UAE State Action Plan

Case Study/
Advisory

Country	**United Arab Emirates**
Client	**GCCA**
Duration	**NA**
Staff Count	**NA**

الهيئة العامة للطيران المدني
GENERAL CIVIL AVIATION AUTHORITY

DESCRIPTION OF THE PROJECT:

The aviation industry plays an integral role in the growth of any economy. However, this growth can backfire when activity based greenhouse gas emissions total more than 27 million tonnes. Based to this trend, the total amount of emissions by the aviation industry is expected to exceed 100 million tonnes by 2050 if corrective measures are not taken.

In line with the UAE's vision for a green economy and sustainable development, GCAA assigned Dubai Carbon to start up the UAE State Action Plan (SAP) project. The SAP project provided a comprehensive study of the UAE's aviation sector activities; their contribution to the economy, as well as their environmental impact. A detailed review of the sector included a full analysis of the available data and information, followed by the development of recommendations on how the above challenges could be overcome

IMPACTS POTENTIALLY REALIZED IF RECOMMENDATIONS ARE IMPLEMENTED:

- 7.5% reduction in emissions by 2020 due to fuel efficiency improvements
- 5-10% reduction in CO2 emissions when purchasing new aircrafts
- A reduction of 10,000 tonnes of annual emissions when upgrading engines
- Reduction of 16,000 tonnes of emissions when improving the aircraft's aerodynamic structure
- Annual emission reduction of 82,000 tonnes when using new wing tip devices
- Annual emission reduction of more than 2000 tonnes through the installation of 31 zonal drying systems
- Reduction of 75,670 tonnes of CO2 emissions on the implementation of RNAV
- 16% savings in fuel consumption by improving airport capacity and reducing their complexity
- Saving of 14,475 tons of annual emissions by using a different material for aircrafts
- More than 12,000 tonnes reduction in emissions through weight reduction measures

DESCRIPTION OF THE SERVICES PROVIDED:

Development of a state action plan for the UAE, by developing a BAU baseline, and designing emission reduction measures in relation to the aviation sector. The measures addressed the following sector-specific activities:

- Aircraft technology development
- Alternative fuels
- Improved air management and Infrastructure use
- Efficient operations
- Economic/market-based mechanism (MBM) measures
- Regulatory measures

DESCRIPTION OF THE APPROACH:

- Determining UAE's international aviation carbon footprint
- Collecting data about total fuel consumption, performed and available RTKs, percentage biofuel consumption, and domestic aviation trends
- Taking measures for emission reduction resulting from aircraft/engine procurement and/or upgrades as well as other measures such as improved aircraft material, load reduction strategies, optimized aircraft maintenance, engine washing, installing zonal drying systems, using alternative fuels (specifically biofuels), and improving the air traffic management RNAV (radar navigation)
- Obtaining a higher efficiency for aircrafts by optimizing components, fuel strategy and, thus enhancing performance while also reducing emissions
- Advisory service for improving airport infrastructure and existing capabilities.
- Advisory service on waste management and the reduction of the airport's carbon footprint