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ICAO Regional Workshop on CORSIA

Session 5: CORSIA Central Registry (CCR) and Timelines for CORSIA Implementation

ICAO Secretariat

C  **RSIA**



- This presentation will:
 - Provide an update on the development of the CORSIA Central Registry (CCR)
 - Highlight the data to be uploaded by States into the CCR, and the data that will be published from the CCR
 - Summarize the timelines for actions on reporting and verification of CO₂ emissions in 2019 and 2020
 - Provide an overview of the online spreadsheet for reporting by States in 2019



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CORSIA Central Registry

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The logo for CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation). It features the word 'CORSIA' in a bold, blue, sans-serif font. The letter 'O' is replaced by a stylized green and blue globe with a white curved line representing an orbit or path, and a small blue airplane icon flying upwards and to the right.



- The 39th ICAO Assembly (Assembly Resolution A39-3, paragraph 20 g)) requested the Council:
 - to establish a consolidated central registry under the auspices of ICAO, for operationalization no later than 1 January 2021

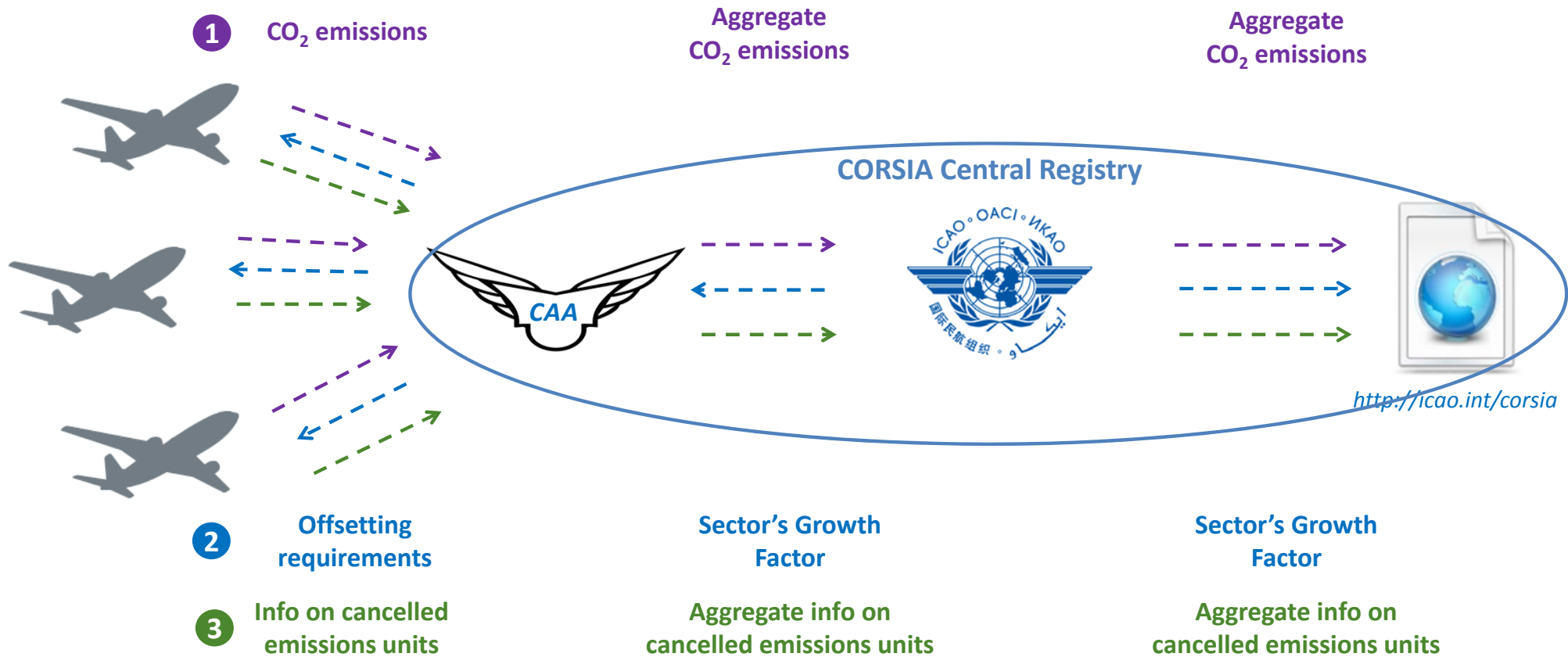


- The CORSIA Central Registry (CCR) is one of the five CORSIA Implementation Elements
 - Essential for the collection and publication of data that are related to the implementation of CORSIA
- The CCR will allow:
 - States to submit information that is related to CORSIA, and
 - ICAO to perform calculations and to compile information specific to the implementation and transparency of CORSIA
- Consolidated data from the CCR will be published on the ICAO CORSIA website for public access



CORSIA Information Flow

See leaflet **6**





- In June 2018, the ICAO Council approved functional requirements for the CCR as follows:
 - Integral to any comparable data management system, and
 - Specific to the CCR, divided into three categories:
 - Data collection and submission
 - Data analysis and management
 - Data publication
- These functional requirements formed the basis for the elaboration of the terms of reference for the development of the CCR



General Functional Requirements of the CCR

- Security / protection of data
- Data backup / disaster recovery
- Data IT protocols / standards, as applicable
- Flexibility (modifications / future refinements and upgrades)
- Availability
- Maintenance and support
- Allow for system audit:
 - Audit of all system functionalities for technical accuracy according to design, and audit of accuracy of data entering, being stored in and passing through the CCR, over time and by any user, as relevant.
- Store and process up to several billion data values
- Localization



Key Features of the CCR

- Secure web interface (password protection – authentication protocol)
- Each State will have one account on the CCR:
 - Only authorized (limited) users, nominated by a State, will have access to that State's account
- Simple web application/portal to upload and submit information
 - Data entry through predefined forms
 - Submit new information and update previously submitted information
- All actions will be time-stamped and recorded (including the electronic signature of the user who initiated an action) to ensure traceability and data integrity:
 - In case of a re-submission, the previous version of the modified information will be archived

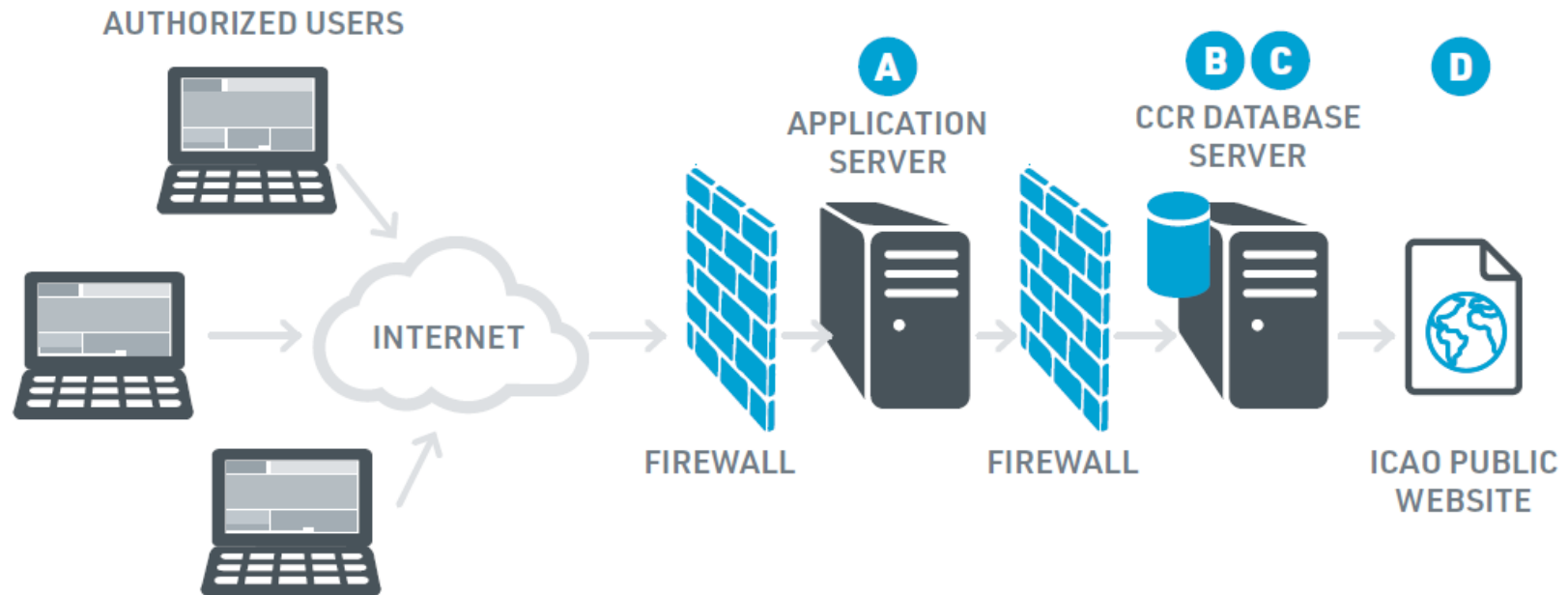


Configuration of the CCR

Main components of the CORSIA Central Registry (CCR)

- A** Web interface with predefined forms and automated checks before data submission
- B** Data transfer and storage
- C** Administrative console to perform internal checks and manage data and users
- D** ICAO website for the publication of information (See leaflet **7**)

See leaflet **6**





Summary of the CCR in Leaflet #6

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CORSIA AT A GLANCE SERIES

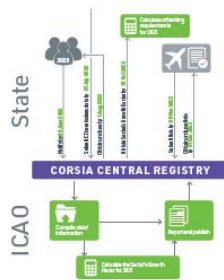
CORSIA CENTRAL REGISTRY

The CORSIA Central Registry (CCR) is an information management system that allows States to submit CORSIA-relevant information to ICAO, and ICAO to store this information, perform calculations, report data back to States, and make aggregate information publicly available.

CORSIA-relevant information to be reported by States to ICAO through the CCR

	Baseline		Pilot Phase			First Phase		
	2019	2020	2021	2022	2023	2024	2025	2026
Aeroplane operators	✓	✓	✓	✓	✓	✓	✓	✓
Verification bodies	✓	✓	✓	✓	✓	✓	✓	✓
CO ₂ emissions		2019 Data ✓	2020 Data ✓	2021 Data ✓	2022 Data ✓	2023 Data ✓	2024 Data ✓	2025 Data ✓
CORSIA eligible fuels*		Optional 2019 Data ✓	Optional 2020 Data ✓	2021 Data ✓	2022 Data ✓	2023 Data ✓	2024 Data ✓	2025 Data ✓
Cancelled emissions units							2021-23 Data ✓	

* For CORSIA Eligible Fuels, information can be reported annually or once at the end of each compliance cycle



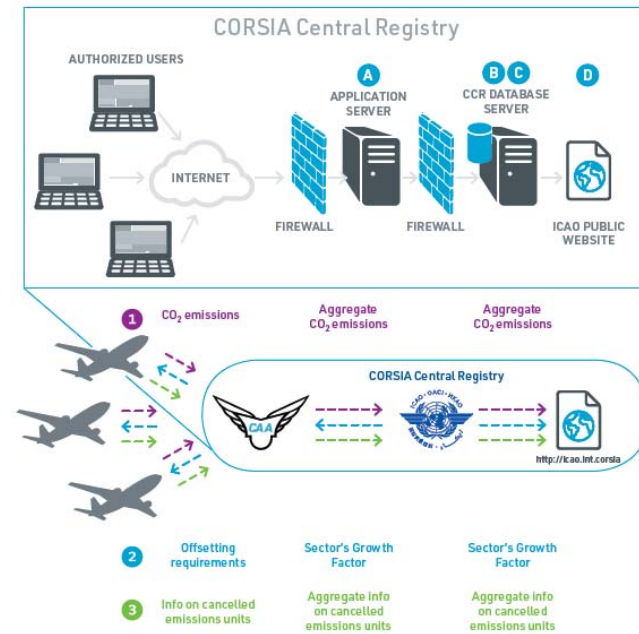
Key features of the CCR

- Secure web interface/portal
- Unique account for each State
- Access to authorized users only
- Data entry through predefined forms
- Ability to submit new information and update previously submitted information
- Changes are time stamped and tracked

Excerpt from the "CORSIA Implementation Plan" brochure available at www.icao.int/corsia

Main components of the CORSIA Central Registry (CCR)

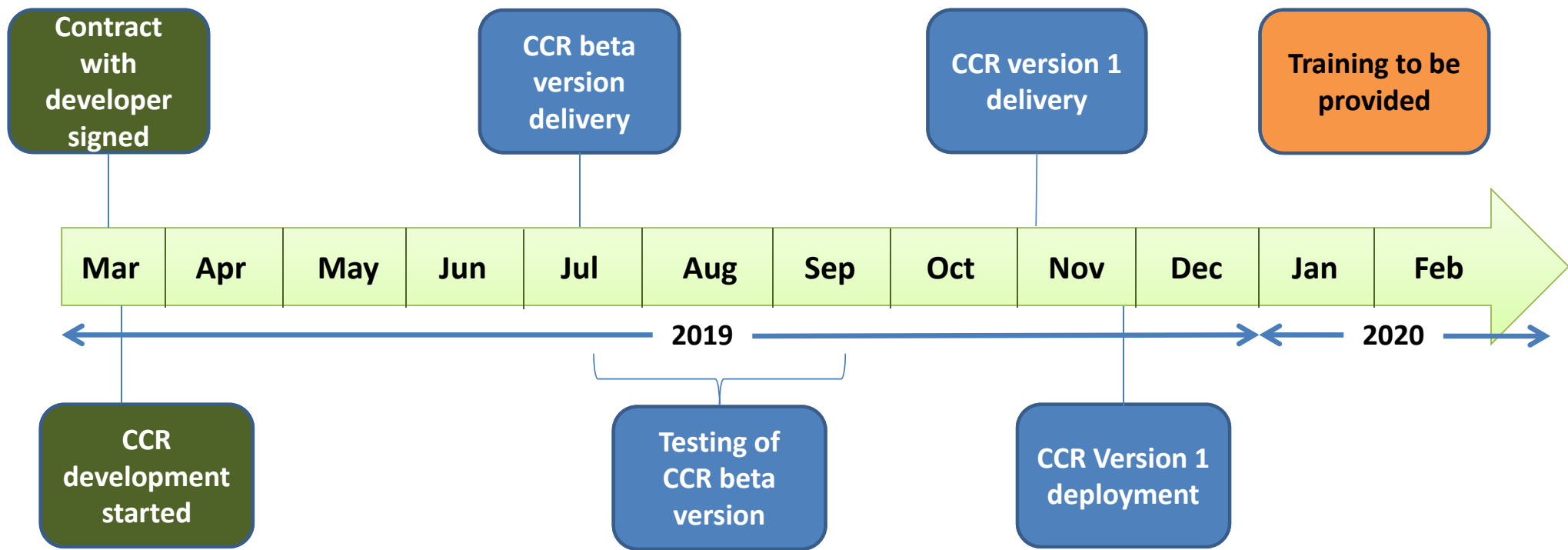
- A Web interface with predefined forms and automated checks before data submission
- B Data transfer and storage
- C Administrative console to perform internal checks and manage data and users
- D ICAO website for the publication of information (See Leaflet 7)



The information on actions for CORSIA implementation contained in this leaflet is based on the First Edition of Annex 14, Volume IV, Standards and Recommended Practices relating to CORSIA that became applicable on 1 January 2019, and the First Edition of the Environmental Technical Manual (Doc 9681), Volume IV. All responsible parties 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 release.

6/20

Preliminary Development and Deployment Timeline of the CCR





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Inputs and Outputs of the CCR

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Information to be Reported by States

In accordance with Annex 16, Volume IV, the following information will be reported by States and will be stored in the CCR:



Aeroplane operators attributed to the State



Verification bodies accredited in the State



State participation in the CORSIA for a given year



CO₂ emissions from international flights



CORSIA eligible fuels



Cancelled emissions units

Timing of Information to be Reported by States

See leaflet 6

	Baseline		Pilot Phase			First Phase		
	2019*	2020	2021	2022	2023	2024	2025	2026
Aeroplane operators	✓	✓	✓	✓	✓	✓	✓	✓
Verification bodies	✓	✓	✓	✓	✓	✓	✓	✓
CO ₂ emissions		✓ <i>2019 Data</i>	✓ <i>2020 Data</i>	✓ <i>2021 Data</i>	✓ <i>2022 Data</i>	✓ <i>2023 Data</i>	✓ <i>2024 Data</i>	✓ <i>2025 Data</i>
CORSIA eligible fuels**		<i>Optional</i> <i>2019 Data</i>	<i>Optional</i> <i>2020 Data</i>	✓ <i>2021 Data</i>	✓ <i>2022 Data</i>	✓ <i>2023 Data</i>	✓ <i>2024 Data</i>	✓ <i>2025 Data</i>
Cancelled emissions units							✓ <i>2021-23 Data</i>	

* For 2019, States can use an online spreadsheet for reporting

** For CORSIA Eligible Fuels, information can be reported annually or once at the end of each compliance cycle



- Information and data for implementation:
 - ICAO Document “**CORSIA Central Registry (CCR): Information and Data for the Implementation of CORSIA**” contains:
 - ICAO Document “**CORSIA Aeroplane Operator to State Attributions**”
 - List of Aeroplane Operators and the State to which they are attributed
 - **Expected availability:** 31 May 2019 (*to be updated annually*)
(*preliminary version posted on 21 December 2018*)
 - ICAO Document “**CORSIA 2020 Emissions**”
 - Total 2020 CO₂ emissions to determine the first year in which a new entrant has offsetting requirements
 - **Expected availability:** 31 August 2021
 - ICAO Document “**CORSIA Annual Sector’s Growth Factor**”
 - **Expected availability:** 31 October 2022 (*to be updated annually*)



- Information and data for transparency:
 - ICAO Document “*CORSIA Central Registry (CCR): Information and Data for Transparency*” contains:
 - List of verification bodies accredited in each State
 - Total average CO₂ emissions for 2019 and 2020 aggregated for all aeroplane operators on each State pair route
 - Total annual CO₂ emissions aggregated for all aeroplane operators on each State pair (with identification of State pairs subject to offsetting requirements)
 - Information and data for each aeroplane operator
 - Information and data on CORSIA eligible fuels claimed
 - Offsetting requirements and emissions units cancelled (at State and global aggregate level for a specific compliance period)
 - **Expected availability:** 31 May 2019 (*to be updated annually*)



More Details on Leaflet #7

CORSIA AT A GLANCE SERIES

PUBLICATION OF INFORMATION AND DATA FROM CORSIA CENTRAL REGISTRY

Information and data relating to CORSIA that are reported by States to ICAO through the CORSIA Central Registry (CCR) will be published on the ICAO website as five **ICAO CORSIA documents** grouped as follows: **1 Information and Data for Implementation (4 documents)** and **2 Information and Data for Transparency (1 document)**.

All **ICAO CORSIA documents** will be published following their approval by the ICAO Council.

1 INFORMATION AND DATA FOR IMPLEMENTATION

The ICAO document "**CORSIA Central Registry (CCR): Information and Data for the Implementation of CORSIA**" is the umbrella document that provides information to support implementation of CORSIA. It includes the following ICAO documents:

- "**CORSIA Aeroplane Operator to State Attributions**" contains a list of Aeroplane Operators and the State to which they are attributed (used to avoid duplication or reporting gaps).
Expected availability: 31 May 2019 (to be updated annually)
- "**CORSIA 2020 Emissions**" provides total international aviation 2020 CO₂ emissions that can be used to determine the first year in which a new entrant has offsetting requirements.
Expected availability: 31 August 2021
- "**CORSIA Annual Sector's Growth Factor (SGF)**", which is calculated by ICAO and is used by States to calculate the offsetting requirements of the aeroplane operators attributed to them. The SGF is based on the total sectoral CO₂ emissions from international air routes between all participating States in a given year, and on the average of the total sectoral CO₂ emissions during 2019 and 2020 for the same routes and year.
Expected availability: 31 October 2022 (to be updated annually)

2 INFORMATION AND DATA FOR TRANSPARENCY

The ICAO document "**CORSIA Central Registry (CCR): Information and Data for Transparency**" provides information to ensure transparency of CORSIA.

Expected availability: 31 May 2019 (to be updated annually)

The document includes information and data on:

- List of verification bodies accredited in each State
- Total average CO₂ emissions for 2019 and 2020 aggregated for all aeroplane operators on each State pair route
- Total annual CO₂ emissions aggregated for all aeroplane operators on each State pair (with identification of State pairs subject to offsetting requirements)
- Each aeroplane operator:
 - Name
 - State to which it is attributed
 - Reporting year
 - Total annual CO₂ emissions
 - Total annual CO₂ emissions for State pair routes subject to offsetting requirements
 - Total annual CO₂ emissions for State pair routes exempt from offsetting requirements
- CORSIA eligible fuels claimed:
 - Production year
 - Name of producer
 - Type of fuel, feedstock and conversion process used
 - Batch number(s)
 - Total mass
 - Reporting State
- Offsetting requirements and emissions units cancelled (at State and global aggregate level for a specific compliance period):
 - Total final offsetting requirements
 - Total quantity of emissions units cancelled
 - Consolidated identifying information for cancelled emissions units:
 - o Quantity of emissions units cancelled
 - o Start and end of serial numbers, and date of cancellation
 - o Eligible emissions unit program
 - o Unit type, Host country, Methodology
 - o Demonstration of unit date eligibility
 - o Program-designated registry name

The information on actions for CORSIA implementation contained in this leaflet is based on the First Edition of Annex 14, Volume IV (Standards and Recommended Practices relating to CORSIA) that became applicable on 1 January 2019, and the First Edition of the Environmental Technical Manual (Doc 9611), Volume IV. 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.



Timelines for Actions on Reporting and Verification of CO₂ Emissions in 2019 and 2020



Timeline and Actions (2019)

Timeline	Responsibility	Action
1 January to 31 December 2019	Operator	Monitor 2019 CO₂ emissions from international flights
28 February 2019	Operator	Submit Emissions Monitoring Plan to State of attribution
30 April 2019	State	Approve Emissions Monitoring Plans of operators attributed to the State
30 April 2019	State	Submit to ICAO: <ul style="list-style-type: none"> - List of operators attributed to the State - List of verification bodies accredited in the State
31 May 2019	ICAO	Make available the ICAO document entitled "CORSIA Aeroplane Operator to State Attributions"

See leaflet 



Timeline and Actions (2020)

Timeline	Responsibility	Action
1 January to 31 December 2020	Operator	Monitor 2020 CO₂ emissions from international flights
1 January to 31 May 2020	Operator	<ul style="list-style-type: none"> - Compile 2019 CO₂ emissions data to be verified by a verification body - Submit Emissions Report (coverage: 2019 CO₂ emissions) to selected verification body for verification
31 May 2020	Operator and verification body	Submit Emissions Report and associated Verification Report to the State of attribution
1 June 2020 to 31 August 2020	State	Conduct an order of magnitude check of verified Emissions Report from operators attributed to the State
31 August 2020	State	Submit 2019 CO₂ emissions data to ICAO
30 November 2020	State	Submit to ICAO: <ul style="list-style-type: none"> - List of operators attributed to the State - List of verification bodies accredited in the State
31 December 2020	ICAO	Make available the ICAO document entitled "CORSIA Aeroplane Operator to State Attributions"

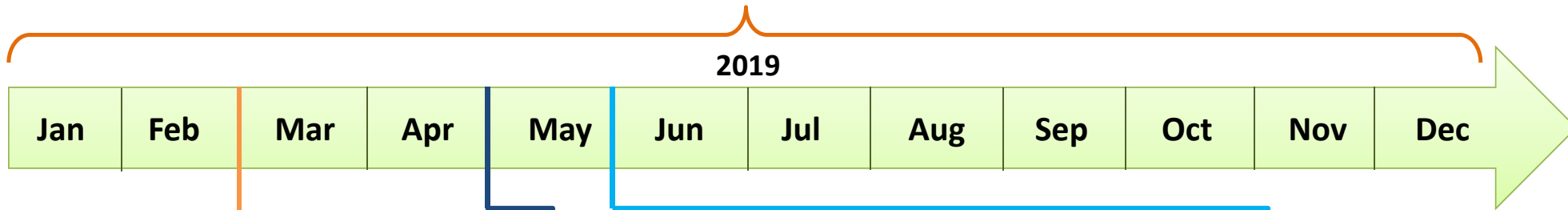
See leaflet 



Timeline and Actions (2019)

Aeroplane Operator

1 January to 31 December 2019: Monitor 2019 CO₂ emissions from international flights



Aeroplane Operator

28 February 2019: Submit Emissions Monitoring Plan to State of attribution

State

30 April 2019:
Approve Emissions Monitoring Plans
Submit to ICAO:

- List of **operators** attributed to the State
- List of **verification bodies** accredited in the State

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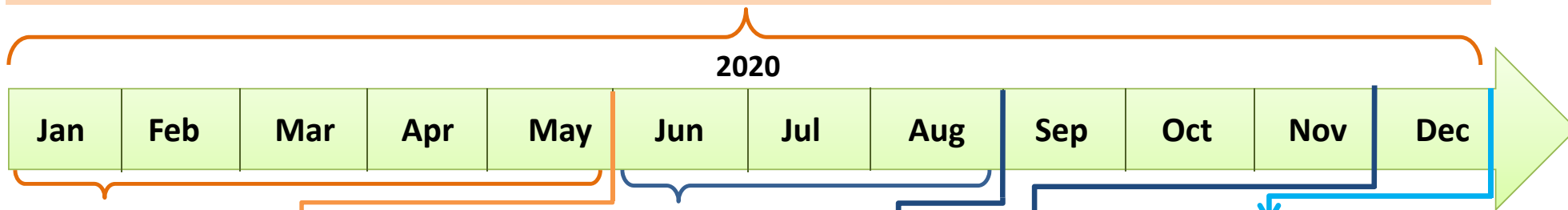
31 May 2019:
Make available the ICAO document "**CORSIA Aeroplane Operator to State Attributions**" and the list of verification bodies



Timeline and Actions (2020)

Aeroplane Operator

1 January to 31 December 2020: Monitor 2020 CO₂ emissions from international flights



Aeroplane Operator

1 January – 31 May 2020:
Compile 2019 CO₂ emissions

Verification Body

1 January – 31 May 2020:
Verify Emissions Report

Aeroplane Operator and Verification Body

31 May 2020:
Submit ER and VR to State

State

1 June – 31 August 2020:
Conduct an **order of magnitude check** of verified ER

31 August 2020:
Submit **2019 CO₂ emissions data** to ICAO

30 November 2020:
Submit to ICAO:

- List of **operators attributed** to the State
- List of **verification bodies** accredited in the State

ICAO

31 December 2020:
Make available the ICAO document **“CORSIA Aeroplane Operator to State Attributions”** and the list of verification bodies



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Online Spreadsheet for Reporting in 2019

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Online Spreadsheet

- Temporary solution for States to report information in 2018 and 2019:
 - Once CCR is deployed, information submitted by online spreadsheet will be integrated into the CCR database
- Two versions:
 - Version of November 2018:
 - Capability to report information on aeroplane operators
 - Version of March 2019:
 - Capability to report information on aeroplane operators and verification bodies
- Login credentials were provided to CORSIA Focal Points nominated by States



Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

Online Spreadsheet for Reporting CORSIA-specific Information

Please enter below your login information to access the online spreadsheet:

- Your Email address for Username
- Your Password as it has been provided to you

For instructions on how to use this online spreadsheet, please [click here](#).

For any technical questions, contact ICAO at ccr@icao.int

Log-in

For more information about CORSIA, [click here](#)

Features of the Online Spreadsheet (1/2)

Enter Data

Two Menus:

- 1. Aeroplane operators (default view)
- 2. Verification bodies

Your name
Name of your State

Welcome
Reporting State :

List of Aeroplane Operators attributed to your State

* - Optional Information

Aeroplane Operator Name	Attribution Method	Identifier	Address	State/Province	City	Postal Code	Country	Name of Contact Person	Tel	Email
1	Please Select						Please Select			
2	Please Select						Please Select			
3	Please Select						Please Select			
4	Please Select						Please Select			
	Please Select						Please Select			
	Please Select						Please Select			
	Please Select						Please Select			
9	Please Select						Please Select			
10	Please Select						Please Select			
11	Please Select						Please Select			
12	Please Select						Please Select			
13	Please Select						Please Select			
14	Please Select						Please Select			
15	Please Select						Please Select			
16	Please Select						Please Select			
17	Please Select						Please Select			
18	Please Select						Please Select			
19	Please Select						Please Select			
20	Please Select						Please Select			

Drop down:
Attribution Method

20 entries at a time, but no limit to total number entries

Drop down:
Country name

Submit Log out Modify Existing Data

Features of the Online Spreadsheet (2/2)



Welcome
Reporting State

Your name
Name of your State

Modify/View Data

Aeroplane Operators Verification Bodies

List of Aeroplane Operators attributed to your State

- To edit a specific row, click on the "Edit" button. After making the necessary changes, click "Update" to store the new information or click "Cancel" if the changes are not to be stored.
- To delete a specific entry, click on the "Delete" button. Be aware that this will permanently delete the selected entry.

Action	Aeroplane Operator Name	Attribution Method	Identifier	Address	State/Province	City	Postal Code	Country	Name of Contact Person	Tel	Email
<input type="button" value="Edit"/> <input type="button" value="Delete"/>	Airline 1	ICAO Designator	XYZ	Street 1	First State	Last City	HJH 980	Afghanistan	Ms K. Contact	+234567890	k.contact@email.com

Edit

Delete

Go Back

Log Out

List of Aeroplane Operators attributed to your State

- To edit a specific row, click on the "Edit" button. After making the necessary changes, click "Update" to store the new information or click "Cancel" if the changes are not to be stored.
- To delete a specific entry, click on the "Delete" button. Be aware that this will permanently delete the selected entry.

Action	Aeroplane Operator Name	Attribution Method	Identifier	Address	State/Province	City	Postal Code	Country	Name of Contact Person	Tel	Email
<input type="button" value="Update"/> <input type="button" value="Cancel"/>	<input type="text" value="Airline 1"/>	<input type="text" value="ICAO Designator"/>	<input type="text" value="XYZ"/>	<input type="text" value="Street 1"/>	<input type="text" value="First State"/>	<input type="text" value="Last City"/>	<input type="text" value="HJH 980"/>	<input type="text" value="Afghanistan"/>	<input type="text" value="Ms K. Contact"/>	<input type="text" value="+234567890"/>	<input type="text" value="k.contact@email.com"/>

Update

Cancel

Go Back

Log Out



- ICAO Document “CORSIA Aeroplane Operator to State Attributions”
 - Preliminary version published on 21 December 2018
- Upcoming publications:
 - First Edition of ICAO Document “CORSIA Aeroplane Operator to State Attributions”
 - Expected availability : 31 May 2019
 - First Edition of ICAO Document “CORSIA Central Registry (CCR): Information and Data for Transparency” (will include the list of accredited verification bodies)
 - Expected availability: 31 May 2019

- [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)

23- 28 Feb 2019

Bhutan received training under the ACT-CORSIA Buddy Partnership with Japan



CORSIA IMPLEMENTATION

- Assembly Resolution A39-3 (EN) (FR) (SP) (RU) (AR) (ZH)
- SARPs - Annex 16 Volume IV
- Environmental Technical Manual - Volume IV (New)
 - » [Templates \(New\)](#)
- ICAO CORSIA Implementation Elements
 - » [CORSIA States for Chapter 3 State Pairs](#)
 - » [ICAO CORSIA CO₂ Estimation and Reporting Tool \(CERT\)](#)
 - » [CORSIA Eligible Flights](#)
 - » [CORSIA Eligible Emissions Units](#)
 - » [CORSIA Central Registry \(CCR\)](#)

Additional Material for CORSIA Implementation



ACT CORSIA

- CORSIA Buddy Partnerships
- Model Regulations
- Frequently Asked Questions
- Brochure and Leaflets
- Videos
- Seminars
- Online Tutorials
- Background Information



- [ENV Homepage](#)
- [CORSIA Homepage](#)
- [CORSIA IMPLEMENTATION](#)
- [ACT CORSIA](#)

CORSIA Central Registry (CCR)

This ICAO CORSIA Implementation Element is reflected in five ICAO documents referenced in Annex 16, Volume IV.

ICAO document "*CORSIA Central Registry: Information and Data for the Implementation of CORSIA*"

This ICAO document will provide information from the CORSIA Central Registry (CCR) that is required to be published in order to support the implementation of CORSIA.

The information will include:

- ICAO document "*CORSIA Aeroplane Operator to State Attributions*"

This ICAO document will include a list of aeroplane operators and the State to which they are attributed.

A preliminary version of this ICAO document is [available for download here](#).

The first edition of this ICAO document will become available, following approval by the ICAO Council, by 31 May 2019.

- ICAO document "*CORSIA 2020 Emissions*"

This ICAO document will include the total international aviation CO₂ emissions in 2020.

This ICAO document will become available, following approval by the ICAO Council, as soon as practicable during the second half of 2021.

- ICAO document "*CORSIA Annual Sector's Growth Factor (SGF)*"

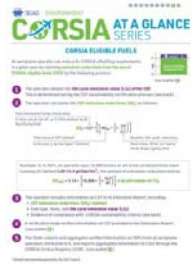
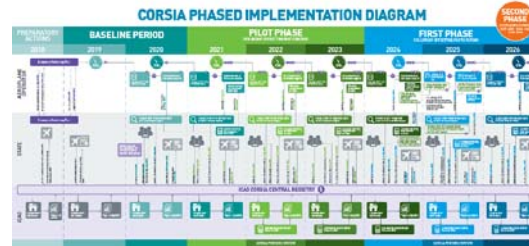
This ICAO document will include the Sector's Growth Factor for a given year y starting in 2021 (SGF_y).

The first edition of this ICAO document, containing Sector's Growth Factor for year 2021, will become available, following approval by the ICAO Council, by 31 October 2022.

ICAO document "*CORSIA Central Registry (CCR): Information and Data for Transparency*"

This ICAO document will provide information from the CORSIA Central Registry (CCR) that is required to be published in order to ensure transparency.

This ICAO document will become available following approval by the ICAO Council.



Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

CORSIA News (click here to consult the complete list)

19-25 Jan 2019

Trinidad & Tobago and Jamaica received training under the ACT-CORSIA Buddy Partnership with Germany

CORSIA IMPLEMENTATION

- Assembly Resolution A39-3
- SARPs - Annex 16 Volume IV
- Environmental Technical Manual - Volume IV (New)
 - » Templates (New)
 - » ICAO CORSIA Implementation Elements
 - » ICAO CORSIA CO₂ Estimation and Reporting Tool (CERT)
 - » CORSIA Eligible Fuels
 - » CORSIA Eligible Emissions Units
 - » CORSIA Central Registry (CCR)

Additional Material for CORSIA Implementation



ACT CORSIA

- CORSIA Buddy Partnerships
- Model Regulations
- Frequently Asked Questions
- Brochure and Leaflets
- Videos
- Seminars
- Online Tutorials
- Background Information



For more information, please visit our website: <http://www.icao.int/corsia>