

**ICAO Workshop on Aviation Carbon Markets  
Session 5: Creating Global Schemes**

# **Aviation & Environment: Issues for considering Global Aviation Emissions**

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**June 19, 2008**



**Federal Aviation  
Administration**

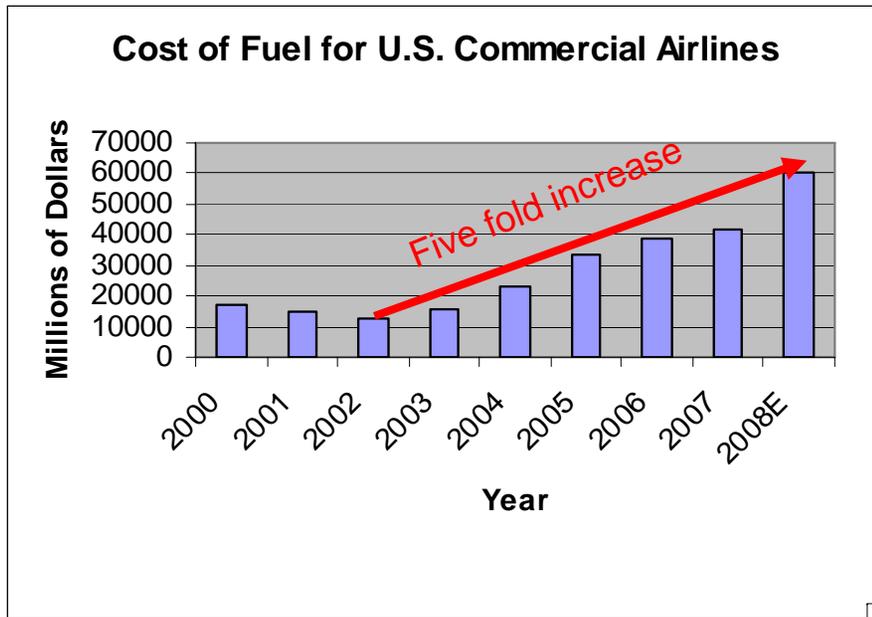


# Outline

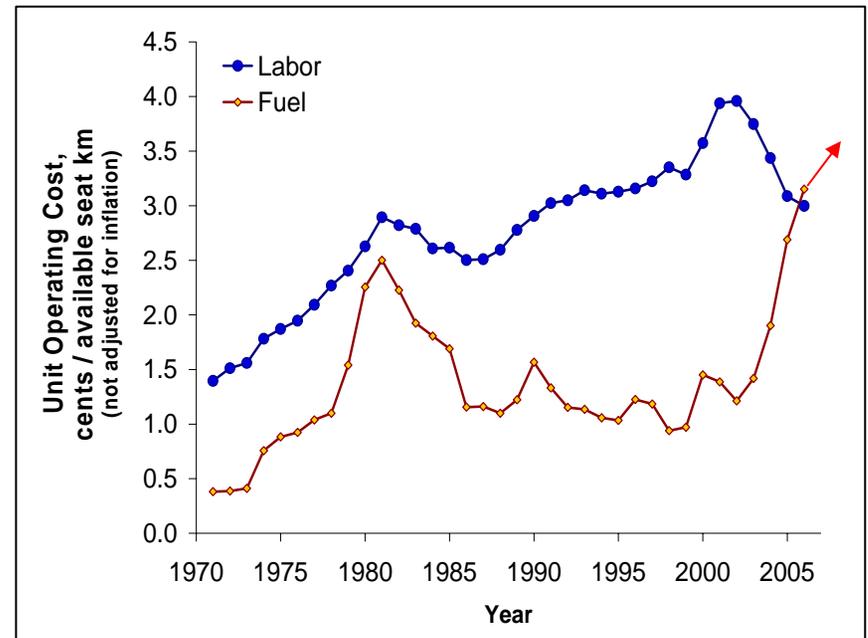
- **Facts to Consider**
- **U.S. Trends**
- **U.S. Way Forward**
- **Observations**

(E) Insider Aerial Service

# Continuing Pressures from Fuel Prices

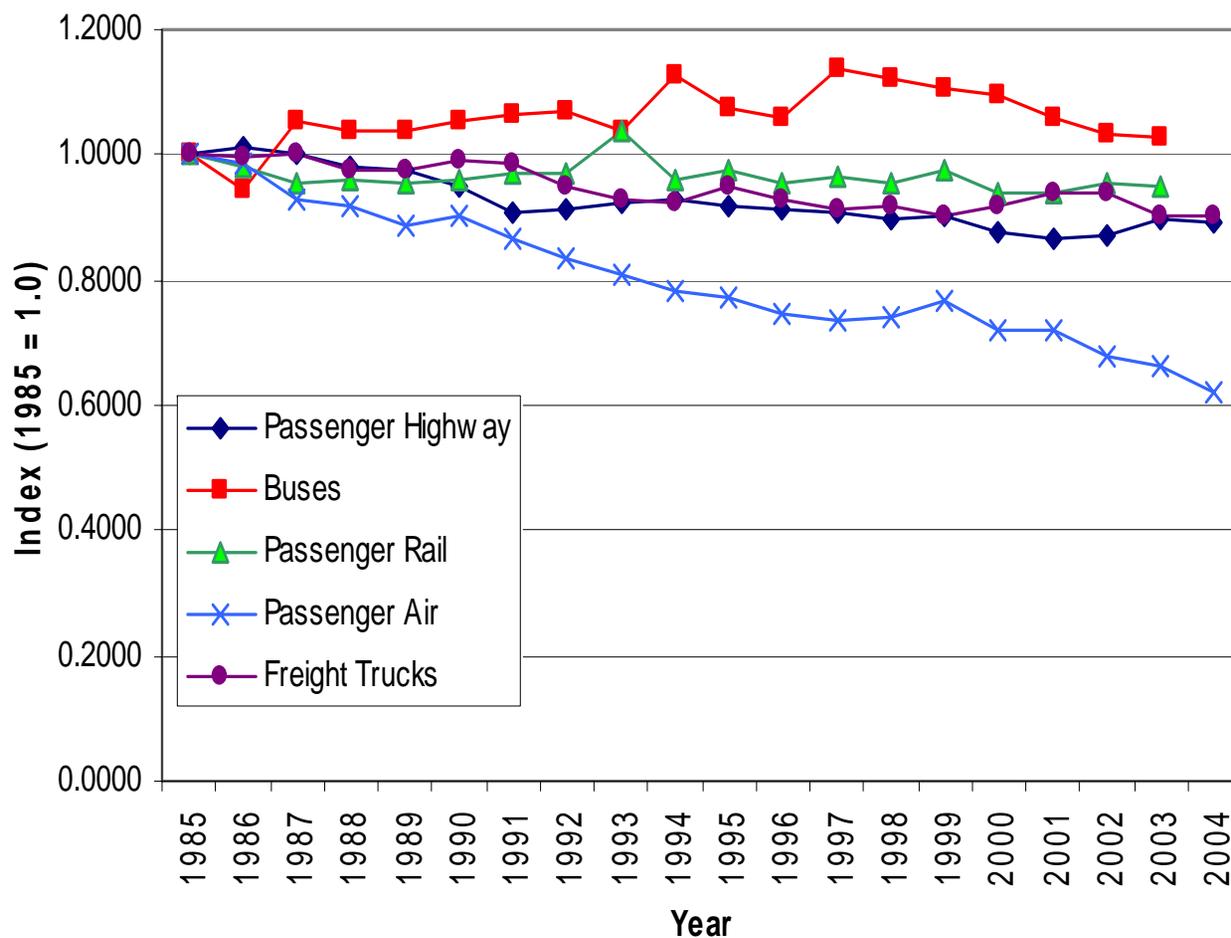


Source: BTS



Source: ATA

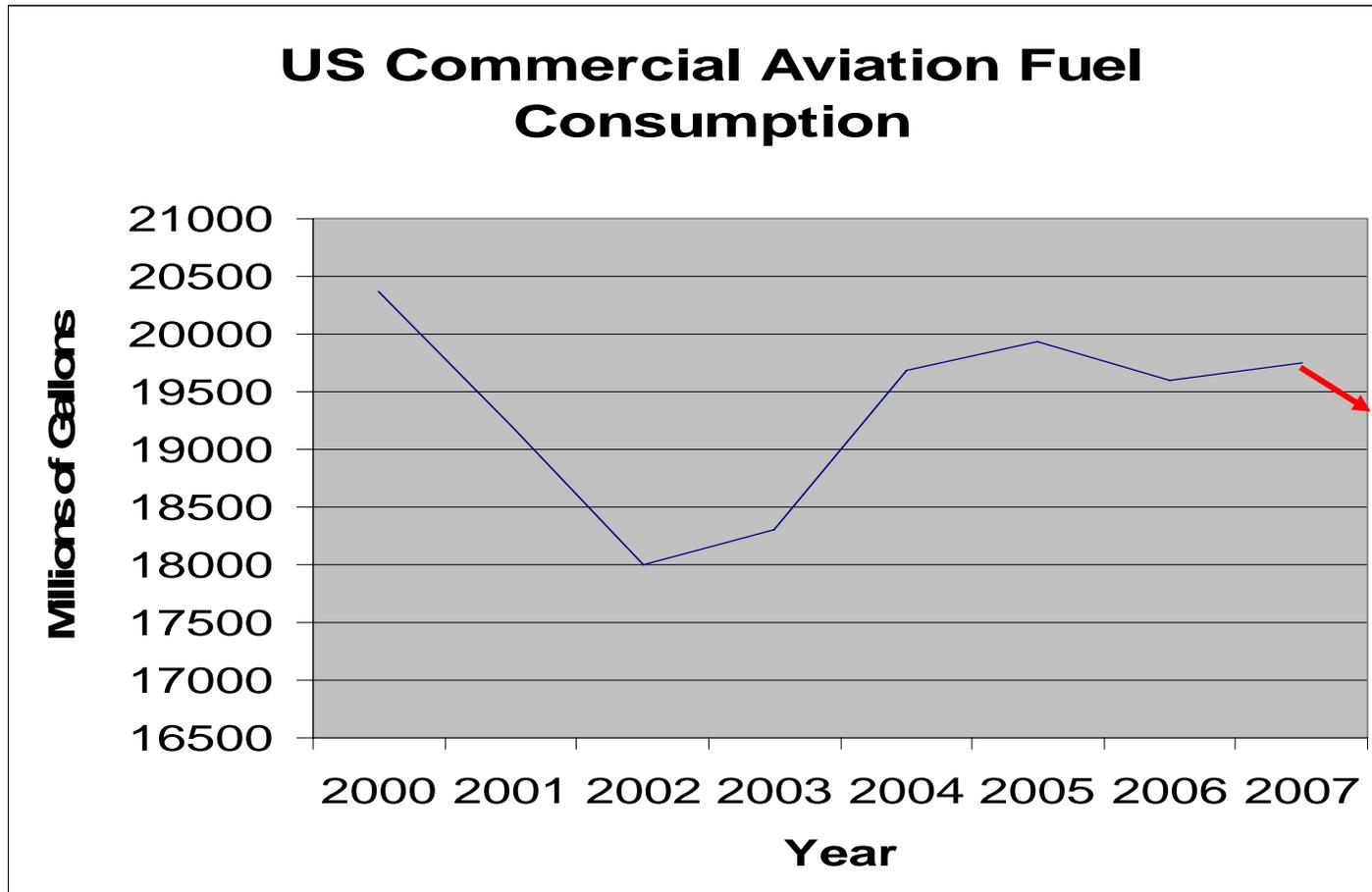
# Energy Intensity: U.S. Aviation vs. Other Transport Modes



Source: U.S. Department of Energy, U.S. Energy Intensity indicators. (<http://www1.eere.energy.gov/ba/pba/intensityindicators/>)



# U.S. Fuel Consumption (& Emissions) Remain Below 2000



Source: U.S. DOT, BTS



# Impact of Fuel Costs on U.S. Growth and Emissions

## Fuel Cost Impact on Jobs, Fares & Capacity

(systemwide for 40 passenger-only airlines)

Oil price \$/bbl	Jet fuel Costs \$/gal	Industry Fuel costs (\$millions)	Increase in Fuel costs (\$millions)	Per passenger req'd price incr (\$)	req'd price incr (percentage)	Loss of Jobs	Reduction in Capacity
100	3.1	51,375	17,481	24	13%	44,300	11%
110	3.3	55,327	21,433	29	16%	54,315	13%
120	3.6	59,279	25,385	34	18%	64,329	15%
<b>130</b>	<b>3.8</b>	<b>63,231</b>	<b>29,337</b>	<b>40</b>	<b>21%</b>	<b>74,344</b>	<b>18%</b>
<b>140</b>	<b>4.0</b>	<b>67,183</b>	<b>33,289</b>	<b>45</b>	<b>24%</b>	<b>84,359</b>	<b>20%</b>
150	4.3	71,135	37,241	50	27%	94,374	23%
170	4.8	79,039	45,145	61	33%	114,403	28%
200	5.5	90,894	57,000	77	41%	144,448	35%

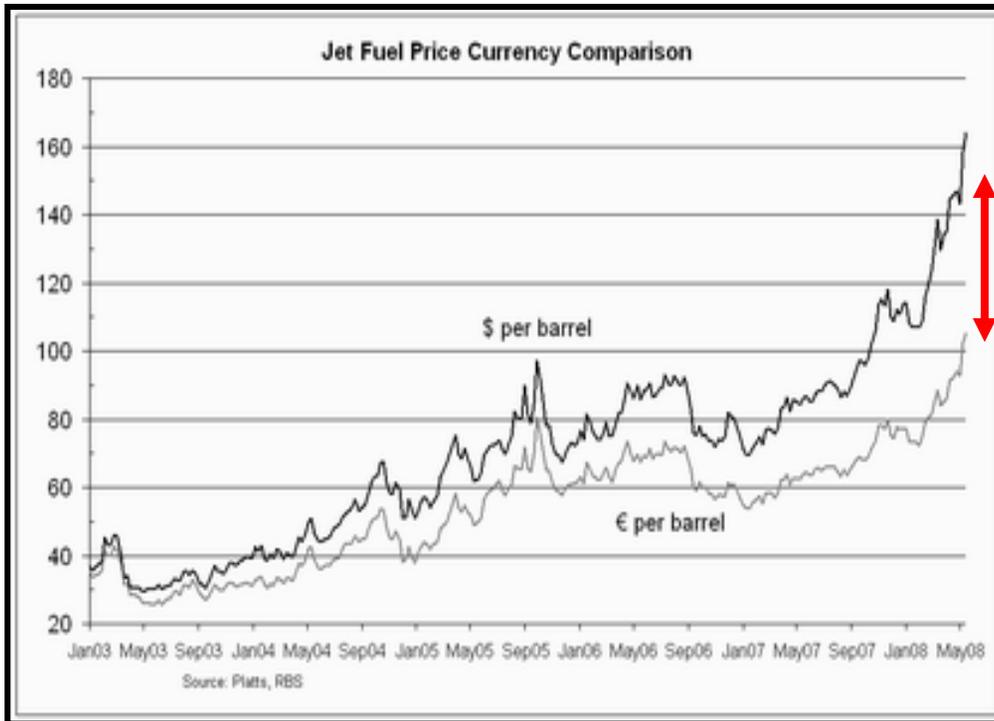
Per passenger price is based on revenue per enplaned passenger

Loss of jobs and capacity is based on estimated price elasticity of demand

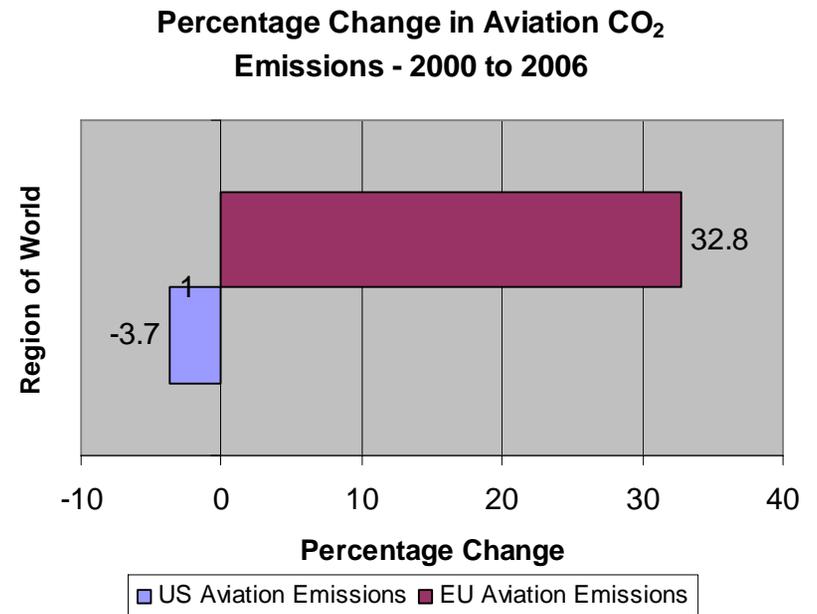
The increase in fuel costs do not include fuel hedge benefits and is relative to 2007

Source: Business Travel Coalition and Airline Forecasts LLC: <http://businesstravelcoalition.com/>

# U.S. Aviation Experience Very Different Than EU



Source: IATA [http://www.iata.org/whatwedo/economics/fuel\\_monitor/price\\_development.htm](http://www.iata.org/whatwedo/economics/fuel_monitor/price_development.htm)



Source: Volpe. (Note: For EU-15)

# The U.S. Way Forward: NextGen

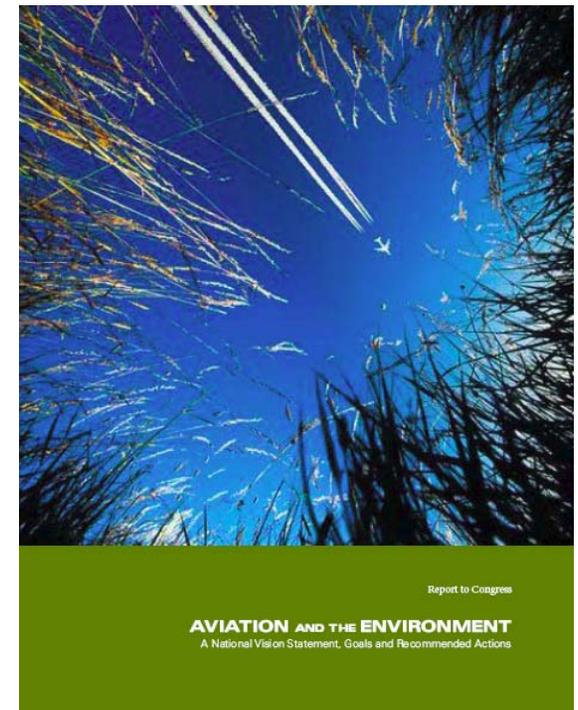
## NextGen Vision

*Provide environmental protection that allows sustained aviation growth*



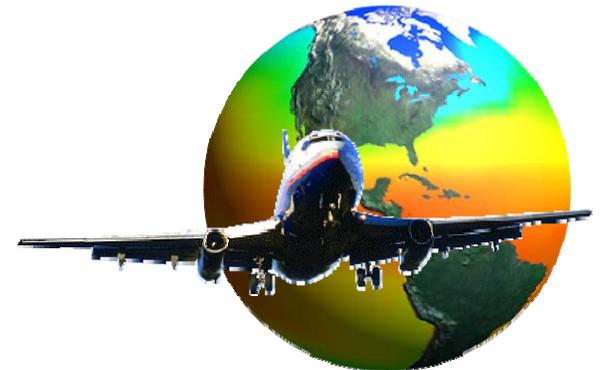
### Key Initiatives:

- Better Scientific Understanding
- Accelerate ATM Modernization
- Encourage New Aircraft Technology
- Develop Alternative Fuels
- Consider Cost-Beneficial Market-Based Measures
- Accelerate International Collaboration



# The U.S. Supports ICAO

- **U.S. actively supported development of ICAO's guidance on emissions trading.**
- **Emissions trading is just one tool; it is not the solution for everyone.**
- **Effectiveness and cost should weigh market-measures use.**
- **Design is essential. Need to avoid illegal application, multiple taxation, unsupported charges, and unintended impacts.**
- **Measures should be developed by collaboration and consent.**
- **GIACC offers opportunity to develop common framework**



# Closing Observations

- Environmental constraints to aviation growth are real and looming
- Appropriate market based measures may help address aviation emissions.
- Fuel price provides sufficient market incentives for U.S. today.
- Shared commitment  $\neq$  same measure
- Mutual agreement can solve the many, complex issues associated with this highly mobile, international industry.
- Success is about effective performance, not adoption of a particular solution.

