



The 10th Anniversary of the ICAO State Action Plan on CO₂ Emissions Reduction

25 January 2021



Update on Regional Activities

ICAO Secretariat

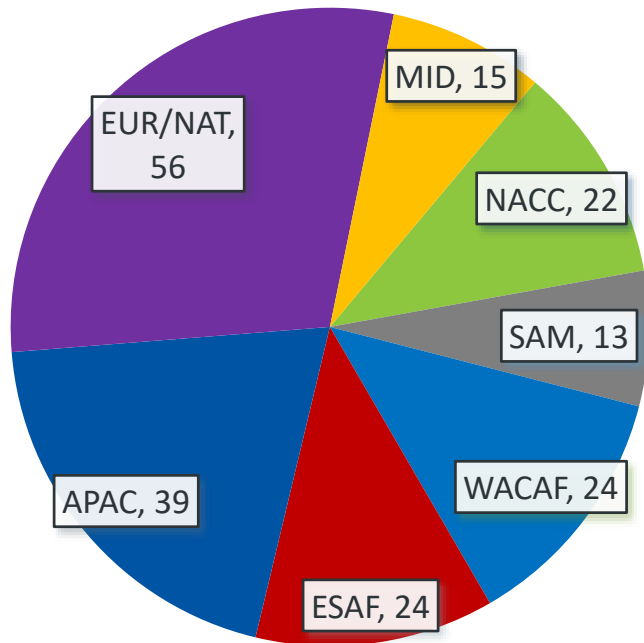


ICAO MID





Number of States Accredited to each ICAO Regional Office



APAC covers 30.87% of the world's air traffic with an annual growth rate of 7%

ESAF covers 1.63% of the world's air traffic with an annual growth rate of 7%

EUR/NAT covers 35.97% of the world's air traffic with an annual growth rate of 6%

MID covers 13.85% of the world's air traffic with an annual growth rate of 5%

NACC covers 14.79% of the world's air traffic with an annual growth rate of 6%

SAM covers 2,85% of the world's air traffic with an annual growth rate of 10%

WACAF covers 0.05% of the world's air traffic with an annual growth rate of -1%



ICAO Middle East (MID) Region



15 States accredited to the MID Office



ICAO State Action Plan Submissions from MID Region

ICAO State Action Plan Submissions from MID Region



■ Submitted ■ Updated ■ No Submission

Total States	15
Submitted	7
Updated	1
No Submission	8



Publicly available State Action Plans from MID Region

States	Initial submission	Update	Link to State Action Plan
Albania	Jul-12	Feb-19	
Angola	Jun-16		Angola Action Plan 2016
Argentina	Feb-13		Argentina Action Plan 2013
Armenia	May-12	Jul-15	
Australia	Jun-12	Sep-17	Managing the Carbon Footprint of Australian Aviation
Austria	Jan-12	Jul-18	Action Plan of Austria for CO ₂ emissions reduction 2018
Azerbaijan	Jul-12	Mar-19	
Bahrain	Jun-15		Aviation Emission Management Plan for Sustainable Aviation Growth



Please contact actionplan@icao.int if you would like to make your State's Action Plan publically available

Total States	15
Submitted	7
Publically available	01



MIDANPIRG/14 Conclusion 14/29

That, in order to follow-up the implementation of the ATM operational improvements and estimate the accrued fuel savings and associated CO₂ emission reduction from the corresponding improvements on regional basis:

a) States be encouraged to develop/update their Action Plans for CO₂ emissions and submit them to ICAO through the APER website on the ICAO Portal or the ICAO MID Regional Office;

b) States be urged to:

i) identify the operational improvements which have been implemented within their FIR and/or international aerodromes;

ii) collect necessary data for the estimation of the environmental benefits accrued from the identified operational improvements;

iii) use IFSET to estimate the environmental benefits accrued from operational improvements; and

iv) send the IFSET reports/the accrued environmental benefits to ICAO on bi-annual basis.



MIDANPIRG/16 Conclusion 16/31

That, States that have not yet done so, be invited to:

- a) provide the ICAO MID Regional Office with updated contact details of their State's CO₂ Action Plan/Environment Focal Points;*
- b) develop/update their State Action Plans on CO₂ emission reduction, using the guidelines contained in the ICAO Doc 9988; and submit them to ICAO through the APER website or the ICAO MID Regional Office; and*
- c) take necessary actions for the implementation of the mitigation measures included in their Action Plan, commensurate with the establishment of a dedicated structure (e.g. Department, Section, etc.) within the Civil Aviation Authorities dealing with aviation environmental issues.*





Benefits of Developing a State Action Plan

- State Action Plans give ICAO Member States the ability to:
 - Promote cooperation;
 - Establish partnerships;
 - Facilitate technology transfer;
 - Obtain assistance.

- SAP provides an organized means for the State to:
 - Highlight their commitment to addressing environmental challenges;
 - Outline their respective policies and actions.



Updating an Action Plan

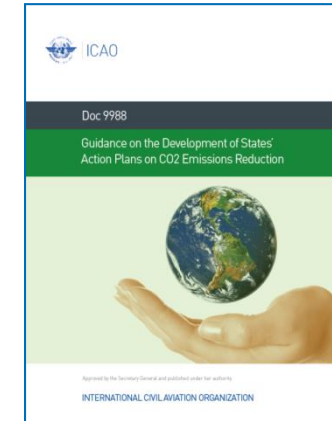
- Regular updates of the State Action Plan are essential to fully deliver the benefits of the initiative at the national level.
- States are invited to submit and subsequently update their Action Plan **every three years** preferably on the year prior to the Assembly year.

Regular updates increase the robustness of the data collection process, the understanding of stakeholders operating needs and constraints, the ownership of the content of the document, the preparedness for the implementation of mitigation measures and the ability to demonstrate progress.



Mitigation measures State Action Plans from MID Region

- ICAO Doc 9988 provides information on the mitigation Measures.
- Concrete examples of mitigation measures selected by States are available in appendix E
- Additional information on the mitigation measures are also available on the secure APER Website and ICAO ENV Reports



<https://www.icao.int/environmental-protection/Pages/envrep2019.aspx>





Examples of Mitigation Measures used in MID Region

- Various measures have been taken by MID States (airline operators, airport authorities and ANSPs) to reduce CO₂ emissions from civil aviation.
- The measures are classified according to the 4 categories :



Most of the measures undertaken involve operational improvements, as per the data available.



Examples of Mitigation Measures used within the MID Region

AIRCRAFT TECHNOLOGY – Fleet renewal for the older aircraft, Retrofitting and upgrade improvements on existing aircraft , Avionics Upgrade.



OPERATIONAL IMPROVEMENTS – Air Traffic Management (ATM): RVSM, PBN and CCO/CDO Implementation, Improvements in the ATS Route Network, FUA, AMAN, DFLOW, Improved Infrastructure , LNAV/VNAV And RNP AR approach and A-SMGCS.



OPERATIONS : Efficient Ground Operations, minimizing weight, minimizing flaps (take-off and landing), minimizing reversers use, single engine taxi and improved ground operations





Examples of Mitigation Measures used within the MID Region

- RVSM implementation and monitoring (since 2003)
- Vast improvements in the regional ATS route network and the implementation of RNAV routes through close cooperation between neighboring States (Bahrain, Egypt, Iran, Iraq, Jordan, Libya and UAE)
- Establishment of new PBN SIDs and STARs (Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia and UAE)
- Implementation of LNAV/VNAV (Egypt, Iran, Jordan, Kuwait, Oman, Qatar, Jordan and UAE) and Implementation of RNP AR (UAE)
- Implementation of A-SMGCS (Bahrain, Egypt, Oman, Qatar and UAE)



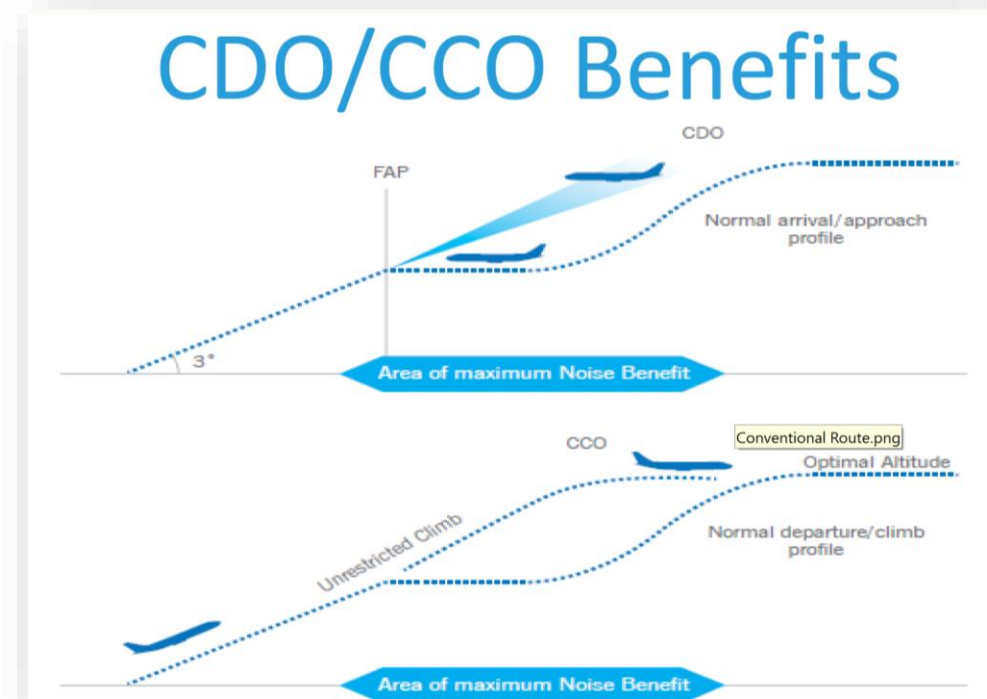
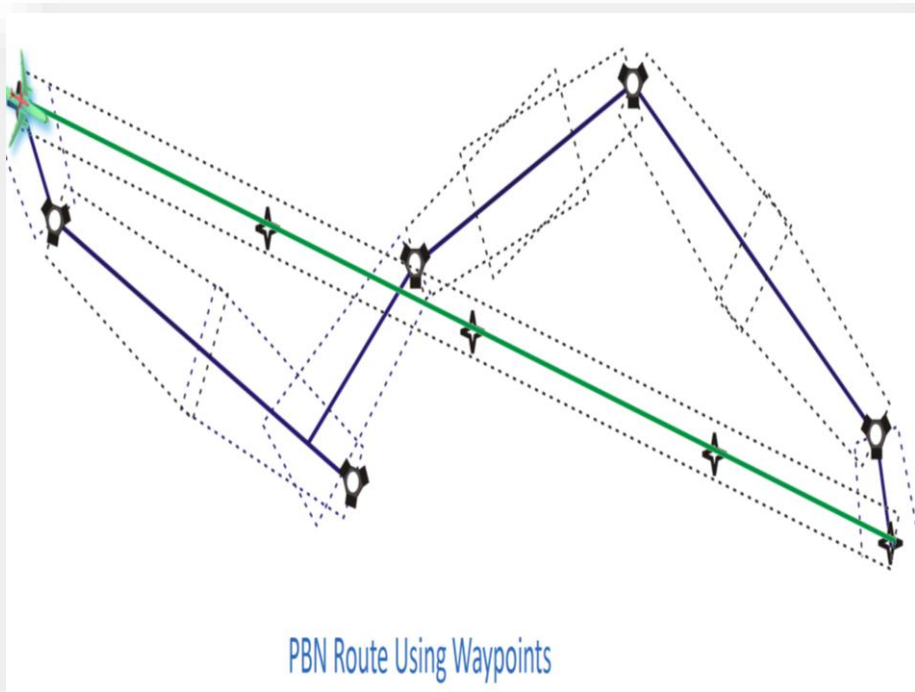
Examples of Mitigation Measures used within the MID Region

- FUA implementation (Bahrain and Jordan)
- Implementation of Arrival Manager (AMAN) (Bahrain and UAE)
- Implementation of Departure Flow Manager (DFLOW) Web Interface (UAE)
- Improving situational awareness using modernized aeronautical and MET information management systems (Bahrain, Qatar, Saudi Arabia and UAE)
- Modernization of CNS/ATM infrastructure and equipment (Oman, Qatar, Saudi Arabia, UAE)



Examples of Mitigation Measures used within the MID Region

PBN and CCO/CDO Implementation (Bahrain, Qatar and UAE)







Examples of Mitigation Measures used within the MID Region

- Improvement of airside structure including enhancing aprons, taxiways (rapid exit taxiways, etc.) (Bahrain and Oman)
- Implementation of Single-engine taxi operation (Bahrain, Qatar, UAE)
- Packs off Take-off , Minimizing weight, Idle Reverse Selection, etc. (Bahrain)



ICAO's Facilitating Role

- ICAO has facilitated the States' Action Plans initiative since 2010 by:
 - Developing guidance material and tools;
 - Enabling capacity-building and assistance projects;
 - Organizing workshops and training seminars
 - Partnering States through the State Action Plan Buddy Programme
 - Answering questions and providing support – actionplan@icao.int



Thank you for your attention

