



ICAO

UNITING AVIATION

E-GAP



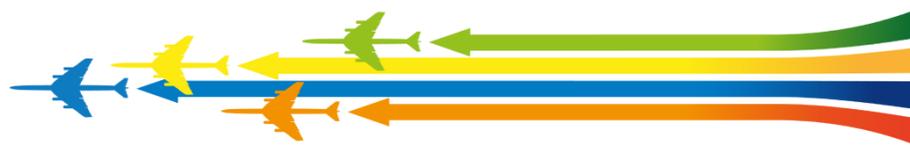
ICAO Global Aviation Partnerships on Emissions Reductions (E-GAP) Multiplying Environmental Action



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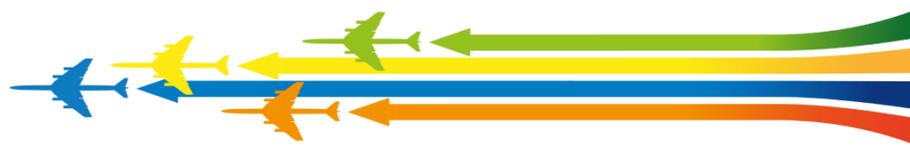


Trinidad & Tobago Civil Aviation Authority

Action Plan for Emissions Reduction for Trinidad & Tobago (APERTT) and the PIARCO FIR

Mr. Ricardo Henry | Ms. Hema Dass





CONTENTS



Background



Aviation Environmental Working Group | **AEWG**



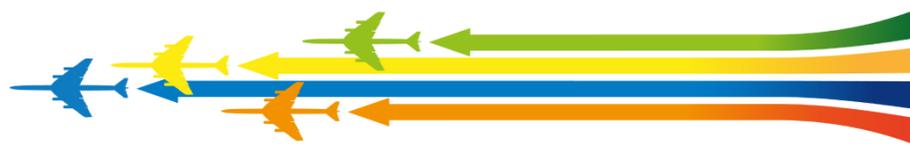
Carbon Low Emission Program | **CLEP**



ICAO – EU Assistance Project



Partnership and Cooperation



BACKGROUND

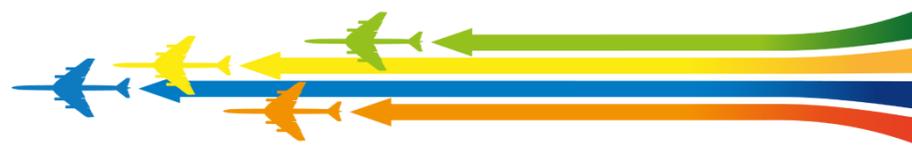
1st. Action Plan submitted | **2012**

ICAO 38 Assembly – Res. A38-18 | **2013**

ICAO-EU Assistance Project | **2014**

2nd. Action Plan submitted | **2015**





FIRST STEPS ON CO₂ REDUCTION

- ❖ Caribbean Airlines acquired fifteen (15) **B737-800** in 2011 which includes **wing tips**
- ❖ Caribbean Airlines upgraded its fleet from **Dash 8s to ATRs** in 2012
- ❖ Caribbean Airlines got their two **B767 certified with ETOPs 180**
- ❖ Several airline **operational improvements** were implemented
- ❖ There are electrical **GPU and PCA** installed in fourteen (14) Jetbridges within the PIARCO International Airport to reduce the APU usage
- ❖ **Energy-efficiency programs** are being implemented at the Airports
- ❖ Several **PBN initiatives** have been implemented



AIR TRAFFIC MANAGEMENT
ВИСЛІВЛЕННЯ ПОВІТРЯНОГО ТРАФИКУ

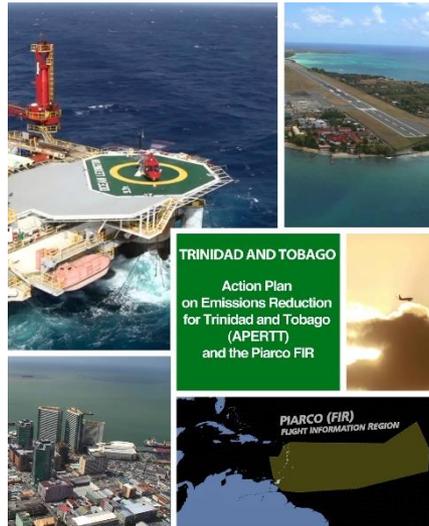




What is NEW within the ACTION PLAN update?



CLEP
Carbon Low Emissions Program



TRINIDAD AND TOBAGO
Action Plan on Emissions Reduction for Trinidad and Tobago (APERTT) and the Piarco FIR

PIARCO (FIR)
FLIGHT INFORMATION REGION



AEWG
AVIATION ENVIRONMENTAL WORKING GROUP



IMPROVED DATA



AVIATION ENVIRONMENTAL WORKING GROUP



TTCAA
Safer Skies

Trinidad & Tobago Civil Aviation Authority
(TTCAA)

Airports Authority of Trinidad & Tobago (AATT)

Caribbean Airlines
the warmth of the islands

swissport

PIARCO
PIARCO AIR SERVICES LIMITED

Ministry of the Environment and Water Resources
Conserving Today, Securing Tomorrow

EMA
environmental management authority

Environmental Management Authority (EMA)

NP
For all life's journeys

National Petroleum Marketing Company Limited (NP)



SUBWORKING GROUPS



SWGTT1

Aircraft Technology and More Efficient Operations (Best Practices)

SWGTT2

Research on Alternative Fuels

SWGTT3

Air Traffic Management and Infrastructure Use

SWGTT 4

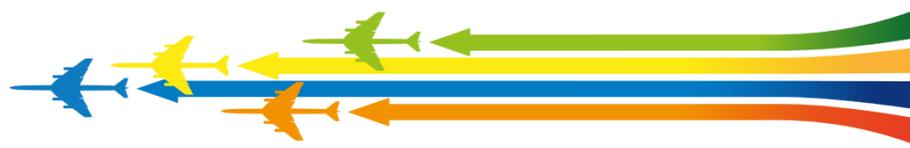
Airport Improvements

SWGTT 5

Complementary Measures
- Regulatory Measures
- Economic Measures.

SWGTT 6

Monitoring and Data Resources.



COLLABORATION AMONG STAKEHOLDERS



AVIATION ENVIRONMENTAL
WORKING GROUP

- Established monthly Working Group meetings
- Sub Committees are working on the implementation of the CLEP
- Sharing of information among stakeholders
- Greater awareness for the impact of Aviation on the Environment from all stakeholders



Carbon Low Emissions Program | CLEP

BASKET OF MEASURES FOR TRINIDAD & TOBAGO





Cockpit technology

Engine wash

Weight reduction

Minimizing flaps

Improve the Load factor

Single engine taxi and eTaxi

Fuel management system (FMS)

Minimizing Reverse use

Establish an environmental unit

Require carbon reports

T&T environmental award

Capacity transfer program

Limit the APU use

Voluntary off-setting



Research on alternative fuel

Implement 7 new PBN routes

Reduce Lateral Separation

Introduce ATFM

GSE maintenance

Energy efficiency programs (*airports emissions*)

Reduce PCA/GPU to switch off the Aircraft APU



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UNITING AVIATION

E-GAP



ICAO-EU Assistance Project



Capacity Building on CO₂ mitigation from international aviation

6.5
Million
Euros
42-
months

The project

14 States in
Africa and
Caribbean

Assistance



**CAPACITY
BUILDING**



**MITIGATION
MEASURES**

**AVIATION
ENVIRONMENT SYSTEM
(AES)**



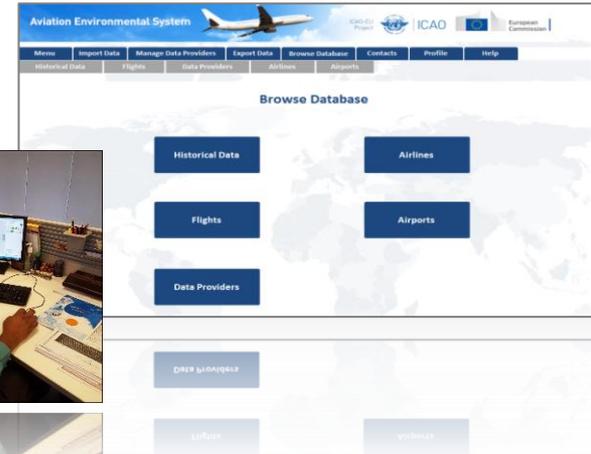
Key Impact on the State of the ICAO-EU Project



TRINIDAD AND TOBAGO
Action Plan on Emissions Reduction for Trinidad and Tobago (APERTT) and the Piarco FIR

PIARCO (FIR) FLIGHT INFORMATION REGION

Start the Improvement of monitoring processes





Other Positive Impacts



1

The Aviation Sector has now been included in the National Environmental Plan.

2

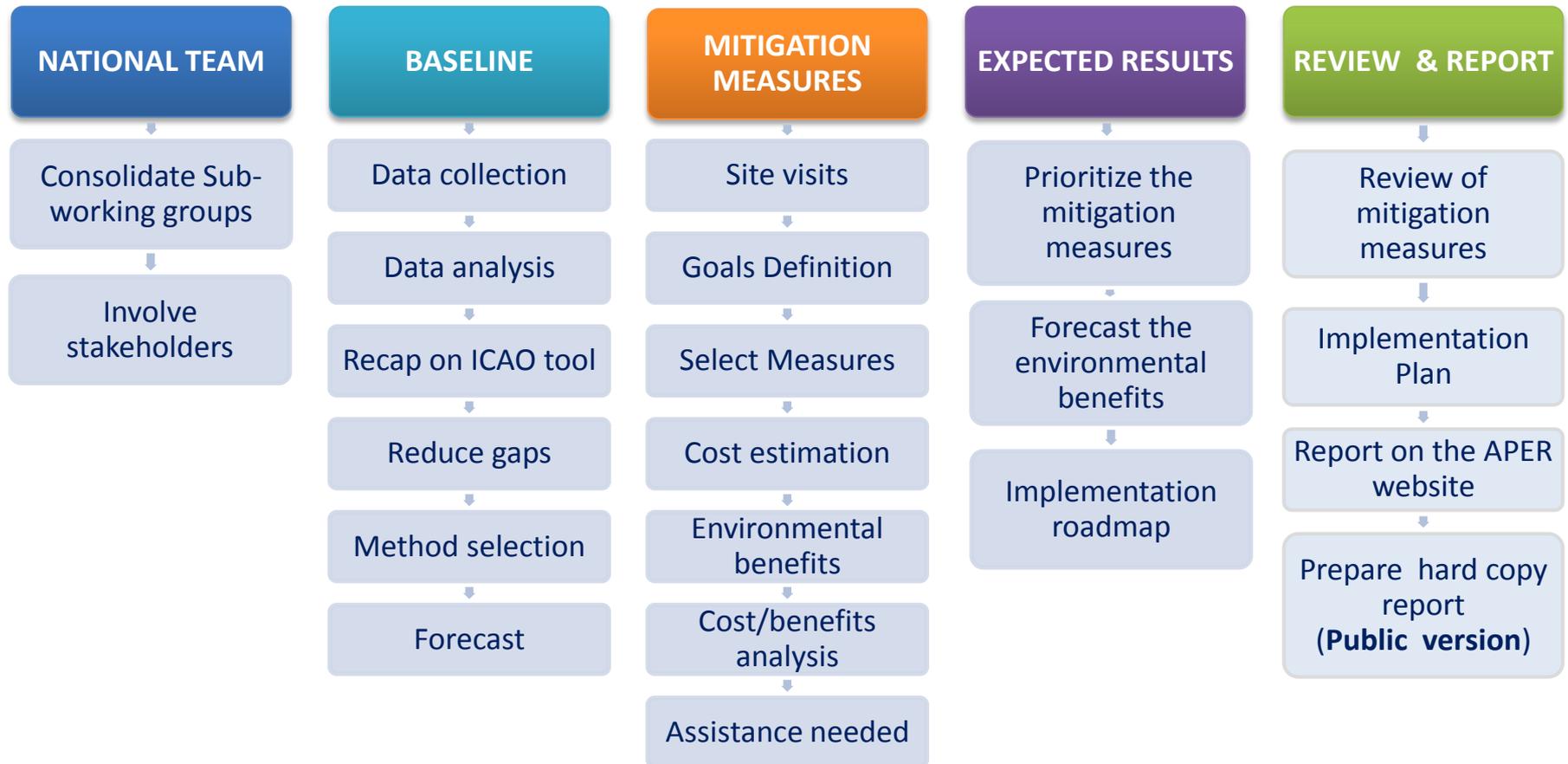
Under the project, the TTCAA has been heavily involved in Stakeholder Consultations on Environmental Matters

3

Increased participation in programs at the national level.



PROGRESS MADE



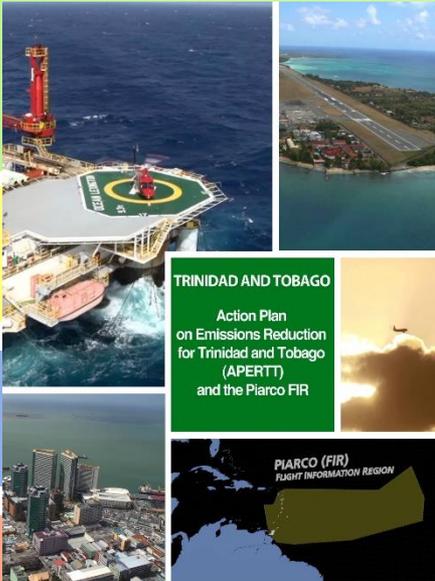


EXPECTED RESULTS



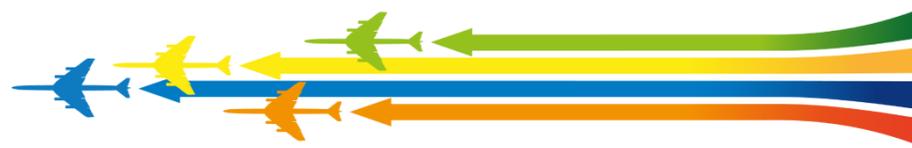
DIRECT BENEFITS

An average reduction of **20,000 CO₂ tonnes per year** from 2017 on international flights (ICAO Definition) performed by Caribbean Airlines Limited (CAL).



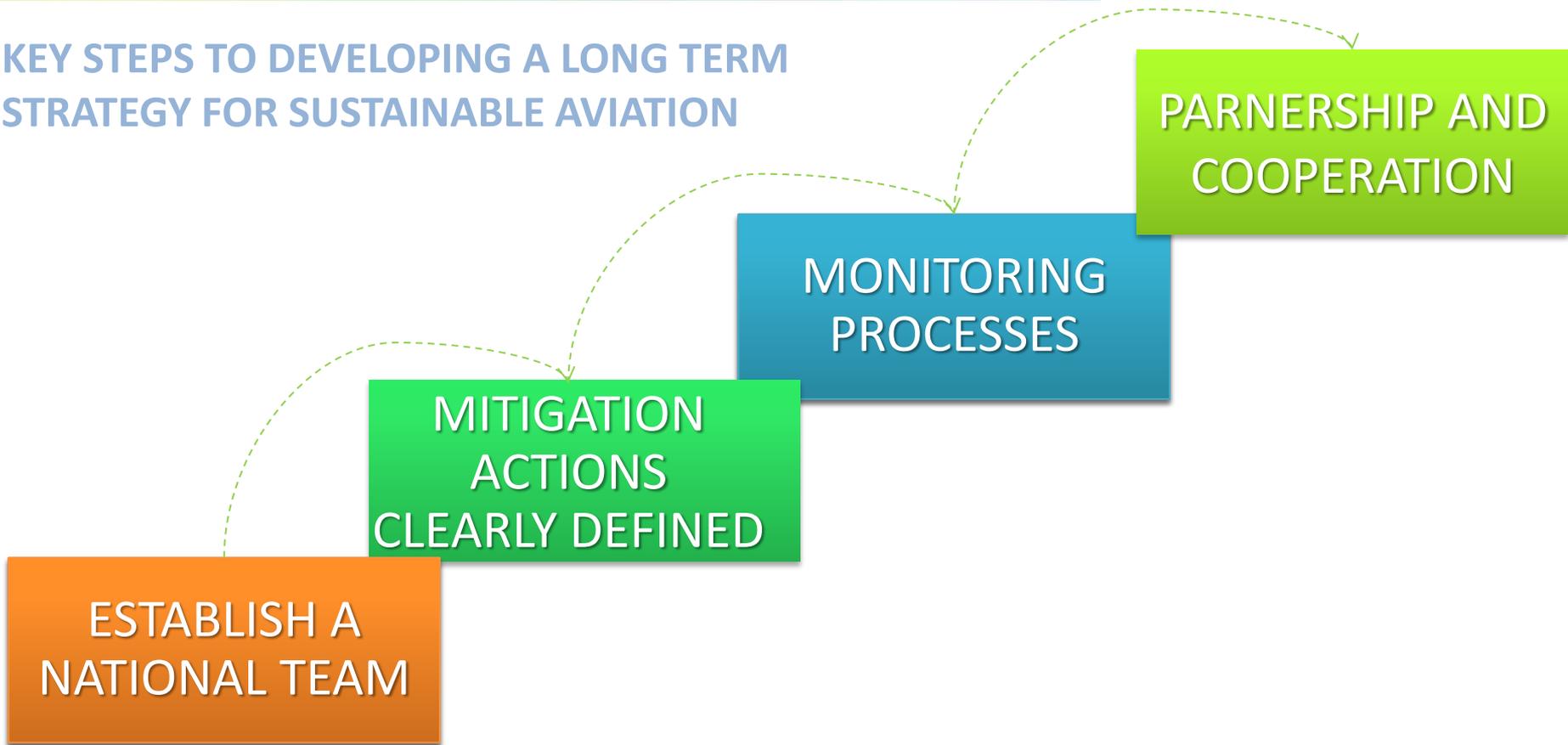
CO-BENEFITS

- **5,027 CO₂ tonnes per year** from the domestic flights performed by CAL
- **275 CO₂ tonnes per year** from airports activities
- At least **6,480 CO₂ tonnes per year** from international operations performed by **other international airlines** in the country.



SUMMARY

KEY STEPS TO DEVELOPING A LONG TERM STRATEGY FOR SUSTAINABLE AVIATION





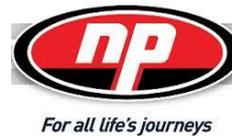
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Thank You!



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