



SHARING OF EXPERIENCE OF WORK DONE WITH THE AEROPLANE OPERATOR AND PRACTICAL WORKING SESSIONS WITH EASA

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2. PROBLEMATIC
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1.

INTRODUCTION

▣ RESPONSABILITIES

CamairCO is in charge of computing the data from international flights using the methodology selected in their Emissions Monitoring Plan (EMP) with the help of the ICAO-CERT while the SA is reporting the Emissions Report (ER) through the CORSIA Central Registry (CCR).

▣ OBJECTIVE

The objective of the working sessions was to explore the CERT 2023 functions and see if the AO falls under the Monitoring, Reporting and Verification (MRV) applicability as they may be requested to submit to the SA their verified emissions report.



2.

PROBLEMATIC

The problems that arose for the working sessions to be held were due to the fact that:

- Cameroon was yet to put in place a Regulation on CORSIA and adapting it to the new recommendations of Annex 16 volume IV on CORSIA;
- Following the AO's data for 2023, it was estimated that they were far below the threshold of 10.000tCO₂, therefore reporting through the CCR did not take place because they were outside the MRV applicability;
- CamairCO was committed to providing its consumption per flight by providing **“block off” and “block on”** volumes for all its international flights;
- The rationalization of the workforce within CamairCO led to the elimination of certain positions and even certain activities, and as a result it was no longer possible for them to communicate their consumption in accordance with the commitments on the EMP;



2.

PROBLEMATIC

- In order to enable CamairCO to always control their CO₂ emissions and respect their commitments, they were requested to change their methodology from block-on and block-off to CERT, which is the ICAO tool, to evaluate CO₂ emissions;
- Using the CERT requires knowing the departure airport and the arrival airport as well as the type of aircraft used. This makes it possible to determine the fuel consumed and the quantities of CO₂ emitted;
- CamairCO initially expressed some difficulties using the tool as they were unable to use ICAO designations comparatively to the IATA codes that they deal with on a daily basis.



2.

COLLABORATION WITH THE AO

- ▶ Disussion between the SA and AO on the review of 2023 data the EMP
- ▶ Need to work together on the use of the CERT as new methodology
- ▶ Seek assistance with EASA on practical demonstration on how to integrate the CERT as a tool to verify and report emissions
- ▶ Anticipate the use of Block-on/Block-off in the future with the growth of activities if CO₂ emissions rise up to 10 000 tonnes.



4.

WORKING SESSIONS WITH EASA

The working sessions were led by **Ms Monica BONFATA** and were held on the following dates:

- 03/04/2024 - Review of 2023 data of the AO
 - 05/04/2024 - Coordination and follow up call on the 2023 data
 - 15/03/2024 - Practical demonstration on the use of CERT
 - 26/03/2024 - Data estimation and simulation using the CERT
 - 28/08/2024 - CERT 2023 Training and offsetting Training
- ▶ **Adhoc session SA/AO:**
- 29/03/2024



4.

WORKING SESSIONS WITH EASA

- ❑ The said working sessions dealt with several examples and in the end, we were all able to evaluate the 2023 emissions which amounted to **5,379 tonnes of CO₂**.
- ❑ CamairCO's current emissions data from January-April 2024 was also requested and when evaluated it amounted to **1700 tonnes of CO₂ only**. Following this, we further carried out a random forecast operating program which suggested that for the period from May to October 2024, CamairCO's emissions may amount to around 18,000 tonnes of CO₂.



CORSIA CO₂ Estimation & Reporting Tool (CERT)

Version 2023

Step 2. CO₂ emissions estimation

Summary of assessment of applicability of CORSIA and eligibility to use the ICAO CORSIA CERT in 2023

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Steps:

2.a Collect flight information (aircraft type, aerodromes of origin and destination) for all flights during the relevant time period.

2.b Enter the information for all flights by double clicking on the green cells below.
Note: For a given aerodrome pair flown by a particular aircraft type, all flights can be entered as a single entry by entering total number of flights during the relevant time period.
Note: Data can also be copied and pasted across input cells as needed
Note: Data can also be imported from a csv file, structured to match the contents under the INPUT section below.
[Import Input File \(.csv\)](#)

2.c After entering input, compute CO₂ emissions. Click on → [Estimate CO₂ Emissions](#)

2.d After computing CO₂ emissions, generate a summary assessment of applicability of CORSIA and eligibility to use the ICAO CORSIA CERT in 2023. Click on → [3. Generate Summary Assessment](#)

| INPUT | | | | | OUTPUT | | | |
|-----------------|----------------------|-------------------------------|------------------|-----------------------|-------------------|-------------------------------|---|---|
| Date (Optional) | Flight ID (Optional) | ICAO Aircraft Type Designator | Origin Aerodrome | Destination Aerodrome | Number of Flights | Great Circle Distance (in km) | CO ₂ Emissions (in tonnes of CO ₂) | Flight(s) subject to Scope of Applicability of CORSIA |

| Date (Optional) | Flight ID (Optional) | ICAO Aircraft Type Designator | Origin Aerodrome | Destination | Number of Flights | Great Circle Distance (in km) | CO ₂ Emissions (in tonnes of CO ₂) | Flight(s) subject to Scope of Applicability of CORSIA |
|-----------------|----------------------|-------------------------------|------------------|-------------|-------------------|-------------------------------|---|---|
| | | B737 | FCBB | FOOL | 1 | 832 | 10 | Yes |
| | | B737 | FEFF | FCBB | 1 | 1,023 | 11 | Yes |
| | | B737 | FEFF | HAAB | 1 | 2,298 | 23 | Yes |
| | | B737 | FGSL | FKKD | 2 | 115 | 6 | Yes |
| | | B737 | FKKD | FEFF | 2 | 979 | 22 | Yes |
| | | B737 | FKKD | FGSL | 1 | 115 | 3 | Yes |
| | | B737 | FKKD | FOOL | 3 | 394 | 17 | Yes |
| | | B737 | FKKD | FTTJ | 8 | 1,071 | 95 | Yes |
| | | B737 | FKKD | FZAA | 1 | 1,127 | 12 | Yes |
| | | B737 | FKKD | HAAB | 1 | 3,263 | 32 | Yes |
| | | B737 | FKKL | FGSL | 1 | 961 | 11 | Yes |
| | | B737 | FKKL | FTTJ | 1 | 203 | 4 | Yes |
| | | B737 | FKKR | FTTJ | 7 | 357 | 38 | Yes |
| | | B737 | FKYS | FOOL | 4 | 432 | 25 | Yes |
| | | B737 | FKYS | FTTJ | 27 | 1,005 | 305 | Yes |
| | | B737 | FKYS | FZAA | 1 | 995 | 11 | Yes |
| | | B737 | FOOL | FKKD | 2 | 394 | 12 | Yes |
| | | B737 | FOOL | FKYS | 6 | 432 | 37 | Yes |
| | | B737 | FTTJ | FKKD | 8 | 1,071 | 95 | Yes |
| | | B737 | FTTJ | FKKL | 2 | 203 | 8 | Yes |
| | | B737 | FTTJ | FKKR | 10 | 357 | 55 | Yes |
| | | B737 | FTTJ | FKYS | 23 | 1,005 | 260 | Yes |
| | | B737 | FZAA | FKKD | 1 | 1,127 | 12 | Yes |
| | | B737 | FZAA | FKYS | 1 | 995 | 11 | Yes |
| | | B737 | HAAB | FKKD | 1 | 3,263 | 32 | Yes |
| | | DH8D | FCBB | FKKD | 1 | 1,102 | 7 | Yes |
| | | DH8D | FCBB | FCOU | 1 | 654 | 5 | No (Domestic) |
| | | DH8D | FCBB | FCOD | 1 | 343 | 3 | No (Domestic) |
| | | DH8D | FEFF | FKKD | 4 | 979 | 25 | Yes |
| | | DH8D | FEFF | FKYS | 8 | 777 | 41 | Yes |
| | | DH8D | FGSL | FKKD | 2 | 115 | 3 | Yes |
| | | DH8D | FGMY | FKKD | 1 | 297 | 3 | Yes |
| | | DH8D | FKKD | FCBB | 2 | 1,102 | 14 | Yes |
| | | DH8D | FKKD | FEFF | 3 | 979 | 19 | Yes |
| | | DH8D | FKKD | FGSL | 2 | 115 | 3 | Yes |
| | | DH8D | FKKD | FGMY | 1 | 297 | 3 | Yes |
| | | DH8D | FKKD | FOOL | 45 | 394 | 141 | Yes |
| | | DH8D | FKKD | FTTJ | 54 | 1,071 | 364 | Yes |
| | | DH8D | FKYS | FEFF | 9 | 777 | 47 | Yes |
| | | DH8D | FKYS | FOOL | 22 | 432 | 74 | Yes |
| | | DH8D | FKYS | FTTJ | 47 | 1,005 | 300 | Yes |
| | | DH8D | FKYS | HSSJ | 2 | 2,228 | 26 | Yes |
| | | DH8D | FCOU | FCBB | 1 | 654 | 5 | No (Domestic) |
| | | DH8D | FOOL | FKKD | 38 | 394 | 119 | Yes |
| | | DH8D | FOOL | FKYS | 28 | 432 | 94 | Yes |
| | | DH8D | FOOL | FTTJ | 1 | 1,431 | 9 | Yes |
| | | DH8D | FTTA | FTTJ | 1 | 493 | 4 | No (Domestic) |
| | | DH8D | FTTC | FTTJ | 1 | 660 | 5 | No (Domestic) |
| | | DH8D | FTTD | FTTJ | 2 | 404 | 6 | No (Domestic) |
| | | DH8D | FTTJ | FKKD | 33 | 1,071 | 222 | Yes |
| | | DH8D | FTTJ | FKKR | 5 | 357 | 15 | Yes |
| | | DH8D | FTTJ | FKYS | 64 | 1,005 | 409 | Yes |



Summary of assessment of applicability of CORSIA and eligibility to use the ICAO CORSIA CERT in 2023

A Aeroplane operator information

| | |
|--|--------|
| a) Name of the aeroplane operator | CAMAIR |
| b) Address of the aeroplane operator | |
| Address line: | |
| City: | |
| State/Province/Region: | |
| Postcode/ZIP: | |
| Country: | |
| d) Aircraft identification of the aeroplane operator for international flights | |
| d2) ICAO Designator | |
| e1) Identification code of the AOC | |
| e4) Competent authority for the AOC | |
| Name of the authority: | |
| Address line: | |
| City: | |
| State/Province/Region: | |
| Postcode/ZIP: | |
| Country: | |

B Estimated CO₂ emissions and status of aeroplane operator

| | | | |
|---|--|------------------------|--|
| 1 | Total annual estimated CO ₂ emissions (international) : | 5 379 tCO ₂ | <i>Note. - Emissions are for all international State Pairs.</i> |
| | CO ₂ emissions subject to offsetting requirements: | 1 691 tCO ₂ | <i>Note. - See Annex 16, Volume IV, Chapter 2 for details on CO₂ emissions subject to offsetting requirements.</i> |
| | Total annual estimated CO ₂ emissions (domestic) : | 41 tCO ₂ | <i>Note. - Domestic aviation is outside the scope of applicability of Annex 16, Volume IV. Information is provided for awareness of tool user in the event domestic flights are entered in the input tables.</i> |
| 2 | Status of aeroplane operator: | | |
| | Aeroplane operator under scope of applicability of CORSIA (i.e., Annex 16, Volume IV, Chapter 2) | No | |
| | Aeroplane operator eligible to use: | | |
| | ICAO CORSIA CERT | Yes | |
| | Fuel Use Monitoring Method | Yes | <i>Note. - For details on Fuel Use Monitoring Methods refer to Annex 16, Volume IV, Chapter 2 and Appendix 2 and EFM, Volume IV.</i> |

C Detailed estimated CO₂ emissions by State pairsC Detailed estimated CO₂ emissions by State pairs

| State of origin aerodrome(s) | State of destination aerodrome(s) | Flight(s) on route under scope of applicability of CORSIA | CO ₂ emissions (in tonnes of CO ₂) |
|----------------------------------|-----------------------------------|---|---|
| Cameroon | Central African Republic | Yes | 603 |
| Cameroon | Chad | Yes | 1 167 |
| Cameroon | Congo | Yes | 20 |
| Cameroon | Côte d'Ivoire | Yes | 17 |
| Cameroon | Democratic Republic of the Congo | Yes | 30 |
| Cameroon | Equatorial Guinea | Yes | 25 |
| Cameroon | Ethiopia | Yes | 32 |
| Cameroon | Gabon | Yes | 747 |
| Cameroon | Nigeria | Yes | 5 |
| Cameroon | Sao Tome and Principe | Yes | 3 |
| Cameroon | South Sudan | Yes | 26 |
| Central African Republic | Cameroon | Yes | 586 |
| Chad | Cameroon | Yes | 1 130 |
| Congo | Cameroon | Yes | 13 |
| Congo | Central African Republic | Yes | 6 |
| Congo | Gabon | Yes | 10 |
| Côte d'Ivoire | Cameroon | Yes | 17 |
| Côte d'Ivoire | Senegal | Yes | 8 |
| Democratic Republic of the Congo | Cameroon | Yes | 30 |
| Equatorial Guinea | Cameroon | Yes | 15 |
| Ethiopia | Cameroon | Yes | 32 |
| Ethiopia | South Sudan | Yes | 12 |
| Gabon | Cameroon | Yes | 750 |
| Gabon | Chad | Yes | 9 |
| Nigeria | Cameroon | Yes | 5 |
| Sao Tome and Principe | Cameroon | Yes | 4 |
| Senegal | Côte d'Ivoire | Yes | 8 |
| South Sudan | Cameroon | Yes | 27 |
| South Sudan | Ethiopia | Yes | 12 |



Appendix to summary assessment: Custom aircraft and airport information

Custom Aircraft Information

| ICAO Aircraft Type Designator or Custom Aeroplane | Aeroplane Category (select from drop down list below) | Average MTOM of Aeroplanes in the Fleet | Generic Equations based | | Generic Equations based | |
|---|--|---|-------------------------|-------------------------|-------------------------|---------------------------|
| | | | Fuel at Intercept | Fuel Rate (in kg/km) | Fuel at Intercept | Fuel Rate (in kg/min.) |
| ERJ 135 | Jet with certified MTOM < 60,000 kg | 20 000 | 469 | 1,19 | 72 | 14,79 |
| ERJ 145 | Jet with certified MTOM < 60,000 kg | 24 000 | 526 | 1,40 | 82 | 16,92 |

Custom Aerodrome Information

Custom Aerodrome Information

| Custom Aerodrome Code | Aerodrome Name | Latitude | Longitude | ICAO Member State | Suggested ICAO Member State | Lat./ Long. Error Code |
|--------------------------|----------------|----------|-----------|-------------------|--------------------------------|---------------------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |



4.

WORKING SESSIONS WITH EASA

Amendment of Draft Regulation on CORSIA for the CCAA

- ✓ Cameroon had elaborated a draft Regulation on CORSIA which was yet to be finalized
- ✓ Discussion and working session held with Monica on the need to work on the draft work
- ✓ Draft work submitted upon request
- ✓ Great feedback with a well elaborated draft Regulation
- ✓ More work to be done in order to finalize the said Regulation during the Addis-Ababa workshop



5.

CONCLUSION

- The working sessions with Monica were quite enriching as a hand full of knowledge acquired
- AO can now input data using the CERT without any difficulty as before
- Able to calculate and compute emissions report as required
- We appreciate the commitment of EASA to accompany States and getting them ready for MRV applicability

Thank you for your attention

