



**BUSINESS AVIATION
COMMITMENT
ON CLIMATE CHANGE**



The business aviation community has long been committed to reducing the environmental impact of its products and operations. Indeed, we have improved the fuel efficiency of our products 40% over the past 40 years.



PETER J. BUNCE
PRESIDENT AND CEO
GENERAL AVIATION
MANUFACTURERS ASSOCIATION

Our manufacturers and operators continually seek new ways of increasing an airplane's performance and range while reducing fuel consumption. Nonetheless, our community recognizes that we must do our part to reduce aviation emissions further even as we grow to meet rising demand for transportation.

The General Aviation Manufacturers Association (GAMA) and the International Business Aviation Council (IBAC), on behalf of the manufacturers and operators of business aviation worldwide, have therefore developed an aggressive strategy for CO₂ emissions reductions to 2050. We also join with the commercial aviation sector in endorsing the International Civil Aviation Organization's (ICAO) proposal for a global sectoral approach for aviation emissions in a post-Kyoto Agreement on climate change.



DONALD SPRUSTON
DIRECTOR GENERAL
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Our commitments parallel those made by the commercial aviation sector and depend equally on efficiency improvements that are projected from infrastructure modernization, operations and alternative fuels. Our community pledges an average of 2% improvement in fuel efficiency per year from now until 2020 on a fleet-wide basis. We acknowledge the need for appropriately structured market-based measures, so long as any revenues collected are reinvested into the sector. Such measures, along with advances in the areas mentioned above should help business aviation achieve carbon neutral growth by 2020 and an absolute reduction of 50% of CO₂ emissions by 2050 relative to 2005.

Business aviation is a vital tool for businesses and economic development and is an integral part of the international transportation system. It facilitates commerce and investment, connects people and communities around the globe, helps relieve famine, and delivers vital relief to those in need or afflicted by natural or man-made disasters. Business aviation also represents a dynamic and critical engine for economic growth that brings jobs and prosperity to millions of people worldwide.

While business aviation manufacturers and operators are engaged in a sustained effort to meet these targets, a strong partnership between industry and government is also absolutely necessary to achieve these goals. We can only meet these targets if all stakeholders work together on comprehensive, ambitious and fair worldwide action to mitigate emissions.

In this document, we describe our strategy and ambitious goals to meet this critical global challenge of emissions reduction while continuing to deliver vital economic, business and social benefits.

BUSINESS AVIATION COMMITMENT ON CLIMATE CHANGE

In support of the ICAO *Declaration on International Aviation and Climate Change* and the need for a global aviation sectoral approach in a post-Kyoto global framework.

AVIATION COMMITMENT IS UNIVERSAL

The business aviation industry fully supports the International Civil Aviation Organization's (ICAO) Programme of Action on International Aviation and Climate Change and encourages acceptance of the ICAO proposal for aviation sectoral management of targets and monitoring of greenhouse gas (GHG) emissions in a post-Kyoto Agreement. Business aviation also supports the Declaration issued by the High Level Meeting on International Aviation and Climate Change, convened by ICAO in Montreal 7 to 9 October 2009.

GLOBAL HARMONIZATION IS CRITICAL TO SAFE AND EFFICIENT OPERATIONS

Business aircraft are used by companies and are increasingly recognized by governments as productivity tools that benefit nations, communities

and industries. Aircraft are flown routinely across borders and from continent to continent. Given the global nature of aviation and the prevalence of international operations, a critical need exists for globally harmonized policies, rules and procedures to ensure safe, efficient and balanced operations. Application of the Policies and Standards and Recommended Practices (SARPS) of ICAO is fundamental to a viable global air transportation network free of regional distortions and anti-competitive practices. Lack of harmonization will cause critical deficiencies and unbalanced market forces. A global approach is needed to avoid a costly, cumbersome and divisive patchwork of differing national and regional provisions. Pursuant to the goal of international harmonization and efficient movement of aircraft between States and the need to mitigate the impact of greenhouse gas (GHG) emissions on climate change,

the business aviation industry encourages a post-Kyoto Agreement whereby ICAO is assigned global sectoral responsibility over aviation emissions targets and monitoring.

BUSINESS AVIATION'S RECORD OF ACHIEVEMENT

Business aviation has established an excellent record of constantly improving fuel efficiency, delivering 40% improvement over the past 40 years. Business aviation's global CO₂ emissions are very small, being approximately 2% of all aviation and 0.04% of global man-made carbon emissions. Business aircraft are operated for specific missions and they fly efficient, direct routes between airports. Modern navigation equipment, combined with the latest technologies in aircraft and engine design and operational best practices, provide for ever-improving fuel efficiency and reduced GHG emissions.

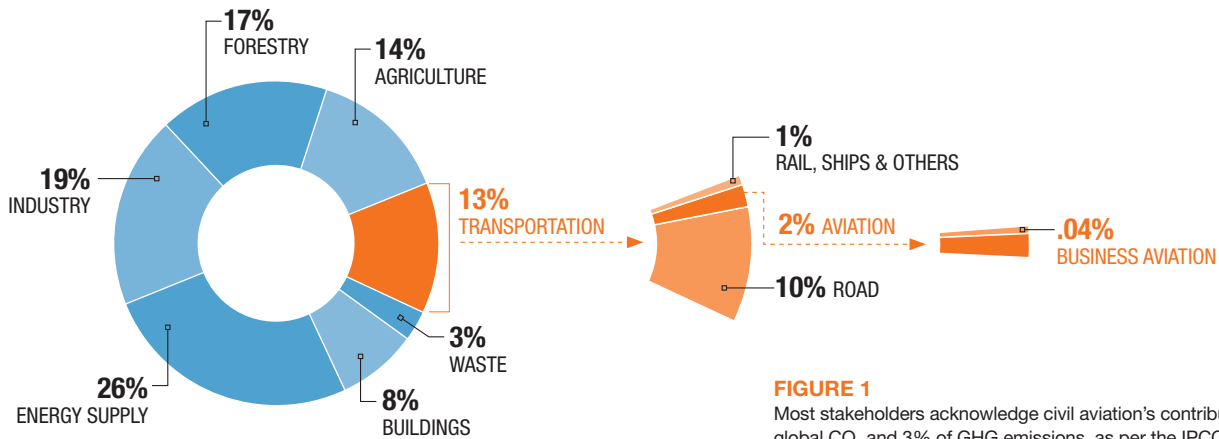


FIGURE 1
 Most stakeholders acknowledge civil aviation's contribution of 2% of global CO₂ and 3% of GHG emissions, as per the IPCC report estimates. The business aviation contribution is estimated at 2% of aviation emissions or 0.04% of global emissions.

THE BUSINESS AVIATION COMMITMENT

Although the community has an excellent environmental record, it is resolved to do more. The business aviation manufacturing and operating communities have jointly developed an aggressive programme in support of ICAO targets and are committed to contributing to the overall aviation goals. To this end, the business aviation community commits to the following specific targets:

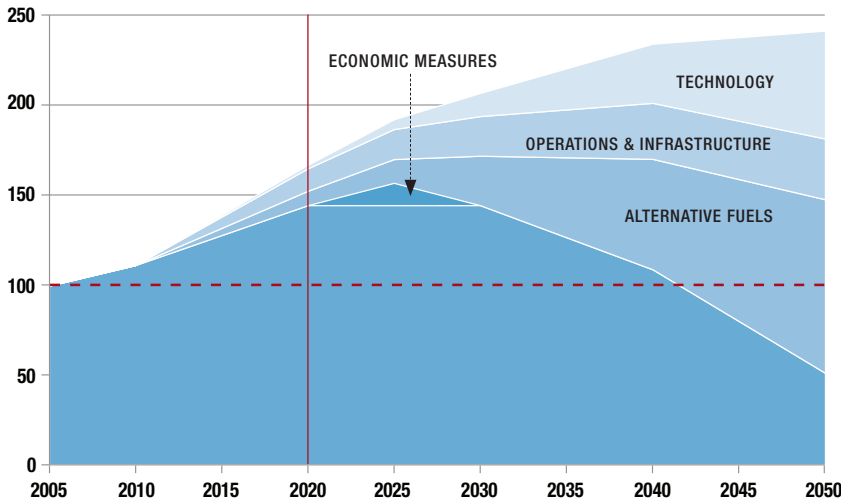
- Carbon-neutral growth by 2020;
- An improvement in fuel efficiency of an average of 2% per year from today until 2020; and,
- A reduction in total CO₂ emissions of 50% by 2050 relative to 2005.

Consistent with the recommendations of the ICAO High Level Meeting of October 2009 and consistent with inherent data limitations of the sector, business aviation supports the development of an appropriate alternative metric within ICAO to measure and track business aviation's emissions on a fleet basis.

Achieving the above targets will require not only sustained effort on the part of the entire business aviation community, but also a partnership between industry and government and a commitment to develop realistic solutions that balance economic growth, progress and technology. We will achieve these objectives through expected advances in four areas: **technology, infrastructure and operational improvements, alternative fuels, and market based measures.**

Technology: In business aviation, the market demands efficiency. There are many different business aircraft that offer abilities to transport different-size payloads (either passengers, cargo or fuel) over given distances. Business aircraft manufacturers have led the way in the use of innovative technologies that allow for more efficient operations. Manufacturers are firmly committed to continue on this path: a business aircraft built in 2050 will be 45% more fuel efficient than one built in 2005.

FIGURE 2
 Business Aviation CO₂ Emissions
 Index 100 Equals 2005 Levels
 Actual and Forecast, 2005-2050



This chart illustrates the relative contributions to emissions reduction from four key areas: technology, infrastructure and operations, alternative fuels, and market-based measures. Carbon neutral growth is achieved by 2020. Business aviation carbon emissions then stabilize and are projected to decline through 2050, at which point they reach 50% below 2005 levels in absolute terms.

Infrastructure and Operational Improvements: Through collaboration with air traffic management (ATM) providers to accelerate modernization of air traffic infrastructure and procedures, CO₂ emissions will be considerably reduced. Along with development and implementation of operational best practices to reduce fuel usage, these programmes will deliver 14% of the overall CO₂ reductions by 2050.

Alternative Fuels: The aviation industry is driving the research, development and deployment of commercially viable, sustainable alternative aviation fuels. Industry is partnering with authorities in Europe and North America to develop, certify and commercially implement such fuels within the next few years. Based on current research and the encouraging results already demonstrated in flight, business aviation anticipates a CO₂ life cycle reduc-

tion of 40% in absolute terms from biofuels by 2050. This is an area that holds huge promise for significant GHG emissions reductions, but it will require a sustained commitment to funding research by national and other authorities.

Market Based Measures: The successful achievement of carbon neutral growth by 2020 will be challenging, since there will not be an immediate impact delivered by improvements in technology, infrastructure and operations, and alternative fuels. During this interim period, business aviation operators are committed to offsetting their emissions through market-based economic measures.

CONCLUSION

The business aviation sector's commitment to the environment is demonstrated by the remarkable improvements in environmental performance delivered over the last half century. The industry believes that if scope is given to the aviation community to manage environmental stewardship in partnership with industry and under the leadership of ICAO, all will enjoy a vibrant and healthy industry that will continue to proactively reduce its impact on the environment even as the demand for business aviation continues to grow.



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