



Zambia's Climate Change Mitigation: Implementing the Carbon Offsetting and Reduction Scheme for International Aviation

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BACKGROUND

Zambia is a landlocked developing country with a population of approximately 14 million people, which is situated in Southern Africa between the longitude of 22° to 34° East and latitude of 8° to 18° South. It is a member state of the International Civil Aviation Organization (ICAO), and also a member of ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSA). The country voluntarily joined CORSA and successfully submitted its first Aviation Emissions Action Plan to ICAO in November 2017. Zambia belongs to the ICAO East and Southern African (ESAF) regional group.

IMPLEMENTING CORSA

The project which Zambia has embarked on to reduce its carbon footprint has focused on the Civil Aviation Authority working in collaboration with the aircraft operators registered in Zambia. The Civil Aviation Authority has been leading the way in aircraft guiding the operators to reduce their fuel burn for each International flight. It also assists them in monitoring, reporting, and verifying their fuel use, for onward reporting of that information to ICAO.

Since voluntarily joining CORSA, Zambia has made great strides in its efforts to attain carbon neutral growth (CNG) by the year 2020.

The Civil Aviation Authority (CAA) was mandated by an Act of Parliament in 2012 to undertake all aviation related activities in the country. Since then, the CAA has assumed a leading role in guiding the aviation industry and explaining the benefits of CORSA.

In 2017, Zambia's Civil Aviation Authority took the initiative and collaborated with ICAO, the African Civil Aviation Commission (AFCAC), and the Southern African Development Community (SADC), and hosted a CORSA workshop which took place in Lusaka in August 2017.

The seminar was officially opened by Zambia's Minister of Transport and Communications, Dr. Brian Mushimba and for the first time in Zambia, CORSA received considerable publicity. Seminar participants included officials from neighboring countries such as Tanzania and Zimbabwe. The event was an opportunity for the Civil Aviation Authority to promote and publicize the relatively new concept of CORSA to all stakeholders within Zambia and beyond. Proflight Zambia, a major aircraft operator in Zambia that operates international flights was also present at the seminar. Other stakeholders that attended were: Zambia Environmental Management Agency (ZEMA), Energy Regulation Board (ERB), and Indeni oil refinery.

The journey towards carbon neutral growth began with the development of Zambia's Aviation Emissions Action Plan which was based on the ICAO Resolution A38-18. That resolution called for consolidated statements of continuing ICAO policies and practices related to Environmental protection and climate change. The ICAO assembly agreed on a comprehensive strategy to advance all elements of its "basket of measures" namely: technology, operations, alternative fuels, basket-based measures, and regulatory measures. Pursuant to ICAO's basket of measures, the Civil Aviation Authority of Zambia organized a series of stakeholder meetings with the major aircraft operator in Zambia, Proflight Zambia, which operates international flights. During those consultative meetings, that company was asked to choose which of ICAO's basket of measures could be applied to Proflight Zambia. As a result of that consultation process, Proflight Zambia chose to implement the following measures:

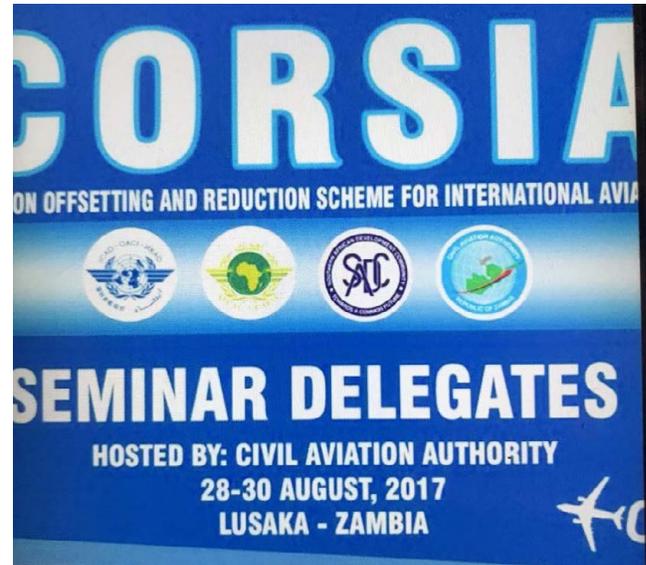
1. Improved air traffic management (ATM) and infrastructure use.

Under this measure, Proflight chose to improve its optimum flight levels, and the use of optimum routings, and to also employ continuous climb/continuous decent operations.

2. More efficient operations.

Under this measure, Proflight chose to minimize aircraft weight by introducing a number of measures including: paperless cockpit, reducing inflight magazines, limiting duty free items, and reducing catering equipment and commercial portable water. Other measures agreed to are: minimizing use of reverse, using single engine taxi operations, re-training pilots, optimizing aircraft maintenance such as engine washes, and selecting the aircraft best suited for the mission.

The implementation of the above mitigation measures selected by Proflight Zambia is projected to collectively result in the reduction of approximately 1,240 metric tonnes of CO₂ emissions from international aviation annually. In terms of more efficient operations, it is estimated that implementation of these measures will



account for about a 79% reduction in CO₂ emission by Zambian aviation by the year 2040.

THE ICAO BUDDY PARTNERSHIP PROGRAMME

Under the umbrella of the ICAO Assistance, Capacity building and Training for CORSI A (ACT-CORSIA) Programme and related Buddy Partnerships, Zambia received training from South Africa. Other recipient States which are receiving support from South Africa are; Lesotho, Botswana, Zimbabwe, Namibia and Malawi. The training assistance which Zambia received included development of an Emissions Monitoring Plan (EMP) and development of CORSI A regulations based on ICAO Annex 16, Volume IV. Under the Buddy Partnership Programme, Zambia invited its major aircraft operator (Proflight Zambia) and the airport operator to participate in the workshop. The training was conducted by South Africa's Ms. Chinga Mazhetese.

After the training, it was evident that Zambia needed to develop a time-bound activity plan as shown in Table 1.

Using the activity plan in Table 1, the CAA's Aviation Emissions Working Group was able to develop draft regulations which were submitted to the stakeholders for comment. Stakeholders responded positively and the

**TABLE 1:** Zambia’s Activity Plan for CORSIA

ACTIVITY	PROPOSED START DATE	ACTUAL COMPLETION DATE	STATUS QUO
1 Meet Zambia Bureau of Standards	09/10/2018	09/10/2018	Completed
2 Hold a meeting with committee members to draft activity plan	10/10/2018	10/10/2018	Completed
3 Recess for drafting of national regulations on CORSIA. Committee will seat with legal team	22/10/2018 to 26/10/2018		Completed
4 Committee to have a workshop with stakeholders to explain the new requirements and receive comments from stakeholders	5/11/2018 to 7/11/2018		Completed
5 Make inclusions to national requirements (if any)	12/11/2018		Pending
6 Submission to Director General CAA for approval of requirements	19/11/2018		Pending
7 Promulgation of requirements through a NOTAM and Aeronautical Information Circular (AIC)	1/12/2018		Pending

document is now in the final drafting stages and will be promulgated before the end of April 2019.

Under the guidance of the Civil Aviation Authority, Proflight Zambia has already started collecting fuel data which will be reported to ICAO at the end of 2019.

Another Zambian registered aircraft operator, Mahogany Air, has expressed interest in flying international flights by end of April 2019. In preparation for that, a one-day workshop has been planned for Mahogany Air called “Introduction to CORSIA” which will be conducted at CAA headquarters.

Recently, Proflight Zambia was successfully guided by Civil Aviation Authority to develop its first Emissions Monitoring Plan (EMP). That plan was approved by the CAA who shared it with Zambia’s Buddy Programme partner, donor state South Africa.

It is expected that over the next three years more aircraft aeroplane operators will come on board and will require oversight from the Civil Aviation Authority. Therefore

there will be need for the CAA to develop a standard one day workshop program which will cover modules “Introduction to CORSIA” and “Developing an Emissions Monitoring Plan”. These two activities have been identified as essential for new entrants to: appreciate the need for CORSIA, how to go about developing the necessary documentation, and how to be compliant with CORSIA requirements.

CONCLUSION

Zambia’s Civil Aviation Authority has embraced ICAO’s CORSIA scheme and has been working hard to implement it. The CAA will do its best to guide the aviation industry and will use all the available resources under the ICAO Buddy Partnership Programme to ensure that CORSIA is a success in Zambia. It will also ensure that all aircraft operators attributed to Zambia understand CORSIA and submit Emissions Monitoring Plans as well as monitoring, reporting, and verifying their emissions and then submitting that info to the Civil Aviation Authority which will in turn submit it to ICAO.