



Republic of Cabo Verde

Country Progress Update



Second Phase of the ICAO Assistance Project with the EU Funding :
“Capacity Building for CO₂ Mitigation from International Aviation

Third Meeting
25 to 27 July 2023



Arlindo Borja - Focal Point
Armando Veiga - Alternate



Agenda

1. Use of the Aviation Environmental System (AES)
 - ❖ Data collection and Monitoring
 - ❖ Submission of Monthly CO₂ Reports to ICAO
2. Mitigation Measures – Implementation Progress
 - ❖ Measures already in place
 - ❖ Measures that started as a result of the project
 - ❖ Measures that are scheduled to be implemented in the short term
3. Major challenges related to the implementation of mitigation measures



1. AVIATION ENVIRONMENTAL SYSTEM (AES)

❖ Data collection and Monitoring

According to our Instruction n°01/AEC/2023, by 15th of each month, we receive the data collection from our national operator (TACV).

INTERNATIONAL CIVIL AVIATION ORGANIZATION ✚
 ENVIRONMENTAL PROGRAMME
FORM ENVI

Date: 14/02/2023
 Last name: DUARTE
 First name: ELVIO
 Email: elvio.duarte@caboverdeairlines.com
 Data provider: TCV

Flight number	Date of departure	Airline	Origin	Destination	Aircraft	Seats available	Passengers carried	Payload available (Kilogrammes)	Freight carried (incl. express) (Kilogrammes)	Mail carried (Kilogrammes)	Scheduled	Fuel consumed (Liters)	APU usage time (Minutes)	Taxi time (Minutes)
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
613	02/01/2023	TCV	GVNP	GVSU	B737-700	120	63	14781	0	0	1	2244		11
613	02/01/2023	TCV	GVSU	LPPT	B737-700	120	118	14781	0	0	1	10224		9
607	02/01/2023	TCV	LPPT	GVNP	B737-700	120	86	14781	0	0	1	11222		18
606	04/01/2023	TCV	GVNP	LPPT	B737-700	120	115	14781	0	0	1	11721		12
611	04/01/2023	TCV	LPPT	GVSU	B737-700	120	53	14781	420	36	1	10100		20
612	05/01/2023	TCV	GVSU	LPPT	B737-700	120	117	14781	0	0	1	11097		11
607	05/01/2023	TCV	LPPT	GVNP	B737-700	120	96	14781	0	303	1	11471		12
606	06/01/2023	TCV	GVNP	LPPT	B737-700	120	117	14781	0	0	1	10599		11
607	06/01/2023	TCV	LPPT	GVAC	B737-700	120	118	14781	0	734	1	11845		11
607	06/01/2023	TCV	GVAC	GVNP	B737-700	120	50	14781	0	0	1	1870		10
608	07/01/2023	TCV	GVNP	GVAC	B737-700	120	0	14781	0	0	1	1496		11
608	07/01/2023	TCV	GVAC	LPPT	B737-700	120	115	14781	0	0	1	11097		10
607	07/01/2023	TCV	LPPT	GVNP	B737-700	120	79	14781	57	0	1	10723		10
606	08/01/2023	TCV	GVNP	LPPT	B737-700	120	116	14781	0	0	1	12219		10
611	08/01/2023	TCV	LPPT	GVSU	B737-700	120	70	14781	147	139	1	10474		12
7201	08/01/2023	TCV	GVSU	GVNP	B737-700	120	0	14781	0	0	0	1870		8



❖ Submission of Monthly CO2 Reports to ICAO

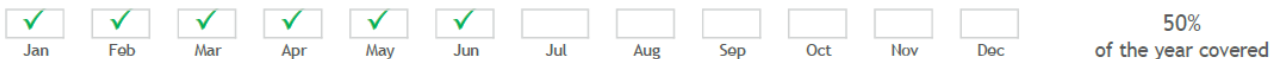
We submitted to ICAO every month (jan to jun) the emission report and shows that there were 209 international flights with a CO2 emission of 5,934 (t) and fuel efficiency of 0.410

ANNUAL AVIATION CO₂ REPORT 2023

Cabo Verde

State-level report - 1 reporting airline(s)
ICAO definition for international flights

MONTHLY REPORTS SUBMITTED



KEY METRICS FOR INTERNATIONAL AVIATION

FLIGHTS	RTK (tkm)	FUEL BURN (L)	CO2 EMISSIONS (t)	FUEL EFFICIENCY (L/tkm)
209	5.723.683	2.347.153	5.934	0,410

TRENDS

YEAR-TO-YEAR	2022	2023	TREND	% CHANGE
RTK (tkm)	10.188.355	5.723.683	↓	-44%
FUEL BURN (L)	4.162.511	2.347.153	↓	-44%
CO2 EMISSIONS (T)	10.523	5.934	↓	-44%
FUEL EFFICIENCY (L/tkm)	0,409	0,410	↑	0%



2. Mitigation Measures – Implementation Progress

❖ Measures already in place

MM3 - Publication of authorization for the planning of direct routes in the FPL in SAL FIR (Aircraft can fly in SAL FIR from entry point direct to exit point, without intermediates point).

- Completed. The authorization was published for planning direct routes in the FPL in SAL FIR (Aircraft can fly in SAL FIR from the direct entry point to the exit point, with no intermediate point)

MM4 - Implementation of PBN SID and STAR procedures at Praia and Sal international airports.

- Completed. Procedures approved by the CAA, waiting for AIP publication scheduled for October 2023

MM5 - Design and implementation of CCO procedures at all international airports (2019-2022).

- Completed. Procedures CCO Praia and Sal airport to be published. However, São Vicente and Boa Vista airport still without procedures.

MM6 - Design and implementation of CDO procedures at all international airports (2019-2022).

- Completed. Procedures CDO Praia and Sal airport to be published. However, São Vicente and Boa Vista airport still without procedures.



2. Mitigation Measures – Implementation Progress

❖ Measures that started as a result of the project

MM8 - Full replacement of conventional lighting by LED in buildings and facilities of all the international airports

- ASA and CVH started the process of replacing conventional lighting by LED.

MM11 - Replacement of obsolete AC equipment (R22) with modern and more efficient equipment in all the international airports of Cabo Verde (2021-2025)

- In the process to replace all obsolete AC equipment at all airports.

MM12 - Placement of motion sensors for lighting control in all WCs at the international airports São Vicente and Boa vista Airport.

- Completed in Boa Vista airport and 80% in São Vicente Airport.

MM13 - Change the internal procedures regarding disembarkation with the aid of buses, prioritizing the embarkation on foot by managing the stands closest to the terminals- CVH

- Measure in place since December 2022 by Cabo Verde Handling (CVH) in partnership with ASA.

MM15 - Acquisitions of Ground Support Equipment cleaner fuels, namely electric GSE

- CVH Purchased 2 electric forklifts for Praia and Sal airport and intend to buy 3 electric tractors in 2023.



MM1 - Conduct a feasibility study to assess the potential alternative fuel in Cabo Verde.

- Ministry of Energy and CEDEAO funding have in place a study to develop a Nacional Bioenergy Action Plan for Cabo Verde. This study includes potential alternative fuel in the country.

MM2 - RNP4 implementation in the Europe/South America (EUR/SAM) corridor.

- There will be a EUR SAM corridor meeting scheduled for April 24th to 26th in Madrid – Spain for discussion. (I don't have the feedback)

MM7 - Adaptation of Taxiway B for medium/large aircraft for the São Vicente airport.

- It will start with the airport concession.



3. Challenges

- Possible challenges a short term is with the concession of airports in the implementation of mitigation measures.
- Monitor the implementation of mitigation measures.
- Update our State Action Plan with the data from our Nacional Operator (TACV).





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Central American
and Caribbean
(NACC) Office
Mexico City

South American
(SAM) Office
Lima

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Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
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Middle East
(MID) Office
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Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU