## **REMARKS OF ANDREW B. STEINBERG**

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Aviation and Emissions: Managing the Challenge of Growth

Presented to Japan International Transport Institute By: Andrew Steinberg Assistant Secretary for Aviation and International Affairs U.S. Department of Transportation Date: October 9, 2007



THANK YOU, MR. KAWAKAMI FOR THE KIND INTRODUCTION. IT IS A REAL PLEASURE FOR ME TO ADDRESS THIS DISTINGUISHED AUDIENCE AND TO SHARE THE VIEWS OF THE U.S. DEPARTMENT OF TRANSPORTATION ON SUCH AN IMPORTANT ISSUE. THIS SEMINAR IS ESPECIALLY TIMELY-- COMING ON THE HEELS OF A SPIRITED ICAO ASSEMBLY IN WHICH WE WERE ABLE TO MAKE <u>MEANINGFUL</u> PROGRESS TOWARDS ACHIEVING A GLOBAL SOLUTION TO ADDRESS CARBON EMISSIONS FROM AIRCRAFT. I WANT TO COMMEND JITI FOR THEIR INITIATIVE IN ORGANIZING TODAY'S EVENT. THE ISSUE OF AVIATION'S ENVIRONMENTAL IMPACT IS GETTING A LOT OF ATTENTION LATELY, AND DESERVEDLY SO. JUST LAST WEEK I REPRESENTED THE U.S. GOVERNMENT AT ICAO'S 36<sup>TH</sup> ASSEMBLY IN MONTREAL, WHICH BENEFITED FROM CONTRIBUTIONS FROM JAPAN AND MOST COUNTRIES AROUND THE WORLD. WHILE THE ASSEMBLY'S AGENDA ITEM ON THE ENVIRONMENT ALSO COVERED LOCAL AIR QUALITY – TRADITIONALLY, ALONG WITH NOISE, THE FOCUS OF MOST ENVIRONMENTAL CONTROVERSIES IN THE U.S. --GREENHOUSE GAS EMISSIONS GOT THE FRONT BILLING IN MONTREAL.

Overview The challenge ahead of us Understanding emissions in context ICAO's role The U.S. Approach - "Five Pillars" Mandatory emissions trading?

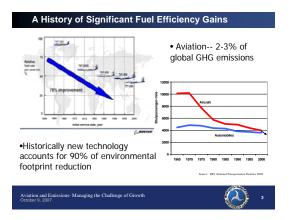
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SO MY DISCUSSION TODAY WILL FOCUS ON GREENHOUSE GAS EMISSIONS. IT'S NOT AN EXAGGERATION TO SAY THAT GROWING PUBLIC CONCERN OVER EMISSIONS REPRESENTS A SERIOUS BARRIER TO AVIATION GROWTH, MUCH LIKE CONGESTED AIRSPACE,

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OVER THE LONG-TERM. THERE ARE PLENTY OF EXAMPLES IN EUROPE. IN THE U.K., AVIATION EMISSIONS HAVE BEEN CITED AS A MAJOR FACTOR IN DETERMINING WHETHER THERE WILL BE NEEDED RUNWAY EXPANSION AT LONDON'S HEATHROW AIRPORT. ACROSS EUROPE, THERE ARE FACTIONS WORKING TO CURTAIL AVIATION GROWTH REGARDLESS OF THE BENEFITS IT OFFERS TO THE ECONOMY AND QUALITY OF LIFE. MORE AND MORE OFTEN ENVIRONMENTALISTS THERE FREELY LABEL AVIATION A "ROGUE INDUSTRY", ALONGSIDE BIG TOBACCO. THE LARGEST RETAILER IN THE U.K. BOASTS THAT, "WE WILL SEEK TO RESTRICT AIR TRANSPORT TO LESS THAN 1 PER CENT OF OUR PRODUCTS AND WILL PUT AN AEROPLANE SYMBOL ON ALL AIR-FREIGHTED PRODUCTS IN OUR STORES." BUT MOST OMINOUSLY, EUROPE IS MOVING QUICKLY TOWARD THE UNILATERAL IMPOSITION OF AN EU-DESIGNED AVIATION EMISSIONS TRADING SYSTEM.

ONE THING IS FOR SURE: THIS SHIFT IN THE EUROPEAN VIEW TOWARD AVIATION SEEMINGLY HAPPENED OVERNIGHT. WE SHOULD NOT BE SO FOOLISH AS TO PRESUME THAT IT CAN'T HAPPEN HERE IN THE U.S. AND ELSEWHERE IN THE WORLD.



THE ICAO ASSEMBLY SHOWED THAT WHILE THE PROBLEM OF GREENHOUSE GAS EMISSIONS IS VERY REAL AND THEREFORE MUST BE ADDRESSED IN A SYSTEMATIC AND SCIENTIFICALLY SOUND WAY, AVIATION EMISSIONS ARE **NOT** IN FACT GROWING OUT OF CONTROL. AVIATION STILL REPRESENTS A RELATIVELY SMALL 2-3% OF ALL GREENHOUSE GAS EMISSIONS.

AND THE ENCOURAGING NEWS IS THAT WHEN COMPARED TO 2000, AS OF LAST YEAR, THE WORLD'S SINGLE LARGEST AND MOST ADVANCED AVIATION MARKET – THE UNITED STATES -- WAS MOVING SOME 12% MORE PASSENGERS (OR 78 MILLION PEOPLE) AND 22% MORE FREIGHT (OR 5.4 BILLION REVENUE TON MILES) WHILE PRODUCING **FIVE PERCENT LESS** (OR 10.5 MILLION FEWER) TONS OF CARBON GASES. WE ARE BECOMING MUCH MORE FUEL AND ENVIRONMENTALLY EFFICIENT IN THE U.S.

MOREOVER, THE AVIATION INDUSTRY HAS MADE AND CONTINUES TO MAKE SIGNIFICANT STRIDES IN FUEL EFFICIENCY. TODAY'S NEW AIRCRAFT COMPARE FAVORABLY WITH A COMPACT CAR FOR FUEL EFFICIENCY. AND WITH FUEL REPRESENTING ALMOST 30% OF COSTS FOR MOST AIRLINES IN THE U.S., THE PRICE OF FUEL HAS ALREADY CREATED A HUGE MARKET-BASED INCENTIVE TO REDUCE CONSUMPTION -- AND HENCE EMISSIONS -- WITHOUT DRACONIAN GOVERNMENTAL ACTION.

AT THE ASSEMBLY THE WORLD AVIATION COMMUNITY AGREED ON THE IMPORTANCE OF SHRINKING AVIATION'S ENVIRONMENTAL FOOTPRINT, WHILE MAINTAINING GROWTH IN PASSENGER AND CARGO TRAFFIC.



- ICAO record
  – one of demonstrated success in addressing environmental issues
- Aircraft emit 70% less co2 than 40 years ago
- 2007 Assembly adopted a comprehensive plan to address carbon emissions and created a high-level steering group to ensure aggressive action taken



THE ASSEMBLY ENDORSED A COMPREHENSIVE, AGGRESSIVE APPROACH TO THIS ISSUE – EMPOWERING A NEW STEERING GROUP OF HIGH LEVEL OFFICIALS WHO WILL BUILD ON THE EXCELLENT TECHNICAL WORK ALREADY DONE BY ICAO'S COMMITTEE ON AVIATION AND ENVIRONMENTAL PROTECTION. THEIR MISSION IS TO COME UP WITH A TOOL BOX OF SOLUTIONS THAT WILL THEN BE USED IN THE RIGHT WAY IN EACH AVIATION MARKET. NOT SURPRISINGLY, THERE WAS NOT UNANIMITY AMONG ICAO STATES AS TO THE EFFICACY OF ANY PARTICULAR MEASURES. BUT, THERE WAS WIDESPREAD CONSENSUS THAT IT IS VITAL TO WORK TO **HARMONIZE** OUR APPROACHES THROUGH ICAO BASED ON NOTIONS OF GOOD SCIENCE, RECIPROCITY AND CONSENT. SO, HOW DO WE MOVE FORWARD IN TACKLING THE PROBLEM OF AVIATION GREENHOUSE GAS EMISSIONS? TO BEGIN WITH, WE SHOULD UNDERSTAND THE PROBLEM IN CONTEXT.

U.S. Policy towards Aviation Emissions

Develop an understanding of the problem and only then act

- Collect the Facts
- Invest in Long-Term Technologies

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 Take Practical, Cost-Effective, Near-Term Steps to Reduce Energy Use and Emissions-Without Harming the Economy

CLIMATE CHANGE AND ENERGY INDEPENDENCE ARE TOPICS OF GREAT IMPORTANCE TO THE BUSH ADMINISTRATION AND HAS RESULTED IN A STRATEGY WITH THREE KEY ELEMENTS: COLLECT THE FACTS WE NEED TO MAKE INFORMED DECISIONS ... INVEST IN LONG-TERM TECHNOLOGIES ... AND TAKE PRACTICAL, COST-EFFECTIVE, NEAR-TERM STEPS TO REDUCE PETROLEUM USE AND CARBON DIOXIDE EMISSIONS WITHOUT DAMAGING THE ECONOMY.

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IN SUPPORT OF THIS STRATEGY, THE DEPARTMENT OF TRANSPORTATION HAS ALSO EMBARKED ON AN ENVIRONMENTALLY-FRIENDLY CONGESTION INITIATIVE, DESIGNED TO CURB FUEL CONSUMPTION WHILE COMBATING THE GRIDLOCK PLAGUING OUR ROADS AND SKIES. THE KEY CONTRIBUTIONS THAT WE CAN MAKE TO REDUCING PETROLEUM CONSUMPTION AND GREENHOUSE GAS EMISSIONS ARE OPTIMIZING THE USE AND FIXING THE BOTTLENECKS IN OUR TRANSPORTATION SYSTEMS; ..... HELPING SHAPE OUR TRANSPORTATION INFRASTRUCTURE TO ACCOMMODATE NEW FUELS AND NEW TECHNOLOGIES AS THEY ARE INTRODUCED; AND ... ESTABLISHING SUSTAINABLE FUNDING FOR TRANSPORTATION INFRASTRUCTURE BASED ON PRICING ACCORDING TO SCARCITY.

OUR STRATEGY FOR AVIATION EMISSIONS IS CONSISTENT WITH THIS OVERALL APPROACH.

#### A Better Way Forward – The Five Pillars

- 1. Promote Better Scientific Understanding
- 2. Accelerate Air Traffic Efficiency Improvements
- 3. Foster Energy Efficiency in Aircraft and Engines
- 4. Explore Development of Alternative Fuels
- 5. Adopt EFFECTIVE Market Based Measures



THE UNITED STATES BELIEVES THERE ARE FIVE "PILLARS" THAT SHOULD UNDERPIN ANY COMPREHENSIVE SOLUTION. FORTUNATELY, ICAO AGREED WITH THIS VIEW AND THESE PILLARS ARE PART OF THE POSITIVE PROGRAM ICAO JUST ADOPTED.

FIRST, WE MUST *IMPROVE OUR SCIENTIFIC UNDERSTANDING* OF THE IMPACTS OF AVIATION EMISSIONS. WHILE CO2'S IMPACTS ARE UNDERSTOOD, THE LEVELS OF UNDERSTANDING OF THE IMPACTS OF OTHER EMISSIONS -- ESPECIALLY FROM AIRCRAFT AT HIGHER ALTITUDES -- RANGE FROM FAIR TO POOR. ONE THING THAT STRUCK ME IN MONTREAL IS THAT ON BASIC ISSUES CONCERNING AVIATION EMISSIONS – LIKE HOW TO MEASURE THEM – THE WORLD'S SCIENTISTS DON'T YET FULLY AGREE. TOO MUCH IS AT STAKE HERE, GIVEN THE IMPORTANCE OF CIVIL AVIATION TO OUR ECONOMIES, TO MAKE DECISIONS HASTILY WITHOUT DATA.

# SECOND, WE MUST **ACCELERATE IMPLEMENTATION OF OPERATIONAL IMPROVEMENTS IN AIR TRAFFIC MANAGEMENT** FROM GATE TO GATE TO REDUCE FUEL BURN (AND EMISSIONS). THE FACT IS, THE BASIC METHODOLOGY FOR CONTROLLING AIR TRAFFIC HAS NOT CHANGED IN FIFTY YEARS, IS NOW OUTMODED, AND IS

INCREASINGLY INEFFICIENT. IN THE UNITED STATES WE CAN ALREADY PREDICT THAT OUR SYSTEM WILL BE GRIDLOCKED IN THE NOT-TO-DISTANT FUTURE IF WE DON'T FUNDAMENTALLY ALTER ATC. DELAYS AND EXCESS GREENHOUSE GAS EMISSIONS ARE SYMPTOMATIC OF THE SAME ILLNESS. THUS IMPROVING THE ENERGY EFFICIENCY OF THE AVIATION SECTOR HAS THE DUAL BENEFIT OF TACKLING BOTH ENVIRONMENTAL AND SYSTEM CAPACITY ISSUES.

IN RECOGNITION OF THIS RELATIONSHIP, WE ARE STEPPING UP IMPLEMENTATION OF EFFICIENCY-ENHANCING AND ENVIRONMENTALLY-FRIENDLY TECHNOLOGIES SUCH AS **PERFORMANCE-BASED NAVIGATION** WHICH INCLUDES- RNAV, RNP AND OTHER ADVANCED TECHNOLOGIES -- TO FURTHER IMPROVE THE OVERALL EFFICIENCY OF THE SYSTEM. WE THINK PERFORMANCE BASED NAVIGATION IS NOT JUST A STRATEGY FOR CONGESTION --IT'S A GREEN STRATEGY AS WELL.

PERFORMANCE-BASED NAVIGATION IS NOT ONLY AN IMPORTANT PART OF THE U.S. NEXTGEN PLAN, IT IS TAKING HOLD ELSEWHERE. IN FACT, ICAO JUST PUBLISHED A MANUAL FOR PERFORMANCE-BASED NAVIGATION.

THIRD, WE MUST ACCELERATE THE DEVELOPMENT OF PROMISING ENVIRONMENTAL IMPROVEMENTS IN AIRCRAFT TECHNOLOGY. THE VAST MAJORITY OF ENVIRONMENTAL GAINS IN AVIATION OVER THE LAST THREE DECADES CAME FROM ENHANCEMENTS IN ENGINES AND AIRFRAME TECHNOLOGY, NOT FROM LIMITING GROWTH. THAT'S WHY WE'VE MADE WAYS TO PROMOTE SUCH NEW TECHNOLOGIES A PART OF OUR NEXT GEN INITIATIVE. WE CURRENTLY HAVE LEGISLATION BEFORE OUR CONGRESS THAT WOULD CREATE A RESEARCH CONSORTIUM FOCUSED ON ACCELERATING THE MATURING OF LOWER ENERGY, EMISSIONS AND NOISE TECHNOLOGY FOR AIRCRAFT.

FOURTH, IT IS IMPERATIVE TO **EXPLORE THE POTENTIAL OF ALTERNATIVE FUELS IN AVIATION** WHICH CAN IMPROVE EMISSIONS PERFORMANCE AT BOTH THE LOCAL AND GLOBAL LEVEL. ALTERNATIVE FUELS ALSO OPEN UP ALTERNATIVE ENGINE COMBUSTION DESIGNS THAT IN TURN CAN REDUCE AVIATION'S ENVIRONMENTAL FOOT PRINT OVER TIME. THE U.S. HAS INSTITUTED THE COMMERCIAL AVIATION ALTERNATIVE FUEL INITIATIVE (CAAFI). WORKING WITH A CROSS SECTION OF AIRLINES, MANUFACTURERS, AIRPORTS, PETROLEUM FIRMS, AND OTHER FEDERAL AGENCIES-- AS WELL AS INTERNATIONAL PARTICIPANTS -- WE WILL PRODUCE A ROAD-MAP FOR EXPLORING ALTERNATIVE FUELS FOR COMMERCIAL AVIATION. IN A RELATED DEVELOPMENT, BOEING AND AIR NEW ZEALAND LAST WEEK ANNOUNCED PLANS TO DEMONSTRATE BIOFUEL-POWERED AIRCRAFT USING A BOEING 747-400.

FIFTH, THE UNITED STATES ENDORSES THE IDEA OF MARKET-BASED MEASURES TO ASSIST IN MANAGING AVIATION ENVIROMENTAL IMPACTS IN APPROPRIATE CIRCUMSTANCES. AS YOU KNOW, THE UNITED STATES AND EUROPE ARE IN DISAGREEMENT OVER THE BEST APPROACH TO REDUCE AIRCRAFT EMISSIONS. BOTH SIDES DO AGREE THAT EMISSIONS NEED TO BE REDUCED IN THE LONG-TERM AS AVIATION GROWS THROUGHOUT THE WORLD. MY COLLEAGUES IN EUROPE SEEK TO ADDRESS THE PROBLEM BY INCLUDING INTERNATIONAL AVIATION—EVEN WITHOUT THE ASSENT OF AFFECTED STATES-- IN A EUROPEAN EMISSIONS TRADING SCHEME IN WHICH AIRLINES CAN BUY AND SELL THE RIGHT TO EMIT CARBON DIOXIDE. NEEDLESS TO SAY THE UNITED STATES IS OPPOSED TO THIS APPROACH AND WE ARE NOT ALONE IN THAT VIEW. WE BELIEVE THAT RIGHT SOLUTION MUST BE ARRIVED AT THROUGH THE PRINCIPLE OF MUTUAL ASSENT AND THAT ICAO—AND NOT THE GOVERNMENTAL BODIES OF INDIVIDUAL MEMBERS-- IS THE RIGHT FORUM FOR THE DELIBERATION AND DECISION PROCESSES.

THE EUROPEAN PROPOSAL IS ROOTED IN, WHAT I WOULD DESCRIBE, AS AT LEAST TWO FLAWED PERSPECTIVES. THE FIRST FLAWED PERSPECTIVE IS THE ICAO HAS SOMEHOW FAILED TO ADDRESS THE PROBLEM OF EMISSIONS. SOME HAVE WENT FURTHER AND ARGUED THAT ICAO WOULD ACTUALLY BE ABDICATING ITS LEADERSHIP ROLE BY REQUIRING A CONSENSUAL APPROACH. HISTORY INDICATES THE OPPOSITE IS INDEED TRUE AND STRONGLY SUGGESTS THAT A PATH FORWARD BUILT ON CONSENSUS IS THE RIGHT ONE.

AVIATION IS MUCH CLEANER, QUIETER, AND ENERGY EFFICIENT THAN IT WAS 40 YEARS AGO DUE IN VERY LARGE PART TO THE STRENGTH OF ICAO. IN THE PAST 40 YEARS, AIRCRAFT NOISE HAS BEEN REDUCED 75 PERCENT AND FUEL EFFICIENCY HAS IMPROVED BY 70 PERCENT. IT IS NOT HAPPENSTANCE THAT TODAY'S NEW AIRCRAFT ARE MORE FUEL EFFICIENT THAN COMPACT CARS AND THAT INTERNATIONAL AVIATION REPRESENTS ONLY ABOUT 1.5% OF GHG EMISSIONS. ICAO'S CONTRIBUTIONS TO THE IMPROVED-- AND IMPROVING--ENVIRONMENTAL PERFORMANCE OF AVIATION ARE NUMEROUS AND INDISPENSABLE. THEY INCLUDE: SETTING STANDARDS, FACILTATION OF MARKET BASED SOLUTIONS, DEVELOPING FRAMEWORKS TO INTRODUCE NEW TECHNOLOGIES, AND IMPROVING OUR UNDERSTANDING OF AVIATION EMISSIONS.

THE OTHER FLAW, IN OUR VIEW, OF THE EUROPEAN APPROACH TO REDUCING EMISSIONS IS THE IMPLICIT--AND SOMETIMES EXPLICIT--NOTION THAT AVIATION IS SOMEHOW 'SINFUL' THE CONSUMPTION OF WHICH MUST BE CURTAILED AND DISCOURAGED. IT IS IN THIS REGARD THAT OUR DISAGREEMENT WITH OUR EUROPEAN FRIENDS IS PERHAPS MOST PROFOUND. IN OUR VIEW, CIVIL AVIATION IS ESSENTIALLY AN UNMITIGATED FORCE FOR GOOD. THE AVAILABILITY OF SAFE, ECONOMICAL, AND ABUNDANT AIR TRANSPORTATION HAS SPURRED NEW SOURCES AND PATTERNS OF ECONOMIC GROWTH THAT ARE DEMONSTRABLY RAISING THE STANDARDS OF LIVING OF PEOPLE THE WORLD OVER. FURTHER, IT IS NO EXAGGERATION TO OBSERVE THAT THE EXCHANGE OF IDEAS AND CULTURE MADE POSSIBLE BY INTERNATIONAL AVIATION TODAY HAS HELPED FOSTER STRONGER TIES OF FRIENDSHIP AMONG NATIONS —AND NOT ONLY IN COMMERCIAL AND POLITICAL CHANNELS—BUT ALSO AT THE GRASSROOTS LEVEL. THIS HAS ALL BECOME POSSIBLE BECAUSE IT IS NO LONGER A LUXURY AVAILABLE TO THE WEALTHIEST FEW.

INDEED I THINK TODAY'S SEMINAR IS A TESTAMENT TO THE GREAT VALUE OF INTERNATIONAL AVIATION. HERE WE ARE IN WASHINGTON, DC AT THE INVITATION OF A JAPAN-BASED RESEARCH INSTITUTE THAT HAS BROUGHT TOGETHER FRIENDS AND COLLEAGUES FROM TOKYO, BRUSSELS, MONTREAL, LONDON AND OTHER POINTS SO THAT WE HAVE THE OPPORTUNITY TO MEET IN PERSON TO DISCUSS AND DEBATE ISSUES THAT AFFECT ALL OF US.

IN LIGHT OF THE UNIQUE ROLE PLAYED BY AVIATION IN LINKING THE WORLD'S ECONOMY AND CITIZENS, OUR VIEW IS THAT AVIATION GROWTH IS SOMETHING TO BE WELCOMED AND ACCOMMODATED. IT IS A PHENOMENON TO NEITHER FEAR NOR RESIST. THE PERCEIVED TRADEOFF BETWEEN A CLEANER ENVIRONMENT AND MORE AIR TRANSPORT IS A DEMONSTRABLY FALSE ONE IN OUR VIEW.

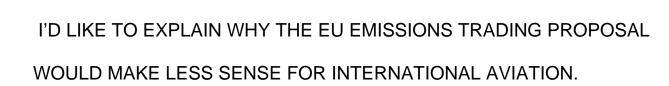
AVIATION IS UNIQUE RELATIVE TO MANY OTHER INDUSTRIES IN THAT THE INCENTIVES TO MAXIMIZE PROFIT AND TO BE 'EARTH-FRIENDLY' ARE NEAR- PERFECTLY ALIGNED. IN THE UNITED STATES, THE LINK BETWEEN THE TWO, OF COURSE, IS THE HIGH COST OF JET FUEL COUPLED WITH A DECADES-OLD DOMESTIC FUEL TAX. THE CONFLUENCE OF THESE FACTORS HAS GIVEN AIRLINES EVERY REASON TO REDUCE THEIR CONSUMPTION FUEL AND THUS THEIR EMISSIONS OF CO2. THEY HAVE DONE SO BY RETIRING OLDER AIRCRAFT, ACQUIRING NEW FUEL-EFFICIENT AIRCRAFT, AND ALSO BY DEVELOPING BETTER FLIGHT PROCEDURES IN CONJUNCTION WITH AIR TRAFFIC CONTROL AUTHORITIES. GENERALLY SPEAKING, IT IS OUR VIEW THAT MARKET-BASED MECHANISMS SUCH AS EMISSIONS TRADING ARE VERY USEFUL IN ADDRESSING PROBLEMS SUCH AS POLLUTION. INDEED THE U.S. PIONEERED EMISSIONS TRADING. HOWEVER WE OBSERVED THAT EMISSIONS TRADING IS NOT A ONE-SIZE-FITS-ALL SOLUTION AND NOT THE RIGHT ONE FOR AVIATION. OUR ANALYSIS FOUND THAT SUBJECTING DOMESTIC AVIATION TO EMISSIONS TRADING WOULD RAISE TICKET PRICES AND DRIVE PASSENGERS INTO THEIR PRIVATE CARS—WHICH WOULD BE MUCH WORSE FOR THE ENVIRONMENT NOT TO MENTION SAFETY.

Why a Mandatory Trading Scheme is Unworkable

- Less efficient aircraft move to non-eu routes
- Connecting traffic shifts to hubs outside europe
- Significant market distortions

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Impingement on national sovereignty



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MORE SO THAN ANY OTHER INDUSTRY, AVIATION RELIES ON MOBILE ASSETS. THE WORLD'S BIG AIRLINES HAVE FLEETS COMPRISED OF BOTH NEWER, FUEL-EFFICIENT AIRCRAFT AND LEGACY, LESS-EFFICIENT AIRCRAFT. TO THE EXTENT EMISSIONS TRADING OR CHARGES DRIVE UP AIRLINE OPERATING COSTS—THE AVOWED GOAL OF SOME 'GREEN' GROUPS—AIRLINES SHIFT THEIR OLDER AIRCRAFT TO DOMESTIC AND INTERNATIONAL ROUTES WHERE NO PERMITS ARE REQUIRED OR CHARGES ARE LEVIED. THE NET RESULT WOULD BE TO INCREASE TICKET PRICES WITHOUT NECESSARILY REDUCING EMISSIONS ONE WHIT.

AND IT GETS WORSE. LET'S ASSUME THAT THE EU PROCEEDS TO IMPLEMENT ITS TRADING SCHEME ON INTERNATIONAL FLIGHTS. WHAT'S LIKELY TO HAPPEN IN PRACTICE? BECAUSE A LARGE PERCENTAGE OF TRAFFIC/TO FROM THE EU IS ACTUALLY CONNECTING TRAFFIC BETWEEN POINTS ENTIRELY OUTSIDE EUROPE (SUCH AS A FLIGHT FROM SYDNEY TO MONTREAL VIA LONDON HEATHROW) AS PRICES FOR EU AIR TRANSPORT RISE DUE TO EMISSIONS CAPS, PASSENGERS WILL CHOOSE OTHER MORE AFFORDABLE CONNECTING FLIGHT- LIKE THE RAPIDLY GROWING HUBS IN THE MIDDLE EAST THAT ALREADY COMPETE WITH EUROPEAN HUBS. AGAIN, HIGHER PRICES FOR SOME PASSENGERS WITH NO CLEAR BENEFIT FOR THE CLIMATE.

AS I MENTIONED EARLIER, AIRLINES HAVE BEEN DOING THEIR PART TO IMPROVE THEIR FLIGHT PROCEDURES TO SAVE FUEL SUCH AS FLYING MORE DIRECT ROUTES USING SATELLITE NAVIGATION AND WHAT ARE KNOWN AS CONTINOUS DESCENT APPROACHES THAT REDUCE NOISE FOOTPRINTS AS WELL AS FUEL CONSUMPTION. BUT THE FULL BENEFITS OF IMPROVED FLIGHT PROCEDURES CANNOT BE REALIZED WITHOUT REFORMING HIGHLY INEFFICIENT AIR TRAFFIC SYSTEMS. TODAY, EUROPEAN AIRSPACE IS FRAGMENTED IN A WAY THAT DRIVES UP FUEL BURN AND THUS EMISSIONS.

LAST WEEK, THE ICAO ASSEMBLY—INCLUDING THE EUROPEAN MEMBER STATES-- ADOPTED A REPORT THAT INCLUDED THE FOLLOWING THE ASSEMBLY-- INCLUDING THE EUROPEAN MEMBER STATES-- ENDORSED A PLAN ADDRESSING AVIATION NOISE AND EMISSIONS. BUT IT REJECTED THE IMPOSITION OF EMISSIONS TRADING SCHEMES ABSENT MUTUAL AGREEMENT BETWEEN STATES—A DECISION WHICH THE EU MEMBERS DISSENTED FROM. THE COURSE STAKED OUT BY ICAO PLACES AN EMPHASIS ON TAKING CONCRETE STEPS ROOTED IN SCIENCE TO REDUCE EMISSIONS INCLUDING MAKING IMPROVEMENTS TO AIR TRAFFIC MANAGEMENT, FLIGHT PROCEDURES, AND PROMOTING NEW AIRBORNE AND TERRESTRIAL TECHNOLOGY.

### Summary

- Environmental issues pose real constraints to aviation growth
- Mandatory emissions trading is misguided and unworkable
- "Five Pillars" approach offers a better way forward to manage growth



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LET ME CLOSE HERE AND LEAVE YOU WITH THE FOLLOWING THOUGHTS. GROWTH IN AVIATION IS INDISPENSABLE TO CONTINUED GLOBAL ECONOMIC EXPANSION. HOWEVER, ENVIRONMENTAL ISSUES MUST BE ADDRESSED LEST WE SACRIFICE

THE BENEFITS OF AVIATION INCLUDING A BRIGHTER ECONOMIC FUTURE. WE BELIEVE THE EU APPROACH, WHILE WELL-INTENDED, IS MISGUIDED AND POTENTIALLY HARMFUL TO BOTH OUR ECONOMIES AND EVEN OUR ENVIRONMENT RELATIVE TO OTHER ALTERNATIVES. THE FIVE PILLARS APPROACH I DESCRIBED OFFERS A BETTER WAY FORWARD THAT ALLOWS FOR BOTH GROWTH AND A CLEANER ENVIRONMENT. FINALLY, IT IS CRUCIAL WHATEVER SOLUTION WE COLLECTIVELY DECIDE UPON SHOULD BE BASED ON MUTUAL CONSENT. THANK YOU.

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