



## 2nd Aviation & Environment Summit Geneva, 25-26 April 2006

*More than 300 aviation leaders met for two days to renew the environmental strategy they had adopted at the 1<sup>st</sup> Aviation & Environment Summit in 2005 and to strengthen their commitment to collectively address aviation's environmental impacts. Following are the headlines and conclusions from the 2<sup>nd</sup> Aviation & Environment Summit.*

### **Aviation – a catalyst of economic and social progress**

- Aviation stimulates the economy, trade and tourism, generates business opportunities and enhances the potential for improving the quality of life – in both developed and developing regions
  - Aviation transports annually 2 billion passengers and 40% of interregional exported goods (by value). 40% of international tourists travel by air<sup>1</sup>;
  - Aviation generates 29 million jobs worldwide. Its global economic impact is estimated at USD 2,960 billion, equivalent to 8% of world GDP<sup>2</sup>;
  - Aviation covers its infrastructure costs: unlike road and rail, it is often a net contributor to national treasuries through taxation.
- Aviation is the most efficient way of travelling
  - It uses the optimum distance between 2 points and the minimum surface on the ground;
  - Its occupancy rates exceed 75% – which is more than double rail & road load factors;
  - There is no practical alternative for passengers on journeys exceeding 1,500 km/900 miles.

### **Aviation – also a source of noise and emissions**

- Aviation's environmental impact, although relatively small, is increasingly in the spotlight.
- Aviation's acceptance relies on better public communication and constant efforts to build society's trust in our commitment to the environment.

### **The way forward**

- All aviation industry players must work more closely together, with the triple goal to:
  - Agree on global targets to further improve environmental performance;
  - Better communicate their environmental achievements and commitments;
  - Improve public acceptance.
- The *greening of aviation* calls for leadership, partnership and action, in order to:
  - Do more on a proactive and voluntary basis, through innovative solutions;

<sup>1</sup> The economic & social benefits of air transport, ATAG publication, p.18

<sup>2</sup> The economic & social benefits of air transport, ATAG publication, p.2

- Focus aviation's efforts and commitments;
  - Better address major social and societal changes.
- The aviation industry has no reason to feel guilty
- It has surpassed most other industry sectors in reducing noise and emissions per unit of production over the years;
  - People want to fly!

## Noise & air quality around airports

- The aviation industry is committed to implementing the International Civil Aviation Organization's (ICAO) **balanced approach to noise management**, which aims to alleviate community exposure in the most cost-effective way.
- Reduction of noise at source through technological progress is key in this regard
  - Impressive improvements have been made over the past decades and further progress is targeted for the coming 15 years<sup>3</sup>.
- Airports are on the *front line* in the environmental debate
  - They must build credibility through **transparent and continuous dialogue** with their neighbours.
- Airports and air navigation service providers are committed to implementing the Continuous Descent Approach and other low noise flight procedures, whenever appropriate.
- Governments must ensure preventive **land-use planning and management measures** around airports.
- **Local air quality concerns** call for comprehensive action targeting all sources of emissions in the air and on the ground, including activities – such as industry and road traffic – that are not directly attributable to air transport.
- Technological progress has practically eliminated visible smoke and hydrocarbons, while oxides of nitrogen (NO<sub>x</sub>) from aircraft engines have been progressively reduced by 50% over the past 15 years
  - An extra 80% reduction in NO<sub>x</sub> is targeted by 2020 for new engine technology<sup>4</sup>;
  - Fuel-cell systems are under development, which could replace on-board auxiliary power units (APUs) and thus reduce emissions by up to 75% per unit.
- Airports and airlines are committed to using cleaner and more efficient ground service equipment and vehicles, while also pressing governments and local authorities to provide cleaner surface access to airports – like trains or metros.
- Industry and regulators must address **trade-offs** between noise and emissions in order to retain the most suitable balance between local and global impacts
  - These trade-offs deserve to be explained to the public, in simple terms.

## Aviation's contribution to climate change

- Aviation accounts for **2% of worldwide CO<sub>2</sub> emissions** from fossil fuel use
  - This could reach 3% by 2050, according to an IPCC forecast<sup>5</sup>.

<sup>3</sup> 20 dB reduction approx. over the past 40 years. See IATA Environmental Review 2004, p.6. A further 10 dB reduction is targeted for 2020, according to ACARE and NASA long term environmental targets

<sup>4</sup> ACARE and NASA long term environmental targets

- 80% of aviation's greenhouse gas emissions are related to passenger flights exceeding 1,500 km/900 miles, for which there is no practical alternative<sup>6</sup>.
- Aircraft operations have become 20% more fuel-efficient over the past 10 years<sup>7</sup>
  - The newest aircraft models – A380 / B787 – target a fuel efficiency below 3 litres per 100 passenger/km;
  - An extra 50% fuel efficiency gain is targeted for 2020<sup>8</sup>.
- Fuel has become the airlines' largest operational cost, thus creating an even stronger incentive to:
  - operate modern aircraft and accelerate technological progress;
  - shorten air routes, open new ones – for instance polar routes – and prevent congestion through extra airport capacity;
  - implement best operational practices.
- Aviation is committed to actively exploring the progressive introduction of **alternative fuels** – such as biomass to liquid (BTL) – to further reduce CO<sub>2</sub> emissions, while hydrogen – already used for fuel-cell systems – may become an option to power aircraft engines as from 2050.
- Technological progress, infrastructure improvements and operational good practices are unanimously considered the **most efficient and cost-effective means** to address climate change concerns
  - The aviation industry is committed to intensify its longstanding efforts towards providing measurable results;
  - The industry urges governments to participate in these efforts, to be driven by ICAO.
- Aviation needs **international standards and global policies**, not piecemeal nor short-sighted fixes
  - ICAO is urged to disseminate detailed guidance to States on open emissions trading;
  - ICAO Member States are urged to conclude voluntary agreements with the industry – as in Canada and Japan – for fuel efficiency gains and to refrain from applying fuel taxes and global emissions charges, which are considered inefficient, costly and contrary to ICAO policies.

## Conclusions – next steps

- Tackling aviation's environmental impact in a **proactive, timely and cost-effective** manner requires the full cooperation of international bodies, governments and industry stakeholders.
- Through a **systems approach** – while preserving safety as the top priority – all factors must be considered, including airframe and engine design and operations, trade-offs, alternative fuels, ground services, airport capacity and air traffic management.
- Consolidating long-term environmental targets for aviation, based on reliable and verifiable data, is an urgent priority.

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<sup>5</sup> Aviation and the global atmosphere, IPCC Report 1999, p. 6

<sup>6</sup> AERO modelling system, Pulles J.W. et al., 2004

<sup>7</sup> 5% fuel efficiency gain in 2004 - 2005, World Air Transport Statistics, IATA, 2006, p.80

<sup>8</sup> ACARE and NASA long term targets