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My friends and colleagues—good afternoon. I am honored to be here.

As some of you may know, my entire life has been intertwined with aviation. My father, Kit Carson, was a long-time flight-test pilot at Boeing—and was flying airplanes in Seattle at the same time that aviation leaders were forming this influential and historic organization that we call ICAO. So one could say that the 60-year history of ICAO roughly tracks my life—and my lifelong passion for aviation.

But while I am personally honored to be here, I should add that we all share in this honor. Today we enrich and advance a legacy that began those sixty years ago when ICAO was founded. Back then, a brave new post-war world faced bold new challenges in defining what commercial aviation would be and could become. And an intrepid group of people gathered to take on those challenges through an inclusive, deliberative global process—a process that has continued to serve our governments and industry well in the decades since.

That group of people was a lot like this group gathered today. Among us here are today’s government, industry and academic leaders in commercial aviation. And just as that 1947 group helped guide our industry through the challenges of the last century, so are we charged with defining and solving the challenges of this century. The torch has been passed down over the years and is now in our hands. Carrying that torch for the new century is a big responsibility and a wonderful opportunity for all of us.

For the past couple days, we’ve furthered a dialogue that is growing in global intensity. We face crucial questions, and our answers will define this industry for the 21st century. I can’t speak for everyone, but I personally find that dialogue to be very exciting and inspiring.

Our challenges are many, but today I'd like to share my perspective on the four industry-defining challenges of **safety, efficiency, security, and the environment**.

We all know what's at stake as we join together to meet these challenges. World air travel and global economic development are mutually dependent. Each stimulates the other. Commercial aviation generates millions and millions of jobs and contributes a significant percentage of world GDP to the global economy.

Air travel plays a key role in connecting the people, countries and economies of the world, every day and everywhere. And bringing people together has never been more important.

Protecting the vital role that commercial aviation plays in today's world, of course, demands that we have an absolutely **safe and efficient world air transport system**.

Overall, our industry has a remarkable safety record. Last April, IATA released its annual **Safety Report**, which showed that 2006 was the safest year on record. The 2006 industry statistics show a hull loss rate of **0.65** accidents per million flights. Compare that to the rate back near the start of the jet age in 1960, when it was **14.64** per million departures. Or even ten years ago, when it was roughly double the 2006 levels. We've clearly come a long way as an industry. But there are certain regions of the world where this level of success has not been achieved.

But as I often say to our team at Boeing Commercial, no matter how good we are today, tomorrow we must be better. In the 21st century, every passenger—no matter where in the world they are flying—should have the same expectation of arriving safely at their destination.

Yesterday this conference heard a great keynote speech from **Giovanni Bisignani**, the Director General and CEO of IATA. Back when IATA released its *Safety Report* last April, Mr. Bisignani said this, "We must do even better. With demand for air travel

increasing at 5-6% per year, the accident rate must decrease just to keep the actual number of accidents in check. The goal will always be **zero accidents.**” He’s absolutely right.

The question is: How? Where are our opportunities to improve safety?

As manufacturers, Boeing and other companies do our best to be relentlessly vigilant in ensuring the state-of-the-art integrity of our products. But that’s not enough. The safest airplane in the world is only as safe as the way it is operated and maintained in today’s airspace.

And unfortunately, as I mentioned a moment ago, not all regions of the world enjoy the same level of safety. Some regions lack the political will and understanding to embrace and employ the level of standards that have enabled today’s amazing safety record. Additionally, some developing regions lack sufficient infrastructure on the ground and in the air to accommodate the rate of traffic growth they’re experiencing.

Regional safety begins with **global standards**—standards to which we all adhere. That’s why Boeing helped conceive and produce ICAO’s **Global Aviation Safety Roadmap**. I signed it along with the CEOs of other key industry stakeholders.

The Roadmap reflects a basic fact of life for commercial aviation: industry and government must **work together** to improve safety. Together, working globally, we must continue to help the developing regions of the world build effective plans for improving safety. We must directly address the forces that can cause compromise safety.

We also face some critical **skill shortages**. We must take steps together to address shortages of qualified technical personnel to maintain, operate and oversee the world fleet safely and effectively.

As our skies grow more crowded by air traffic growth, demands on the **air transportation system** are dramatically increasing. Congestion has already reached

crisis levels in some regions. The system is struggling to keep up. We've been reminded throughout this conference that **Air Traffic Management** improvements are essential.

We all know that traffic management issues are complex. But improvements must be made so that commercial aviation is even safer and more efficient than today.

Improving system efficiency will reduce fuel costs for airlines, and save time for the flying public. And as studies have repeatedly shown, the most **immediate** means of reducing aviation emissions of all types can be achieved by improving efficiency of air traffic management systems. There is a significant environmental benefit, in addition to safer and more efficient operations.

Such system improvements will also allow us to better leverage the capabilities of current aircraft. Right now, some of the technological advances we're able to deliver to airlines are lost within the legacy ATM system. Cost-saving and capacity-enhancing features cannot be fully realized because of today's system constraints.

Besides safety and air traffic management improvements, we also face significant aviation **security** challenges. Meeting our security challenges has proven to be a very difficult balancing act.

The days of free and easy access to airport gates are long gone. Security lines, checkpoint screening and luggage searches are an accepted part of the travel experience. We've all adapted to the unfortunate realities of a post-9/11 world.

Yet through it all, people want to fly. To do business, to visit loved ones, to get away from it all—or to get back in touch. Through it all, the world economy continues to depend on us to connect economies and cultures. What a testament to the resilience of the people that we serve! And what a testament to their trust in us to make sure air travel is safe and secure. I find such trust very humbling and inspiring.

As we work to honor this trust, we must continue to pursue **rational** approaches to aviation systems security. The “balancing act” I referred to a moment ago involves balancing our efforts to enhance security against unduly disrupting the flow of people and commerce.

I believe that **risk management** is the best approach to identifying and implementing security solutions. We have limited resources. We must use these resources wisely. We should strive for the greatest total risk reduction with the least impact on operations and economics.

Terrorist activity is by nature unpredictable. But risk management offers us a disciplined, tested methodology that allows us to combat that threat as effectively, sensibly and completely as we can.

As with safety and efficiency improvements, the security issue sounds a familiar and critically important refrain—it demands **partnerships** between government and industry. Our governments must take a leadership role in defining how we can work together to deal with the sensitive and even classified information aviation security risk management requires.

If I were to conclude my remarks right now, I would have mentioned more than enough to keep us busy for the next few decades. I’ve already described an impressive and worthy set of challenges for us all.

But I’ve yet to mention the challenge that is demanding more and more attention and action—**improved environmental performance**.

Certainly safety, security, a sound air traffic management system and the environment are all important and serious priorities. But in the case of safety, security and air traffic, we have a more developed history of global collaboration. In these three areas, I think we are perceived by the rest of the world as being more in control of the problems or at least in touch with the issues.

The environment, however, is a more recently recognized challenge that has reached its tipping point. While environmental issues are not new, the urgency and pressure for commercial aviation to do something about them is reaching critical mass right now. The window of opportunity—the time to step up and take the lead—is right now.

It is up to us to work together within the industry to establish effective global public policies and industry best practices. Right now.

As we all know, emissions from human activities are increasing concentrations of greenhouse gases in the atmosphere. The concern is climate change. The problem is serious. The responsibility to improve aviation's environmental performance to help combat this problem is ours. The solution must be collaborative—to help combat this problem, we all have to take steps together.

We know we can do it. We have a strong environmental track record as an industry. Over the past 40 years, we've reduced noise by **75%**. We've reduced CO₂ intensity by **70%**. We've virtually eliminated hydrocarbon emissions and soot. And aviation's carbon footprint today is limited to **2%** of global CO₂ emissions.

But we are a growing industry, and the global concern over the environment is a growing problem, and we are all inhabitants of this place called Earth. And as leaders of the aviation industry, we must be leaders in addressing this issue.

And ICAO is the right place for us to lead. Because we need shared, global solutions that take all of our concerns and issues into account. And it will take all of us, working in harmony, to tell the world about the real facts of aviation and environment, to focus on technology solutions, and to ensure that the right global public policy decisions are made.

We are committed to this issue at Boeing. Do we have all the answers? No. But I can share with you our approach and commitment.

We have adopted **four guiding principles** as we work both inside Boeing and around the world with our colleagues, customers and partners to tackle this problem. I would like to share these principles:

First, we believe that technology unlocks the future.

Second, CO₂ and fuel are the focus of our efforts.

Third, we believe that efficiencies in the broader aviation system reduce emissions and must be pursued.

And **fourth**, we believe that a global approach benefits everyone.

We are aligning our efforts to these basic guiding principles, and we've made specific commitments accordingly. We've established specific goals by which we will measure our success.

What are these commitments?

We're committed to **pioneering new technologies**. This goes beyond just a philosophical commitment. We're leveraging **75%** of our R&D investments on environmental improvements for future aircraft generations with an emphasis on **CO₂, noise, and alternative fuels**. For example, we're conducting the first biofuel demonstration on a commercial airplane. This is part of our work to unlock the potential of future environmentally progressive fuels.

We're committed to **manufacturing and product lifecycle improvements**. We will achieve **ISO 14001 certification** for all Boeing Commercial Airplanes manufacturing sites. Our target for certification at all sites is December 2008. We'll use Lean design and production practices to drive results by significantly reducing waste. And we'll make maximum use of **recycling** during all phases of the product lifecycle.

We're committed to delivering **progressive new products and services**. Products and services that dramatically improve environmental performance. This means at least a

15% improvement in CO₂ and fuel efficiency in each new airplane generation. We're already working to this standard of improvement. We've surpassed the 15% improvement goal with the 787 Dreamliner. It delivers a **20%** reduction in fuel and CO₂ compared to the 767. The 787 is also **28%** below 2008 industry limits for NO_x, and has a **60%** smaller noise footprint. The 747-8 delivers similar improvements with **15%** reductions in fuel and CO₂, also **28%** below 2008 industry limits for NO_x, and a **30%** smaller noise footprint

And we're committed to **improving the performance of the current fleet**. We'll be working closely with our customers, industry and government to achieve a **25% better fleet-wide fuel efficiency** by 2020. We will reach this goal by offering airplane hardware and software modifications, working with airlines to make operations more efficient, and working with Air Traffic Management solutions to optimize airspace navigation and efficiency around the world. Combined, such measures will lower operating costs, and reduce fuel use, emissions and noise—an overall improvement in environmental performance.

These specific commitments form the framework for our efforts in improving environmental performance.

We will also continue to encourage and promote public policies and best practices that boost new technology development to deliver the best results. We will continue to support efforts that will help improve CO₂ levels and fuel efficiency, help pioneer alternative fuels, and improve air traffic systems and airport operations. We are in favor of policies that are developed by mutual agreement and that apply to the industry on a **global** basis.

Finally, we will continue to work with and support our customers in seeking fair and reasonable global approaches to environmental challenges. We encourage a **global scheme of aviation emissions management**. One that is defined by ICAO and balances responsibility and opportunities among all constituents. One that recognizes

aviation's role in the global economy, while also appropriately addressing emissions reduction aims.

Improving our environmental performance as an industry will not be easy. Nor will meeting all of our collective challenges to improve safety, ATM, and security. But the aviation industry has never been an industry for the timid – and this era is no different. We live and work in very challenging times for commercial aviation.

But as I've had the opportunity to talk with so many of you this weekend, and as we look ahead to the **36th annual ICAO Assembly Session** this week, I am inspired. I am convinced that together, we can lead the way in improving environmental performance, safety, ATM and security. I am convinced that by working together toward global solutions, we will succeed. We will succeed in defining commercial aviation for this century—not just for what it is, but for **what it can be**.

That is a wonderful journey. I am honored and grateful to be sharing it with you. And I wonder what challenges and excitement this organization will be facing 60 years from today. Let's do everything we can to leave tomorrow's leaders with a healthy, thriving and exciting aviation industry.

I hope you enjoy the rest of the conference, and I appreciate this opportunity to share a few thoughts this afternoon.

Thank you.