ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT)

By ICAO Secretariat

Introduction

The ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) CO_2 Estimation and Reporting Tool (CERT), referenced in Annex 16, Volume IV, Appendix 3, is one of the five implementation elements of CORSIA used to facilitate the implementation of simplified monitoring and reporting requirements in accordance with the Standards and Recommended Practices relating to CORSIA.

The ICAO CORSIA CERT supports an aeroplane operator to:

a. Assess whether it is within the applicability scope of the Monitoring, Reporting and Verification (MRV) requirements (see next section);
b. Assess its eligibility to use the ICAO CORSIA CERT as its CO_2 estimation method in support of its Emissions Monitoring Plan (see next section);
c. Fill any CO_2 emissions data gaps; and
d. Fulfill its monitoring and reporting requirements by filling-in the standardized Emissions Monitoring Plan and Emissions Report templates.

ICAO States can use the ICAO CORSIA CERT to fill-in the CO_2 emissions gap in case an operator is not able to submit emissions estimates.

The ICAO Council's Committee on Aviation Environmental Protection (CAEP) develops updates to the ICAO CORSIA CERT on an annual basis and makes recommendations to the ICAO Council. Following approval by the ICAO Council, updated versions of the ICAO CORSIA CERT, together with the accompanying documentation, are published on the ICAO CORSIA website[1]. As of mid-2022, four versions (2018, 2019, 2020 and 2021)[2] of the ICAO CORSIA CERT had been published, while the 2022 version of the tool is expected to be finalized and published by the end of 2022.

Aeroplane operators eligible to use the ICAO CORSIA CERT (2021-2035)

As shown in Figure 1, the use of the ICAO CORSIA CERT depends on the level of emissions of an aeroplane operator. All aeroplane operators can use the tool with no restrictions for a preliminary CO_2 assessment. This summary assessment indicates if the aeroplane operator is under the scope of applicability of CORSIA (i.e. if its annual international CO_2 emissions are greater than 10,000 tonnes). For reporting year 2021 and beyond, an aeroplane operator can use the ICAO CORSIA CERT, as its monitoring method, on the condition that its annual international CO_2 emissions subject to offsetting requirements are less than 50,000 tonnes.

Aeroplane Operators Eligibility for CERT (2021 – 2035)			
Offsetting Threshold on State pairs in "CORSIA States for Chapter 3 State Pairs"	≤ 10K CO_2	< 50K CO_2	≥ 50K CO_2
Preliminary CO_2 Assessment	✓	✓	✓
CO_2 Estimation & Reporting	No CORSIA requirement	✓	Not Eligible to use CERT
Filling Data Gaps	No CORSIA requirement	✓	✓

FIGURE 1: Aeroplane operator eligibility for ICAO CORSIA CERT (2021 – 2035)

1 https://www.icao.int/environmental-protection/CORSIA/Pages/CERT.aspx
2 Each version of the tool is only valid for the specific reporting year (i.e., 2019, 2020 etc.).

How the ICAO CORSIA CERT Works

Using the ICAO CORSIA CERT involves a three-step approach as shown in Figure 2:

(1) Entering aeroplane operator's information (to meet the requirements of the Emissions Report template as per the Environmental Technical Manual (Doc 9501), Volume IV);
(2) Entering flight data (manually or through a file upload) to estimate CO_2 emissions based on:
   a. The Great Circle Distance (GCD) method (inputs needed: aircraft type, aerodrome designator for origin-destination based on ICAO Doc 7910 — Location Indicators; or
   b. The Block Time method (inputs needed: aircraft type, flight operating time);
(3) Generating the Emissions Report.

The method that underlines the ICAO CORSIA CERT is a statistical method that is referred to as the ICAO CO_2 Estimation Models (CEMs). The ICAO CEMs make use of actual historic fuel burn data, provided by aeroplane operators, to convert the user's input (i.e., aircraft type, aerodromes of origin and destination, Block Time, if available) into estimated CO_2 emissions. More information on the ICAO CORSIA CERT and the ICAO CEMs is available on the ICAO website.[3]

The 2021 version of the ICAO CORSIA CERT

The 2021 version of the ICAO CORSIA CERT is based on Microsoft Excel 2013 and Windows 7 as the operating system and can be used for the estimation of CO_2 emissions for the reporting year 2021. In accordance with Annex 16, Volume IV, from 2021 onwards, emissions that are subject to offsetting requirements must be reported separately from emissions not subject to offsetting requirements. To meet this reporting requirement, the 2021 version uses the list of 88 ICAO States that volunteered to participate in CORSIA in 2021 as listed in the ICAO document "*CORSIA States for Chapter 3 State Pairs*" that is available on the ICAO website[4] to determine which State pairs are subject to CORSIA offsetting requirements and which are not.

Future developments

To facilitate the aeroplane operator's accessibility, ICAO has been working towards developing a version of the ICAO CORSIA CERT in the form of a user-friendly and downloadable application that can be used locally on a user's computer. Future users of the tool will be able to upload data according to the corporate flight plan for emissions estimation, and to generate an Emissions Monitoring Plan and annual Emissions Reports that can be submitted to their respective State authorities in fulfillment of the operators' reporting requirements under CORSIA.

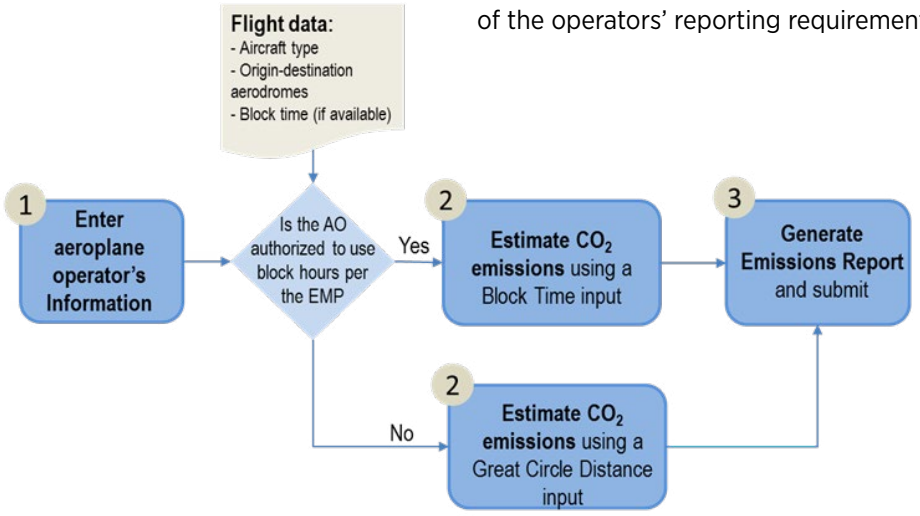

FIGURE 2: Overview of the high-level functions of the ICAO CORSIA CERT

3 https://www.icao.int/environmental-protection/CORSIA/Pages/CERT.aspx
4 https://www.icao.int/environmental-protection/CORSIA/Pages/state-pairs.aspx