

# TRINIDAD AND TOBAGO ENVIRONMENTAL PROJECT: ICAO-EUROPEAN UNION ASSISTANCE PROJECT ON CAPACITY BUILDING

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## Background

Trinidad and Tobago is a twin Island Republic with two (2) international airports, namely the Piarco International Airport, Trinidad and the ANR Robinson Airport, Tobago.

Trinidad and Tobago is governed by its Environmental Management Act. The Act is an umbrella piece of legislation incorporating important environmental policy statements of the Government of Trinidad and Tobago, a blueprint for the further development of environmental policy and legislation, and a monitoring and enforcement mechanism.

Under the ICAO Convention, the Government of the Republic of Trinidad and Tobago has responsibility for the provision of Air Navigation Services within an airspace, known as the Piarco Flight Information Region (FIR). The Piarco FIR is approximately 750,000 square miles, that includes the airspace over the entire group of Eastern Caribbean islands from north of Antigua to south of Trinidad and stretching eastward to halfway across the Atlantic. The volume of aircraft movements within the Piarco FIR averages in excess of four hundred (400) movements per day during busy periods.

As aviation activity in the Piarco Flight Information Region (FIR) increases, the pressure on aircraft operators, airports, and air traffic management to increase capacity while achieving an environmentally sustainable air traffic system is intensifying.

The need to address the adverse environmental impact of aviation is on the agenda of the international air transport industry and it is embedded in the historic Port Of Spain Declaration. This Declaration was signed by twenty one (21) States in the North American, Caribbean and Central American (NACC) Regions in April 2014. It commits States in the NACC Region to achieve harmonisation and integration of the ATM system, taking into account, inter alia, the need to minimise any adverse environmental impact.

## Development of the First Action Plan on Emissions Reduction for Trinidad and Tobago (APERTT) 2012 and the Award of the ICAO-European Union Assistance Project on Capacity Building

In 2012, the Trinidad and Tobago Civil Aviation Authority (TTCAA)

participated in a number of Environmental Seminars both at ICAO Headquarters in Montreal, Canada and through the International Air Transport Association (IATA). The ICAO seminars provided the training and knowledge required for Trinidad and Tobago to develop its first Action Plan on Emissions Reduction (APERTT). This Action Plan was submitted to ICAO in December 2012.

The objective of the first APERTT was to construct a plan to reduce CO<sub>2</sub> emissions for the Caribbean Region. This proved to be a significant challenge since the Region consists mostly of Small Island Developing States (SIDS) and resources were difficult to assign.

Notwithstanding this challenge, Trinidad and Tobago proceeded with the development of the APERTT 2012, which only included mitigation measures relevant to the Piarco FIR and its national airline, Caribbean Airlines Limited.

ICAO used the State's Action Plans of Trinidad and Tobago as a tool to identify funding for environmental projects. In January 2014, ICAO announced that Trinidad and Tobago is one of fourteen (14) countries that will benefit from the first **ICAO-European Union joint Assistance Project on Capacity Building - CO<sub>2</sub> Mitigation from International Aviation**.

The major objectives of the ICAO-European Union Assistance Project on Capacity Building are:

- i. Development of an Action Plan for Trinidad and Tobago – Aimed at improving capacity of the National Civil Aviation Authority to develop an Action Plan on Emissions Reduction from International Aviation.
- ii. Development and Installation of an Aviation Environmental System (AES) – information technology software and hardware for the efficient CO<sub>2</sub> emissions monitoring for international aviation.
- iii. Implementation of the Mitigation Measures – Prioritize mitigation measures identified, evaluated, and implemented.

The Project “kick-off” Seminar for the Caribbean was held in the Dominican Republic in December 2014. However, Trinidad and Tobago had started work on the Project in June 2014, prior to the kick-off seminar. The seminar strengthened the understanding and commitment of the national focal points towards the project and set-up the grounds for the implementation of the milestones

and project expected results for 2015.

The important milestones for the first six (6) months of the project included:

- the capacity building Seminar in 2014
- the establishment of a functional National Action Plan Team (NAPT)
- on-site support missions by the project consultants;
- development of the Aviation Environmental System (AES) prototype; and
- the calculation of the emissions baseline for the State Action Plan.

### Development of the Second Action Plan on Emissions Reduction for Trinidad and Tobago (APERTT) 2015

In the first eighteen (18) months under the project, Trinidad and Tobago made significant strides in building capacities with various government agencies and stakeholders. One of the major lessons learned from the development of the first APERTT 2012 was the lack of a coordinated approach by all stakeholders to establish mitigation measures in their respective areas. This lesson was used in the development of the second APERTT 2015 and as a result the National Action Plan Team, namely the Aviation Environmental Working Group (AEWG), was established, consisting of:

- i. Trinidad and Tobago Civil Aviation Authority (TTCOA)
- ii. Airports Authority of Trinidad and Tobago (AATT)
- iii. Caribbean Airlines Limited (CAL)
- iv. The Ministry of Planning and Development (MPD)
- v. The Environmental Management Authority (EMA)
- vi. National Petroleum Marketing Company Limited (NP)
- vii. Airline Ground Handlers: Swissport and Piarco Air Services Limited

The APERTT 2015 included six (6) main mitigation areas to reduce CO<sub>2</sub> emissions from International Aviation. These are:

- a) Aircraft Technology and more efficient operations
- b) Research on Alternative Fuels
- c) Air Traffic Management and Infrastructure use
- d) Airport Improvements
- e) Complementary Measures (Regulatory / Economic)
- f) Monitoring and Data resources

The APERTT 2015 also included a **Carbon Low Emissions Program (CLEP)**. The CLEP has twenty seven (27) new measures to support CO<sub>2</sub> emissions reduction. It is estimated that this program will reduce 20,000 tonnes of CO<sub>2</sub> from International Aviation each year from 2018. The CLEP will support the regional efforts of Air Traffic Management in the Piarco FIR and will generate Research, Partnerships and Complementary measures to develop long-term strategies for Trinidad and Tobago.

### The Baseline

Through the establishment of the AEWG, a baseline was

established using the traffic data in Trinidad and Tobago from 2012 to 2014. This was a major challenge for Trinidad and Tobago since the national airline, Caribbean Airlines Limited, needed assistance and guidance to collect and use the appropriate data. Under the ICAO-European Union Assistance Project, ICAO conducted mission visits to Trinidad and Tobago and worked with every stakeholder under the Project to ensure the objectives were met. The mission visits delivered major results for Trinidad and Tobago.

### Impact on the State and the Expected Results

Under the ICAO-European Union Assistance Project, Trinidad and Tobago has produced a robust Action Plan to reduce CO<sub>2</sub> Emissions from International Aviation for the State and the Piarco FIR. The project has tremendously strengthened the national Aviation Environmental Working Group (AEWG) along with other Government Agencies and stakeholders. With improvements to the monitoring processes and CO<sub>2</sub> reporting in the Piarco FIR, Trinidad and Tobago will be able to take appropriate mitigation actions to support the development of a cleaner, more efficient and sustainable aviation system aligned with national policies and strategies.

In 2015, the Trinidad and Tobago Civil Aviation Authority introduced the Air Traffic Flow Management (ATFM) concept for the Piarco FIR. The introduction of ATFM is a very important measure in the short-term to mid-term, due to the neighbouring FIR's being oceanic airspace, San Juan FIR (Puerto Rico), Maiquetia FIR (Venezuela) and Brazil, all with high and ever increasing traffic flow.

The ATFM is a key instrument to improve collaborative decision making (A-CDM) and will support the reduction of fuel consumption caused by delays and other related situations such as weather, airports capability, and other factors that limit the efficiency of the airspace.

The implementation of the mitigation measures in the action plan of Trinidad and Tobago will contribute to the reduction of CO<sub>2</sub> emissions by an average of 22,800 tonnes per year for international flights performed by the national airline, Caribbean Airlines Limited (CAL)

The implementation of the mitigation measures in the APERTT will contribute to the reduction of CO<sub>2</sub> emissions by an average of 22,800 tonnes per year for international flights performed by the national airline, Caribbean Airlines Limited (CAL). A reduction of 5,027 tonnes of CO<sub>2</sub> per year will be achieved from the domestic flights performed by CAL as co-benefits.

The basket of measures selected for Trinidad and Tobago will contribute to and support the reduction by at least 6,480 CO<sub>2</sub> tonnes per year from international operations performed by other international airlines in the State and the FIR.

#### Next Steps

- The present operations of the national airline, Caribbean Airlines Limited, are being reviewed, with a focus on improving efficiency of aircraft operations.
- Research, Feasibility Studies, and Cost Benefit Analysis on the use of alternative fuels in the aviation sector will commence by June 2016 as an aspirational goal for Trinidad and Tobago.
- Energy audit and feasibility studies at the Trinidad and Tobago International Airports will be conducted with an aim towards solar energy. Ground operations will also be studied aimed at improving all areas of airport operations.
- The establishment of an Environmental Unit within the Trinidad and Tobago Civil Aviation Authority will lead the State's efforts to increase the safety and capacity of the global aerospace system in an environmentally sound manner. It will also lead the strategic policy and planning efforts for environmental sustainability on international aviation.

#### Conclusion

Leadership in any industry is underpinned by strategic management, innovation, and operational excellence. The aviation industry is no exception. The Trinidad and Tobago Civil Aviation Authority recognises that these characteristics are critical to not only maintaining a leadership role in the Caribbean but also in driving its international presence. Trinidad and Tobago is on the flight path to maintaining environmental sustainability within its aviation system. Trinidad and Tobago is ready to assist the SIDS in the Region to promote environmental sustainability, as part of the ICAO "Buddy Programme".