

**Testimony of Mr. Thomas S. Windmuller**  
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**“From the Wright Brothers to the Right Solutions: Curbing Soaring Aviation Emissions”**  
Select Committee on Energy Independence and Global Warming  
United States House of Representatives

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Mr Chairman, Distinguished Members of the Committee.

My name is Thomas Windmuller. I am the Senior Vice President of the International Air Transport Association (IATA), an Association organized under Canadian Law headquartered in Montreal, Canada, and Geneva, Switzerland.

We appreciate the opportunity to brief this Select Committee on the environmental record of the commercial air transport industry and its strategy and vision to reduce its future carbon emissions.

IATA represents two hundred and thirty-five carriers engaged in scheduled international transport of passengers, mail and cargo by air. Our members carry roughly 94% of such traffic. Our mission is to lead, serve and represent this industry. Among other things, we set many of the standards that make international air transport a seamless transport system. All of the U.S. network carriers are members of the Association.

Climate change is a global challenge. The air transport industry is a small but significant part of that challenge.

According to the United Nations Intergovernmental Panel on Climate Change (IPCC), aviation emits two percent of global CO<sub>2</sub> dioxide emissions. That contribution could reach 3% of global emissions by 2050 under a ‘business as usual’ scenario. Put differently, in 2007, commercial air transport emitted 672 million tons of CO<sub>2</sub>, and would grow at less than 3% per annum if the industry were to continue on a normal path.<sup>1</sup> That is, if we take no action, commercial aviation will represent 3% of global CO<sub>2</sub> emissions in 42 years’ time. Thus, while any growth in emissions is of concern, the suggestion that aviation emissions are soaring is simply not accurate.

The fact is that IATA and the industry it represents are aggressively addressing the growth of aviation emissions. We are very aware of and take very seriously our environmental responsibilities. We are justifiably proud of our industry’s long history of environmental stewardship. Over the last forty years, the air transport industry has virtually eliminated black smoke from aircraft engines. It has

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<sup>1</sup> This includes all scheduled and non-scheduled services of airlines in ICAO Contracting States. It does *not* include military and general aviation.

reduced its noise levels by 75%. Most importantly, it has improved its fuel efficiency by 75%, which represents a 70% reduction in CO<sub>2</sub>. No other domestic or international industry has such a strong environmental record.

Our commercial interests and our environmental responsibility are perfectly aligned. Our fuel efficiency record has been driven in large part by our industry's continued focus on reducing its costs in order to continue to provide the critical service we offer our customers and the world as a whole. No government program, regulation or tax can serve as a greater incentive to the aviation industry to reduce our CO<sub>2</sub> emissions than the ever-increasing cost of oil. Quite simply, we cannot remain a viable industry without continuing to focus our attention and resources on reducing our fuel burn and, in turn, our CO<sub>2</sub> emissions.

There can be no doubt that this incentive to improve emissions is greater than ever in the history of commercial flight. Over the last 5 years, our fuel bill has increased 340% to \$136B worldwide, which is equivalent to the size of the economy of Massachusetts. Every dollar increase in the cost of oil results in \$1.6B in increased costs for airlines. Today, there is no alternative to kerosene-based fuels. We know of no other industry facing this type of challenge.

Our commitment to fuel efficiency and cleaner aviation has allowed us to decouple traffic growth from emissions growth. Worldwide, air transport has grown at a rate of approximately 5% over the last 20 years and is forecast to do so in the future. Our emissions are growing well below that rate at less than 3% per annum. At the same time, commercial aviation represents 8% of global Gross Domestic Product. Any effort to limit emissions by capping the growth of air transport will have a negative impact on the global economy.

However good our record is, we cannot afford to rest on past accomplishments. We must continue to find ways to reduce our fuel burn and our CO<sub>2</sub> emissions. We have a clear vision and a solid strategy in place to accomplish this task. In the near term we have committed to improve our fuel efficiency by another 25% by 2020, compared to 2005. This target is challenging, but our track record shows we can reach it. From 1997 to 2006, IATA members' fleets improved their fuel efficiency by 20%. We will reach our new target by replacing old aircraft and by introducing new technology. The tools exist. This 25% improvement is a global target. Our American members, represented here by our colleagues of the Air Transport Association, have set themselves an even tougher target: 30% better fuel efficiency by 2025. Their leadership will serve as an example to the rest of the world.

In the medium term, we strive to reach carbon-neutral growth, i.e. that our anticipated growth does not result in an increase in CO<sub>2</sub> emissions. In the longer term, we have offered vision of a zero-emissions commercial aviation industry. To that end, we aim to operate a zero-emissions aircraft in the next fifty years.

While the tools do not yet exist to reach our long-term vision, we are confident that we can get there. Our industry's track record on innovation is excellent. We moved from the first flight at Kitty Hawk to transatlantic flight in less than thirty years and from the first transatlantic flight to the first supersonic transatlantic flight in another forty years.

There are constraints, of course. Our focus is and needs to remain on the safety of our operations. There are also long timelines for the regulatory approval and implementation of any new technology. Despite these constraints, we believe that our vision is feasible, and we must spare no efforts in reaching this goal.

Our strategy for achieving carbon neutrality and, ultimately, zero CO<sub>2</sub> emissions is based on four pillars.

Our first and most important pillar is technology. We need cleaner and more efficient aircraft. Initial reductions in emissions will be achieved through new airframe and engine technologies. These advancements will come in the form of weight reduction, engine upgrades and better aerodynamics. Zero emissions can only be reached through radically different aircraft that are powered by radically new fuels. We are establishing a technology roadmap with the major airframe and engine manufacturers to make this possible.

Research into new, lighter materials and alternative fuels is essential. There have been two tests of alternative fuels in the first quarter of 2008 by Airbus and by Virgin Atlantic Airways. Air New Zealand is planning a third test for later this year, and Continental Airlines has announced its own test for early 2009. These pioneers are demonstrative of the industry's determination to come up with viable alternatives to kerosene. This is a promising start.

Technology innovation is an area where we need the help of the U.S. Congress. The development of these radically new technologies requires the right economic incentives. This must become a clear political priority. We are not asking for subsidies. We are asking the Congress to restore funding cut from NASA and FAA budgets so that potentially breakthrough research into lighter materials, radical new aerodynamics, and new fuels – such as third generation, algae-based fuels and hydrogen fuel cells – can go forward. This country has the best and brightest scientists. It has outstanding research bodies such as the National Laboratories. The United States is best placed to provide the technology breakthroughs that offer the highest potential for real emissions reductions. We count on your continued leadership to provide these talented people with the resources they need to develop these much needed solutions.

The second pillar of our strategy is infrastructure. We need more, better, and more efficient air traffic infrastructure around the world. Government action is also essential in this area. This Congress can show leadership by funding the Next Generation of Air Traffic Control, or NextGen, and by mandating that the

Federal Aviation Administration accelerate its implementation. Similarly, Europe can deliver on their long promised Single Sky project, which could deliver up to 12 million tons of CO<sub>2</sub> savings annually.

Governmental support is also needed to optimize air routes and to improve the use of airport terminals. In 2007 alone, IATA worked with governments around the world on over three hundred routes and eighty airports, thereby yielding a reduction of nearly four million tons of CO<sub>2</sub>.

Our third pillar is operations. Airlines need to fly smarter and greener. IATA has deployed a network of 'green teams' that benchmark airline operations against best practices in the industry in order to save fuel and CO<sub>2</sub>. In 2007, we identified efficiency savings of 6.7 million tons of CO<sub>2</sub> from operations and 3.8 million tons from infrastructure improvements. Our intervention yielded a 14% saving in fuel consumption in the case of one major international carrier.

Other measures offer opportunities for further emissions reductions, such as using electrical ground power units instead of on-board auxiliary power units when aircraft are parked at the gate, the use of continuous descent approach techniques into airports, and innovative taxiing procedures.

In the fourth and final pillar, our strategy identifies and seeks positive economic measures to cover any gap between the growth in aviation and the corresponding growth in emission that cannot be eliminated by the first three pillars. We need tax credits for airlines and manufactures that make the necessary investments in cleaner technologies. As already mentioned, we need funding for greater research and incentives for innovation. The U.S. Congress has the opportunity to set a global standard in pursuing these types of positive economic measures.

In contrast, the U.S. Congress must avoid the temptation of imposing negative economic measures in the name of the environment. Green taxes and charges do nothing to address emissions growth. Rather, these increased costs only reduce the opportunity for airlines to increase their fuel efficiency and decrease their CO<sub>2</sub> emissions. While some can gain political points by imposing green taxes on the airline industry, we are not aware of a single example of an environmental improvement being achieved by following this path.

This Committee is on record in support of emissions trading to address the growth in aviation emissions. Some have argued that emission trading is the only means to effectively curb our emissions, short of eliminating flying. IATA believes that a closer review of ETS will demonstrate that it is not the silver bullet that some have made it out to be.

As noted earlier, the aviation industry has made substantial strides in reducing its CO<sub>2</sub> emissions over the past 40 years, and oil prices remain the most powerful

incentive to continue to reduce our fuel burn. We are committed to achieving carbon neutral growth through our four-pillar strategy. By definition, carbon neutral growth makes ETS irrelevant.

If in the end we cannot achieve carbon neutral growth through positive economic measures, new technology and improved infrastructure, a properly designed ETS offers an option for bridging the gap between growth and emissions growth.

Any ETS must have the following characteristics to be this effective tool:

- **Global:** The commercial aviation industry is a global network. Airplanes fly in and out of multiple jurisdictions every hour. The standards used to calculate the emissions and their offsets must be the same for all airplanes everywhere on the planet, lest we create damaging distortions and unnecessary complexity. Regional or piecemeal approaches will not work, by definition.
- **Voluntary:** Under international law, no country may impose an emissions trading scheme on another one unless that country expressly consents. Any national or regional scheme with an extra-territorial side to it is bound to result in endless legal challenges, which will achieve nothing for the environment.
- **Under International Civil Aviation Organization (ICAO) auspices:** The drafters of the Kyoto Protocol recognized that the global nature of aviation (and shipping, for that matter) required special consideration and oversight by the UN body designed to address this type of transborder industry. In aviation's case, ICAO is best placed to come up with the necessary global solutions.
- **Open, easy to administer:** A global emissions trading scheme must also be simple to operate and must avoid unnecessary complexity and administrative costs. Some of the essential requirements are: agreed standards to calculate emissions from aviation and offsetting measures; a clear and globally accepted certification for offsets; and an emissions market open to trade with other economic sectors world-wide.

The European Emissions Trading Scheme does not meet this checklist of essential criteria. IATA has consistently opposed the European ETS because it is unilateral, extraterritorial and designed in a way to punish rather than to reward the aviation industry for its past and future commitment to emissions reductions. If implemented as currently contemplated, we believe it will achieve very little for the environment, while imposing significant costs and complexity on aviation.

The following illustrates why the European ETS is bad policy that should not be pursued by this Committee:

- **Legal foundation:** The European ETS violates the Convention on International Civil Aviation, known as the Chicago Convention, the

international law that has successfully served as the foundation for international civil aviation for the past 60 years. The first article of the Convention establishes the complete and exclusive sovereignty of each signatory over its own airspace. To this end, one country cannot impose taxes or charges on airlines for activities taking place in other countries. Yet, the European ETS, as it stands today, proposes to include charges for CO<sub>2</sub> emitted by flights over foreign territories and over international waters. This clear violation of international law will not withstand even the mildest scrutiny. Suggestions that Europe may exempt non-European operations under certain conditions – be they a ‘de minimis’ number of flights into the EU or ‘equivalent’ environmental measures on the other end of the route - have not yet been reflected in the legislation. It is also unclear what standards would be applied in determining whether another jurisdiction was “equivalent” and therefore warrants an exemption.

- **Tax:** One of the new measures being formally discussed in Europe is the obligation to buy permits for current emissions. In other words, you cap emissions, and then ask airlines to buy permits for emissions that happen below, not just above, the cap. Under this proposal, airlines would have to buy permits for all of their *current* emissions by 2020. Under this scenario, this cap and trade proposal becomes, in effect, a tax. Only a fraction of the monies paid to European governments via this tax will go to measures to address aviation emissions. The majority of the monies will compete with the multitude of other worthwhile government and societal needs. This tax will effectively eliminate any discretionary resources airlines have committed to addressing this challenge.
- **Consistency:** Any ETS has to be consistent in scope and application to be successful. It is very difficult to make different regional, national, or local schemes compatible with each other. Even inside the EU there is no agreement yet that the scheme should only apply to CO<sub>2</sub>. Some countries would choose to apply their schemes to other gases as well or to apply multiplying factors based on loose science. Would they all count emissions the same way? Would they all accept the same emissions permits in return? The EU proposes to exclude general business aviation from their ETS. Other jurisdictions may consider this flawed public policy, as it is akin to taxing public buses and exempting private cars. All of these disparities are a challenge to the idea that different emissions trading schemes can easily live together. This is a global problem. Aviation is a global industry. The solution needs to be global.

Clearly, only ICAO has the right mandate and is the right forum for setting the global standards that should govern a scheme for our highly mobile and global business. Governments attending the 36<sup>th</sup> Assembly last September pledged to aggressively address aviation emissions. The ICAO high-level group on International Aviation and Climate Change (GIACC) managing this issue is due

to report to the ICAO Council in 2009. We are demanding that the Governments represented at ICAO step up to the challenge and deliver.

In conclusion, oil prices give the industry a perfect incentive to reduce our fuel burn and CO<sub>2</sub>. However, even with this incentive, we need the support of Congress if we are going to reach our aggressive carbon reduction and elimination goals. We need this Committee to pursue positive economic incentives for the entire industry to identify and implement green solutions. The Committee must resist the temptation to impose unnecessary and counterproductive taxes that serve to reduce our opportunity to achieve these self-imposed mandates. We are confident in the path the industry has set for itself in this regard, and we look forward to working in close partnership with this Committee and with the U.S. Congress in general to reach our vision of a carbon free future. We cannot afford to fail.

Thank you.