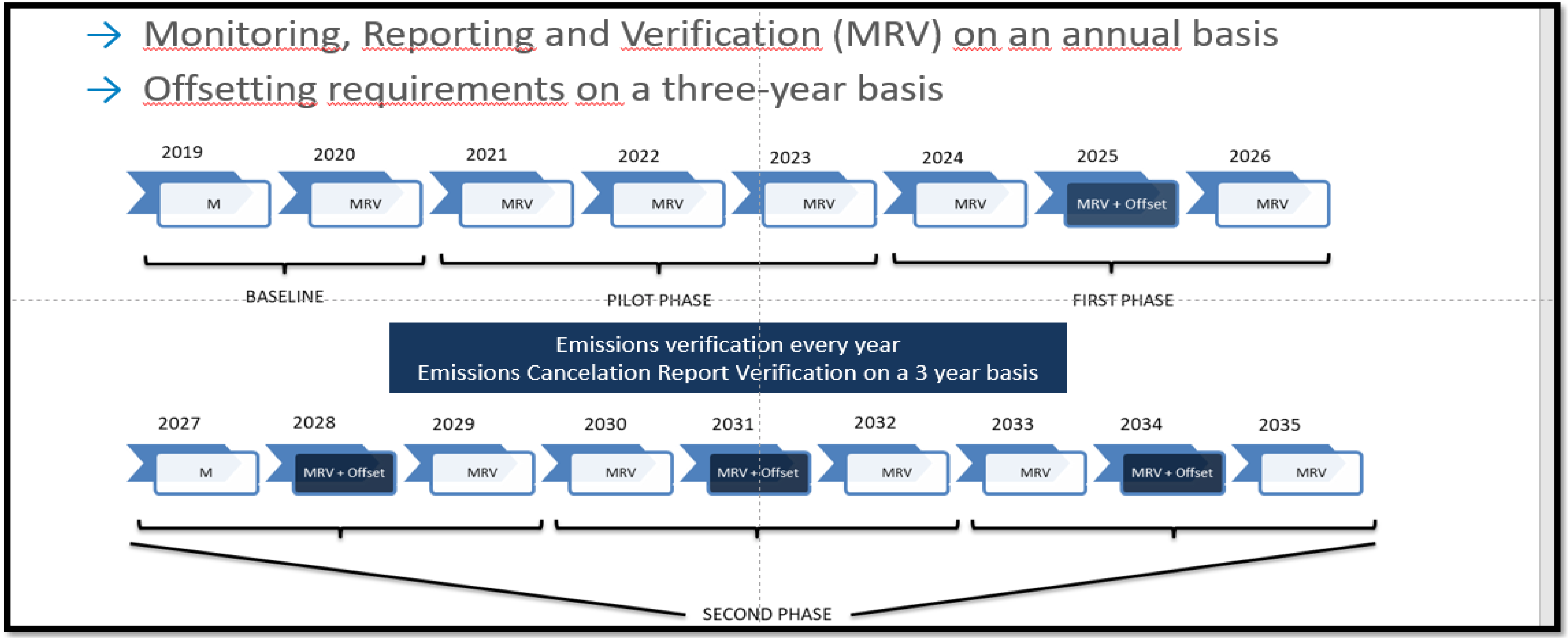
From 2019

Offsetting from 2021

Emissions Report

Emissions Report and Cancellation Report

Administration Procedures



- Monitoring, Reporting and Verification (MRV) on an annual basis
- Offsetting requirements on a three-year basis

2019	2020	2021	2022	2023	2024	2025	2026
M	MRV	MRV	MRV	MRV	MRV	MRV + Offset	MRV

BASELINE

PILOT PHASE

FIRST PHASE

Emissions verification every year
Emissions Cancelation Report Verification on a 3 year basis

2027	2028	2029	2030	2031	2032	2033	2034	2035
M	MRV + Offset	MRV	MRV	MRV + Offset	MRV	MRV	MRV + Offset	MRV

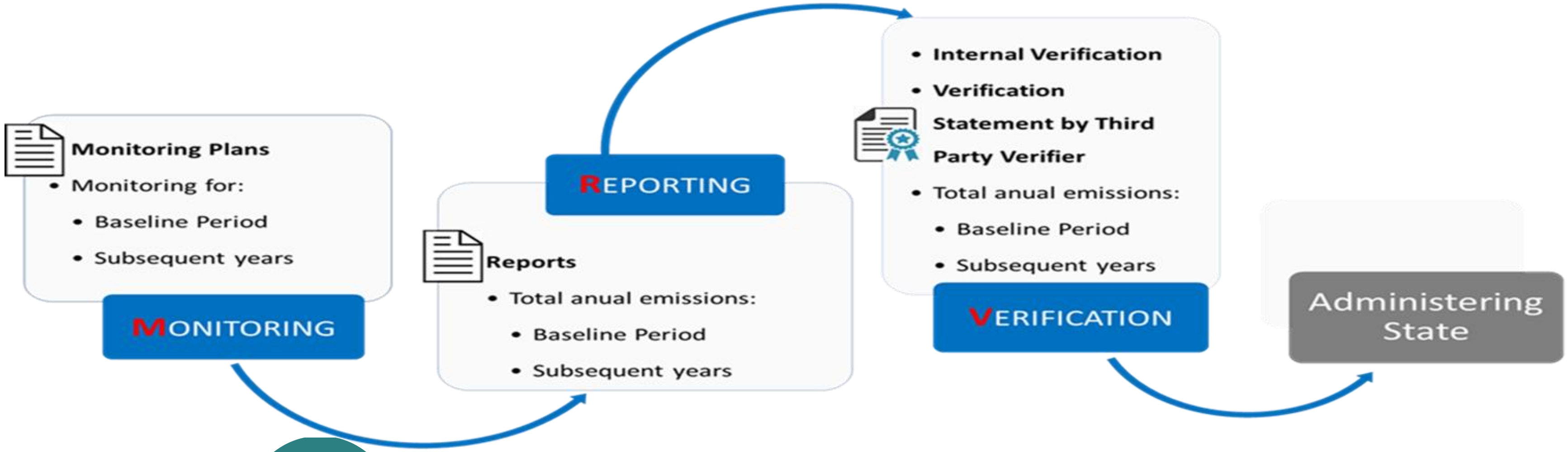
SECOND PHASE

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

MRV under CORSIA

- 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



Monitoring Plans
- Monitoring for:
  - Baseline Period
  - Subsequent years

MONITORING

REPORTING

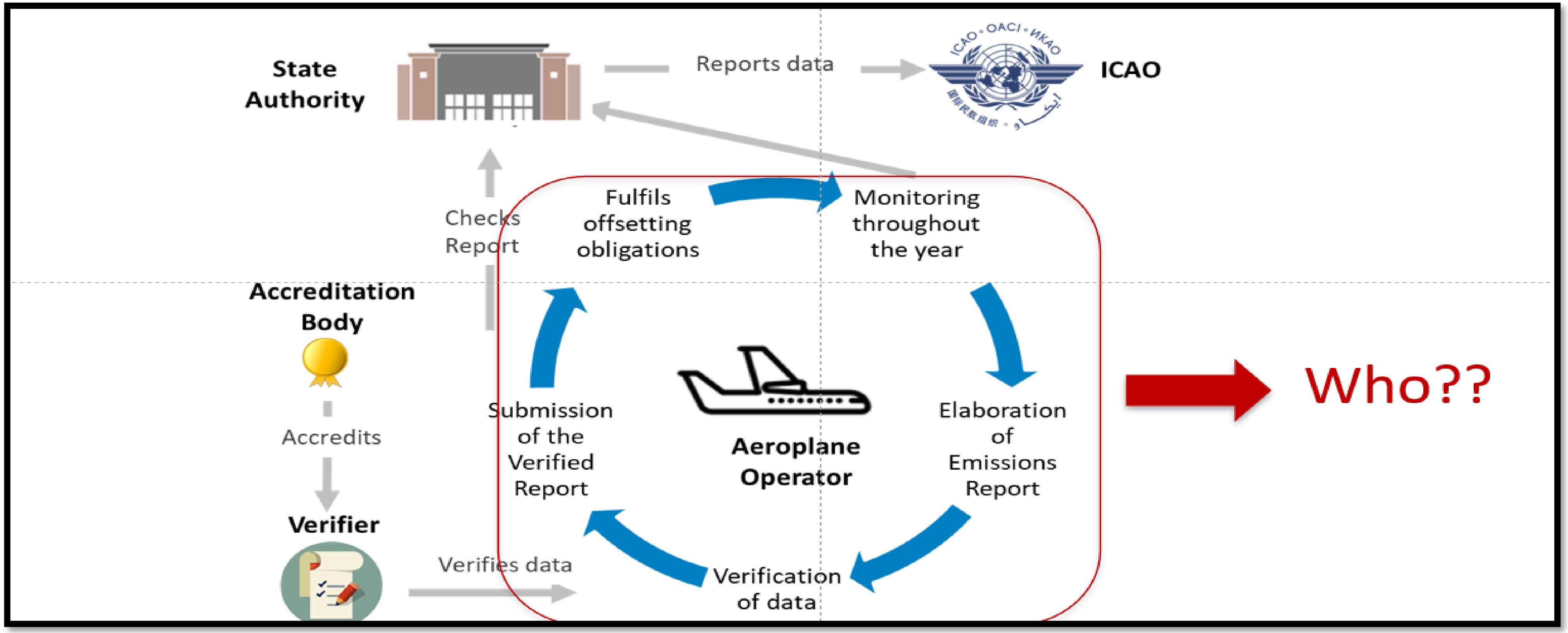
Reports
- Total anual emissions:
  - Baseline Period
  - Subsequent years

- **Internal Verification**
- **Verification Statement by Third Party Verifier**
- Total anual emissions:
  - Baseline Period
  - Subsequent years

VERIFICATION

Administering State

Applicability of MRV requirements


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

Applicability of MRV requirements

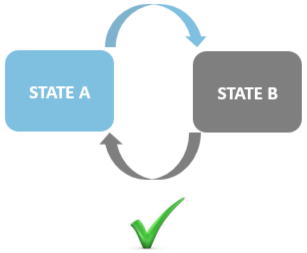
→ MRV requirements apply to aeroplane operators that:

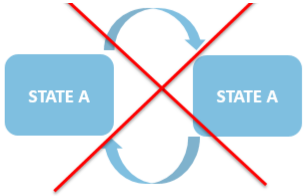
  → Use of airplane with Max. Certified take-off mass of 5,700 Kg.

  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





United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

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

M-Monitoring of CO2 Emissions

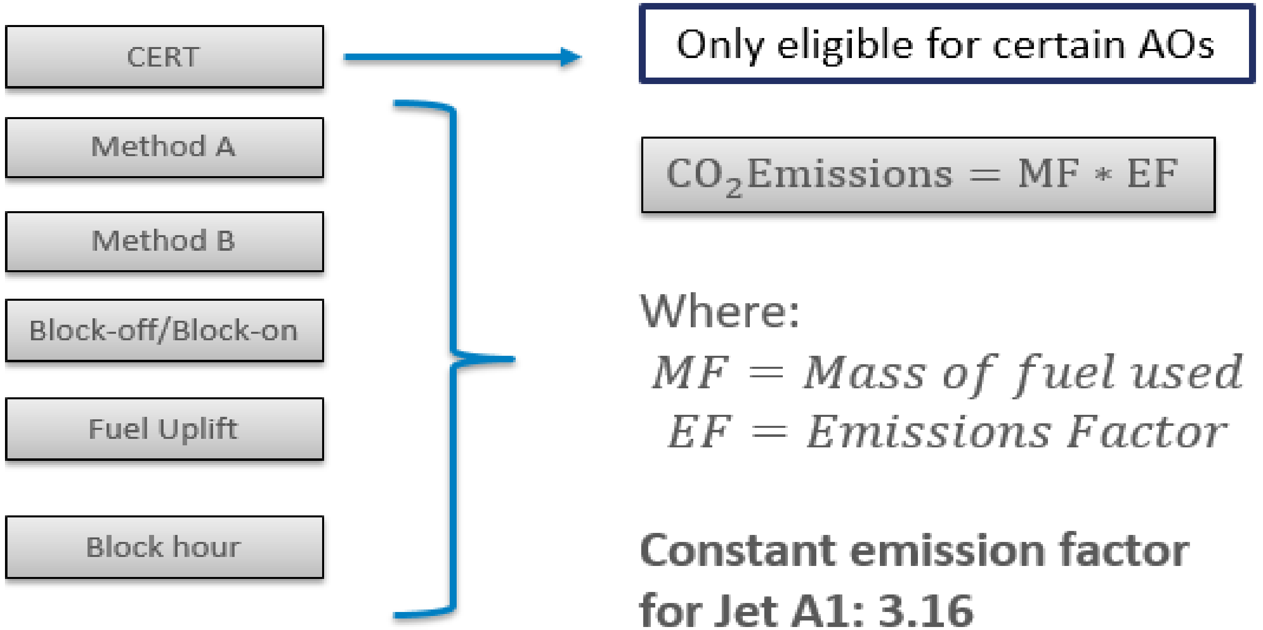
- All aeroplane operators with CORSIA MRV requirements are required to monitor, report and verify CO2 emissions from international flights every year starting on 1 January 2019
- The aeroplane operator **monitors and records fuel use** from international flights
- Requirement for the MRV of CO2 emissions is independent from CORSIA offsetting

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
- **Where to look:**
  - Annex 16 Volume IV Chapter 2 Appendix 2,3 and 4
  - ETM Doc 9501 Chapter 3.1 and Appendix 1.1

How to monitor

- 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)



CERT

Method A

Method B

Block-off/Block-on

Fuel Uplift

Block hour

Only eligible for certain AOs

$$CO_2Emissions = MF * EF$$

Where:

$MF = Mass\ of\ fuel\ used$

$EF = Emissions\ Factor$

Constant emission factor for Jet A1: 3.16

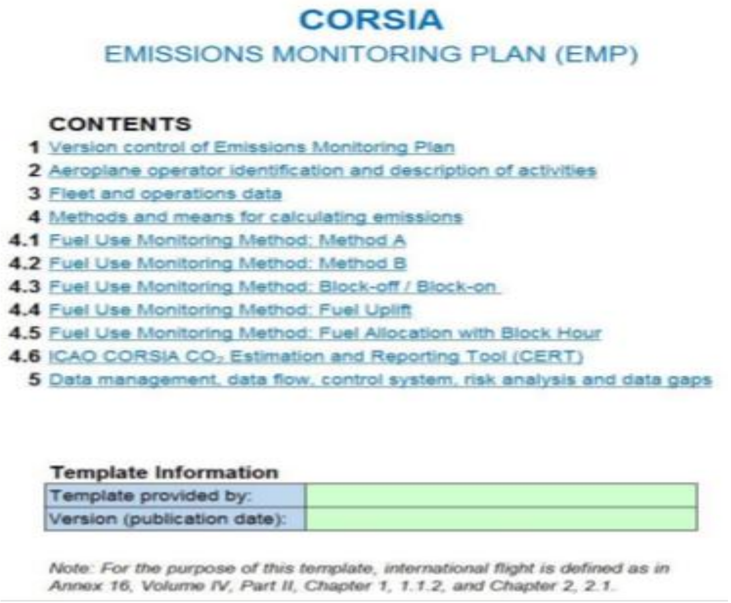
United Nations
Climate Change

REGIONAL CLIMATE WEEKS

EMP-Emissions Monitoring Plan

EMP: Tool by which the operator identifies the most appropriate means and methods for CO2 emissions monitoring and record of fuel use (The AO can use alternative eligible fuel and claim their emissions reductions as long as they comply with the CORSIA sustainability criteria)

To be submitted only once unless there are material changes to the operator’s procedures



CORSIA

EMISSIONS MONITORING PLAN (EMP)

CONTENTS

1 Version control of Emissions Monitoring Plan
2 Aeroplane operator identification and description of activities
3 Fleet and operations data
4 Methods and means for calculating emissions
4.1 Fuel Use Monitoring Method: Method A
4.2 Fuel Use Monitoring Method: Method B
4.3 Fuel Use Monitoring Method: Block-off / Block-on
4.4 Fuel Use Monitoring Method: Fuel Uplift
4.5 Fuel Use Monitoring Method: Fuel Allocation with Block Hour
4.6 ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT)
5 Data management, data flow, control system, risk analysis and data gaps

Template Information

Template provided by:	
Version (publication date):	

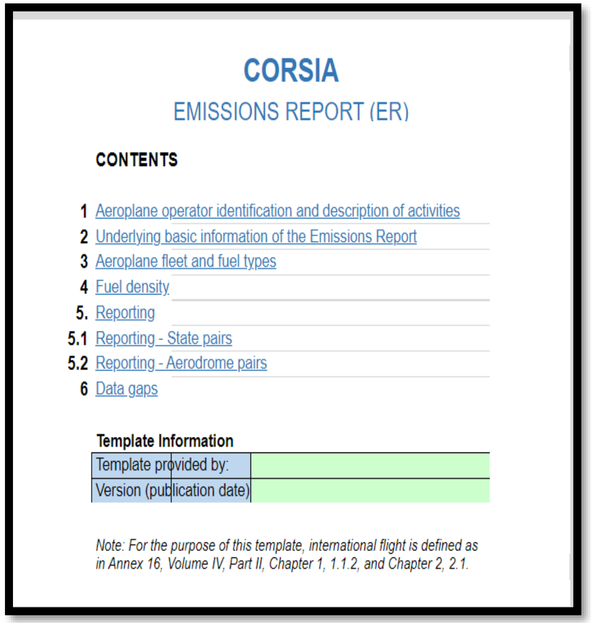
Note: For the purpose of this template, international flight is defined as in Annex 16, Volume IV, Part II, Chapter 1, 1.1.2, and Chapter 2, 2.1.

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

R-Reporting

- **Who reports?:** The aeroplane operator and the State
- **When?:** Every year. Starting in 2020 (for 2019 data). 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 should be by 30 April)
- **Tools:**
  - Aeroplane Operator Emissions Report
  - State Report to ICAO through the CCR
- **Guidance:**
  - Annex 16 Volume IV Chapter 2 Appendix 5.
  - ETM Doc 9501 Chapter 3.2 and Appendix 1.2



CORSIA

EMISSIONS REPORT (ER)

CONTENTS

1 Aeroplane operator identification and description of activities
2 Underlying basic information of the Emissions Report
3 Aeroplane fleet and fuel types
4 Fuel density
5. Reporting
5.1 Reporting - State pairs
5.2 Reporting - Aerodrome pairs
6 Data gaps

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.

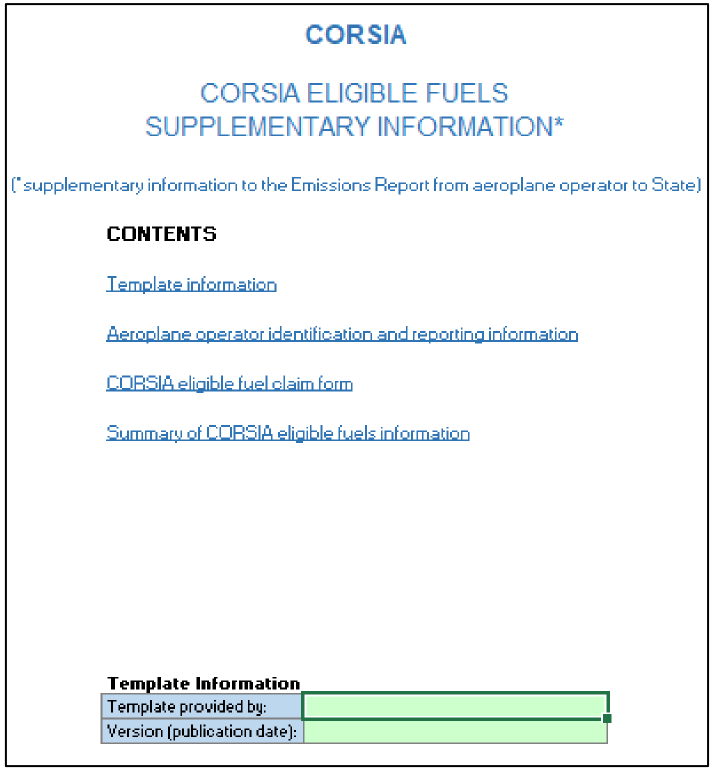
United Nations
Climate Change

REGIONAL CLIMATE WEEKS

R-Reporting CEF (CORSIA Eligible Fuel)

- ***CORSIA eligible fuel:*** A CORSIA sustainable aviation fuel or a CORSIA lower carbon aviation fuel, which an AO may use to reduce its offsetting requirements.
- The AO to indicate in the ER if it uses CORISA Eligible fuels to attach an additional CORSIA Eligible Fuels Supplementary Information

- In this template the AO should include
  - Emissions reductions claimed
  - Fuel type, mass and Life Cycle Emissions value (LSf)
  - Evidence of compliance with Sustainability Criteria



CORSIA

CORSIA ELIGIBLE FUELS
SUPPLEMENTARY INFORMATION*

(*supplementary information to the Emissions Report from aeroplane operator to State)

CONTENTS

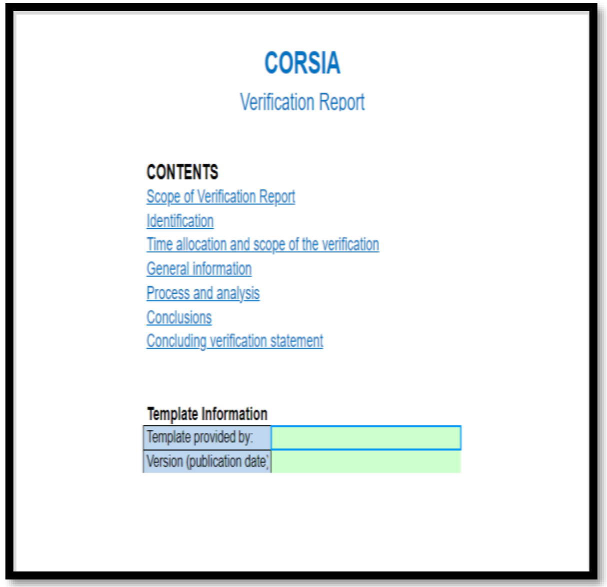
Template information
Aeroplane operator identification and reporting information
CORSIA eligible fuel claim form
Summary of CORSIA eligible fuels information

Template Information

Template provided by:	
Version (publication date):	

V-Verification

- **Who verifies?:** The aeroplane operator (recommended) , a Verification Body and the State
- **When?:** Every year. Starting in 2020 (for 2019 data), now 2021 for 2020 data
- **Tools:**
  - Emissions Report and Verification Report (contains the verification statement and required supporting information)
  - Emissions Cancellation Report and Vertification Report
- **Guidance:**
  - Annex 16 Volume IV Chapter 2 2.4. Appendix 6.
  - ETM Doc 9501 Chapter 3.3
  - ISO 14064-3-2019, ISO 14065:2020, 17029:2019



CORSIA

Verification Report

CONTENTS

Scope of Verification Report
Identification
Time allocation and scope of the verification
General information
Process and analysis
Conclusions
Concluding verification statement

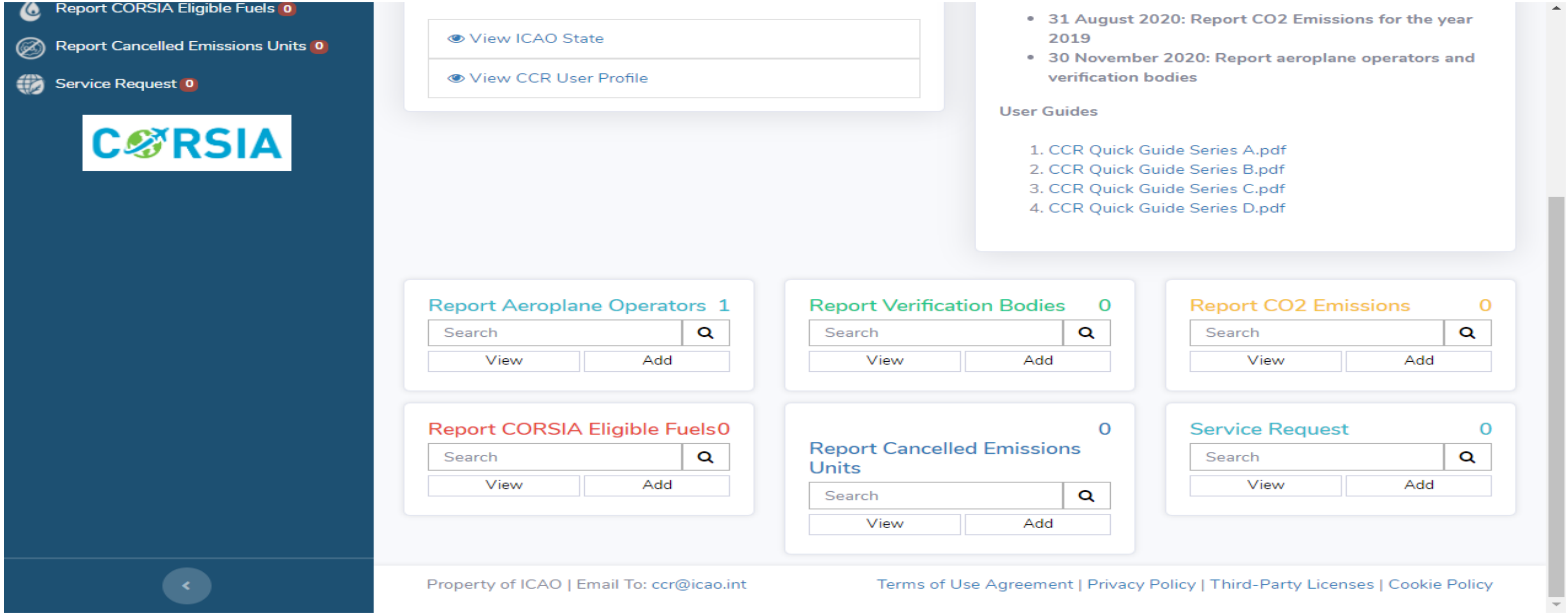
Template Information

Template provided by:	
Version (publication date)	

V-Verification

- Verification of CO2 emissions is to ensure that the data is accurate and free of errors
- The operator shall engage a VB, from the list of accredited bodies, within the ICAO document “CORSIA Central Registry (CCR): Information and Data for Transparency”, latest Version, December 2022
- The aeroplane operator is recommended to conduct a verification of its data before submitting it to the VB. It does not replace the requirement for third-party verification.
- The VB must be Accredited by a National Accreditation Body (NAB), who shall be working in accordance with ISO/IEC 17011:2017 (Conformity assessment — Requirements for accreditation bodies accrediting conformity assessment bodies)
- The VB is required to conduct the verification according to ISO Standard 14064-3:2019
- The State must perform an order of magnitude check of the Emissions Report

CCR- Tool for the SA to report to ICAO


Report CORSIA Eligible Fuels 0
Report Cancelled Emissions Units 0
Service Request 0
CORSIA
View ICAO State
View CCR User Profile
Report Aeroplane Operators 1
Search
View
Add
Report Verification Bodies 0
Search
View
Add
Report CO2 Emissions 0
Search
View
Add
Report CORSIA Eligible Fuels0
Search
View
Add
Report Cancelled Emissions Units 0
Search
View
Add
Service Request 0
Search
View
Add

- 31 August 2020: Report CO2 Emissions for the year 2019
- 30 November 2020: Report aeroplane operators and verification bodies

User Guides

1. CCR Quick Guide Series A.pdf
2. CCR Quick Guide Series B.pdf
3. CCR Quick Guide Series C.pdf
4. CCR Quick Guide Series D.pdf

Property of ICAO | Email To: ccr@icao.int

Terms of Use Agreement | Privacy Policy | Third-Party Licenses | Cookie Policy

United Nations
Climate Change

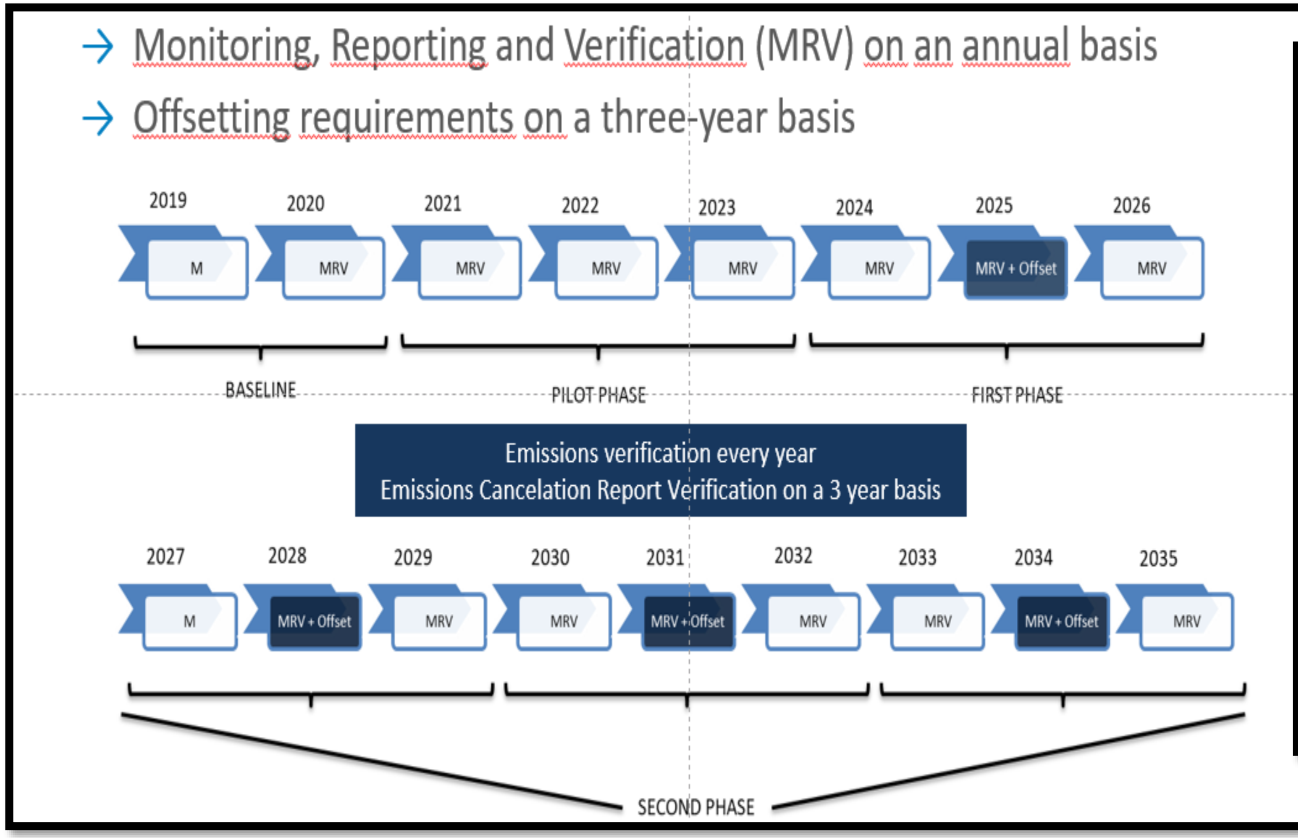
REGIONAL
CLIMATE
WEEKS

CORSIA- Calculation of offsetting

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Remember: offsetting 3 -year compliance



- → Monitoring, Reporting and Verification (MRV) on an annual basis
- → Offsetting requirements on a three-year basis

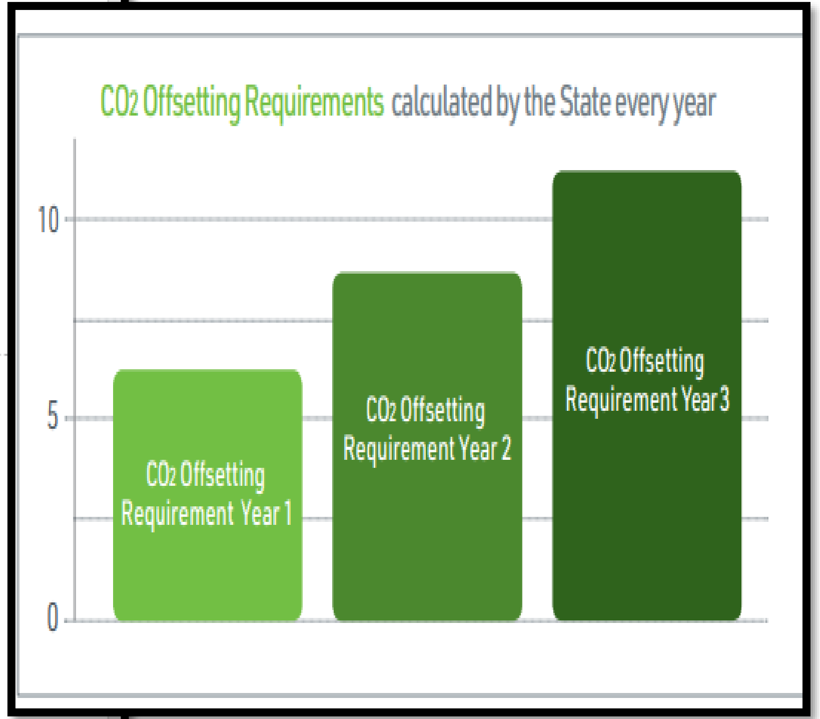
2019	2020	2021	2022	2023	2024	2025	2026
M	MRV	MRV	MRV	MRV	MRV	MRV + Offset	MRV

BASELINE (2019–2020) · PILOT PHASE (2021–2023) · FIRST PHASE (2024–2026)

Emissions verification every year
Emissions Cancelation Report Verification on a 3 year basis

2027	2028	2029	2030	2031	2032	2033	2034	2035
M	MRV + Offset	MRV	MRV	MRV + Offset	MRV	MRV	MRV + Offset	MRV

SECOND PHASE



CO2 Offsetting Requirements calculated by the State every year

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Offsetting Formula

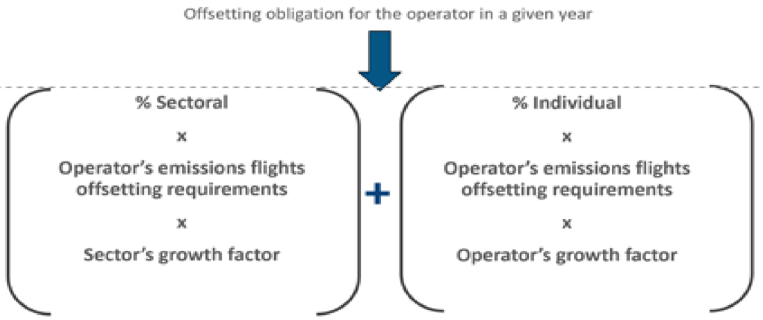
Operator's annual emissions subject to offsetting requirements **X** Growth Factor **=** CO_2 offseting requirements

→ 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 CO_2 emissions of the AO.

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

where:

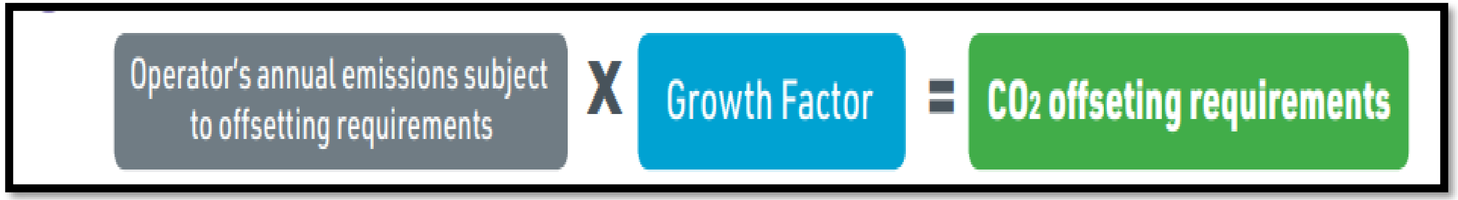
OR_y = Aeroplane operator's offsetting requirements in the given year y;
OE_y = Aeroplane operator's CO_2 emissions covered by 3.1 in the given year y;
$\%S_y$ = Per cent Sectoral in the given year y;
$\%O_y$ = Per cent Individual in the given year y where $\%O_y = (100\% - \%S_y)$;
SGF_y = Sector's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

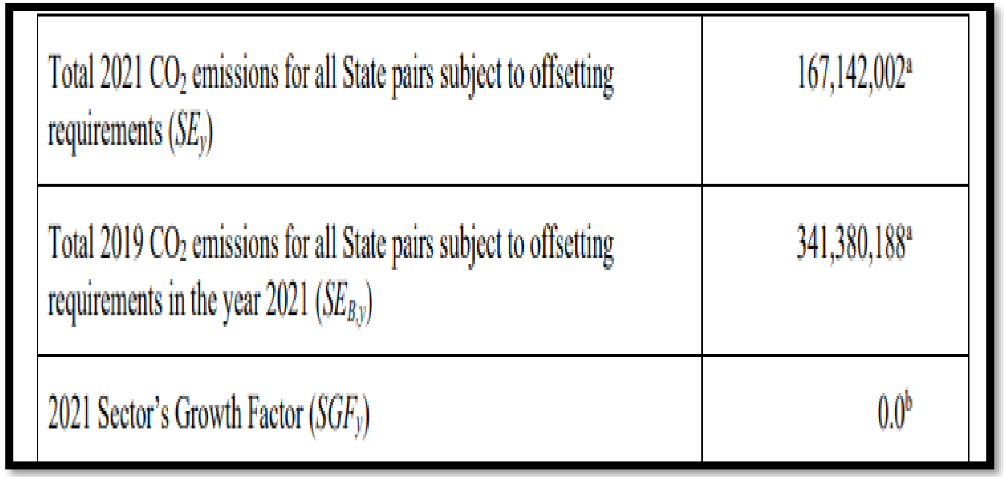
United Nations
Climate Change

REGIONAL CLIMATE WEEKS

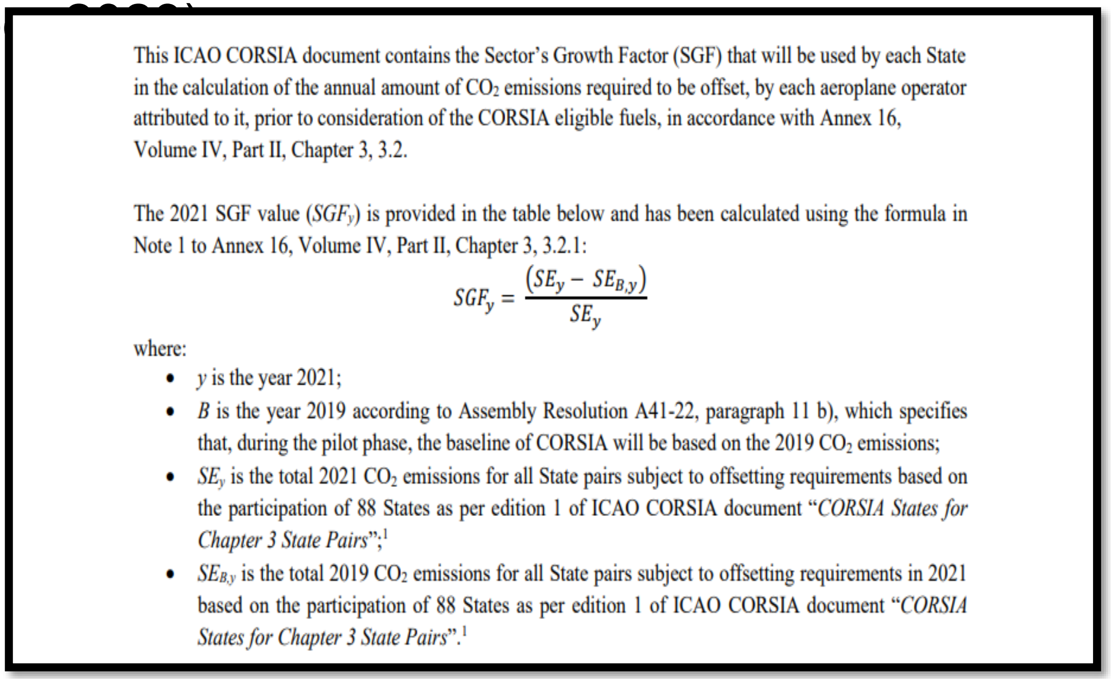
Offsetting Formula


Operator's annual emissions subject to offsetting requirements
X
Growth Factor
=
CO2 offseting requirements

Sectoral Growth Factor is calculated by ICAO every year based on the reported data by the States + with gap filling by ICAO (example for 2021 data. The one for 2022 to be published by ICAO end of Octob



Total 2021 CO_2 emissions for all State pairs subject to offsetting requirements (SE_y)	167,142,002[a]
Total 2019 CO_2 emissions for all State pairs subject to offsetting requirements in the year 2021 ($SE_{B,y}$)	341,380,188[a]
2021 Sector's Growth Factor (SGF_y)	0.0[b]



This ICAO CORSIA document contains the Sector's Growth Factor (SGF) that will be used by each State in the calculation of the annual amount of CO_2 emissions required to be offset, by each aeroplane operator attributed to it, prior to consideration of the CORSIA eligible fuels, in accordance with Annex 16, Volume IV, Part II, Chapter 3, 3.2.

The 2021 SGF value (SGF_y) is provided in the table below and has been calculated using the formula in Note 1 to Annex 16, Volume IV, Part II, Chapter 3, 3.2.1:

$$SGF_y = \frac{(SE_y - SE_{B,y})}{SE_y}$$

where:

- y is the year 2021;
- B is the year 2019 according to Assembly Resolution A41-22, paragraph 11 b), which specifies that, during the pilot phase, the baseline of CORSIA will be based on the 2019 CO_2 emissions;
- SE_y is the total 2021 CO_2 emissions for all State pairs subject to offsetting requirements based on the participation of 88 States as per edition 1 of ICAO CORSIA document "*CORSIA States for Chapter 3 State Pairs*";[1]
- $SE_{B,y}$ is the total 2019 CO_2 emissions for all State pairs subject to offsetting requirements in 2021 based on the participation of 88 States as per edition 1 of ICAO CORSIA document "*CORSIA States for Chapter 3 State Pairs*".[1]

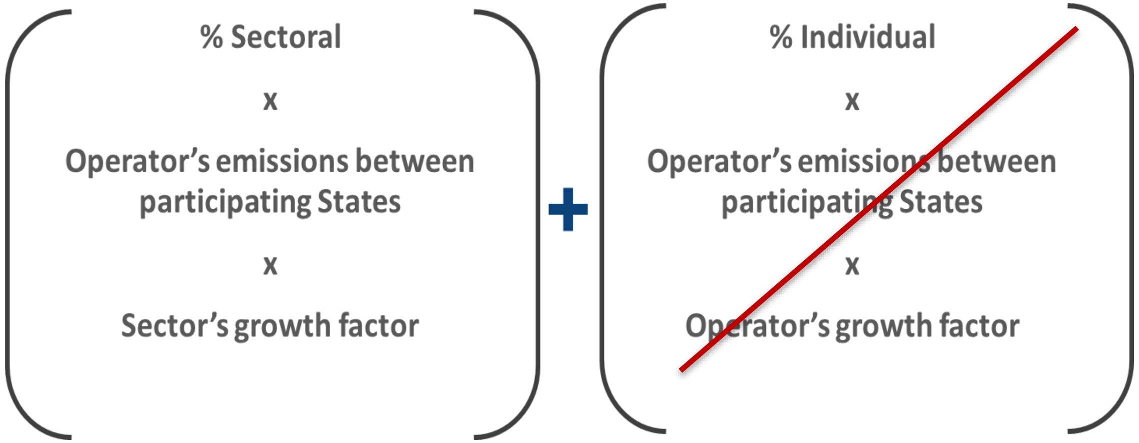
United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Understanding the offsetting ‘formula’

- 2021-2032: 100% sectoral 0% individual
- 2033-2035: 85% sectoral 15% individual

This means that from 2021 to 2032 there is only one part of the formula to use:



% Sectoral

x

Operator’s emissions between participating States

x

Sector’s growth factor

+

~~**% Individual**~~

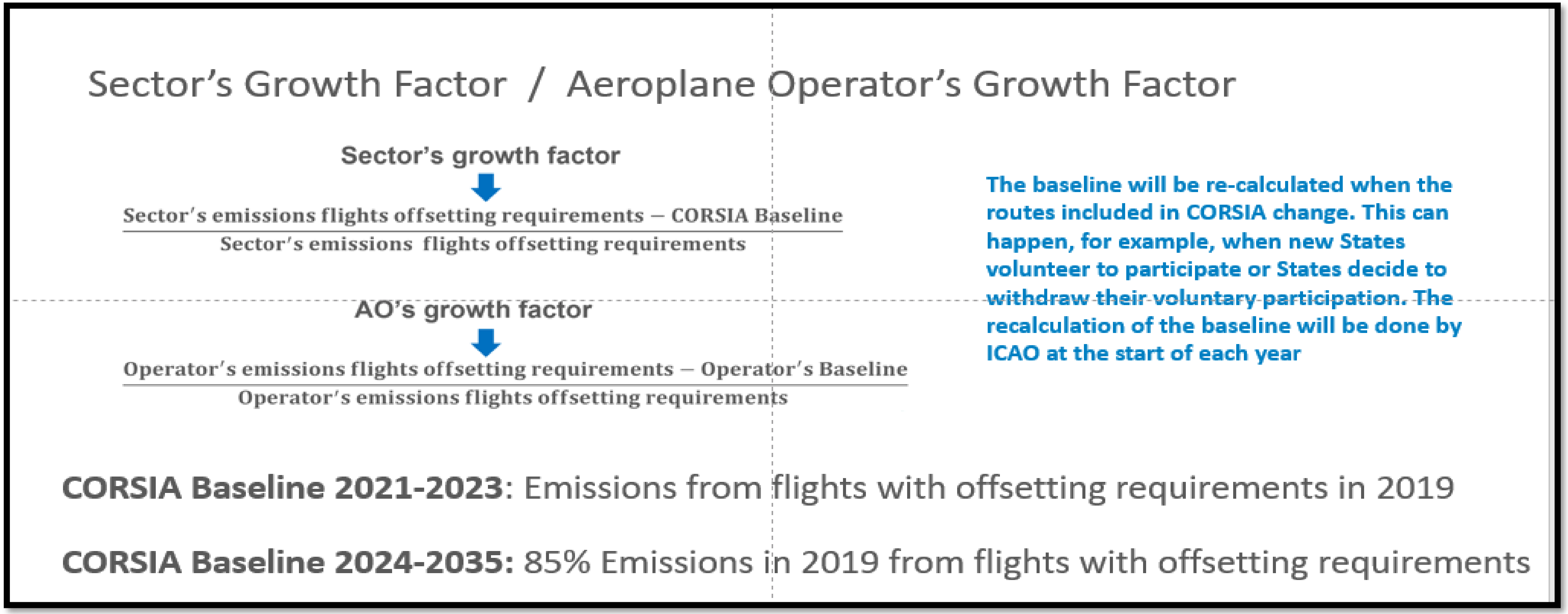
~~**x**~~

~~**Operator’s emissions between participating States**~~

~~**x**~~

~~**Operator’s growth factor**~~

Understanding the offsetting 'formula'



Sector's Growth Factor / Aeroplane 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

CORSIA Baseline 2021-2023: Emissions from flights with offsetting requirements in 2019

CORSIA Baseline 2024-2035: 85% Emissions in 2019 from flights with offsetting requirements

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Total Offsetting Requirements with CEF

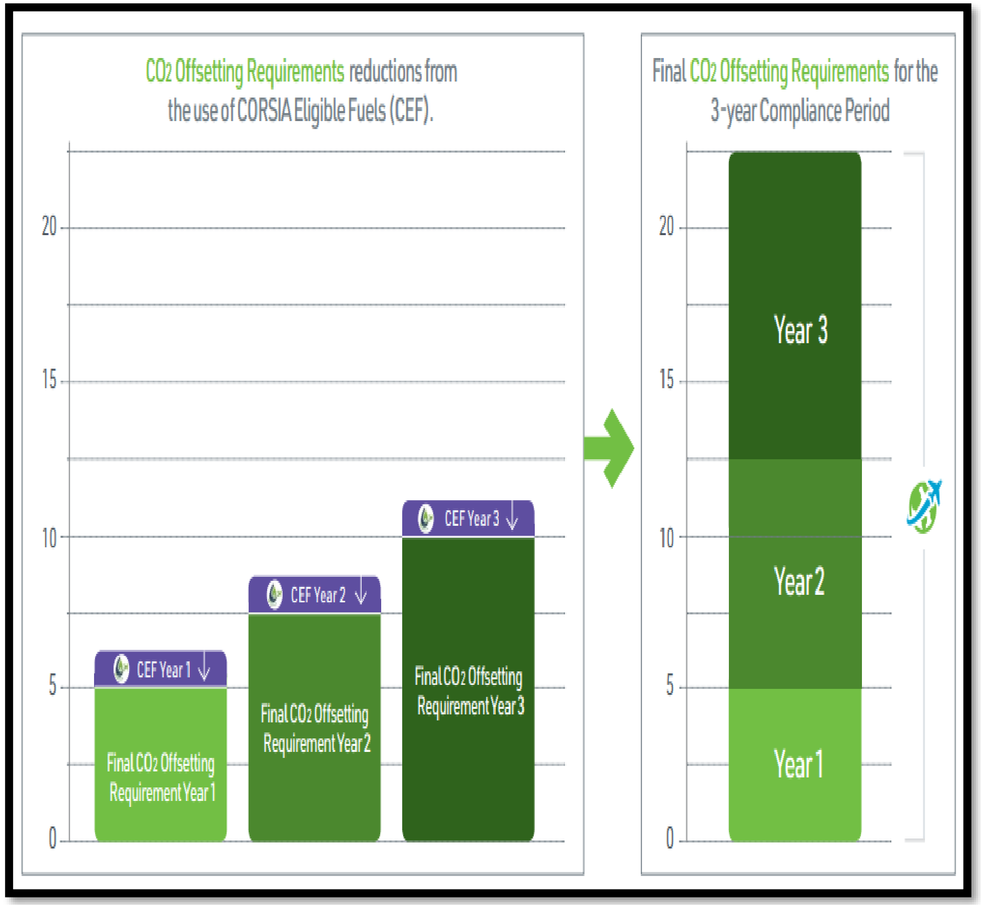
→ This is calculated **by State** as follows:

$FOR = (OR_1 + OR_2 + OR_3) – (ER_1 + ER_2 + ER_3)$

FOR : AO’s total final offsetting requirements

OR: AO’s offsetting requirements

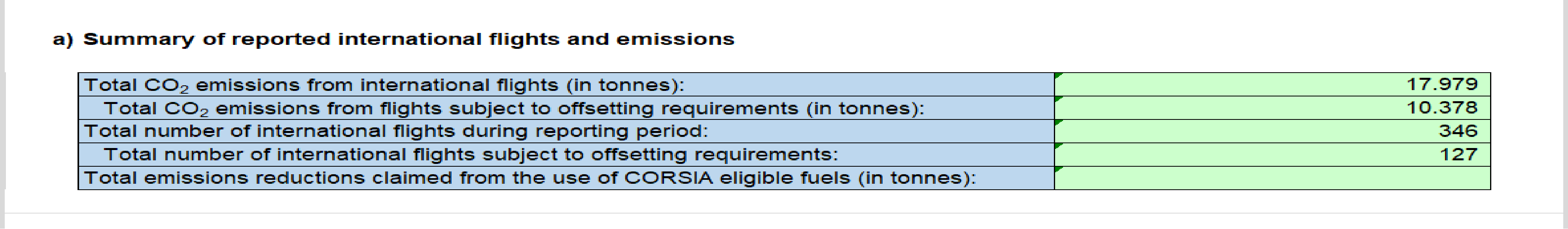
ER: Emission reductions from the use of CEF



United Nations
Climate Change

REGIONAL CLIMATE WEEKS

An example calculation in 2025 (relating to 2024 emissions and the 85% baseline)- From the formula to the template-



a) **Summary of reported international flights and emissions**

Total CO_2 emissions from international flights (in tonnes):	17.979
Total CO_2 emissions from flights subject to offsetting requirements (in tonnes):	10.378
Total number of international flights during reporting period:	346
Total number of international flights subject to offsetting requirements:	127
Total emissions reductions claimed from the use of CORSIA eligible fuels (in tonnes):	

CORSIA baseline (85% 2019): (illustrative purpose) 290 MT CO_2

Sector emissions in 2024: (illustrative purpose) 310 MT CO_2

2021-2032: 100% sectoral 0% individual

Operator ‘Y’ emissions in 2024: 10,378 tCO_2

Sector Growth Factor = $\frac{310 - 290}{310}$ = 0.0645

Calculation for operator ‘Y’ = 10,378 x 0.0645 = 669.381 offsets

CORSIA Eligible Emissions Units

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Offsetting process: AO actions

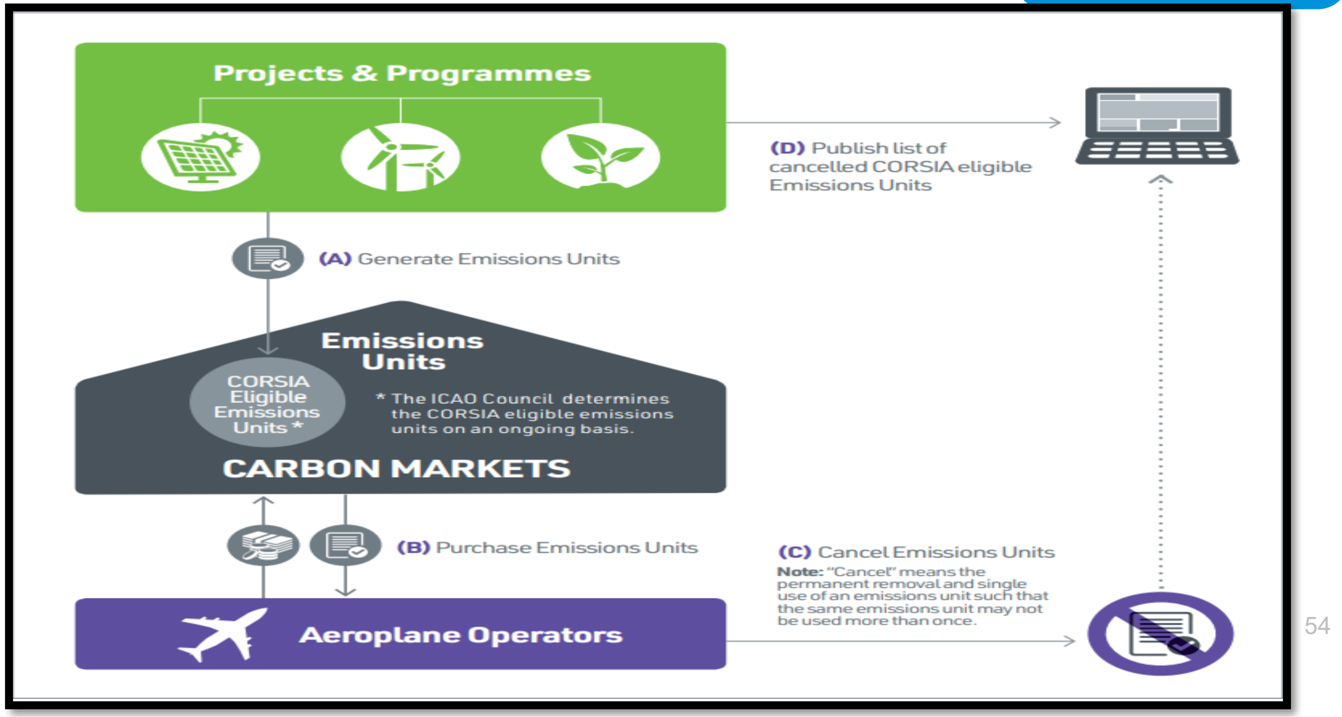
The AO to purchase and cancel eligible emissions units equivalent to its final CO2 offsetting requirements for the 3- year compliance period

Only Programmes/Projects CORSIA eligible

Emissions units purchased in carbon market on a per tonnes basis (1 Emissions Unit=1 Tonne of CO2)

AO to Cancel CORSIA Eligible Emissions Units in the Registry

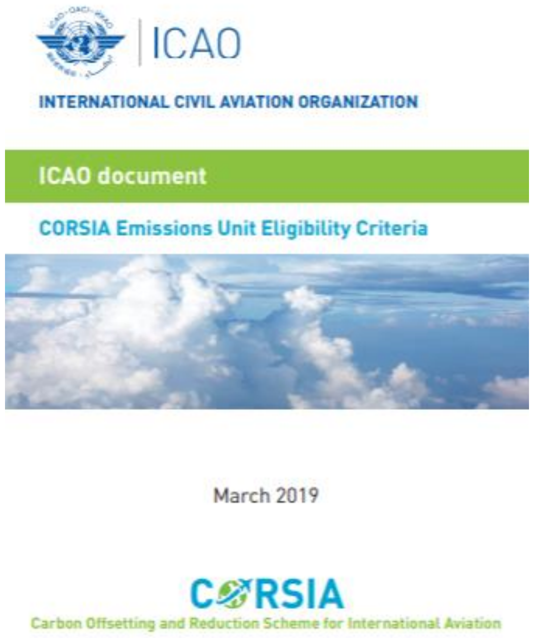
AO to ask CORSIA Eligible Emissions Units Programme Registry to make visible the cancellation information on the registry's public website


Projects & Programmes
(D) Publish list of cancelled CORSIA eligible Emissions Units
(A) Generate Emissions Units
Emissions Units
CORSIA Eligible Emissions Units *
* The ICAO Council determines the CORSIA eligible emissions units on an ongoing basis.
CARBON MARKETS
(B) Purchase Emissions Units
(C) Cancel Emissions Units
Note: "Cancel" means the permanent removal and single use of an emissions unit such that the same emissions unit may not be used more than once.
Aeroplane Operators

CORSIA Emissions Unit Eligibility Criteria

- → Criteria against which programmes will be assessed
- → Approved in March 2019 by ICAO Council
- → Two types:

1) Program Design criteria
2) Offsetting criteria



ICAO
INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO document

CORSIA Emissions Unit Eligibility Criteria

March 2019

CORSIA
Carbon Offsetting and Reduction Scheme for International Aviation

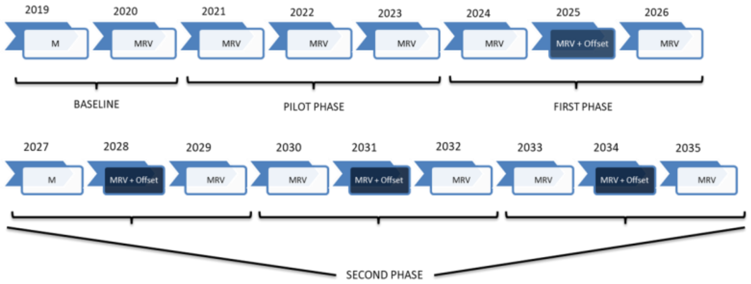
CORSIA Program and Offset Criteria

Programme Design Elements Assessment Criteria
Clear Methodologies and Protocols, and their Development Process
Scope Considerations
Offset Credit Issuance and Retirement Procedures
Identification and Tracking
Legal Nature and Transfer of Units
Validation and Verification procedures
Program Governance
Transparency and Public Participation Provisions
Safeguards System
Sustainable Development Criteria
Avoidance of Double Counting, Issuance and Claiming

Carbon Offset Credit Integrity Assessment Criteria
Are additional
Are based on a realistic and credible baseline
Are quantified, monitored, reported, and verified
Have a clear and transparent chain of custody
Represent permanent emissions reductions
Assess and mitigate against potential increase in emissions elsewhere
Are only counted once towards a mitigation obligation
Do no net harm

Offsetting Requirements and 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)


2019
M
2020
MRV
2021
MRV
2022
MRV
2023
MRV
2024
MRV
2025
MRV + Offset
2026
MRV
BASELINE
PILOT PHASE
FIRST PHASE
2027
M
2028
MRV + Offset
2029
MRV
2030
MRV
2031
MRV + Offset
2032
MRV
2033
MRV
2034
MRV + Offset
2035
MRV
SECOND PHASE

CORSIA Eligible Emission Programmes for the Pilot Phase (2021 – 2023)

1. American Carbon Registry
2. Architecture for REDD+ Transactions
3. China GHG Voluntary Emission Reduction Program
4. Clean Development Mechanism
5. Climate Action Reserve
6. Global Carbon Council
7. The Gold Standard
8. Verified Carbon Standard
9. Forest Carbon Partnership Facility Program

Eligible Emission Units. Pilot Phase

Vintage and timeframe conditions for Pilot Phase offsetting requirements

Projects generating units must have started their first crediting period from 1 January 2016

Reductions must occur no later than 31 December 2020, inclusive *

***Note:** American Carbon Registry and Architecture for REDD+ Transactions allows for emission reductions through 31 December 2023

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Eligible Emission Programmes. First Phase (Not definitive)

1. American Carbon Registry
2. Architecture for REDD+ Transactions

American Carbon Registry

FOREST CARBON PARTNERSHIP FACILITY

United Nations Climate Change

REGIONAL CLIMATE WEEKS

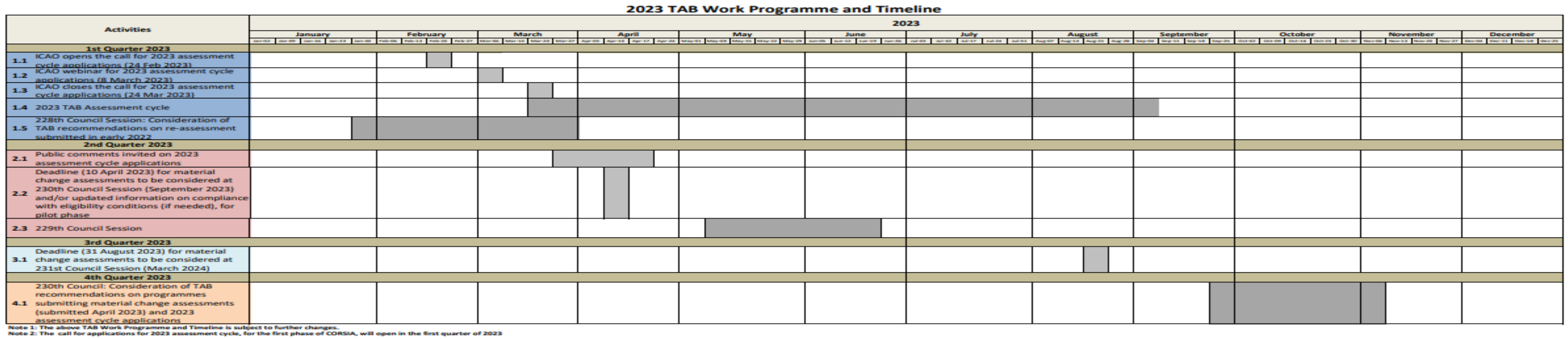
TAB Work Programme and Timeline 2023

From 24 February to 31 March 2023, ICAO invited emissions unit programmes to apply for assessment by the Technical Advisory Body (TAB) against the CORSIA Emissions Unit Criteria (EUC) to supply CORSIA Eligible Emissions Units for the 2024 – 2026 compliance period (first phase).

ICAO received eleven responses to the call for applications.

1. Biocarbon Fund Initiative for Sustainable Forest Landscapes 2. Biocarbon Registry 3. Carbonpath 4. Cercarbono 5. Forest Carbon Partnership Facility 6. International Carbon Registry 7. J-Credit 8. KCCI Carbon Standard 9. Premium Thailand Voluntary Emission Reduction Program 10. Riverse 11. Socialcarbon

TAB Work Programme and Timeline 2023



2023 TAB Work Programme and Timeline

	Activities	January	February	March	April	May	June	July	August	September	October	November	December
	1st Quarter 2023												
1.1	ICAO opens the call for 2023 assessment cycle applications (24 Feb 2023)		▨										
1.2	ICAO webinar for 2023 assessment cycle applications (8 March 2023)			▨									
1.3	ICAO closes the call for 2023 assessment cycle applications (24 Mar 2023)			▨									
1.4	2023 TAB Assessment cycle			▨	▨	▨	▨	▨	▨	▨			
1.5	228th Council Session: Consideration of TAB recommendations on re-assessment submitted in early 2022	▨	▨	▨									
	2nd Quarter 2023												
2.1	Public comments invited on 2023 assessment cycle applications			▨	▨								
2.2	Deadline (10 April 2023) for material change assessments to be considered at 230th Council Session (September 2023) and/or updated information on compliance with eligibility conditions (if needed), for pilot phase				▨								
2.3	229th Council Session					▨	▨						
	3rd Quarter 2023												
3.1	Deadline (31 August 2023) for material change assessments to be considered at 231st Council Session (March 2024)								▨				
	4th Quarter 2023												
4.1	230th Council: Consideration of TAB recommendations on programmes submitting material change assessments (submitted April 2023) and 2023 assessment cycle applications									▨	▨	▨	

Note 1: The above TAB Work Programme and Timeline is subject to further changes.
Note 2: The call for applications for 2023 assessment cycle, for the first phase of CORSIA, will open in the first quarter of 2023

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

CORSIA Eligible Emissions Units

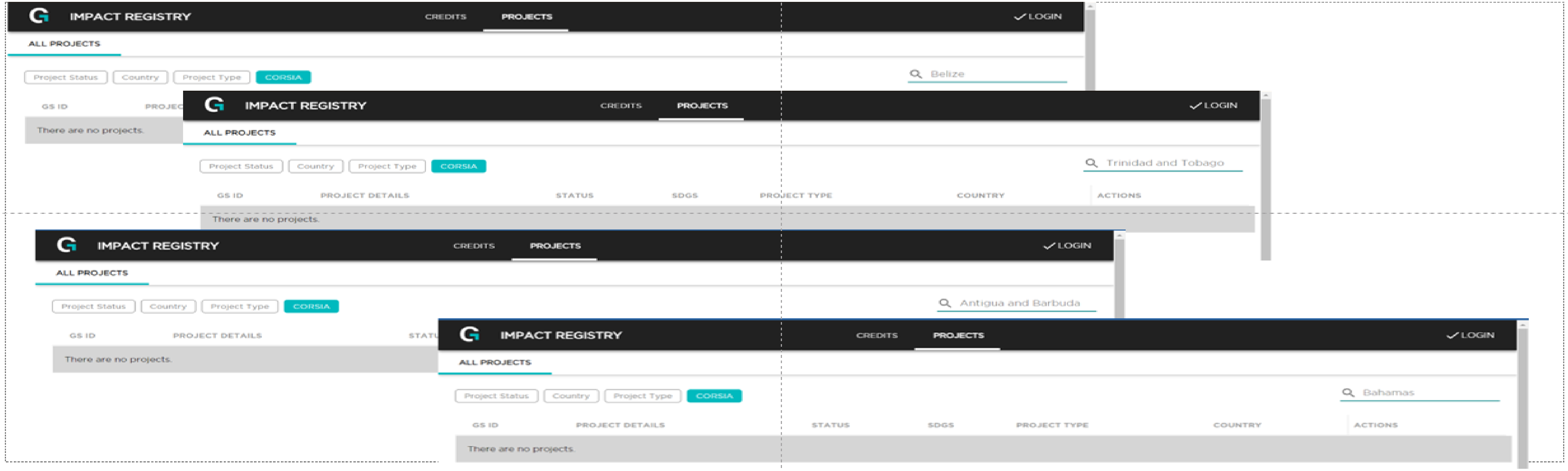
-examples of CORSIA Eligible projects-

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Projects in the Caribbean-(CORSIA eligible)

GSF: in the Caribbean-no CORSIA eligible


IMPACT REGISTRY
CREDITS
PROJECTS
LOGIN
ALL PROJECTS
Project Status
Country
Project Type
CORSIA
GS ID
PROJECT DETAILS
STATUS
SDGS
PROJECT TYPE
COUNTRY
ACTIONS

Belize

There are no projects.

Trinidad and Tobago

There are no projects.

Antigua and Barbuda

There are no projects.

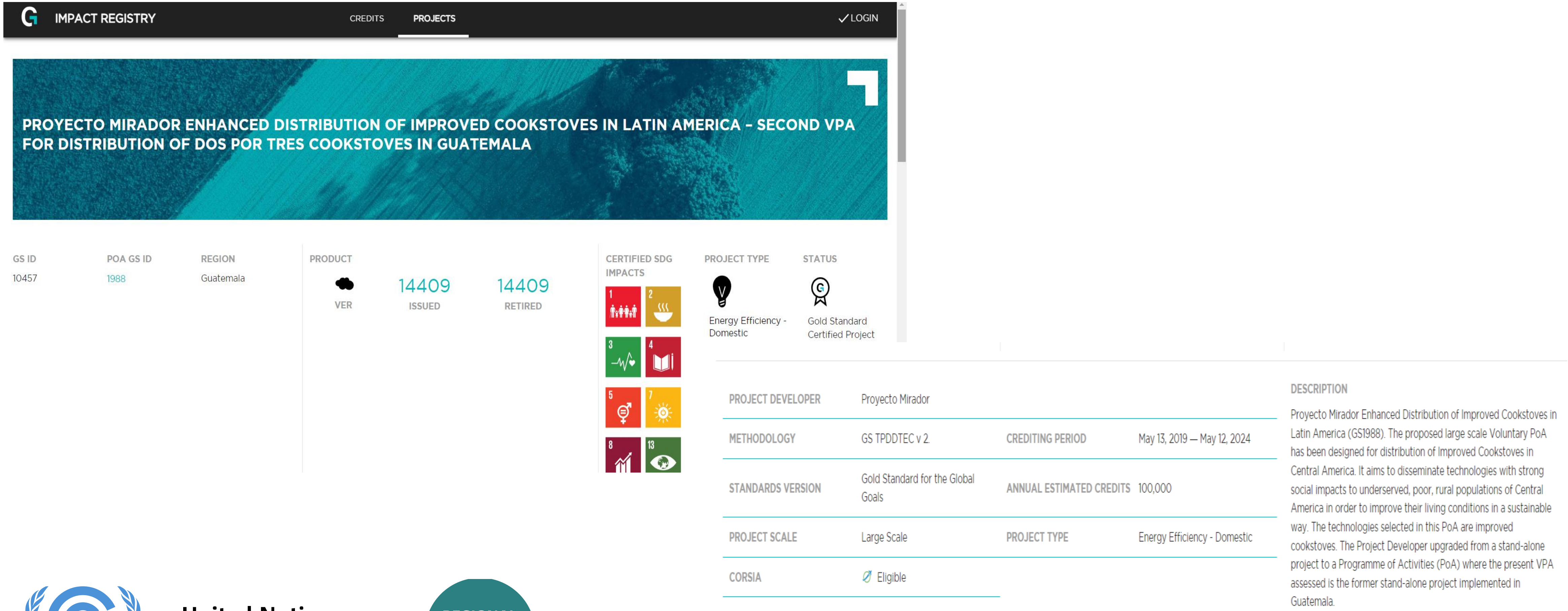
Bahamas

There are no projects.

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

GSF- Guatemala CORSIA Eligible project



PROYECTO MIRADOR ENHANCED DISTRIBUTION OF IMPROVED COOKSTOVES IN LATIN AMERICA – SECOND VPA FOR DISTRIBUTION OF DOS POR TRES COOKSTOVES IN GUATEMALA

GS ID	POA GS ID	REGION	PRODUCT			CERTIFIED SDG IMPACTS	PROJECT TYPE	STATUS
10457	1988	Guatemala	VER	14409 ISSUED	14409 RETIRED	1, 2, 3, 4, 5, 7, 8, 13	Energy Efficiency - Domestic	Gold Standard Certified Project

PROJECT DEVELOPER	Proyecto Mirador		
METHODOLOGY	GS TPDDTEC v 2	CREDITING PERIOD	May 13, 2019 — May 12, 2024
STANDARDS VERSION	Gold Standard for the Global Goals	ANNUAL ESTIMATED CREDITS	100,000
PROJECT SCALE	Large Scale	PROJECT TYPE	Energy Efficiency - Domestic
CORSIA	✓ Eligible		

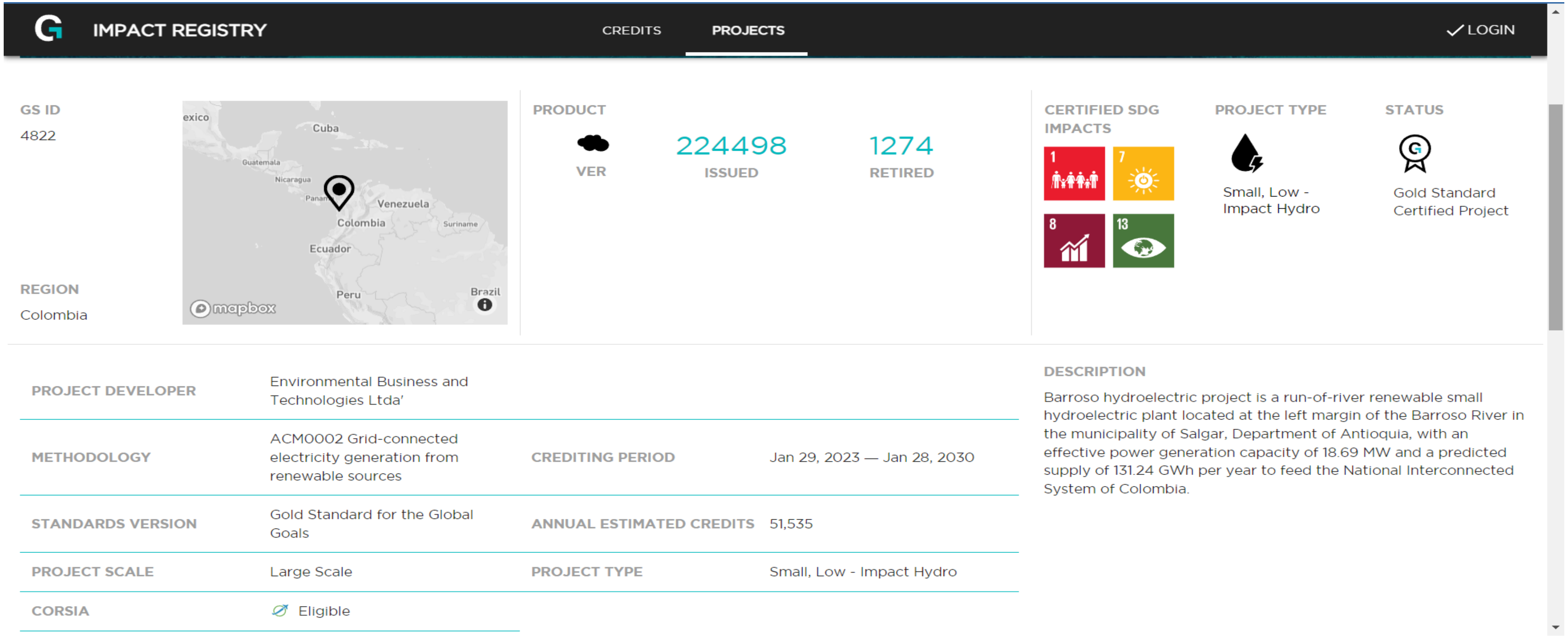
DESCRIPTION

Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America (GS1988). The proposed large scale Voluntary PoA has been designed for distribution of Improved Cookstoves in Central America. It aims to disseminate technologies with strong social impacts to underserved, poor, rural populations of Central America in order to improve their living conditions in a sustainable way. The technologies selected in this PoA are improved cookstoves. The Project Developer upgraded from a stand-alone project to a Programme of Activities (PoA) where the present VPA assessed is the former stand-alone project implemented in Guatemala.

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

GSF- Colombia CORSIA Eligible project


IMPACT REGISTRY
CREDITS
PROJECTS
✓LOGIN
exico
Cuba
Guatemala
Nicaragua
Panam
Venezuela
Colombia
Suriname
Ecuador
Peru
Brazil
mapbox

GS ID
4822

REGION
Colombia

PRODUCT
VER

224498
ISSUED

1274
RETIRED

CERTIFIED SDG IMPACTS
1 7 8 13

PROJECT TYPE
Small, Low - Impact Hydro

STATUS
Gold Standard Certified Project

PROJECT DEVELOPER	Environmental Business and Technologies Ltda'		
METHODOLOGY	ACM0002 Grid-connected electricity generation from renewable sources	**CREDITING PERIOD**	Jan 29, 2023 — Jan 28, 2030
STANDARDS VERSION	Gold Standard for the Global Goals	**ANNUAL ESTIMATED CREDITS**	51,535
PROJECT SCALE	Large Scale	**PROJECT TYPE**	Small, Low - Impact Hydro
CORSIA	Eligible		

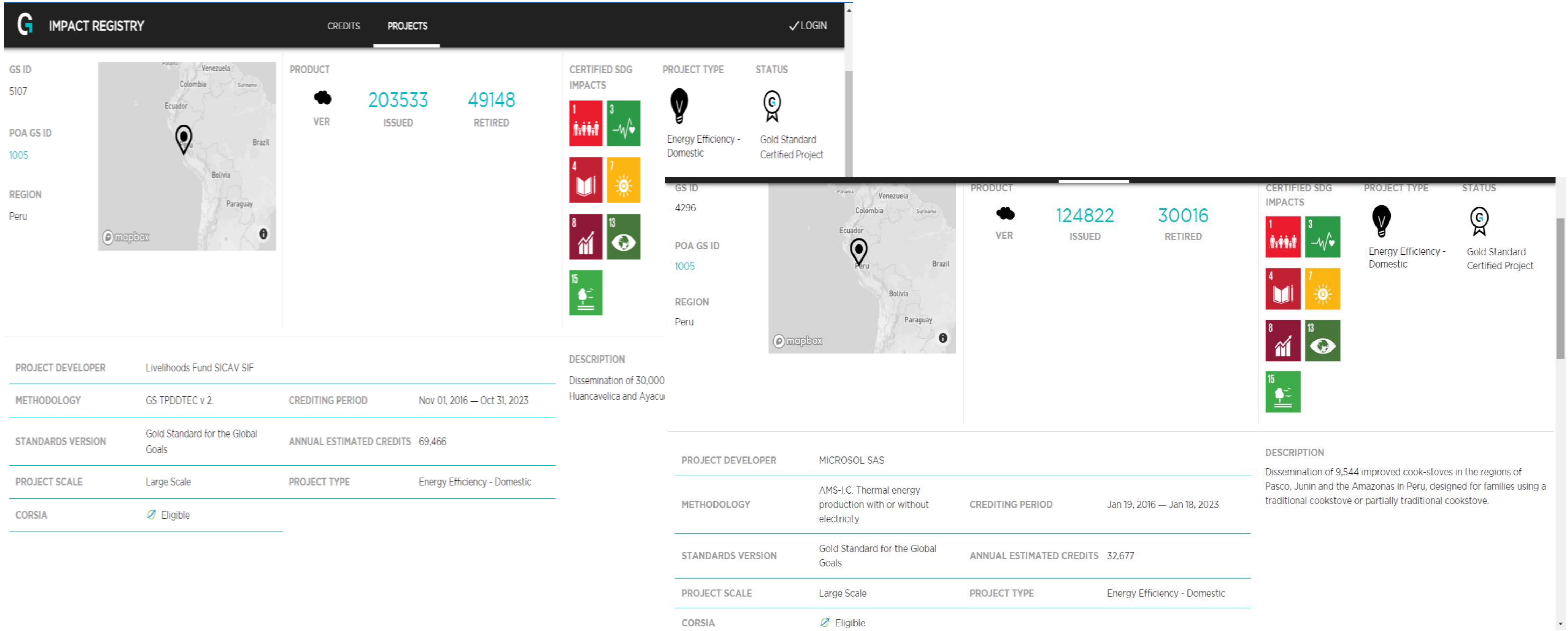
DESCRIPTION

Barroso hydroelectric project is a run-of-river renewable small hydroelectric plant located at the left margin of the Barroso River in the municipality of Salgar, Department of Antioquia, with an effective power generation capacity of 18.69 MW and a predicted supply of 131.24 GWh per year to feed the National Interconnected System of Colombia.

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

GSF- Perù CORSIA Eligible project



GS ID
5107

POA GS ID
1005

REGION
Peru

PRODUCT
VER

203533
ISSUED

49148
RETIRED

CERTIFIED SDG IMPACTS

PROJECT TYPE
Energy Efficiency - Domestic

STATUS
Gold Standard Certified Project

PROJECT DEVELOPER	Livelihoods Fund SICAV SIF		
METHODOLOGY	GS TPDDTEC v 2.	CREDITING PERIOD	Nov 01, 2016 — Oct 31, 2023
STANDARDS VERSION	Gold Standard for the Global Goals	ANNUAL ESTIMATED CREDITS	69,466
PROJECT SCALE	Large Scale	PROJECT TYPE	Energy Efficiency - Domestic
CORSIA	✓ Eligible		

DESCRIPTION
Dissemination of 30,000
Huancavelica and Ayacu

GS ID
4296

POA GS ID
1005

REGION
Peru

PRODUCT
VER

124822
ISSUED

30016
RETIRED

CERTIFIED SDG IMPACTS

PROJECT TYPE
Energy Efficiency - Domestic

STATUS
Gold Standard Certified Project

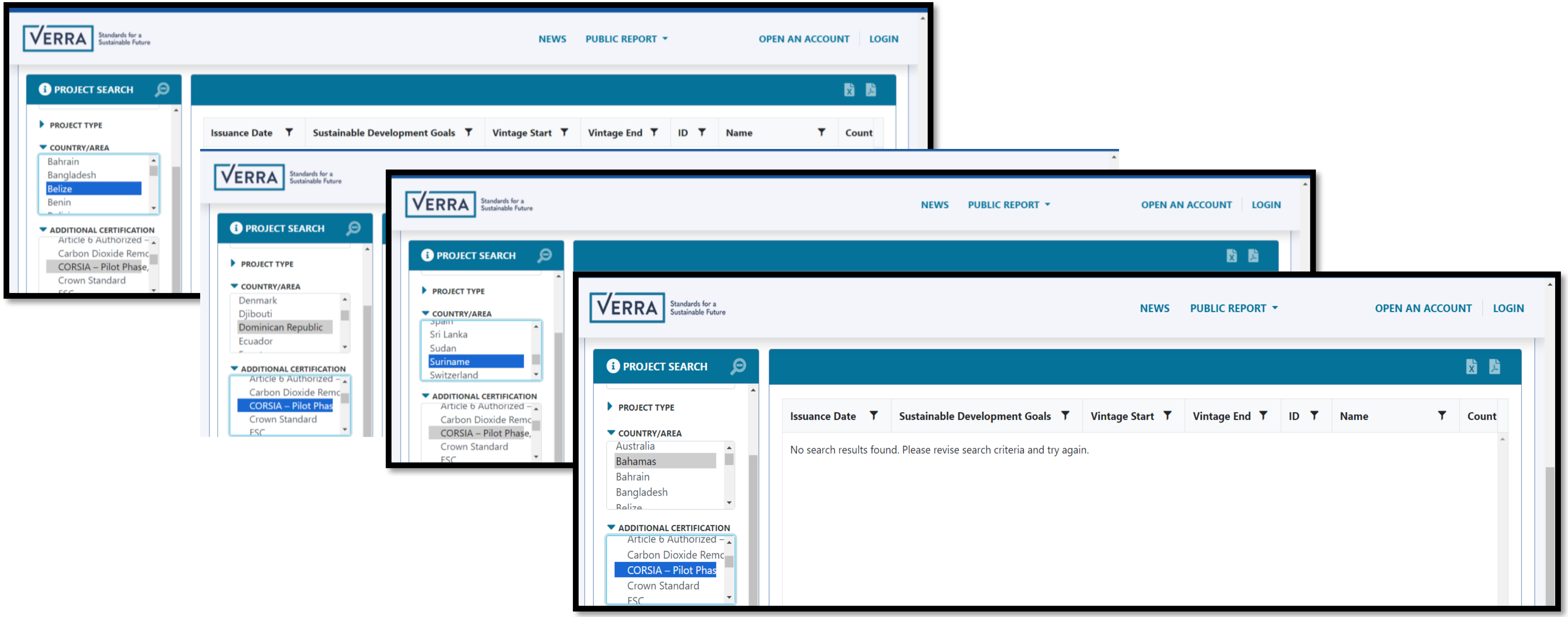
PROJECT DEVELOPER	MICROSOL SAS		
METHODOLOGY	AMS-I.C. Thermal energy production with or without electricity	CREDITING PERIOD	Jan 19, 2016 — Jan 18, 2023
STANDARDS VERSION	Gold Standard for the Global Goals	ANNUAL ESTIMATED CREDITS	32,677
PROJECT SCALE	Large Scale	PROJECT TYPE	Energy Efficiency - Domestic
CORSIA	✓ Eligible		

DESCRIPTION
Dissemination of 9,544 improved cook-stoves in the regions of Pasco, Junin and the Amazonas in Peru, designed for families using a traditional cookstove or partially traditional cookstove.

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

VERRA Registry- no projects in the Caribbean

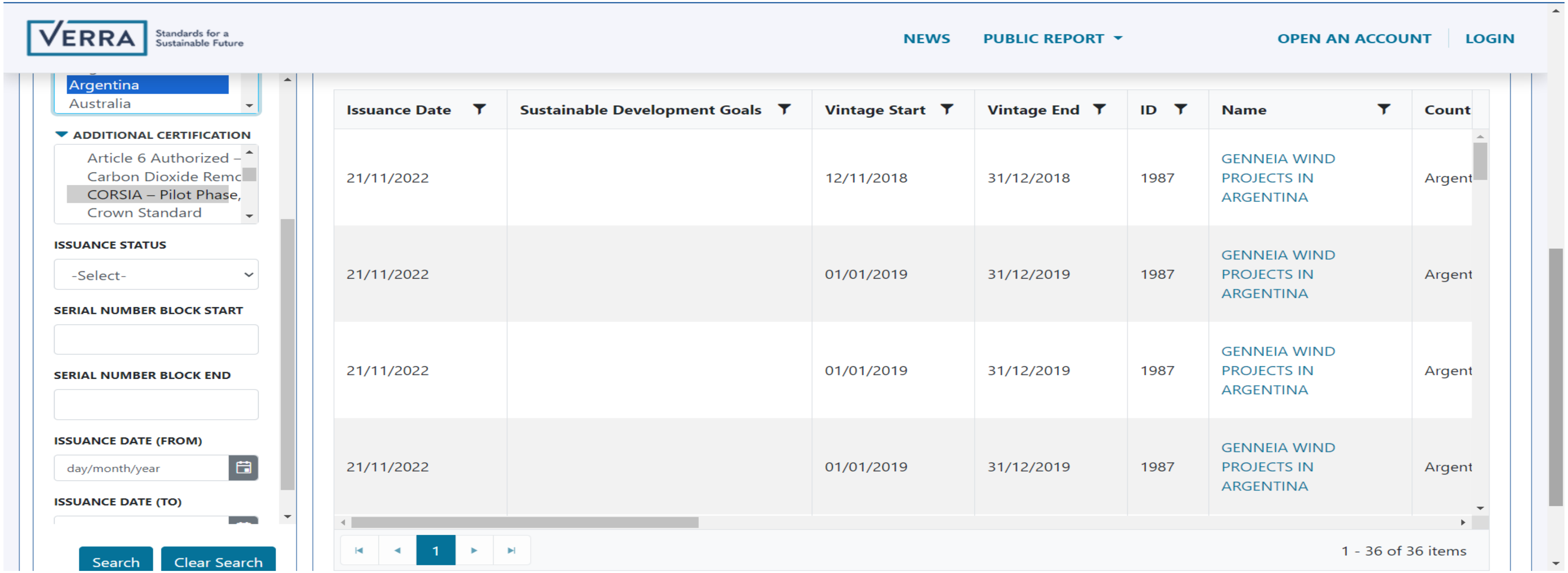

VERRA Standards for a Sustainable Future
NEWS
PUBLIC REPORT
OPEN AN ACCOUNT
LOGIN
PROJECT SEARCH
PROJECT TYPE
COUNTRY/AREA
Bahrain
Bangladesh
Belize
Benin
Denmark
Djibouti
Dominican Republic
Ecuador
Spain
Sri Lanka
Sudan
Suriname
Switzerland
Australia
Bahamas
ADDITIONAL CERTIFICATION
Article 6 Authorized –
Carbon Dioxide Remo
CORSIA – Pilot Phase,
Crown Standard
FSC
Issuance Date
Sustainable Development Goals
Vintage Start
Vintage End
ID
Name
Count

No search results found. Please revise search criteria and try again.

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

Verra Registry- Latin America- Argentina


VERRA
Standards for a Sustainable Future
NEWS
PUBLIC REPORT
OPEN AN ACCOUNT
LOGIN
Argentina
Australia

ADDITIONAL CERTIFICATION

Article 6 Authorized –
Carbon Dioxide Remc
CORSIA – Pilot Phase,
Crown Standard

ISSUANCE STATUS

-Select-

SERIAL NUMBER BLOCK START

SERIAL NUMBER BLOCK END

ISSUANCE DATE (FROM)

day/month/year

ISSUANCE DATE (TO)

Search
Clear Search

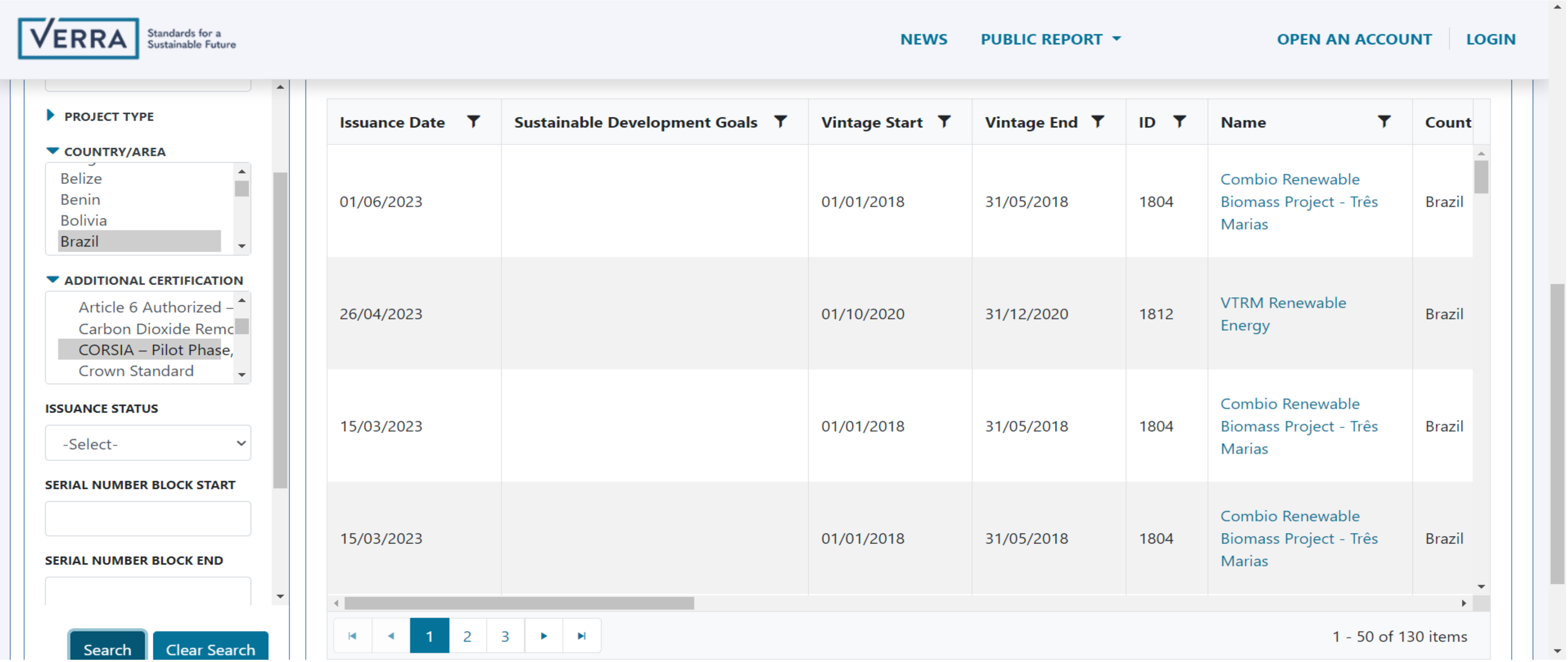
Issuance Date	Sustainable Development Goals	Vintage Start	Vintage End	ID	Name	Count
21/11/2022		12/11/2018	31/12/2018	1987	GENNEIA WIND PROJECTS IN ARGENTINA	Argent
21/11/2022		01/01/2019	31/12/2019	1987	GENNEIA WIND PROJECTS IN ARGENTINA	Argent
21/11/2022		01/01/2019	31/12/2019	1987	GENNEIA WIND PROJECTS IN ARGENTINA	Argent
21/11/2022		01/01/2019	31/12/2019	1987	GENNEIA WIND PROJECTS IN ARGENTINA	Argent

1 - 36 of 36 items

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Verra Registry- Latin America- Brazil


VERRA
Standards for a Sustainable Future
NEWS
PUBLIC REPORT
OPEN AN ACCOUNT
LOGIN
PROJECT TYPE
COUNTRY/AREA
Belize
Benin
Bolivia
Brazil
ADDITIONAL CERTIFICATION
Article 6 Authorized –
Carbon Dioxide Remc
CORSIA – Pilot Phase,
Crown Standard
ISSUANCE STATUS
-Select-
SERIAL NUMBER BLOCK START
SERIAL NUMBER BLOCK END
Search
Clear Search
1
2
3

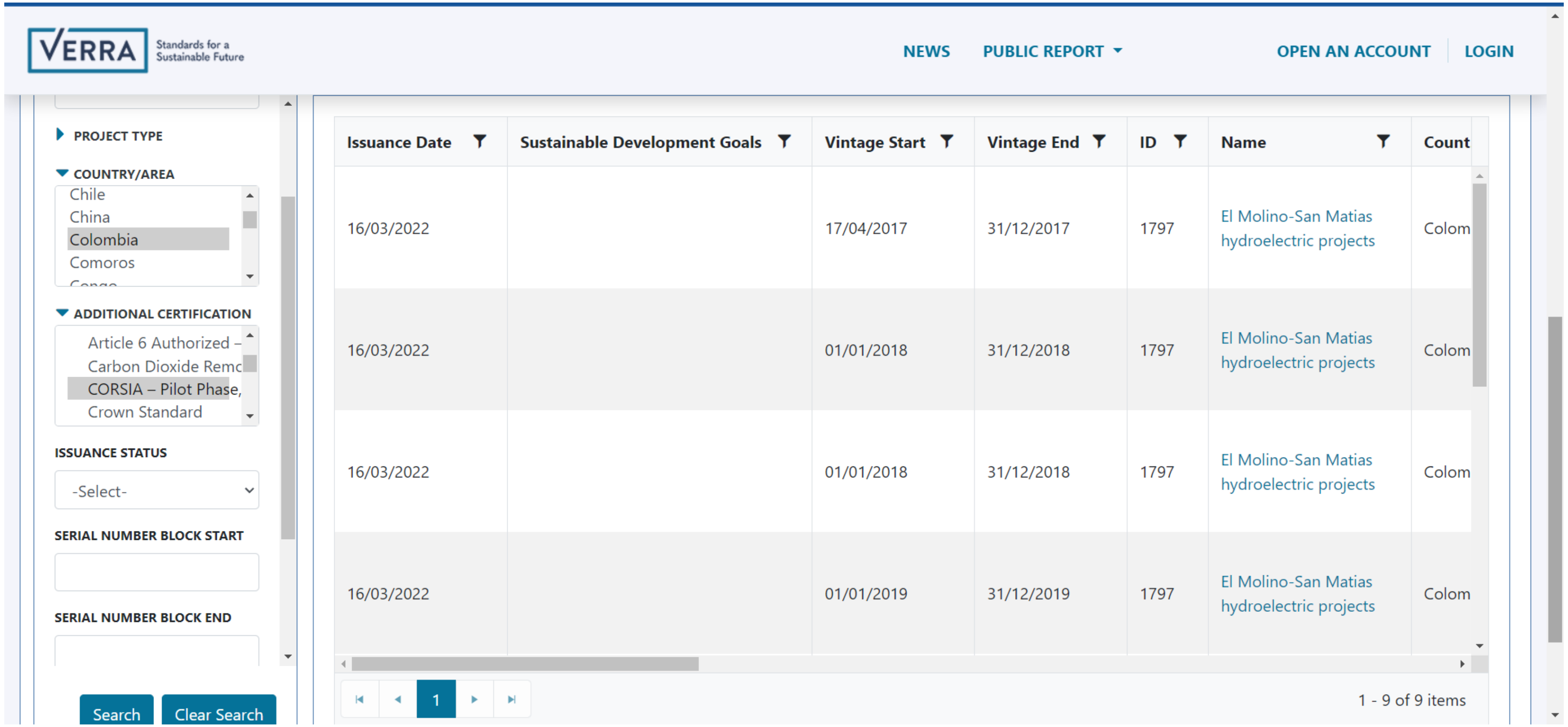
Issuance Date	Sustainable Development Goals	Vintage Start	Vintage End	ID	Name	Count
01/06/2023		01/01/2018	31/05/2018	1804	Combio Renewable Biomass Project - Três Marias	Brazil
26/04/2023		01/10/2020	31/12/2020	1812	VTRM Renewable Energy	Brazil
15/03/2023		01/01/2018	31/05/2018	1804	Combio Renewable Biomass Project - Três Marias	Brazil
15/03/2023		01/01/2018	31/05/2018	1804	Combio Renewable Biomass Project - Três Marias	Brazil

1 - 50 of 130 items

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Verra Registry- Latin America- Colombia


VERRA
Standards for a Sustainable Future
NEWS
PUBLIC REPORT
OPEN AN ACCOUNT
LOGIN
PROJECT TYPE
Search
Clear Search
1

COUNTRY/AREA
Chile
China
Colombia
Comoros

ADDITIONAL CERTIFICATION
Article 6 Authorized –
Carbon Dioxide Remc
CORSIA – Pilot Phase,
Crown Standard

ISSUANCE STATUS
-Select-

SERIAL NUMBER BLOCK START

SERIAL NUMBER BLOCK END

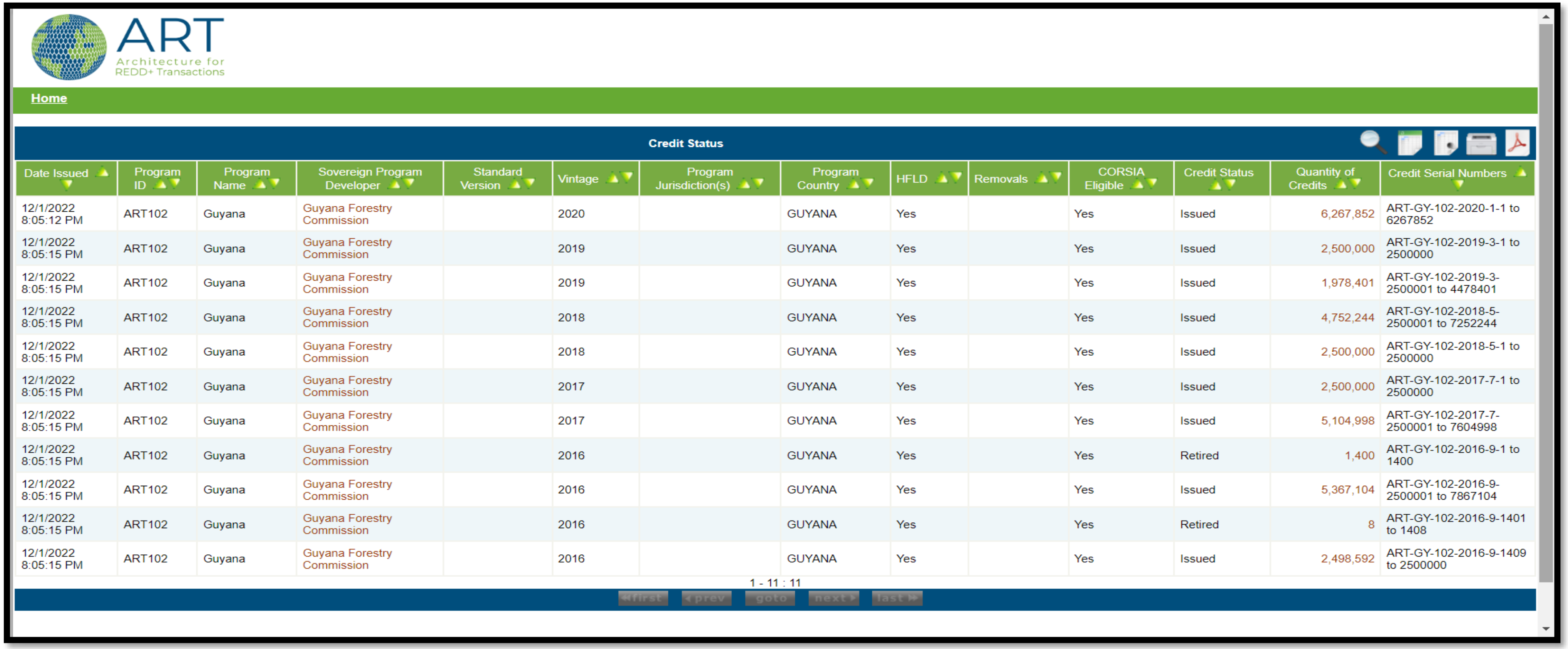
Issuance Date	Sustainable Development Goals	Vintage Start	Vintage End	ID	Name	Count
16/03/2022		17/04/2017	31/12/2017	1797	El Molino-San Matias hydroelectric projects	Colom
16/03/2022		01/01/2018	31/12/2018	1797	El Molino-San Matias hydroelectric projects	Colom
16/03/2022		01/01/2018	31/12/2018	1797	El Molino-San Matias hydroelectric projects	Colom
16/03/2022		01/01/2019	31/12/2019	1797	El Molino-San Matias hydroelectric projects	Colom

1 - 9 of 9 items

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

ART Registry- in the Caribbean

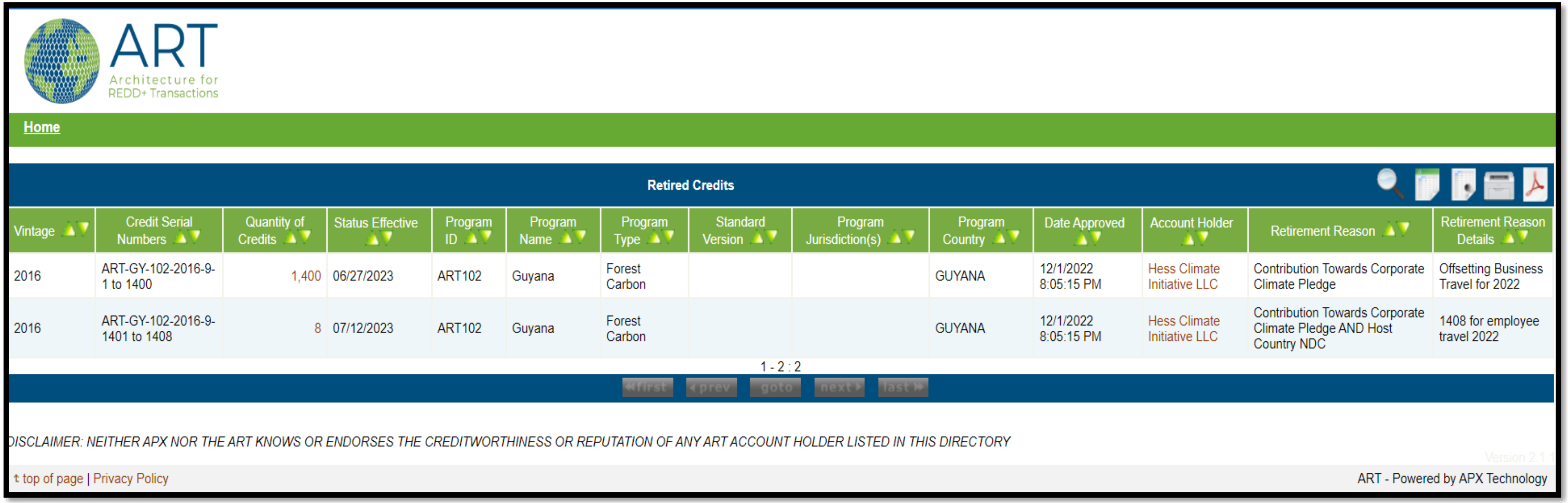


Credit Status

Date Issued	Program ID	Program Name	Sovereign Program Developer	Standard Version	Vintage	Program Jurisdiction(s)	Program Country	HFLD	Removals	CORSIA Eligible	Credit Status	Quantity of Credits	Credit Serial Numbers
12/1/2022 8:05:12 PM	ART102	Guyana	Guyana Forestry Commission		2020		GUYANA	Yes		Yes	Issued	6,267,852	ART-GY-102-2020-1-1 to 6267852
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2019		GUYANA	Yes		Yes	Issued	2,500,000	ART-GY-102-2019-3-1 to 2500000
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2019		GUYANA	Yes		Yes	Issued	1,978,401	ART-GY-102-2019-3-2500001 to 4478401
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2018		GUYANA	Yes		Yes	Issued	4,752,244	ART-GY-102-2018-5-2500001 to 7252244
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2018		GUYANA	Yes		Yes	Issued	2,500,000	ART-GY-102-2018-5-1 to 2500000
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2017		GUYANA	Yes		Yes	Issued	2,500,000	ART-GY-102-2017-7-1 to 2500000
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2017		GUYANA	Yes		Yes	Issued	5,104,998	ART-GY-102-2017-7-2500001 to 7604998
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2016		GUYANA	Yes		Yes	Retired	1,400	ART-GY-102-2016-9-1 to 1400
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2016		GUYANA	Yes		Yes	Issued	5,367,104	ART-GY-102-2016-9-2500001 to 7867104
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2016		GUYANA	Yes		Yes	Retired	8	ART-GY-102-2016-9-1401 to 1408
12/1/2022 8:05:15 PM	ART102	Guyana	Guyana Forestry Commission		2016		GUYANA	Yes		Yes	Issued	2,498,592	ART-GY-102-2016-9-1409 to 2500000

1 - 11 : 11

ART registry: Guyana- retired credits…..BUT ….



Retired Credits

Vintage	Credit Serial Numbers	Quantity of Credits	Status Effective	Program ID	Program Name	Program Type	Standard Version	Program Jurisdiction(s)	Program Country	Date Approved	Account Holder	Retirement Reason	Retirement Reason Details
2016	ART-GY-102-2016-9-1 to 1400	1,400	06/27/2023	ART102	Guyana	Forest Carbon			GUYANA	12/1/2022 8:05:15 PM	Hess Climate Initiative LLC	Contribution Towards Corporate Climate Pledge	Offsetting Business Travel for 2022
2016	ART-GY-102-2016-9-1401 to 1408	8	07/12/2023	ART102	Guyana	Forest Carbon			GUYANA	12/1/2022 8:05:15 PM	Hess Climate Initiative LLC	Contribution Towards Corporate Climate Pledge AND Host Country NDC	1408 for employee travel 2022

1 - 2 : 2

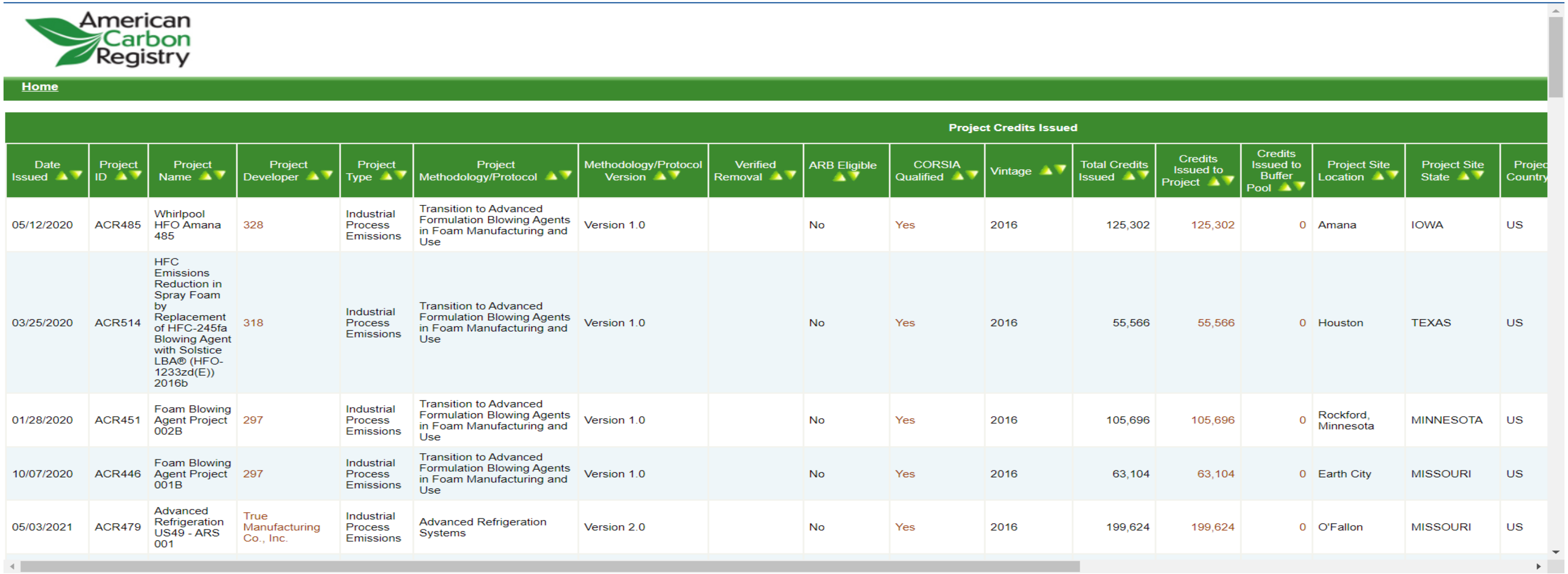
DISCLAIMER: NEITHER APX NOR THE ART KNOWS OR ENDORSES THE CREDITWORTHINESS OR REPUTATION OF ANY ART ACCOUNT HOLDER LISTED IN THIS DIRECTORY

Version 2.1

↑ top of page | Privacy Policy

ART - Powered by APX Technology

American Carbon Registry

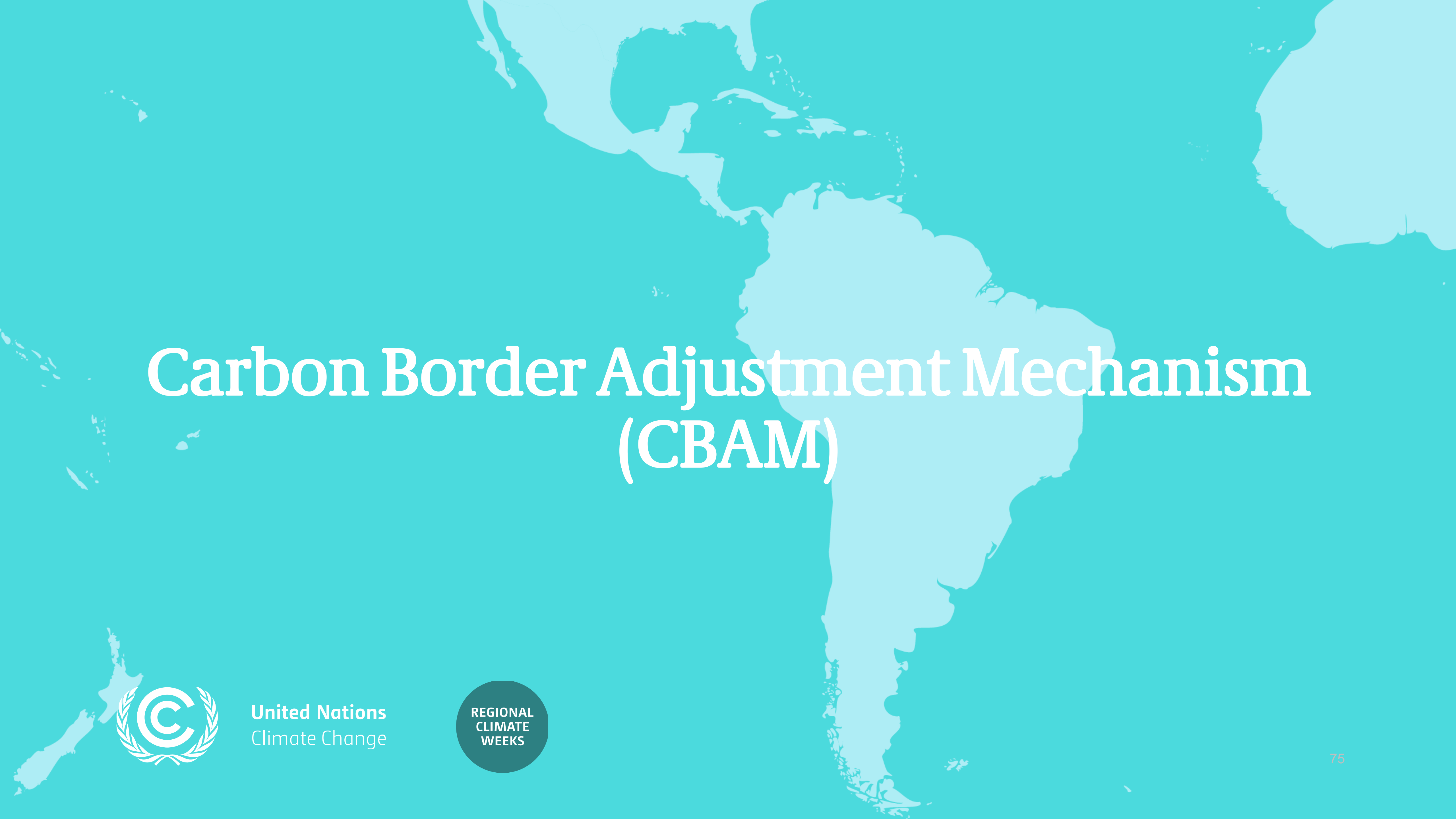


Project Credits Issued

Date Issued	Project ID	Project Name	Project Developer	Project Type	Project Methodology/Protocol	Methodology/Protocol Version	Verified Removal	ARB Eligible	CORSIA Qualified	Vintage	Total Credits Issued	Credits Issued to Project	Credits Issued to Buffer Pool	Project Site Location	Project Site State	Projec Country
05/12/2020	ACR485	Whirlpool HFO Amana 485	328	Industrial Process Emissions	Transition to Advanced Formulation Blowing Agents in Foam Manufacturing and Use	Version 1.0		No	Yes	2016	125,302	125,302	0	Amana	IOWA	US
03/25/2020	ACR514	HFC Emissions Reduction in Spray Foam by Replacement of HFC-245fa Blowing Agent with Solstice LBA® (HFO-1233zd(E)) 2016b	318	Industrial Process Emissions	Transition to Advanced Formulation Blowing Agents in Foam Manufacturing and Use	Version 1.0		No	Yes	2016	55,566	55,566	0	Houston	TEXAS	US
01/28/2020	ACR451	Foam Blowing Agent Project 002B	297	Industrial Process Emissions	Transition to Advanced Formulation Blowing Agents in Foam Manufacturing and Use	Version 1.0		No	Yes	2016	105,696	105,696	0	Rockford, Minnesota	MINNESOTA	US
10/07/2020	ACR446	Foam Blowing Agent Project 001B	297	Industrial Process Emissions	Transition to Advanced Formulation Blowing Agents in Foam Manufacturing and Use	Version 1.0		No	Yes	2016	63,104	63,104	0	Earth City	MISSOURI	US
05/03/2021	ACR479	Advanced Refrigeration US49 - ARS 001	True Manufacturing Co., Inc.	Industrial Process Emissions	Advanced Refrigeration Systems	Version 2.0		No	Yes	2016	199,624	199,624	0	O'Fallon	MISSOURI	US

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS



Carbon Border Adjustment Mechanism (CBAM)

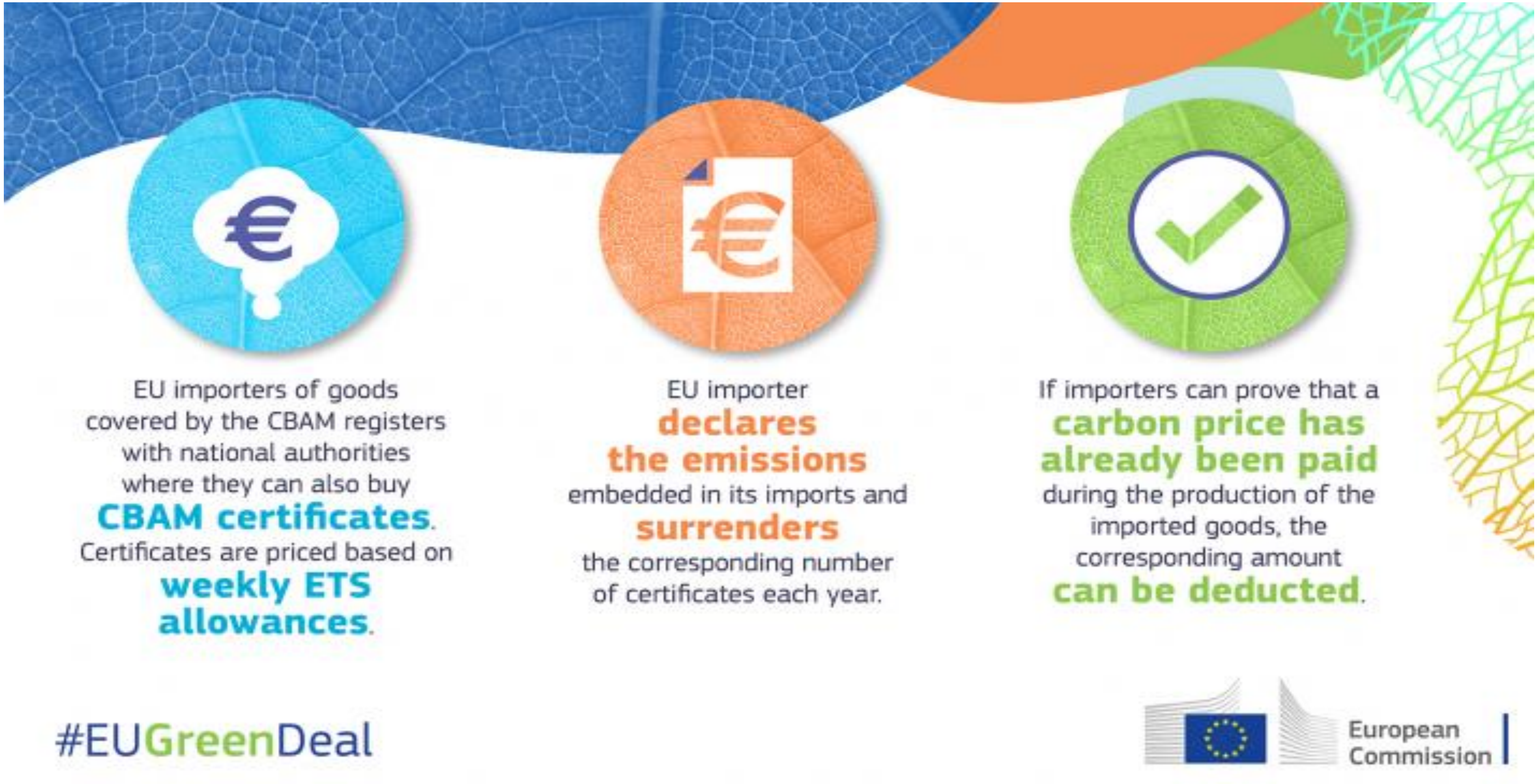
United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

EU Carbon Border Adjustment Mechanism (CBAM): Basic principles

- Stated objective: The CBAM aims to help **reducing the risk of carbon leakage** (the risk of production shifting to jurisdiction with more lax climate policies) by encouraging producers in non-EU countries to **green their production processes**.
- Implementation: A tool to put an equivalent carbon price on the carbon emitted during the production of carbon intensive goods that are entering the EU.
- Its aim is that the EU's climate objectives (in its ETS) are not undermined and to encourage non-EU countries to adopt similar carbon pricing policies.

How will CBAM work?



EU importers of goods covered by the CBAM registers with national authorities where they can also buy **CBAM certificates**. Certificates are priced based on **weekly ETS allowances**.

EU importer **declares the emissions** embedded in its imports and **surrenders** the corresponding number of certificates each year.

If importers can prove that a **carbon price has already been paid** during the production of the imported goods, the corresponding amount **can be deducted**.

#EUGreenDeal

European Commission

State of play

- CBAM regulation officially **entered into force** the day following its publication in the Official Journal of the EU on 16 May 2023.
- **Implementing Regulation** was adopted by the Commission on 17 August 2023. This specifies reporting obligations and information sought from EU importers of CBAM goods, provisional methodology for calculating embedded emissions released during the production process of CBAM goods.
- The CBAM **transitional phase on 1 October 2023**, with the first reporting period for importers ending 31 January 2024.

CBAM - Sectors

In the first Phase:

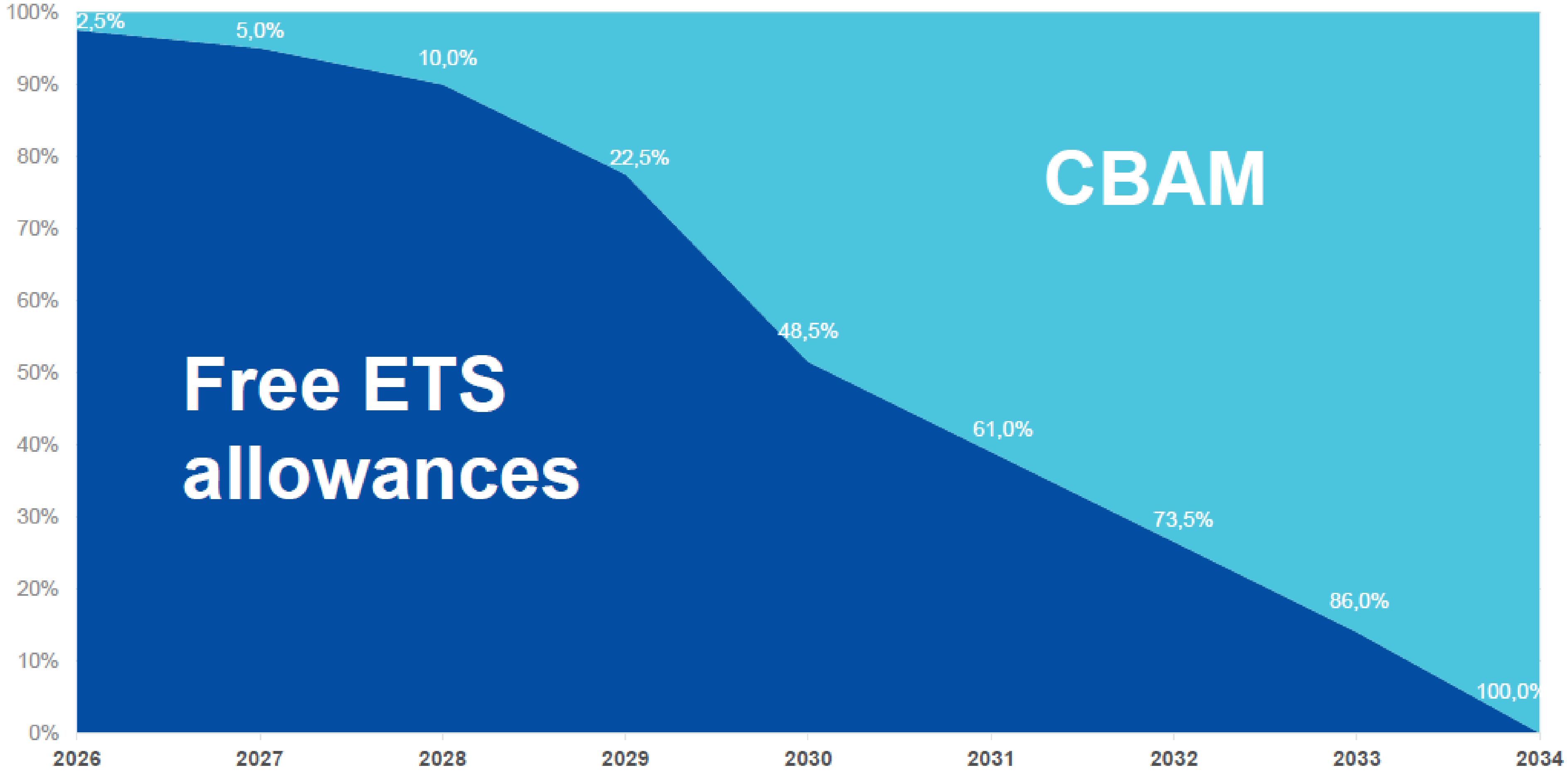
CEMENT
IRON & STEEL
ALUMINIUM
FERTILISER
ELECTRICITY
HYDROGEN
European Commission

- Includes some precursors and downstream products

- **Selected on the basis of 3 criteria:**
    - *High risk of carbon leakage (High carbon emissions; High level of trade)*
    - *Covering more than >45% of CO2 emissions of ETS sectors*
    - *Practical feasibility*

- In a **second stage**, may be extended to other ETS sectors
    - *potentially include additional products (crude oil, polymers and organic chemicals, non-ferrous metals, etc.)*

Phasing-out of free allocation / Phasing-in of CBAM



European Commission

United Nations
Climate Change

REGIONAL CLIMATE WEEKS

Reporting obligations in the transitional phase and what's coming later

Transitional phase October

2023 -December2025

- **CBAM report containing the following:**
  - Total quantity of goods imported during the preceding quarter
  - Total embedded direct and indirect emissions in those goods
  - The carbon price due in the country of origin for the embedded emissions

→ **Report to be submitted each quarter**

Draft methodology published for feedback between 13 June and 11 July 2023

Post transitional phase

January 2026 onwards

- **CBAM declaration containing the following:**
  - Total quantity of goods imported during the preceding calendar year.
  - Total embedded emissions in those goods.
  - **Emissions to be verified by EU accredited verifier.**
  - **Total number of CBAM certificates to be surrendered.**
  - The carbon price effectively paid in the country of origin for the embedded emissions

→ **Declaration to be submitted each year.**

Internationally Tranferred Mitigation Outcomes (ITMOs)

Internationally Tranferred Mitigation Outcomes (ITMOs)

- Refer to real, verifiable, additional emission reductions/removals as well as mitigation co-benefits resulting from adaptation actions and/or economic diversification plans

- Generated in respect of or representing mitigation from 2021 onwards

- Authorized by a participating Party towards NDC compliance or use for other international mitigation purposes e.g., CORSIA.

- Metrics in which ITMOs may be authorized and transferred could include units of tCO_2eq or non-GHG metrics (e.g., kWh of renewable energy, hectares of forest, policies, measures or qualitative targets) determined by the participating Parties in line with their NDCs.

- **Reporting on the non-GHG trade will have to include information on how it can be converted to CO2e.*

ITMOs and NDC Achievement

- ITMOs must be counted only once towards the achievement of NDCs – *apply an accounting measure i.e., Corresponding Adjustments that prevents two countries/entities from counting the same emissions reductions twice (e.g. once in host country and one in acquiring country).*
- Arrangements must be in place for a host party to authorize/track the use of ITMOs,
- A host country does not have to transfer all MOs from a mitigation activity - can keep a share for its own NDC achievement / enhance ambition.
- All authorised credits have a de facto expiration date, since they must be used (and adjusted for) in the NDC period in which they occurred.

THANK YOU FOR ATTENDING

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS

COFFEE BREAK

20 MIN

United Nations
Climate Change

REGIONAL
CLIMATE
WEEKS