



ICAO

ENVIRONMENT



International Civil Aviation Organization Environmental Work





ICAO

ENVIRONMENT

International Civil Aviation Organization

UN specialized agency

Established by the “Chicago Convention” in 1944

Forum for cooperation in all fields of civil aviation

191 Contracting States

Standards, policies & guidance for environmental protection since 1960’s

Focus on aircraft noise, local air quality and global climate



SOCIETY

3 billion passengers per year carried worldwide¹

56.6 million jobs supported by aviation worldwide²

Scheduled worldwide passenger traffic forecast to **grow at 4.4%** per year¹

ECONOMY

2.2 trillion USD global economic impact²

Up to **3.5% of global GDP** supported²

35% of world trade by value carried²

ENVIRONMENT

2% of global human-made CO₂ emissions³, approximately **65% of this 2% are from international aviation (≈1.3%)**

Fast, reliable, and safe mode of transport

No comparative alternatives for long haul passenger transport

Source: 1. ICAO Facts and Figures retrieved 27 March 2014, 2. ATAG "Aviation Benefits Beyond Borders,"2010, 3. IPCC 4th Assessment Report, 2007.





dB

Noise

Emissions

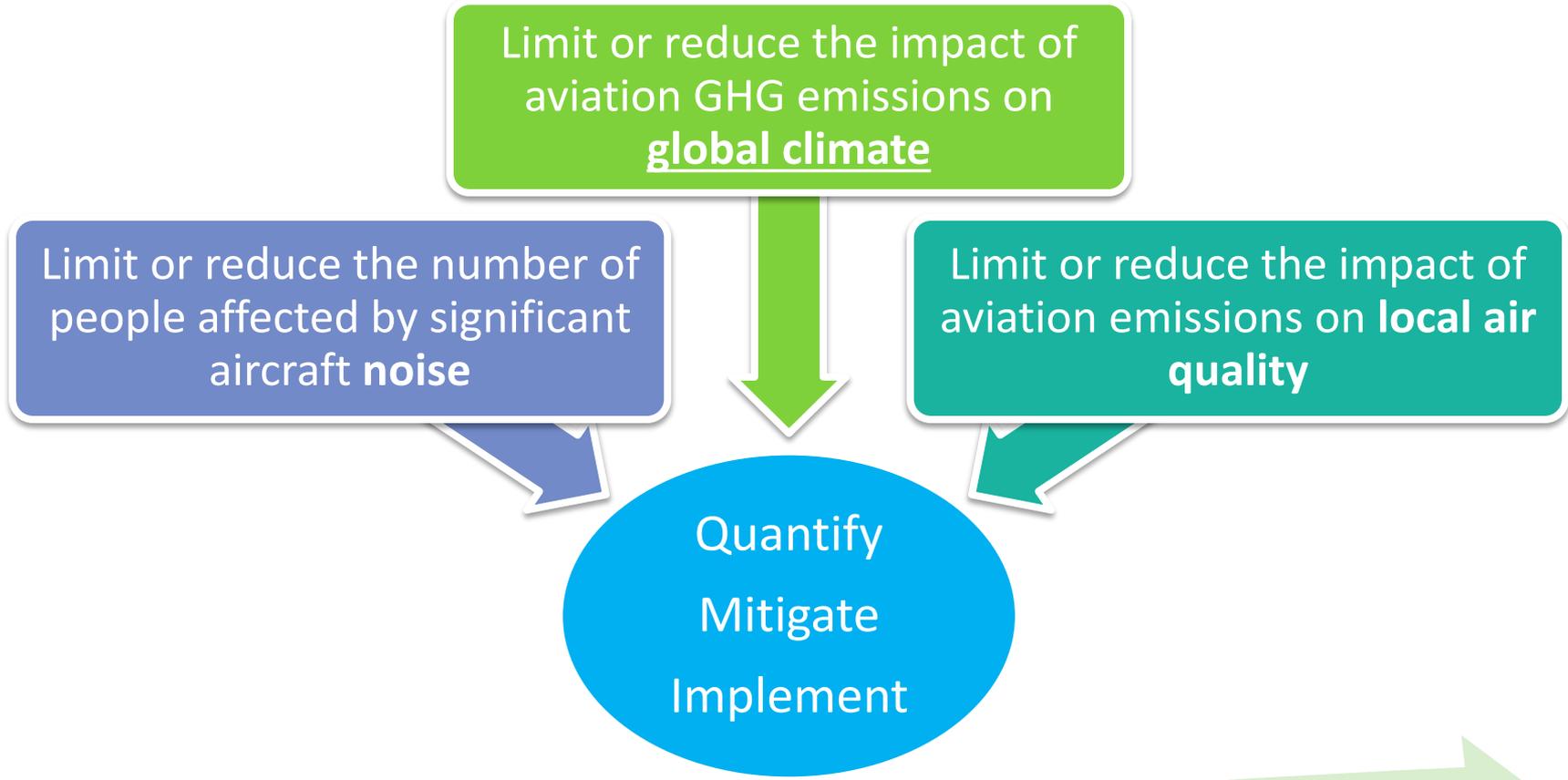
CO₂

HC

NO_x

CO





Minimize the adverse effect of global civil aviation on the environment



Approach to Quantification through:

- Data Collection and Compilation (RTK, Fuels and Emissions Reduction)
- Forecasting
- Modelling

Approach to Mitigation through:

- Technology and Standards
- Operational Measures
- Market-based Measures
- Alternative Fuels

Approach to Implementation through:

- States' action plans and Assistance to States

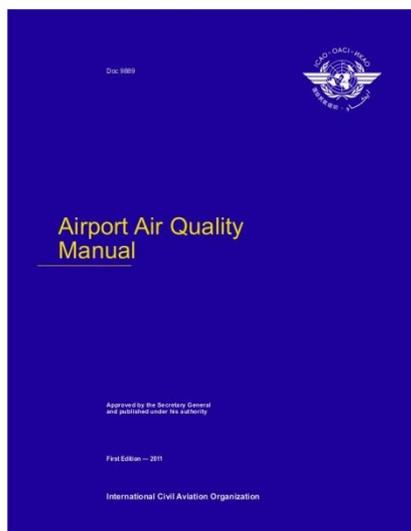
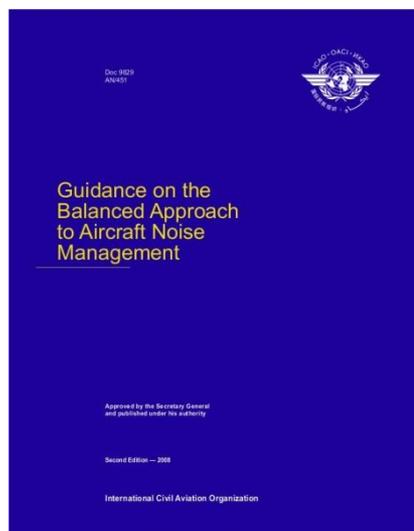
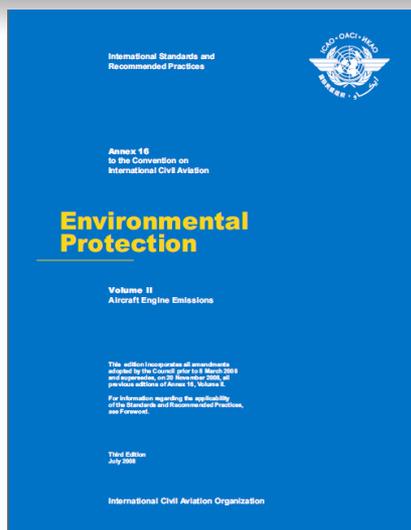
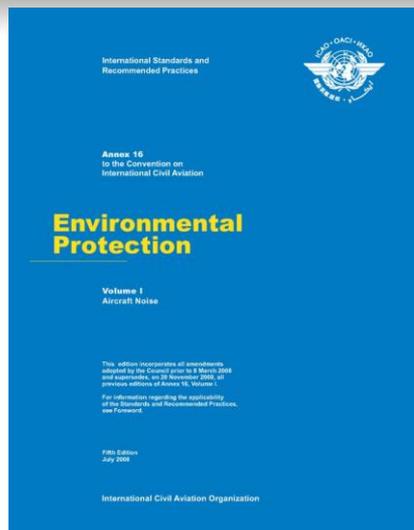




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ICAO SARPs and Guidance



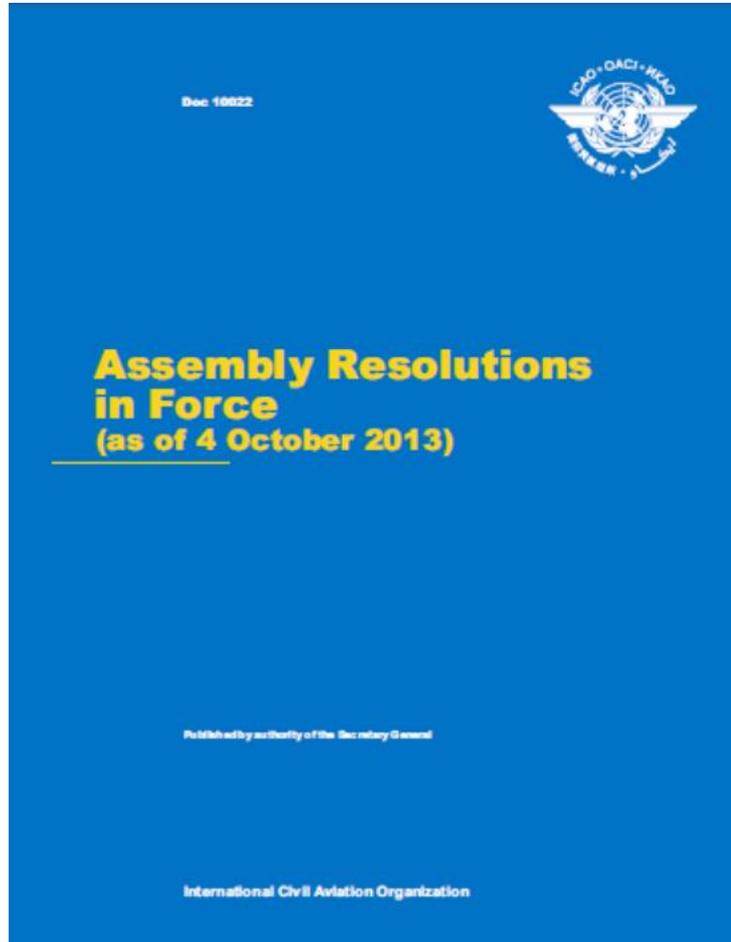
- **ICAO SARPs**
Annex 16 – Volume I, Aircraft Noise
Annex 16 – Volume II, Aircraft Engine Emissions

- **ICAO GUIDANCE**
 (examples)

NOISE – *Guidance on the Balanced Approach to Aircraft Noise Management* (Doc 9829)

EMISSIONS – *Airport Air Quality Manual* (Doc 9889)

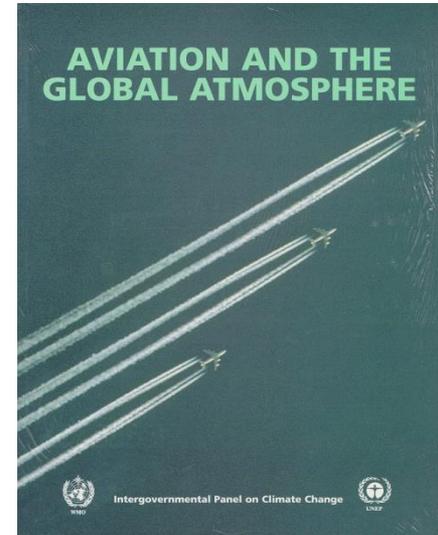




- **A38-17:** Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality
- **A38-18:** Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change



- IPCC Special Report on Aviation and the Global Atmosphere (1999)
- IPCC Fifth Assessment Report (AR5) published in 2014
- Kyoto Protocol, adopted 1997 came into effect 16 February 2005 – “... to pursue limitation or reduction of emissions of greenhouse gases from international aviation, working through ICAO”





Liaison with other UN Bodies and International Organizations

<p>UN Framework Convention on Climate Change (UNFCCC)</p> <ul style="list-style-type: none"> • Implementation of the Convention and Kyoto Protocol (Art 2.2) • Post-2012 Negotiation on Climate Change • Coordinate Activities and Inputs to SBI, SBSTA, ADP • Aviation Emissions Data and Methodological Issues • Flexible Mechanisms – Aviation Projects for CDM 	<p>Food and Agriculture Organization (FAO)</p> <p>Agricultural aspects of Sustainable Alternative Fuels</p>
<p>Intergovernmental Panel on Climate Change (IPCC)</p> <ul style="list-style-type: none"> • Special Report on Aviation and the Global Atmosphere – 1999 • IPCC 4th and 5th Assessment Reports • Coordination on Methodologies • IPCC Guidelines for National Greenhouse Gas Inventories • IPCC Emissions Factors Database • IPCC Emissions Scenarios – Aviation Scenarios Inputs 	<p>UN Economic Commission for Europe (UNECE)</p> <p>Conference on Transport and Environment</p>
<p>UN Environment Programme (UNEP)</p> <ul style="list-style-type: none"> • EMG/IMG – Carbon Neutral UN Initiative • EMG/IMG – Green Economy • EMG/IMG – Sustainability Management • Sustainable UN (SUN) 	<p>UNECE Convention on Long-Range Transboundary Pollution (CLRTAP)</p> <p>Protocols on Substances – NO_x, Volatile Organic Compounds (VOCs)</p>
<p>UN World Meteorological Organization (WMO)</p> <ul style="list-style-type: none"> • Adaptation • Data Collection • CAEP Technical Input 	<p>Ozone Secretariat (Montreal Protocol)</p> <ul style="list-style-type: none"> • Updates/guidance Regarding Montreal Protocol for the Depletion of Ozone • Scientific Assessment Panel • ANB in Charge of Use of Halons for Aircraft Fire-fighting
<p>UN Chief Executives Board for Coordination (UN CEB)</p> <ul style="list-style-type: none"> • Participation on High Level Meetings • Statements on Climate Change Mitigation 	<p>International Standards Organization (ISO)</p> <ul style="list-style-type: none"> • TC20 – Aircraft and Space Vehicles • TC70 – Internal Combustion Engines* • TC146 – Air Quality • TC207 – Environmental Management* <p><small>*Indirectly</small></p>
<p>UN Industrial Development Organization (UNIDO)</p> <ul style="list-style-type: none"> • Participation on High Level Meetings • Cooperation on Climate Change 	<p>Society of Automotive Engineers (SAE International)</p> <ul style="list-style-type: none"> • Aircraft Exhaust Emissions measurement (E-31) • Aircraft Noise Measure & Noise Aviation Emission Modeling (E-21) • Ac-9 Aircraft Environmental Systems Committee
<p>UN Commission on Sustainable Development (UN CSD)</p> <ul style="list-style-type: none"> • Agenda 21 and Further Developments • Rio+12 • MDG • SDG 	<p>International Electrotechnical Commission (IEC)</p> <ul style="list-style-type: none"> • Noise Measurement Instruments (Electroacoustic, Instrument Specifications, Performance Requirements) • IEC Publication Nos 179, 225, 651 and 804 • IEC 60942; 61094 (Parts 3 and 4); 61260/61672-1
<p>UN World Health Organization (WHO)</p> <p>Coordination on Noise and Health Legislation/Research Regarding Aviation</p>	<p>International Chamber of Commerce – Commission on Transport and Logistics (ICC CST)</p> <p>Cooperation on Air Transport and Environment</p>
<p>International Maritime Organization (IMO)</p> <p>Cooperation on climate change regarding sectoral approaches (bunkers)</p>	<p>World Economic Forum (WEF)</p> <p>Cooperation on Climate Change Projects</p>
<p>UN World Tourism Organization (UNWTO)</p> <p>Aviation Environmental Policies and Tourism</p>	<p>International Energy Agency (IEA)</p> <p>Data Sharing on Related Issues (Fuel, CO₂)</p>
<p>High level Committee on Programmes (HLCP)</p> <ul style="list-style-type: none"> • UN System Coordination • Climate Change • UNFCCC COP/CMP 	<p>International Renewable Energy Agency (IRENA)</p> <ul style="list-style-type: none"> • Renewable Energies • Aviation Biofuels

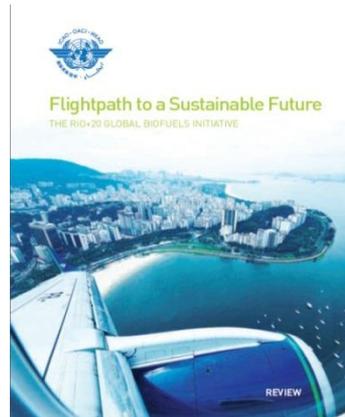
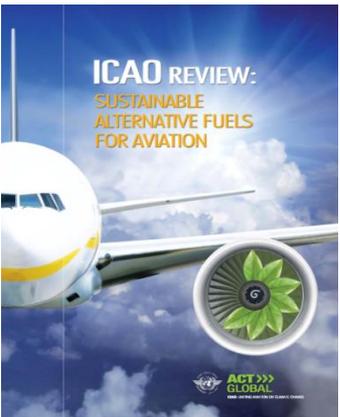
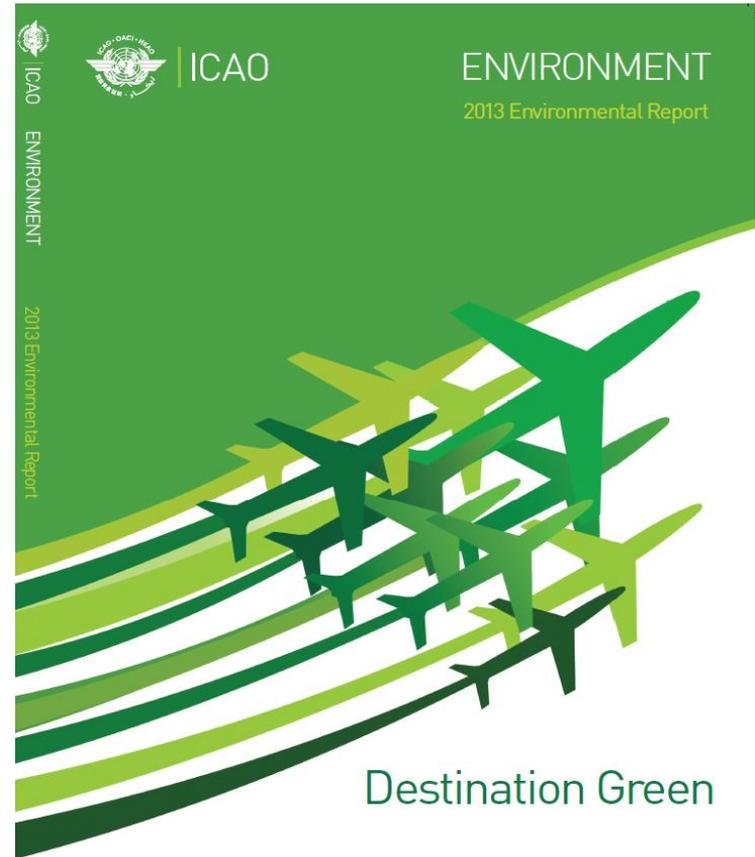
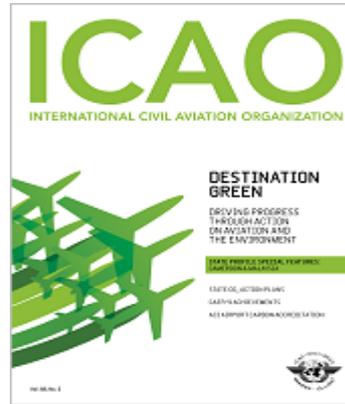
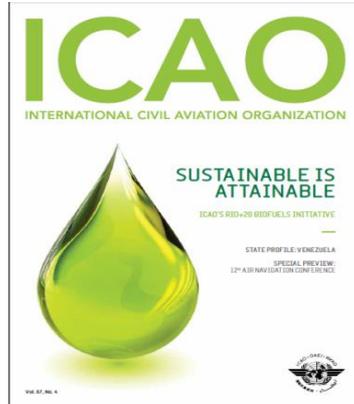
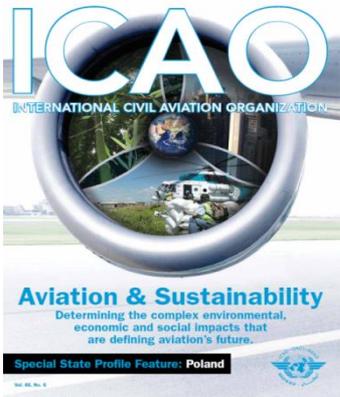


- ICAO Work priorities are:
 - State action plans and assistance
 - Sustainable alternative fuels for aviation
 - Market-based Measures (MBMs)
 - Global aspirational goals
 - CO₂ Standard expected to be developed by 2016; and
 - Work in cooperation with other UN bodies in particular in support to the UNFCCC process
- Climate change will remain the main challenge on the ICAO environmental activities in the upcoming years.





Additional information



For more information on our activities, please visit: <http://www.icao.int/env>

