BEFORE THE HOUSE OF REPRESENTATIVES

COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE

SUBCOMMITTEE ON AVIATION

HEARING
"AVIATION AND THE ENVIRONMENT: EMISSIONS"

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Mr. Chairman, Ranking Member Petri, Mr. Larson from my home state of Washington, member of the Subcommittee, thank you for the opportunity to testify.

Recently, the environment has become page-one news all over the world. At Boeing, thinking about the environment is not new. We have spent the last 50 years making the environmental performance of our commercial products a cornerstone of our business. Today the Boeing Company produces a family of 18 different aircraft --- all quieter and more fuel efficient than earlier generations of aircraft. In fact, today's jet aircraft are 70 percent more fuel efficient and therefore produce 70 percent fewer emissions than aircraft produced only 40 years ago.

Demand for these newer, more fuel efficient aircraft is tremendous. Boeing already has 57 customers for 892 new 787's which will be the most fuel-efficient in its class. Our 737 and 777 lines remain sold out for years to come and our new 16% more fuel efficient 747-8 is due to debut in 2009.

We recognize that the aviation industry, as a key element of any growing economy, must continue to make improvements in both aircraft emissions and noise. To be effective, these improvements must be made on a global basis.

Boeing has been a very active participant in the International Civil Aviation Organization (ICAO) since its inception. ICAO is the UN body that governs all aspects of international aviation. Through ICAO's Committee on Aviation Environmental Protection (CAEP) the industry has reduced the aviation noise footprint around airports and driven down aircraft-specific emissions -- CO, soot, and NOx -- on a worldwide basis.

Now ICAO is examining whether it is possible to further reduce CO_2 emissions. With oil at $120/barrel, the cost of fuel is likely to remain the biggest driver of fuel efficiency in an industry with limited or no profit

margins. (Traditionally fuel is the airlines second largest cost behind labor. Today fuel is now the largest operating cost for many airlines.)

As aircraft are a uniquely mobile asset, designed to fly and be environmentally acceptable anywhere in the world, ICAO fills a key role in helping manufacturers and airlines develop clear *global* standards. This is critical for Boeing with customers in more than 90 countries. Currently, 80 percent of Boeing's commercial airplanes are delivered outside the United States. Boeing aircraft must be welcome in every country.

ICAO takes a comprehensive approach to all aircraft environmental challenges including aircraft noise. In some cases, improvements in noise and emissions can compete with each other, making it necessary to prioritize improvements. We cannot design aircraft to reduce CO_2 without considering the effects on aircraft noise. Neither our customers nor policymakers would find this acceptable.

The ICAO system for setting standards --- determining what is environmentally beneficial, technologically feasible and economically reasonable --- has been very effective. Given ICAO's global scope and its ability to address all aircraft and all locations combined with its joint approach to noise and emissions make it the best forum to address aircraft environmental parameters. We urge Congress to allow ICAO to continue its historic role of regulating aircraft emission standards.

Improving aircraft is only part of the solution. In order to reduce CO_2 from aviation, air traffic management (ATM), biofuels and other types of new solutions such as fuel cells are equally important.

Enhanced air traffic management can produce very immediate and significant environmental improvements. Boeing has seen this firsthand through advanced arrival trials at airports. Results of these trials have shown a savings of 400-800 pounds of fuel per flight. The International Panel on Climate Change has said that improved ATM could reduce global CO_2 emissions from aviation by 12 percent.

Some of our initial trials with advanced arrivals --- an intermediate step in improved air traffic management --- have shown that both noise and emissions (both NOx and CO_2) can be reduced with these improvements. In the U.S. we have undertaken or are working on advanced arrivals at Denver, Louisville, Miami and San Francisco. We also have a number of international operations underway involving a variety of international partners in Europe, China, and Australia.

It is imperative that governments make ATM transformation a priority. While each new generation of aircraft produces a 15 percent improvement in fuel efficiency, those significant improvements can be erased by wasted flight time over airports or en route. Imagine a ten-minute delay for a two-hour flight. In those 10 minutes, half of the improved fuel efficiency for the entire flight is lost.

We believe that transformation to NextGen is one of the most critical issues facing our industry today and a major part of the solution for reducing emissions. To that end, the President and CEO of Boeing Commercial Airplanes, Scott Carson, recently signed a Memorandum of Agreement with the President and CEO of Airbus to collaborate on air traffic management issues. Our two companies have agreed to work together to accelerate ATM transformation and ensure global interoperability.

Boeing will continue its efforts on advanced arrivals and other ATM improvements both in the U.S. and internationally. However, these benefits are very limited in comparison to the environmental opportunities that can be achieved with an updated ATM system. We ask the Congress to seriously consider the important role an improved ATM system can play in reducing both emissions and noise for future aviation. Accelerating NextGen would have a significant impact on reducing emissions in the U.S.

Mr. Chairman, we applaud the interest that you and Mr. Petri have taken in the development and future implementation of ATM. We hope that your leadership, along with that of Chairman Oberstar and Ranking Member Mica, will hasten the necessary transformation to NextGen.

We also believe that sustainable alternative fuels can help reduce the aviation environmental footprint. We are focused on second-generation biofuels that do not compete with food sources or require unacceptable quantities of land or water. Boeing will continue its research and development investments to reduce CO_2 emissions, and the development of alternative fuel and energy sources that will make the aviation industry less reliant on fossil fuels.

For example, we completed the first biofuel trial with Virgin Atlantic and GE earlier this year on a Boeing 747 between London and Amsterdam. We are planning an alternative fuel demonstration with Continental Airlines in early 2009. That biofuel flight will use a next generation 737 with a CFM International CFM56-7B engine. CFM engines are jointly produced by GE and Snecma.

Boeing is committed to collaborating with airlines and fuel producers to ensure the development of a commercially viable market for sustainable biofuels that represent an overall lifecycle CO_2 benefit to the environment.

These will also improve the environmental performance of current and future aircraft generations.

Boeing is also exploring a range of other research efforts such as fuel cells. While these efforts may not generate the same level of reductions as sustainable fuels or improved ATM each will contribute to a better environmental footprint for aviation. Boeing's fuel cell demonstrator --- being developed through the Madrid Technology Research Center --- will result in both cleaner and quieter operations in future aircraft. While the applications for larger commercial planes are still many years away, the seeds for the enabling technology are being nurtured today to further improve environmental performance going forward.

In conclusion, Boeing recognizes that it must do its part to improve the environmental footprint of aviation. Our goal is to continue to make the safest and most fuel efficient aircraft in the world. Improving the aircraft is only part of the solution.

Government must also play an important role.

- We urge the Congress to allow ICAO to fulfill its important and well-proven role of regulating aircraft noise and emissions.

- We must also engage more actively to improve air traffic management. Specifically, we urge the Congress to foster policies that will enable NextGen to become a reality. The current FAA Reauthorization bill is a good start. But there is more to do.

- We need to accelerate the authorization, funding and implementation for NextGen projects that can provide near term transitional improvements to capacity. Primary examples are use of RNP routes in high density areas, GLS, advanced arrival procedures such as Advanced Arrivals and 3D-PAM, and accelerated development and implementation of system wide information management (SWIM).

- FAA should establish, track and report metrics that will assess the true progress toward NextGen. These metrics should measure progress towards a transformational outcome, not just activity or minor steps forward.

- We need to re-energize joint international trials to ensure global interoperability and global reduction of emissions.

Mr. Chairman, thank you again for the opportunity to testify today.