Aviation and Environment Summit Bulletin

A Summary Report of the Sixth Aviation and Environment Summit

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SUMMARY OF THE AVIATION AND ENVIRONMENT SUMMIT 2012: 21–22 MARCH 2012

The 6th Aviation and Environment Summit (AES-6) convened from 21-22 March 2012, in Geneva, Switzerland, to discuss ways of delivering sustainable air transport. Co-organized by the Air Transport Action Group (ATAG), Airports Council International (ACI), the Civil Air Navigation Services Organization (CANSO), the International Air Transport Association (IATA) and the International Coordinating Council of Aerospace Industries Association (ICCAIA), the Summit brought together over 350 participants, including aviation industry leaders, civil society, governments and suppliers, to explore how aviation can continue to provide jobs, deliver economic growth and minimize the industry's environmental footprint.

The Summit included sessions on: aviation's role in achieving sustainable development; developing sustainable capacity; tackling the key scale-up challenges faced by biofuels; securing a global framework; ensuring an efficient and sustainable aviation industry; and securing the industry's role in global sustainable development. The Summit concluded with a signing ceremony, during which aviation industry leaders signed the Aviation Benefits Beyond Borders Declaration, which outlines the commitment of the aviation industry to play a role in stimulating economies and providing jobs, while accounting for environmental impacts.

This report summarizes the presentations and discussions held over the two days.

A BRIEF HISTORY OF THE AVIATION AND ENVIRONMENT SUMMIT

The Aviation and Environment Summit (AES) began as a way to bring together participants from the aviation industry, civil society, governments and suppliers to discuss the environmental issues faced by the aviation industry. The first two summits focused on noise reduction and air pollution, while the third, fourth and fifth summits addressed climate change. AES-6 is the first to address the broader issue of sustainable development.

First Aviation and Environment Summit: AES-1 convened from 17-18 March 2005, in Geneva, Switzerland, to discuss how the aviation industry can improve its environmental performance. The Summit committed to developing and using new technologies and operational procedures to minimize noise, fuel consumption and emissions, share and voluntarily apply best environmental practices, and establish and build constructive dialogues with local communities and authorities around airports. The Summit also called on governments to adopt and implement effective land-use management policies in the vicinity of airports, work with airports and air navigation service providers to ensure environmentally-responsible airport expansion and air route efficiency, and work with the International Civil Aviation Organization (ICAO) to develop effective and efficient policies to address the environmental impacts of aviation.

Second Aviation and Environment Summit: AES-2 was held on 25 April 2006, in Geneva, Switzerland, to discuss and strengthen collective action to reduce noise pollution and emissions from aviation. The Summit agreed that technology is key to progress in these areas, highlighting the importance of, among other things, more efficient engines and environmentally-friendly biofuels.

Third Aviation and Environment Summit: AES-3 convened in Geneva, Switzerland, on 22 April 2008, and focused on climate change. The outcome of the Summit was an Aviation Industry Commitment to Action on Climate Change, which, *inter alia*, committed to a strategy to push forward development and implementation of new technologies, including cleaner fuels, and implementing positive economic instruments to achieve greenhouse gas reductions where cost-effective.

Fourth Aviation and Environment Summit: AES-4 convened in Geneva, Switzerland, from 31 March to 1 April 2009 to assess progress since AES-3 and the adoption of the Aviation Industry Commitment to Action on Climate Change. The meeting called for increased research funding for the development of new technologies to enable aircrafts to fly more efficiently, requested policy makers to support the industry's efforts to accelerate the commercialization and implementation of aviation biofuels, and called for a global sectoral approach for aviation.

IN THIS ISSUE

The *Aviation and Environment Summit Bulletin* is a publication of the International Institute for Sustainable Development (IISD) <info@iisd.ca>, publishers of the *Earth Negotiations Bulletin* © <enb@iisd.org>. This issue was written and edited by Anna Schulz and Suzi Malan. The Editor is Tomilola "Tomi" Akanle, Ph.D. <tomilola@iisd.org>. The Director of IISD Reporting Services is Langston James "Kimo" Goree VI <kimo@iisd.org>. Funding for coverage of this meeting has been provided by the Air Transport Action Group. IISD can be contacted at 161 Portage Avenue East, 6th Floor, Winnipeg, Manitoba R3B 0Y4, Canada; tel: +1-204-958-7700; fax: +1-204-958-7710. The opinions expressed in the *Bulletin* are those of the authors and do not necessarily reflect the views of IISD. Excerpts from the *Bulletin* may be used in other publications with appropriate academic citation. Electronic versions of the *Bulletin* are sent to e-mail distribution lists (in HTML and PDF format) and can be found on the Linkages WWW-server at <http://www.iisd.ca/>. For information on the *Bulletin*, including requests to provide reporting services, contact the Director of IISD Reporting Services at <kimo@iisd.org>, +1-646-536-7556 or 300 East 56th St., 11D, New York, New York 10022, United States of America.

Fifth Aviation and Environment Summit: AES-5, which convened in Geneva, Switzerland, from 16-17 September 2010, focused on assessing progress towards industry-wide carbon emission reduction targets, including: improving fuel efficiency by 1.5% per year through 2020; capping net emissions growth from 2020; and halving net emissions by 2050 compared to 2005 levels. The outcome of the meeting, an Aviation Industry Resolution on Carbon-Neutral Growth from 2020 and a Global Framework Approach to Manage Aviation Emissions, strongly endorsed developing a comprehensive global carbon emissions management framework under ICAO, agreed that such a framework should give due consideration to the special needs of developing countries and the maturity of aviation markets, and encouraged ICAO and governments to gain endorsement for a global framework at the 37th ICAO Assembly.

REPORT OF THE AVIATION AND ENVIRONMENT SUMMIT 2012

OPENING

Paul Steele, Executive Director, ATAG, welcomed participants to the Summit, highlighting that ATAG represents the full spectrum of stakeholders in the aviation industry. Steele noted the economic and political turbulence affecting the industry since the last Summit, saying the industry must learn to work under uncertain conditions.

Marthinus van Schalkwyk, Minister of Tourism, South Africa, emphasized the vulnerability of the aviation and tourism industries to global economic shocks, volatile fuel prices and market-based carbon policies. He stressed the need for the aviation sector to de-couple its growth potential from carbon emissions, highlighting that mere reduction strategies would negatively impact employment and tourism. He further challenged oil companies to improve their environmental stewardship. Van Schalkwyk appealed to governments to resist regarding the airline industry as a "cash cow" and over-taxing it, and to instead, invest in fuel technology research, globally harmonized policies and providing market certainty. He emphasized developing a cap-and-trade system to avoid "placing all eggs in the biofuels basket" and stressed creating price incentives for new carbon-reducing technologies.

On the EU Emissions Trading Scheme (EU ETS), he warned against "aggressive unilateralism" that could lead to retaliation through trade wars, and asked the EU to suspend the inclusion of aviation in this scheme for two years. He encouraged multilateral dialogue and called for pursuing consensus under ICAO in order for the aviation industry to "clean up its act."

Steele introduced the Aviation Benefits Beyond Border Report and outlined some statistics about the contributions of the aviation industry, such as: its contribution of US$ 22 trillion to gross domestic product (GDP); its provision of 56 million jobs, of which 8.8 million is directly from aviation and 34 million from tourism; and the social benefits of connectivity by tourism trade and community linkage, such as the connection of remote communities or dispersed societies with the global market. Although he commended the industry for achievements such as adoption of mixed biofuels and being the only global industry to make significant carbon reduction commitments, he reminded participants of the importance of the four pillars adopted in 2009 by the aviation industry, as follows: technological development; operational efficiency; infrastructure development; and market-based instruments. Steele challenged governments to collaborate through development of supporting policies. He said the eruption of the Eyjafjallajökull volcano in Iceland in 2010 exposed the importance of the aviation industry to world trade and reiterated the need to find a solution to the EU ETS dilemma through ICAO's negotiating efforts.

SESSION 1: SUSTAINABLE DEVELOPMENT - THE ROLE OF AVIATION

On Wednesday morning, Kevin Dobby, International Aviation Advisor, moderated the panel on "Sustainable Development - the Role of Aviation," noting the panel would discuss how to move aviation towards sustainable development.

On the definition of sustainable development, Tim Johnson, Director, Aviation Environment Federation, stressed that sustainability is a journey. He underlined that despite an industry perception that the environment has been overemphasized compared to the social and economic pillars of sustainable development, environmental targets have been relatively flexible. Yiannis Paraschis, CEO, Athens International Airport, said sustainable development allows the industry to grow while undertaking ambitious environmental and social targets, and underscored that these are compatible. Alex de Gunten, Executive Director, Latin American and Caribbean Air Transport Association, said different countries and markets are at different stages of the sustainable development journey, and emphasized the importance of recognizing regional differences.

Steven Guilbeault, Deputy Director, Equiterre, said addressing the climate change challenge is a yardstick against which sustainable development action will be measured. He underscored that the role of industry and governments is changing, due in part to the failure of governments to take collective action. Damian Ryan, Senior Policy Manager, The Climate Group, underscored the conflict between equal treatment and common but differentiated responsibilities, saying that this debate would be resolved under the climate change regime. He further highlighted the opportunities for pragmatic solutions by the aviation industry.

Jane Hupe, Chief, Environmental Branch, Air Transport Bureau, ICAO, said the growth of the aviation industry is key for ICAO, underscoring the importance of balancing the environmental, social and economic pillars of sustainable development, the tradeoffs that must be made between noise, local air quality and carbon emissions, and safety and security. Doaa Abdel Motaal, Counsellor, Office of the Director-General, World Trade Organization (WTO), said the aviation sector is seen by WTO as the infrastructure of international trade. He added that there is a paucity of WTO rules relating to air transport services, noting this is governed by hundreds of bilateral treaties.

Guilbeault said achieving a balance among the sustainable development pillars was problematic, underscoring that action under the social and economic pillars at the expense of the environment is doomed to fail. Ryan agreed that the environment pillar is the cornerstone of sustainable development and said the aviation industry should not "pat itself on the back" for doing well under the economic and social pillars, while neglecting the environment.

On measuring success, the panel identified the need for accurate indicators to measure progress, while noting that a number of metrics are already in use. De Gunten said measuring success would be difficult, given the lack of a common definition of sustainable development. Johnson said different stakeholders use different metrics to articulate their concerns and that all of those metrics are required for a discussion which includes all perspectives.

During discussions, participants *inter alia*: noted the industry target of a 50% reduction in emissions by 2050 from 2005 levels; called for viewing "sufficiency" in the context of sustainable development; and highlighted the economic benefits of addressing climate change. In response, Guilbeault said there is a need for yardsticks to measure the implementation of the 50% target and Johnson said the aviation target should be put into the context of the 2°C target. Motaal said the WTO was

not set up to decide who can grow and who cannot, and Ryan suggested accurate carbon pricing in market mechanisms could promote economically-efficient decisions about who can emit.

SESSION 2: DEVELOPING SUSTAINABLE CAPACITY

On Wednesday afternoon, Hélène Gagnon, panel moderator and Vice President, Bombardier Aerospace, introduced the panel discussion on the infrastructure development pillar by referring to examples of projects such as public-private partnerships to eliminate fragmented aviation policies, project agreements between regional airports, and flight track efficiency and noise reduction improvements. On the question of how players in the industry can contribute to improvements, Patrick Ky, Executive Director, Single European Sky ATM Research Joint Undertaking, stressed the need to develop partnerships among airports on testing operational procedures and reducing per-flight fuel outputs to increase fuel efficiency. Richard Deakin, CEO, NATS, urged collaborating with airports on noise reduction and investment programmes that address the environmental impact component, and using three-dimensional flight profiles to increase efficiency.

Christa Fornarotto, Associate Administrator for Airports, US Federal Aviation Administration (FAA), commended the US airports' master-planning strategy built on triple bottom-line pillars of economic, social and environmental components. Neil Planzer, Vice President ATM, The Boeing Company, warned that technical issues are no longer the main concern, and called for greater focus on improving institutional issues through outcome metrics and replacing anachronisms.

Louis Miller, Aviation General Manager, Hartsfield-Jackson Atlanta International Airport, underscored the three pillars of sustainable practice: economic stability; environmental sustainability; and social responsibility, as developed at Atlanta airport. Steve Fulton, Technical Fellow, General Electric Aviation, called for including non-technical issues into airport and airline performance measures, such as resentment to change by communities and skepticism from regulators, and stressed the need in the industry for individuals that provide innovative change management strategies.

On the question of what is missing from infrastructure development strategies, Ky and Deakin emphasized the need for harmonized technology developments and regulatory processes, while Fornarotto called for acceleration of efficiency improvements. Miller warned that efficiency and environmental impacts should be addressed through balancing changes, and called for greater transparency on decisions, while Planzer cautioned against complacency from the airline industries. On improving existing legislation, Deakin suggested following a consistent approach and harmonizing regulations, identifying the European Commission as an appropriate body for achieving this, as one example. On involving communities, the panel members agreed that participatory stakeholder involvement is critical. Fornarotto called for pro-active strategies and Planzer urged the aviation industry to look inward when they have urge to defend the *status quo*.

SESSION 3: BIOFUELS - TACKLING THE KEY SCALE-UP CHALLENGES

On Wednesday afternoon, Andrea Debbané, Vice President Environment Affairs, Airbus, and Bill Glover, Vice President Environment and Aviation Policy, The Boeing Company, co-moderated the panel on sustainable biofuels for aviation. Glover provided an overview of the history of aviation biofuels, noting that improved fuel specifications have allowed biofuels to become fungible with conventional fuels. Laurel Harmon, Vice President Government Relations, LanzaTech, described the alcohol-to-jet fuel pathway. Jim Rekoske, Vice President Renewable Energy and Chemicals, Honeywell, said his company has been looking at ways to use refinery-type processes to create a drop-in product.

David Batchelor, Policy Officer, Aviation Safety and Environment, Directorate-General Mobility and Transport, European Commission, underscored that biofuels are one element of a sustainable approach to aviation. Richard Palmer, President and CEO, Global Clean Energy Holdings, said the technology scales up very easily, but that scaling feedstock is more challenging. He said creating markets for co-products is important to reduce the cost of the fuels and make them sustainable. Stephan Singer, Director Global Energy Policy, WWF International, called for looking at non-carbonaceous fuels, noting that biofuels also contribute to carbon emissions.

John Plaza, President and CEO, Imperium Renewables, highlighted his organization's desire to be commercially successful at providing a drop-in alternative to conventional aviation fuel. Rekoske noted competition for the available feedstock, as they can also be directly burnt for electricity production or converted into fuel as a replacement for gas.

Harmon highlighted the "valley of death," a gap between the available funding, and the development of the technology and getting to scale. She said partnering to develop current waste streams into feedstock is a good opportunity to ensure commercial viability. Palmer said there is no one silver bullet, but that there will be a number of paths to aviation biofuels. Joachim Buse, Vice President Aviation Biofuel, Deutsche Lufthansa AG, noted the fear over whether pathways will be competitive and said that public funds are a means of managing investment risk in new technology. Batchelor responded that Flightpath 2020 is a European initiative which lays out the steps that must be taken to achieve targets. Plaza described US initiatives to create demand for aviation biofuels, which helps guarantee returns on investment.

Singer suggested that biofuels should not be used in the ground transport sector in the absence of efficient second and third generation biofuels, considering the scarcity of land for growing feed-stocks. Batchelor said everything is on the table in terms of policy options to address market failure in the allocation of biofuels, but warned against government failure. Rekoske underscored the need for long-term supply agreements to reduce investor risk. Buse said a global solution is important in order to avoid a situation similar to the conflict over inclusion of aviation in the EU ETS. Singer said that in the absence of sustainability standards, it is up to the industry to pick up strong standards to "race to the ceiling." Batchelor suggested a global framework under ICAO might provide the right incentives. Palmer said the requirements of certification schemes should not be burdensome.

During discussions, participants highlighted *inter alia*: that aviation is the only sector simultaneously operating in many jurisdictions and the challenges posed by multiple certification schemes; the existing global system of sustainability standards under the Roundtable on Sustainable Biofuels; the status of a "book-and-claim" system under the EU ETS, rather than the current "flight-by-flight" tracking system; and lifecycle analysis to provide comparisons of carbon footprints of various feedstock. One suggested a system of mutual recognition of certification standards. Batchelor suggested this is an issue that could be considered by ICAO. Batchelor hoped that the "book-and-claim" system would be adopted soon. Palmer underscored the importance of understanding the entire carbon footprint of biofuel feedstock.

Bruce Parry, Bombardier Aerospace, introduced the International Aerospace Environmental Group, a new trade association formed by major aerospace corporations to

harmonize compliance among aerospace corporations and supply chains with laws and regulations protecting human heath and the environment.

SESSION 4: SECURING A GLOBAL FRAMEWORK

Kevin Dobby, International Aviation Advisor and moderator, opened the panel discussion, referring to the inclusion of aviation under the EU ETS as the "elephant in the room" and emphasized the interest of the aviation industry in finding a way for governments to agree at the international level. Julie Oettinger, Assistant Administrator for Policy, Planning and Environment, FAA, responded by illustrating the US' commitment to addressing climate change and reducing aviation emissions through: modernizing the industry; using aviation biofuels; and reducing fuel emissions by 15% over the last decade. She stressed the importance of including Europe in finding a way forward, to which Andrew Parker, Senior Vice President Public, Industry, International and Environmental Affairs, Emirates Airlines, said that the airlines are in the frontline of the consequences of any trade war and reiterated the call for pausing the inclusion of aviation in the EU ETS

Mary Veronica Tovsak Pleterski, Director for European and International Carbon Markets, DG Climate Action, European Commission, cautioned that inaction on climate change today will cost significantly more in the future and underscored that the EU decided to include aviation under the EU ETS only after ICAO failed to pursue its own instrument. She stressed that Europe is committed to finding a global solution and would welcome concrete suggestions to achieve this. Dobby highlighted the establishment of the global solutions framework agreed at the 2010 ICAO Assembly with an expected outcome at the end of 2012, including criteria such as: mandatory offsetting; revenue mechanisms; cap-and-trade based on an efficiency benchmark; and allowing for special circumstances in developing countries.

Katia Simeonova, Manager and Deputy Coordinator, Mitigation, Data and Analysis Programme, UN Framework Convention on Climate Change (UNFCCC), suggested that to avoid enforced compliance with global emission targets, the aviation industry, led by ICAO, should develop a proactive response. Athar Husain Khan, Deputy Secretary General, Association of European Airlines, Belgium, said ICAO and the EU ETS can be seen as two parallel trajectories, while Oettinger said the ETS might be used as an excuse for not taking action. Dominic Waughray, Senior Director, World Economic Forum, said the aviation sector is not alone in facing complexities and called on ICAO to follow the EU's first move with a counter-move that would benefit the process of change. He lauded the vibrant landscape of the aviation industry and said future action should be more voluntary not obligatory, and urged moving towards developing rewards for investing in biofuels industries.

Pleterski reiterated the need for decoupling growth from carbon emissions, and said that the EU has had a decade of experience in market-based mechanisms during which it learned important lessons that would benefit the aviation industry. She further emphasized the EUs desire to show flexibility in any future negotiations leading to a global solution of the current crisis.

Participants also reflected on: the chances of ICAO finding solutions that would please all the different countries; lack of guaranteed solutions if the process is paused for two years; and ways in which the EU could illustrate flexibility, allowing ICAO to develop a global framework.

REVIEW OF DAY ONE

On Thursday morning, Nancy Young, Vice President Environmental Affairs, Airlines for America, summarized the key messages from the previous day, noting the call by Minister Van Schalkwyk for a two-year delay in the inclusion of aviation under the EU ETS in order to give ICAO a chance to negotiate a global framework. She noted consensus on the pillars of sustainable development but said the question is finding the correct balance among the pillars, which may be different in various regions, countries or markets. She identified that the key biofuels challenge is getting over the "valley of death," saying technical know-how is available, but that it must be scaled up to become competitive. Young underscored that the aviation industry has been a leader in biofuels development but that it needs government support to make it commercially viable through policy initiatives such as the US Commercial Aviation Alternative Fuels Initiative and the EU Flightpath 2020. She noted that some feel the EU ETS is a distraction or an obstacle to moving towards a global agreement under ICAO. Young further noted that while the principle of common but differentiated responsibilities does not apply, ICAO can address the special needs of countries as it has done before. She asked whether an agreement could be reached under ICAO and concluded "we have to, we must and we can."

SESSION 5: VIEW FROM THE TOP - ENSURING A SUSTAINABLE AVIATION INDUSTRY

Max Foster, Anchor, CNN, moderated the session, which focused on sustainable development on the manufacturing side of the aviation industry during the full product lifecycle. John Saabas, President, Pratt & Whitney Canada, emphasized the need to look at the entire lifecycle of aircrafts, from efficient manufacturing processes and improving efficiency over the lifetime of the product, to improving the sustainability of day-to-day operations throughout the product lifespan.

On fuel efficiency, Steve Csonka, Director, Environmental Strategy and Ecomagination, GE Aviation, said manufacturers focus on product fuel efficiency as a top priority because it is a huge driver of cost, but also have to address noise and local air quality issues. Filippo Bagnato, CEO, ATR, underscored that engines are responsible for about 70% of fuel efficiency and is therefore the major factor from manufacturers' standpoint, but that fighting against weight, and improving aerodynamics and flight controls, also improve efficiency. He said with available advanced technologies, an airplane that is 20% more fuel-efficient can be envisaged, noting that fuel is 30-40% of the cost of operating an airline. Paulo Cesar de Souza e Silva, President Commercial Aviation, Embraer S.A., said new efficient engines result in a 5% saving for airlines, highlighting that all the major engine manufacturers are producing new fuel efficient engines. Saabas noted that there has been about 1% improvement in engine efficiency per year for the last 30 – 40 years, but predicted that the efficiency was about halfway towards the theoretical limit of efficiency improvement, and closer than that to the practical limit.

On the next technology step change, Bagnato said the technology for the "step change" to engines capable of meeting emission reduction targets already exists, and that the challenge is transforming the technology into products. Csonka said industry in the US is working to improve fuel efficiency by 75% "by some time" and that technology can spend over 15 years in development. He emphasized that an immediate step change to reduce emissions would have to come from biofuels since these can be deployed in the short term and underscored that, to become carbon neutral by 2020, biofuels will be critical, especially as technological solutions will take longer to develop.

On aviation biofuels, Csonka highlighted the need for cooperation and said while manufacturing processes are getting to the point where they are cost competitive, the problem is the "agricultural vertical" - ensuring feedstock supply - and capital investment in facilities to raise co-production

sufficiently. He noted several viable production pathways, some under development, and others in a more conceptual phase. De Souza e Silva discussed biofuels development in Brazil and highlighted Embraer's projects within Brazil to develop aviation biofuels. He said the challenge with biofuels is to make them economically competitive, and stressed that investment is necessary to build up an economically, socially and environmentally-sustainable aviation biofuels industry.

On cooperation and competition, Saabas said the competition between the major players is good for the environment because it has driven them to improve fuel efficiency to remain competitive. De Souza e Silva said manufacturers work with airlines to develop direct routes to optimize the way their equipments function. Csonka said there are good examples of how the industry is coming together to address broader issues, noting that while airlines often engage more directly, manufacturers are frequently involved, and the aviation industry as a whole is better at working together than many others. He said there are unique ways in which competitors can collaborate to address issues in a way that improves the industry. De Souza e Silva said environmental issues are ripe for this type of cooperation, as the industry has to be united in order to evolve in a way that helps achieve industry targets.

During discussions, participants discussed the impact of carbon pricing on technology development and the issue of conflict minerals in the aviation supply chain. Saabas said the whole aircraft has to be considered, and added that development of full brand-new concept airplanes is high-risk and that there is possibly a role for government to help accelerate development. On conflict minerals, Csonka said new composites are frequently made with available materials but noted concerted efforts to pull certain materials out of their manufacturing processes. He said manufacturers do pay attention to the social issues surrounding aviation in their advanced product planning.

De Souza e Silva noted the amount of time it takes to adopt new technology within fleets, and that product development can be 20 years in the making. He said governments could help the industry through better flight management, infrastructure improvement, research and development, and less interference and more support in general. Saabas called for funding for advance airplane design and research on the atmospheric impacts of aviation. Csonka emphasized that aviation is a "long-cycle" business both in terms of the length of time it takes to develop products and the length of time equipment stays in use, and said a stable regulatory framework is very important to reduce risk and promote investment.

At the close of the panel session Jim Albaugh, President and CEO, Boeing Commercial Airlines, The Boeing Company, Thomas Enders, President and CEO, Airbus, and De Sousa e Silva, President Commercial Aviation, Embraer S.A., signed a framework agreement for cooperation on biofuels.

SESSION 6: VIEW FROM THE TOP - SECURING AVIATION'S ROLE IN GLOBAL SUSTAINABLE DEVELOPMENT

Max Foster, CNN, moderated the Thursday morning panel on securing aviation's role in global sustainable development. Jim Albaugh, Executive Vice President, The Boeing Company, and President and CEO, Boeing Commercial Airplanes, emphasized that the value of the industry is not only in providing jobs and connecting societies, but also in how effectively it addresses the challenges of improving: use of lightweight materials; fuel efficiency and engine performance; air traffic management; and aviation biofuels technology development. Jean-Paul Ebanga, President and CEO, CFM International, highlighted that over the last fifty years, his company has managed to reduce fuel emissions by 50% and noise by 75%, without compromising economic viability. He suggested that if airlines combined their efforts to replace or improve old aircrafts, as much as 11,000 tonnes of carbon emissions could be reduced per year, but warned that this does come at a price, which required a step change at global level.

Thomas Enders, President and CEO, Airbus, said the collaboration shown at this Summit has clearly identified aviation biofuels and adopting efficient air traffic management as areas for cooperation, but expressed frustration with governments on both sides of the Atlantic for not supporting the industry sufficiently. Eric Schulz, President Civil Large Engine Programmes, Rolls-Royce, agreeing with Enders, stressed the importance of making aviation's achievements known, while improving integration and building on the current cooperation between airline companies. Colin Matthews, CEO, BAA Airports, spoke of Heathrow Airport's success in reducing its environmental impact while improving capacity, but warned that cost-effectiveness and noise reduction are currently the biggest constraints. He stressed that this can only be addressed when all the players in the industry pull together, from ground handlers to CEOs.

The panel responded to questions on: addressing issues at the global level; whether aviation has been proactive enough; the trade-off between noise and fuel efficiency; the inclusion of aviation under the EU ETS; and commitments by individual airline companies. They agreed on the need to: use the collaborative impetus generated at this meeting to drive negotiation on a global framework; develop lasting technologies that consider the entire product lifecycle; resist too much "self-flagellation" and insist on more recognition for aviation industry efforts in reducing environmental impacts; unite with one voice against unfair taxes and market-based mechanisms; and combine information sources across the different airlines and sectors. Ebanga recalled a moment during the 2010 volcanic ash crisis when all stakeholders, including governments, were united in finding joint solutions to the crisis, and challenged all to approach the development of a global framework that will ensure a sustainable future, with the same dedication.

SIGNING CEREMONY

On Thursday afternoon, Angela Gittens, Director General, ACI, stressed the importance of signing a joint declaration as a signal of the industry's willingness to collaborate, and embraced the responsibility to achieve social, economic and environmental sustainability. Paul Riemens, Chairman, CANSO Executive Committee, commended the progress made since signing the 2008 declaration, but warned that being four years closer to 2020 forces the industry to combine expertise in a global approach to emission reductions with accelerated real-time decisions through information sharing, promoting best practices and exporting knowledge. Tony Tyler, Director General and CEO, IATA, called for: moving beyond the EU ETS; increasing supply while decreasing price; moving forward on air traffic management; and becoming the signature industry for carbon footprint reduction. Marion Blakey, Chair, ICCAIA, and President and CEO, Aerospace Industries Association of America, applauded the less combative tenor of this meeting compared to four years before, and the technological advances which delivered a 70% improvement in fuel efficiency.

In closing remarks, Steele encouraged the industry to recognize the urgency of making environmental and social commitments, in particular given the upcoming UN Conference on Sustainable Development (UNCSD, or Rio+20).

He called on governments to understand and work with the aviation industry and join in ensuring a sustainable, healthy, air transport industry.

Leaders from the aviation industry then signed the Summit Declaration. The Summit was brought to a close at 12:47 pm.

AVIATION BENEFITS BEYOND BORDERS DECLARATION: On Thursday afternoon, aviation industry leaders signed the Aviation Benefits Beyond Borders Declaration, outlining the commitment of the aviation industry to play a role in stimulating economies and providing jobs, while accounting for environmental impacts. The declaration states that the aviation industry will continue to deliver on its short-term promise to increase fuel efficiency by 1.5% per year through 2020. It also broadened their commitment to advancing and strengthening the pillars of sustainable development. The Declaration commits the industry to continue:

- providing an air transport sector that is a key socio-economic contributor to the world economy and catalyst for growth and connectivity;
- providing high-value jobs, innovative partnerships with the communities they serve, and investment in skills and training;
- maintaining a high level of investment in research and development; and
- demonstrating environmental leadership by delivering on the goal of capping net aircraft carbon emissions from 2020 and working to achieve a 50% reduction in net carbon emissions by 2050, compared to 2005 levels.

The Declaration also calls on governments to:

- continue investment in academic and international collaborative research for development and implementation of green technologies and operational practices;
- act to advance highly-efficient air traffic control capacity;
- encourage use of alternative renewable energy by providing appropriate policies and incentives to facilitate timely, cost-effective and sustainable development of aviation biofuels;
- continue development of sustainable airport infrastructure;
- provide a positive regulatory environment that encourages aviation development; and
- reach an agreement under ICAO for a global framework to reduce emissions from aircraft operations through technology development, efficient operations and infrastructure, and using international market-based measures to address any remaining emissions gap.

UPCOMING MEETINGS

IATA Wings of Change Latin American Aviation Summit: The IATA FIDAE Wings of Change Conference is organized by IATA, FIDAE Air Show, Dirección General de Aviación Civil de Chile (DGAC), and Abiax Air Aviation Events and is held biennially to address the regulatory needs of the Latin American aviation industry. The 2012 conference will include additional events and a new format. **dates:** 28-30 March 2012 **location:** Santiago, Chile **phone:** +54-11-4700-1308 **email:** WOC-2012@abiaxair.com **www:** http://www.iata.org/events/wings/Pages/index.aspx

ACI Europe's Regional Airports Forum: The purpose of the 15th meeting of the Forum is to better address the specific needs of ACI Europe's regional airport members, and to provide them with a more visible platform on which to exchange knowledge, share best practices and discuss issues of common interest. **date:** 2 April **location:** Ljubljana, Slovenia **contact:** Federico Bonaudi **email:** federico.bonaudi@aci-europe.org **www:** http://www.aci-europe-rac.com/

Ops Conference 2012: The Ops Conference is IATA's premier event to interact with member airlines and the broader civil aviation community, on key issues related to safety, security, operations and infrastructure. In this 2012 edition, a particular focus will be given to the Latin America region, and the conference will be held in partnership with the Latin American and Caribbean Air Transport Association. **dates:** 16-18 April 2012 **location:** Rio de Janeiro, Brazil **contact:** Ops Conference **email:** OpsConference@iata.org **www:** http://www.iata.org/events/Pages/Ops-Conference-2012.aspx

UNCTAD XIII: The 13th Session of the UN Conference on Trade and Development (UNCTAD XIII) will be held on the theme, "Development-centered globalization: Towards inclusive and sustainable growth and development." **dates:** 21-26 April 2012 **location:** Doha, Qatar **contact:** UNCTAD Secretariat **phone:** +41-22-917-1234 **fax:** +41-22-917-0057 **email:** meetings@unctad.org **www:** http://unctadxiii.org/en/Pages/home.aspx

Aviation Fuel Forum: The IATA Aviation Fuel Forum is a platform for airline representatives, fuel suppliers and IATA Strategic Partners to discuss the industry's priorities and agree on actions to enhance efficiency and productivity. **dates:** 15-17 May 2012 **location:** Chicago, USA **contact:** Carolyn Bourke **email:** bourkec@iata.org or iaff@iata.org **www:** http://www.iata.org/events/aff/Pages/index.aspx

The 7th ACI Asia-Pacific Regional Assembly, Conference and Exhibition 2012: This conference will be hosted by Changi Airport Group and will be held on the theme, "Transforming Airports: Innovations & Opportunities." **dates:** 22-25 May 2012 **location:** Singapore **contact:** Sonia Liu or Natalie Tsang **phone:** +85-22-989- 8003 **email:** sonia@aci-asiapac.aero or natalie@aci-asiapac.aero **www:** http://www.aci-asiapac.aero/event-detail.php?pid=400&id=45

Forum on Science, Technology and Innovation for Sustainable Development: This Forum will provide a space for interdisciplinary scientific discussions and dialogue between scientists, policy-makers, Major Groups and other stakeholders. Key messages and conclusions from the Forum will be reported to Rio+20. **dates:** 11-15 June 2012 **location:** Rio de Janeiro, Brazil **contact:** Maureen Brennan **phone:** +33-1-4525-0677 **email:** Maureen.Brennan@icsu.org **www:** http://www.icsu.org/rio20/science-and-technology-forum

UN Conference on Sustainable Development (Rio+20): Rio+20 will mark the 20th anniversary of the UN Conference on Environment and Development (Earth Summit), which convened in Rio de Janeiro, Brazil in 1992. **dates:** 20-22 June 2012 **location:** Rio de Janeiro, Brazil **contact:** UNCSD Secretariat **email:** uncsd2012@un.org **www:** http://www.uncsd2012.org/

GLOSSARY

ACI	Airports Council International
ATAG	Air Transport Action Group
CANSO	Civil Air Navigation Services Organization
EU ETS	European Union Emission Trading Scheme
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICCAIA	International Coordinating Council of Aerospace Industries Association
WTO	World Trade Organization