

Dominican Republic Progress on Emissions Mitigation

By Juan José Veras, Manager, Sustainable Development, Civil Aviation Authority, Dominican Republic

INTRODUCTION

From the outset of organized civil aviation in the Dominican Republic, the stake holders understood the wide range of opportunities that result from interaction with the rest of the world. These opportunities are leveraged by international trade, which fuels the development of aviation, and in turn, allows it to contribute powerfully to the creation and preservation of friendship and understanding among the members of the international community. If abused, these same opportunities may constitute a threat to general safety, as expressed in the preamble to the Chicago Convention.

This vision shared by ICAO with the signatory States to the Chicago Convention in 1944, has been the engine that has driven the actions of Dominican Republic to work continuously with initiatives that will foster prosperous international aviation.

MITIGATION CAPACITY BUILDING

Aligned with this spirit of collaboration and with the intention of managing the impact of Dominican aviation on the environment, in 2014 the Dominican State decided to participate in the joint project of the International Civil Aviation Organization (ICAO) and the European Union (EU) on capacity building for mitigation of CO₂ emissions resulting from international aviation.

The overall objective of this project was to contribute to international, regional, and national efforts to address the increasing CO₂ emissions that result directly from international aviation operations. This resulted in ICAO supporting the Dominican Republic in the development of

robust action plans which have allowed the management of aviation emissions through the implementation of capacity development activities designed to achieve lower carbon emissions from the air transport sector.

According to ICAO Doc 9988, States must identify a focal point responsible for the preparation of the action plan and coordination within the State and with all interested parties, such as: aviation and environmental authorities, airlines, airports, ANSPs, departments of statistics, fuel suppliers, etc.

The focal point and stakeholders must implement an aviation environmental management system to report historical and projected emissions to ICAO. *The writer of this article, Juan Jose Veras, was designated as the focal point for this critical task, by Dr. Alejandro Herrera Rodríguez, General Director of the Dominican Institute of Civil Aviation (IDAC).*

Within the actions identified in the regularly updated action plans of the Dominican State, the unconditional support of the Dominican Institute of Civil Aviation (IDAC) senior management and other State entities, such as the Civil Aviation Board (JAC), as well as the Airport Department (DA), has been the cornerstone in the sustained advancement of promoting an aeronautical system aimed at managing its impact on the environment.

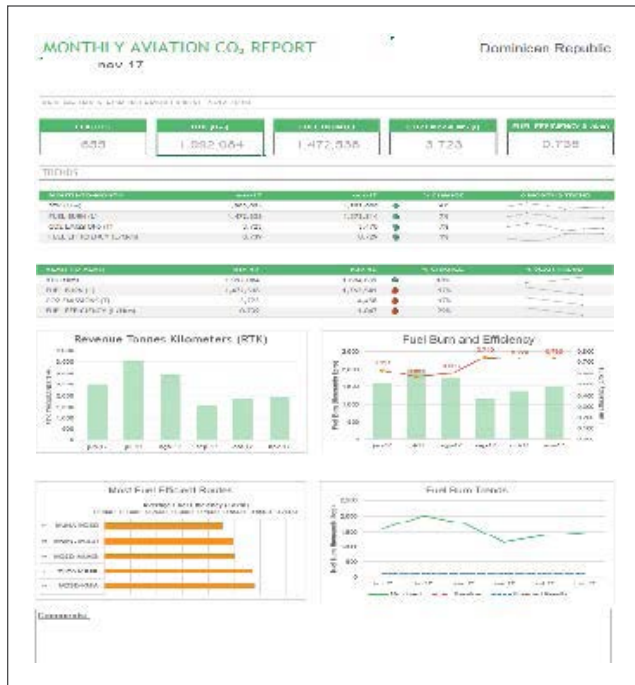
The mitigation efforts have not only reached the State's entities, but have achieved a public-private partnership that has made it possible to maximize the benefits at monumental levels. The partnership includes, but is not limited to, Punta Cana Airport Group, Cibao International Airport and Aerdom-Vinci Airports.

The ICAO/EU project allowed the establishment of a CO₂ emissions monitoring system, through the Aviation Environmental System (AES) software, which facilitated reports for CO₂ emissions resulting from international aviation. This system allows import, export, and management of data from aeronautical operations.

FIGURE 1: Aviation Environmental System main page



FIGURE 2: Typical AES Report



ACTION PLAN ON CO₂ EMISSIONS REDUCTION

As a result of the implementation of its Action Plan to Reduce CO₂ (PARE-CO₂), it is expected that the Dominican State will reduce total flight-related aviation emissions

by approximately 54,940 tons of CO₂ per year of the total emissions generated by all international aviation operations in the Dominican Republic. These emissions figures were calculated based on the projected reductions of fossil fuels burned, by the implementation of the ICAO basket of measures, such as:

- Use of alternative fuels,
- Minimizing APU use, minimizing weight and engine wash,
- Continuous Descend Operations (CDO), Continuous Climb Operation (CDO), PBN-STAR, etc.

In addition, it is expected that the implementation of the mitigation measures contained in the PARE-CO₂ will contribute to reduction of approximately 15,580 tons of CO₂ from the emissions generated in the broader aviation sector. These reductions will result from a number of initiatives, including: clean energy initiatives at the Cibao International Airport, Aerodom-Vinci, the institutional plans of photovoltaic energy, and the energetic efficiency programs in all airports, as well as in the IDAC facilities. The emissions reductions are supplemental benefits, supporting the promotion of greener operations for the aviation sector as a whole.



These results have been estimated based on the number of international operations and the projected air traffic trends. In recent years, the Dominican State has maintained steady aviation traffic activity growth rate overall, the net effect of the decrease of operations in some airlines combined with the start of operations of new airlines, and new routes in the short term.

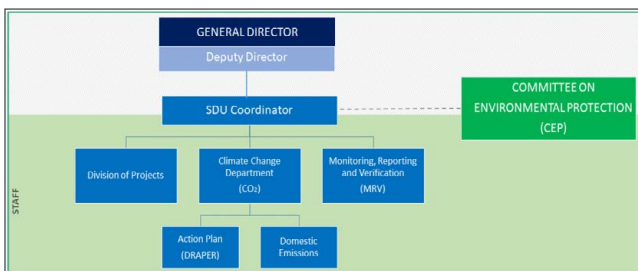
Estimates of expected CO₂ emissions reductions represent a measured scenario based on the number of operations and activities in 2017.

MOVING TOWARDS GREENER AVIATION

The future is promising for the use of clean energy sources in the aviation sector of the Dominican Republic. To ensure this, senior management of IDAC has established an organization structure dedicated to the management of sustainable development in international aviation. The Aviation Committee on Environmental Protection (CAEP) which holds regular meetings, in which critical decisions are made to enable consistent progress. This committee is chaired by the General Director of IDAC and members include the managers of related areas.

The joint ICAO/EU project on capacity building for mitigation of CO₂ resulting from international aviation involved 14 States, 12 from Africa and 2 from the Caribbean. During that project, the Dominican State showed its leadership and support by making it possible to carry out three of the four seminars in the Caribbean.

FIGURE 3: Organizational Structure - Aviation Committee on Environmental Protection



One of the most important aspects of capacity-building activities has been the institutional strengthening and creation of alliances among numerous institutions businesses in the Dominican Republic, including: Ministry of Environment, National Council on Climate Change and Clean Development Mechanism, Ministry of Industry and Commerce, Ministry of Finance, Ministry of Planning and Development, National Energy Commission, Ministry of Energy and Mines, State Sugar Council, Dominican Refinery, Cibao International Airport, Punta Cana International Airport, Aerodom-Vinci, among others.

The common objective to achieve the United Nations Sustainable Development Goals (SDGs), has increased

in interaction with other States through participation in other ICAO programs, such as the “Buddy programme”. Through its participation in that program the Dominican State was able to interact with Panama, and show the technicians of that country how the Dominican Republic has been updating its energy matrix of international airports, thus showing Panama the challenges and benefits of implementation such projects.

Working by example is the key to success, and that has been the approach of the Dominican State’s IDAC in taking actions in pursuit of the United Nations Sustainable Development Goals (SDGs). IDAC’s more noteworthy such initiatives are highlighted below:

- ✓ Integration into internal policy of energy efficiency with the installation and commissioning of a 1 Mega Watt photovoltaic park for the Norge Botello aeronautical complex.
- ✓ Implementation of a regulatory framework in RAD 121, RAD 135, on the requirement of statistical information for the operators, which allows the determination of CO₂ emissions resulting from international aviation.
- ✓ Conduct of three Capacity Building Seminars for mitigation of CO₂ emissions for the aeronautical sector stakeholders.
- ✓ Creation of a national team trained on the action plan and with the tools to manage the selected mitigation measures in a timely manner, according to the realities of the Dominican Republic, an insular developing country.
- ✓ Promoting the use of renewable energies in the sector and the responsible use of available sources.
- ✓ Promoting the production of sustainable alternative fuels for aviation in the medium term, leading to the creation of new markets and jobs.
- ✓ Improving the local air quality as a result of the reduction of fuel combustion, through the use of more efficient means.



PARTICIPATION IN CORSIA

At the beginning of 2018, as part of the continuity of IDAC's actions in support of aviation environmental protection, it designated a focal point for the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Later in the same year, IDAC confirmed its intention to participate in CORSIA from the date of its inception, which was confirmed with an official letter to ICAO.

In addition, IDAC published a regulatory framework for implementation in the Dominican Republic and continues its mission to ensure neutral growth of CO₂ emissions by 2020, as recommended by ICAO's SDG goals for its Member States.

LESSONS LEARNED

The entire capacity building exercise in the Dominican Republic has resulted in a number of lessons learned by those organizations and individuals involved in the implementation of the measures. These include:

- Sharing the achievements and helping others along the road already traveled is one of the greatest gifts that can be given and the foundation for effective capacity building.
- Much more can be achieved together, in cooperation with others than going it alone.
- Capacity Building and Assistance Programs are key to the successful implementation of CO₂ emission mitigation measures in developing States.