

Capacity Building

CANSO's Contribution

Eugene Hoeven MBA
Director ICAO Affairs

**Assistance for Action: Aviation and
Climate Change Seminar**
Montreal, 23-24 October 2012



Global Presence



● CANSO Offices

What are the activities of CANSO Global Environmental Workgroup?

- To enhance understanding of ATM's environmental impact and mitigation measures,
- To develop metrics and benchmark performance on noise and emissions,
- To define and promote the uptake of environmental best practices
- To influence environmental policy, regulations and legislation
- To improve the perception of air traffic management by communicating the benefits of environmental activities of our Members

Key Achievements



Table of Potential Measures

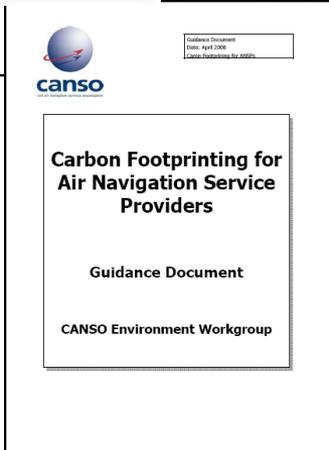
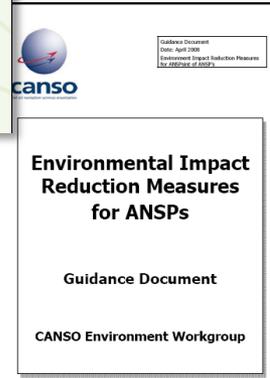
The following criteria have been used to assess the potential application of each of the measures shown in the template:

- Possible maximum gain: low + 2%, medium 2 - 5%, high 5 - 10%, very high 10% +
- Possible maximum cost: 0-3 years, medium 3-10 years, long term for measures to be available, N/A if not necessarily reached within the measure.
- Estimated costs: low, medium, high.

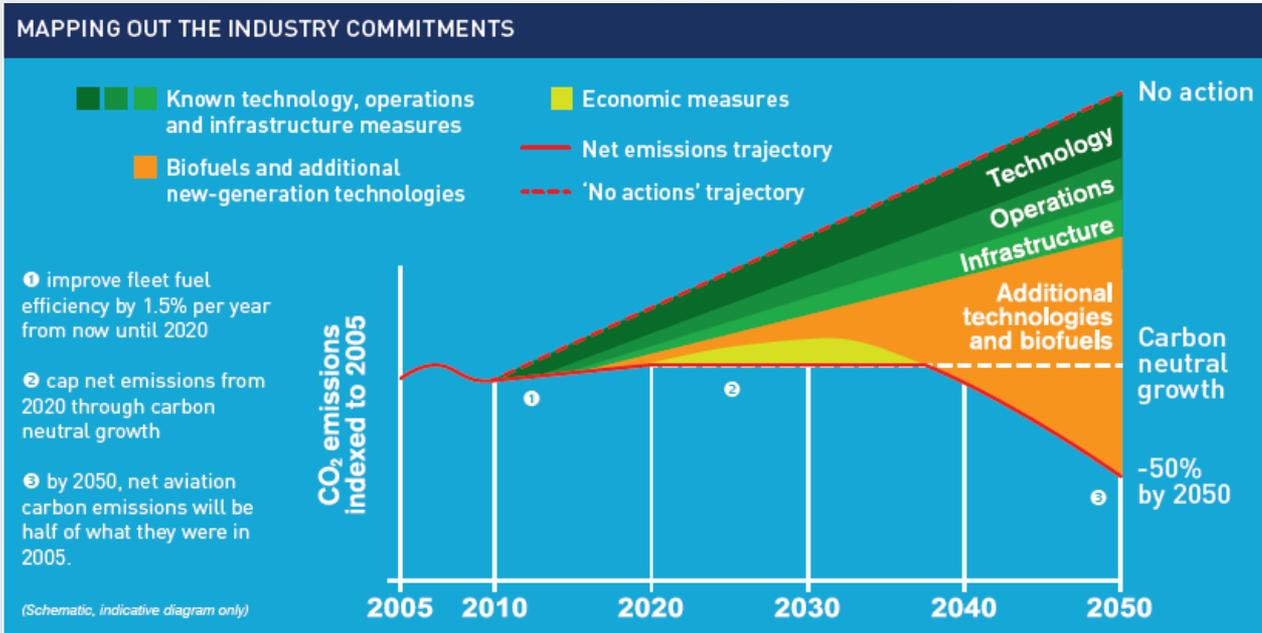
* PLEASE NOTE that input on assistance to developing countries is in the remit of industry and, therefore, this column has not been completed.

© Technology Development

Measure	Definition	Operational safety	Cost	Operational complexity	Technical feasibility	Operational feasibility	Comments
Next generation aircraft	Production of aircraft with improved aerodynamics and new LCA technology, including airframe, engines and propellers.	High	High	Medium	High	Medium	The availability of production capacity for next generation aircraft is a key consideration in the early stages of the program.
Single reduction controls	Use of composite materials in primary structure, reduced weight, reduced fuel consumption, reduced engine weight, reduced engine weight, reduced engine weight.	High to very high	High	Medium	High	Medium	Highly dependent on the timing of the program.



Industry Commitments



- **Cleaner airplanes**



- **More efficient operations**

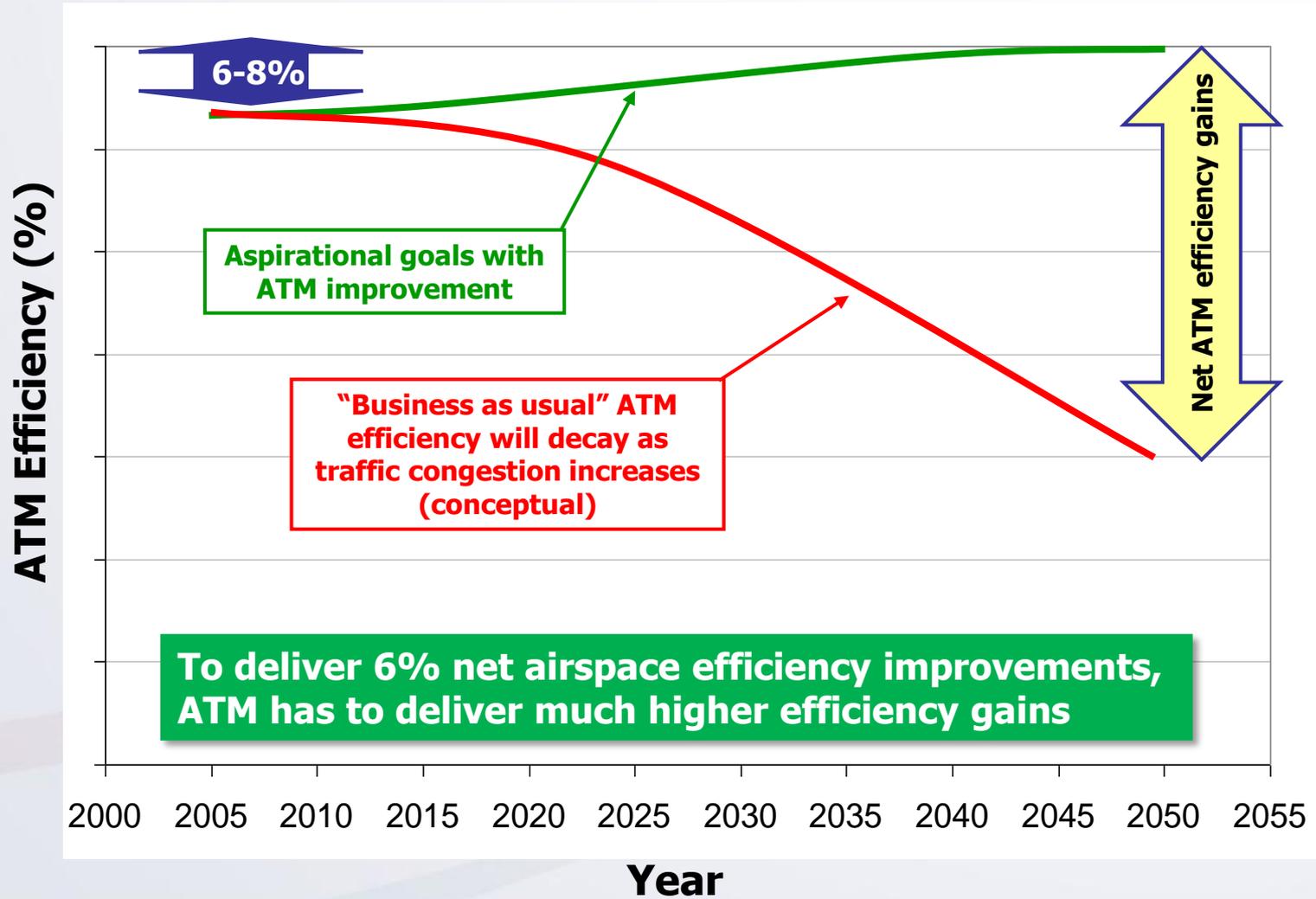


- **Sustainable alternative fuels**

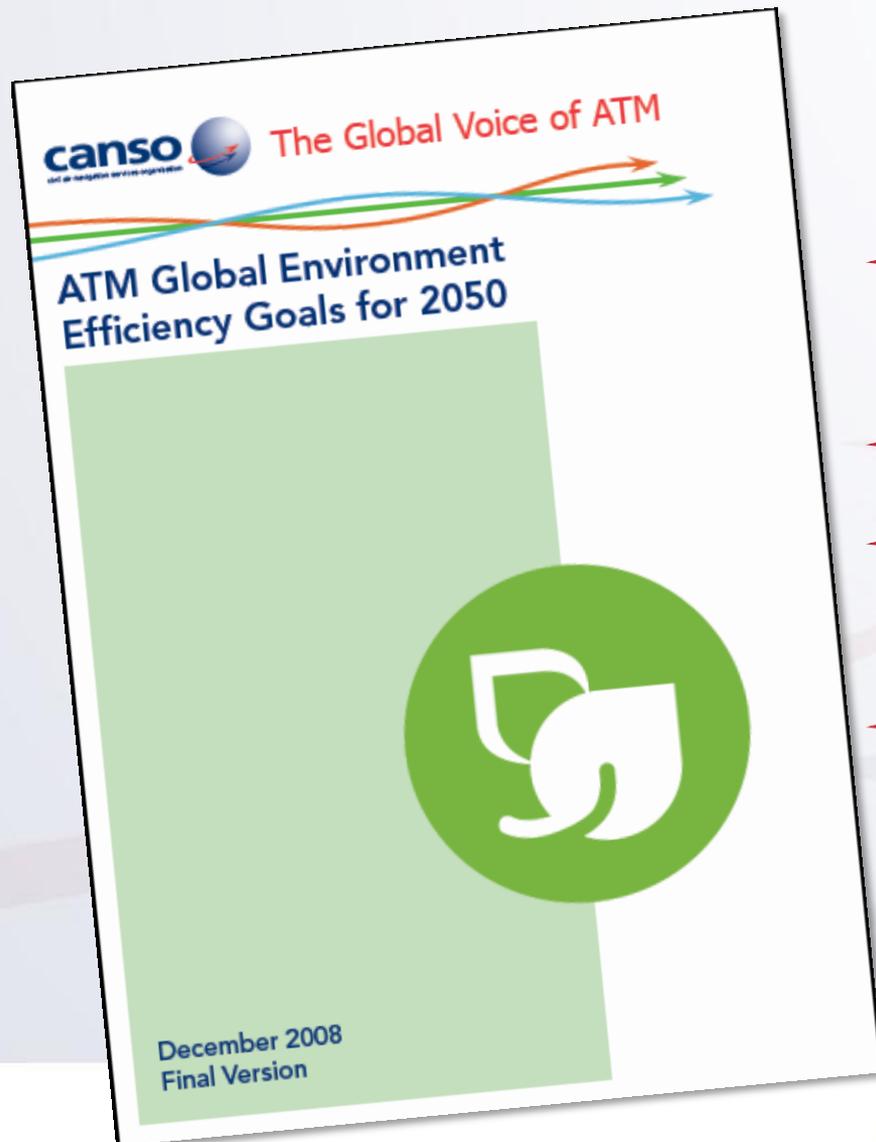


Sustainable aviation growth requires technology and operational efficiency

ATM Global Environment Efficiency Goals - 2050



Key Environmental Deliverable



- ATM already 92-94% efficient worldwide
- 100% not achievable
- 2050 goal of 95-98% efficiency
- Reduce CO₂ by 79 metric tons by 2050

ON GROUND

- Pre-Departure Tactical Management
- Collaborative Decision Making
- Surface Movement Optimisation

DEPARTURE, CLIMB

- Required Navigation Performance Procedures
- Unrestricted Climb Departure Procedures
- Strategic Deconfliction of Departure Routes
- Green Departures with DMAN

ENROUTE CRUISE

- Flexible Use of Airspace (civil/military)
- Flex Tracks Routes
- User Preferred Routes
- ATM Long-range Optimal Flow Tool

DESCENT

- Tailored Arrivals
- Continuous Descent Approach
- Point Merge



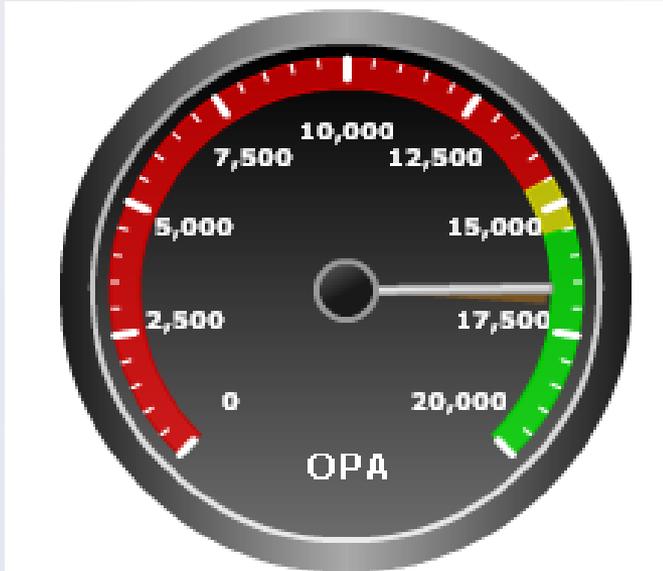
STRATEGIC PLANNING

CUSTOMER CONSULTATION

CUSTOMER FEEDBACK

CONSOLIDATED BENEFITS

Operational Improvements - UK



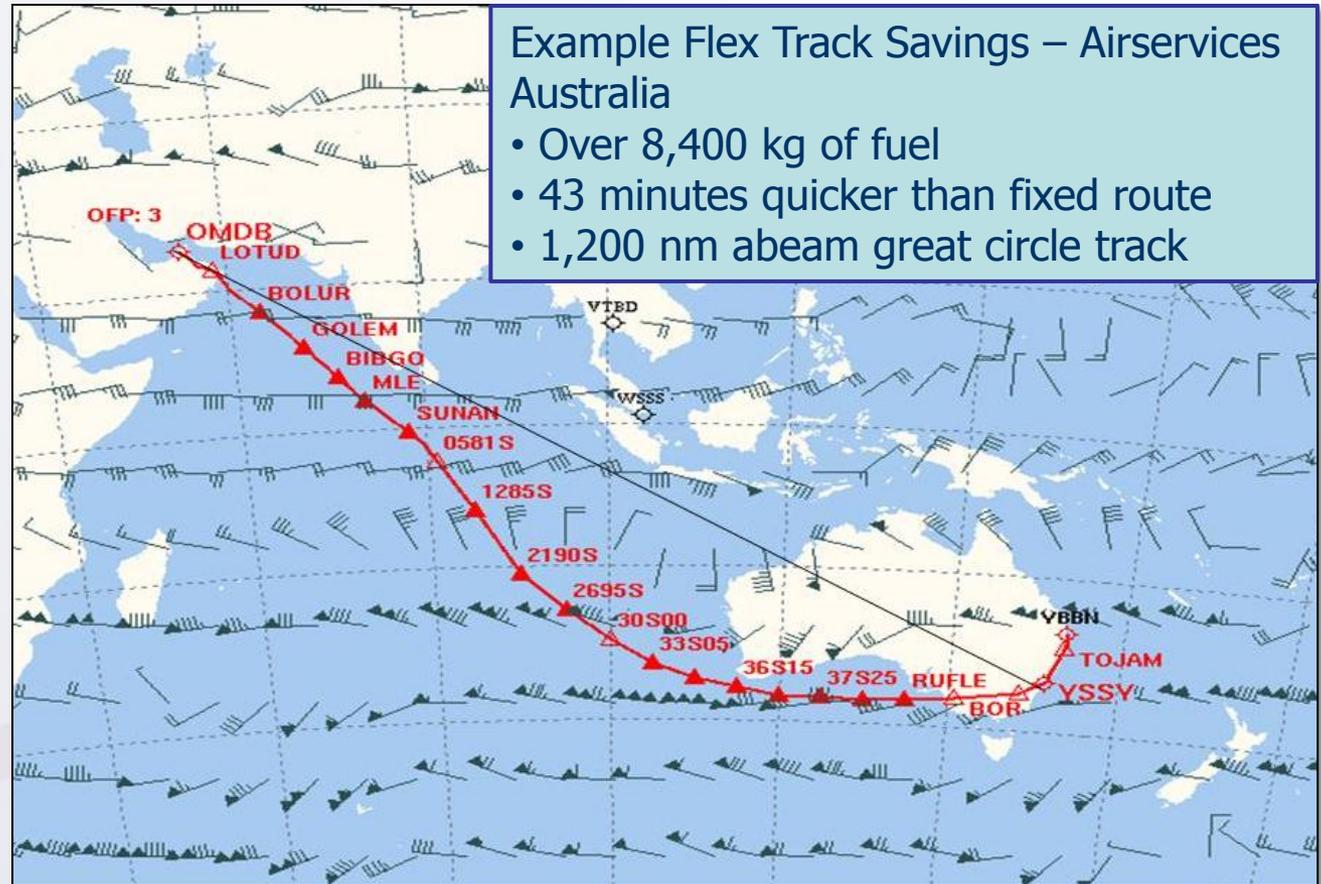
Operational Partnership Agreement

Night Time Fuel Saving Routes



Operational Improvements – Australia

- Flex Tracks
- Working towards full UPR
- Complex route structure
- Tools for ATC



Operational Improvements – New Zealand

- Collaborative Flow Management
- Delay reduction
- Savings
 - 20M Kg fuel
 - 61M Kg CO₂
 - 29M NZD



The CFM effect

- Before CFM, Auckland and Wellington averaged 28,000 minutes delay per month. The average is now **below 5,000**.



Measuring Fuel/CO₂ Savings

- Assisting with the roll out of the ICAO Fuel Savings Estimation Tool (IFSET)
- Introduction at the PIRGs and Training Workshops
- Awareness building is key to operational improvements



The key to effective management of environmental impact...

Aviation Industry Collaboration to Action on Climate Change

enviro.aero

As leaders of the aviation industry, we recognise our environmental responsibilities and agree on the need to:

- build on the strong track record of technological progress and innovation that has made our industry the safest and most efficient transport mode; and
- accelerate action to mitigate our environmental impact, especially in respect to climate change while preserving our driving role in the sustainable development of our global society.

Therefore, we, the undersigned aviation industry companies and organisations declare that we are committed to a pathway to carbon-neutral growth and aspire to a carbon-free future.

To this end, in line with the four-pillar strategy unanimously endorsed at the 2007 ICAO Assembly, we will:

1. push forward the development and implementation of new technologies, including cleaner fuels;
2. further optimise the fuel efficiency of our fleet and the way we fly aircraft and manage ground operations;
3. improve air routes, air traffic management and airport infrastructure; and
4. implement positive economic instruments to achieve greenhouse gas reductions wherever they are cost-effective.

We urge all governments to participate in these efforts by:

1. supporting and co-financing appropriate research and development in the pursuit of greener technological breakthroughs;
2. taking urgent measures to improve airport design including civil/military allocation, air traffic management infrastructure and procedures for approving needed airport development; and
3. developing and implementing a global, equitable and stable emissions management framework for aviation through ICAO, in line with the United Nations roadmap agreed in Bali in December 2007.

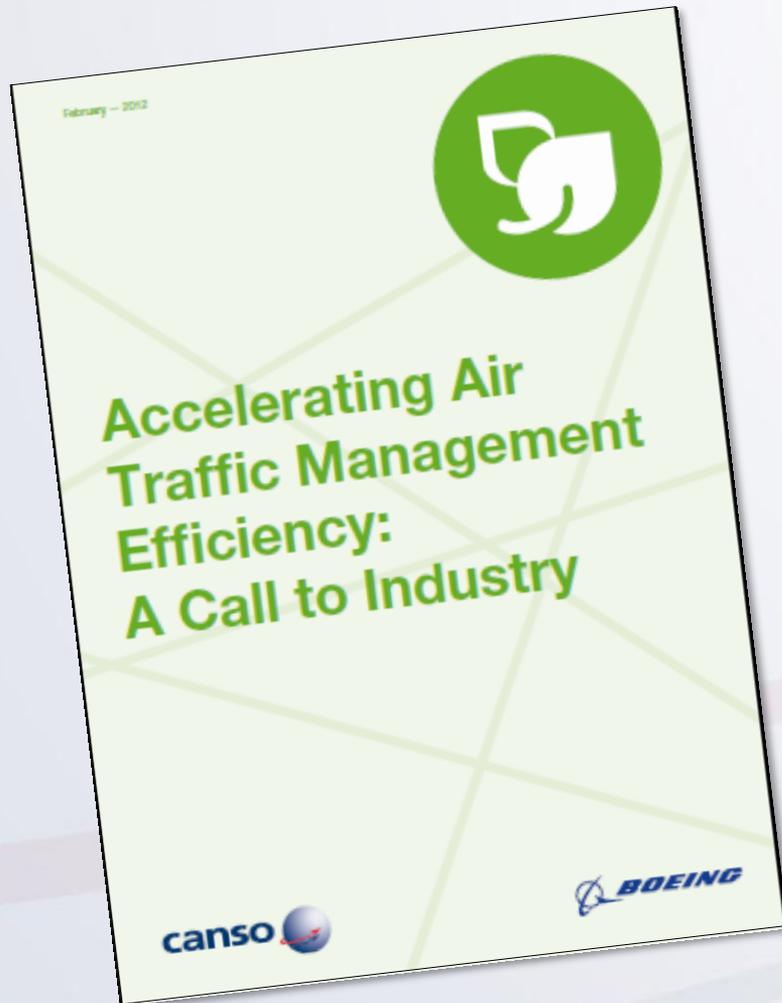
Our efforts and commitment to work in partnership with governments, other industries and representatives of civil society will provide meaningful benefits on tackling climate change and other environmental challenges.

We strongly encourage others to join us in this endeavour.

3rd Aviation & Environment Summit, 22nd April 2008, Geneva, Switzerland

Industry Collaboration

Accelerating Improved ATM Efficiency



- Recognizes interdependencies
- Identifies opportunities by phase of flight
- Describes current worldwide initiatives
- 7 Steps to improving efficiency:
 - Improve collective understanding of benefits available
 - Increase stakeholder collaboration
 - Take advantage of existing airplane capabilities
 - Accelerate real-time CDM
 - Reduce airspace restrictions
 - Accelerate approval process for new procedures
 - Promote common best practices

CANSO Environment "Gomboc" Award



- Recognizes ANSP environmental achievement
- Unique mathematical shape
- 2012 award to LIRF (Italy) for Rome to Milan efficiency improvement

Thank you

