



The State of the Aviation Industry

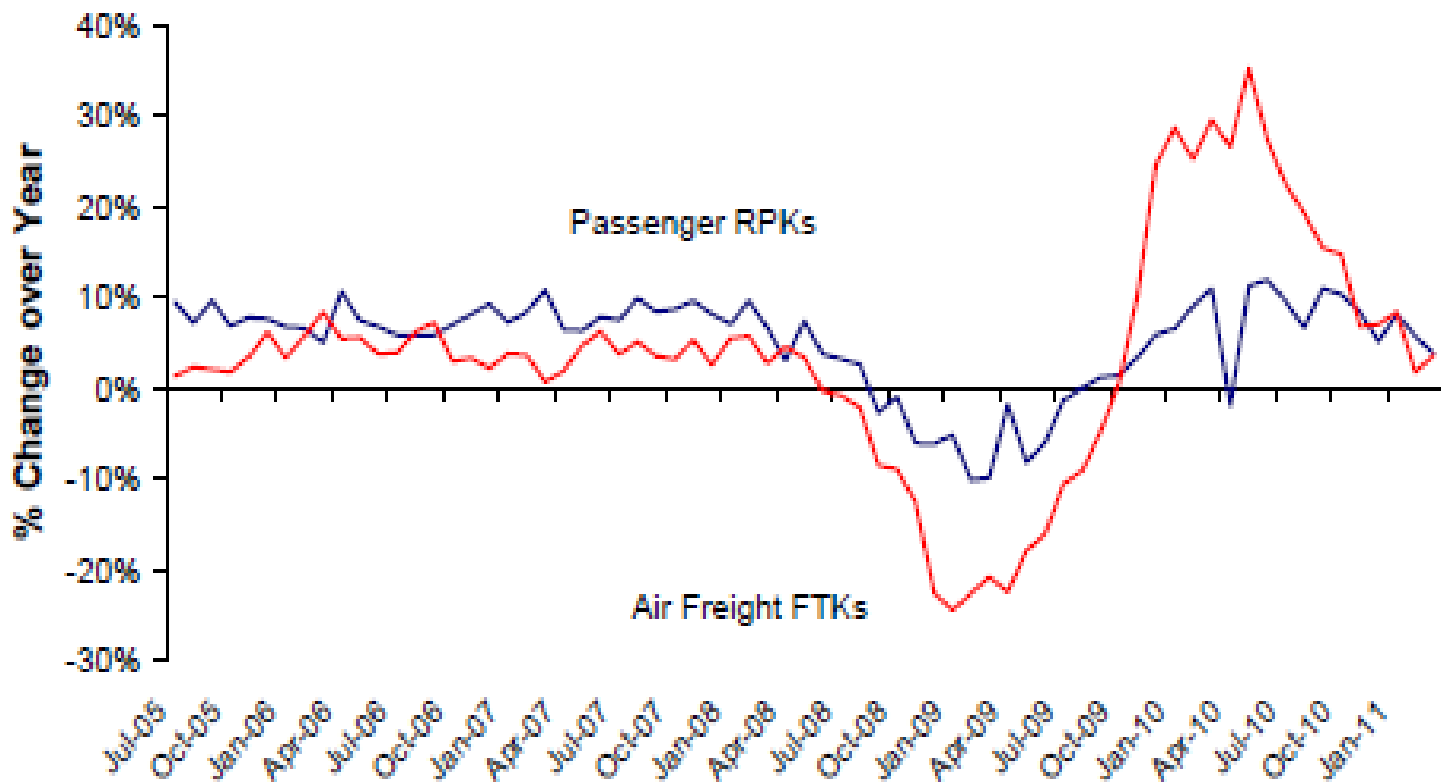
Dr. Charles E. Schlumberger
Lead Air Transport Specialist
The World Bank

São Paulo, 07th June 2011

Global Challenges

Industry Trends

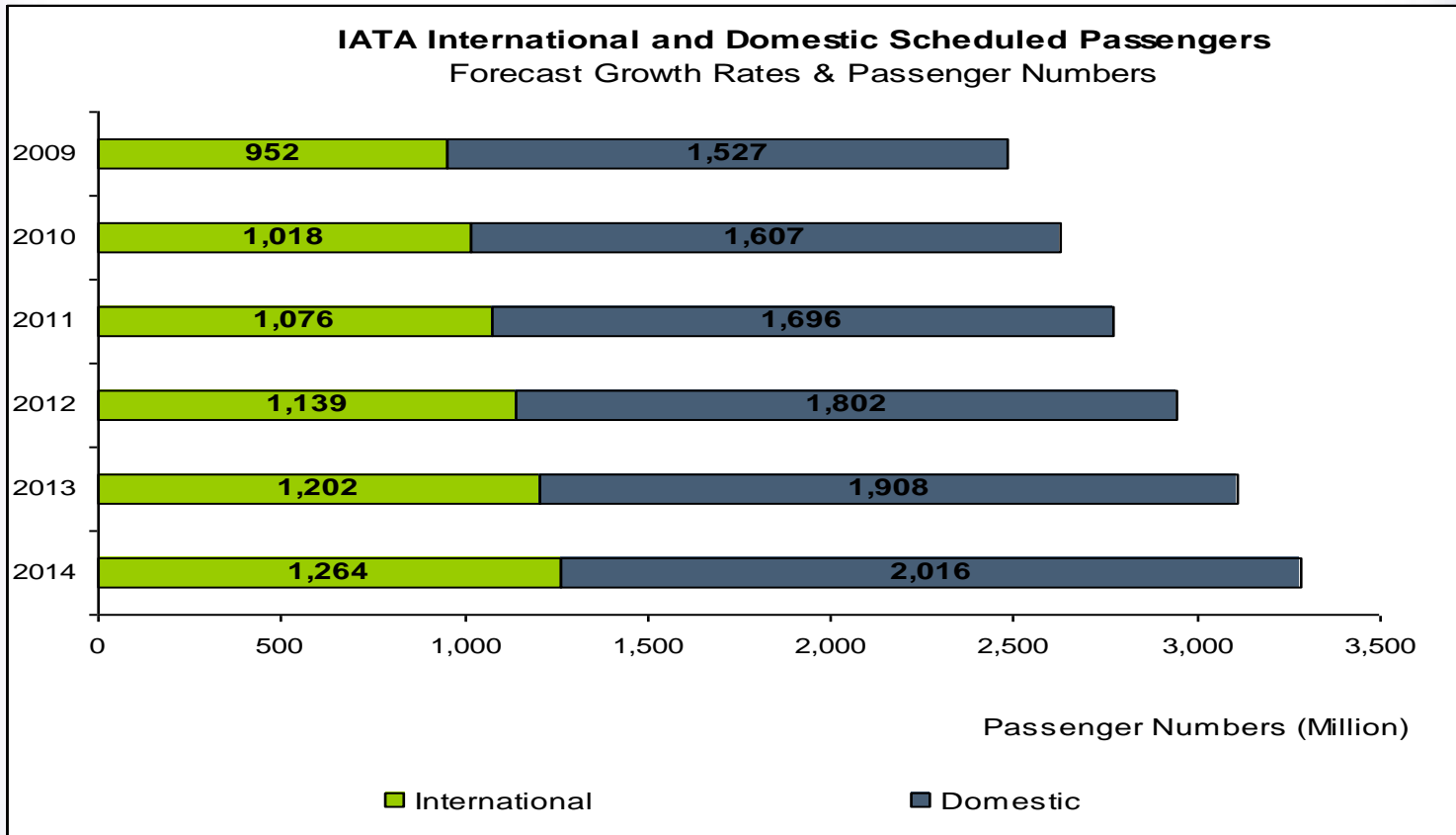
International Passenger and Freight Tonne Kilometers
Source: IATA



Recent growth was hit by political instability in North Africa and the Middle East

Global Challenges

Industry Trends

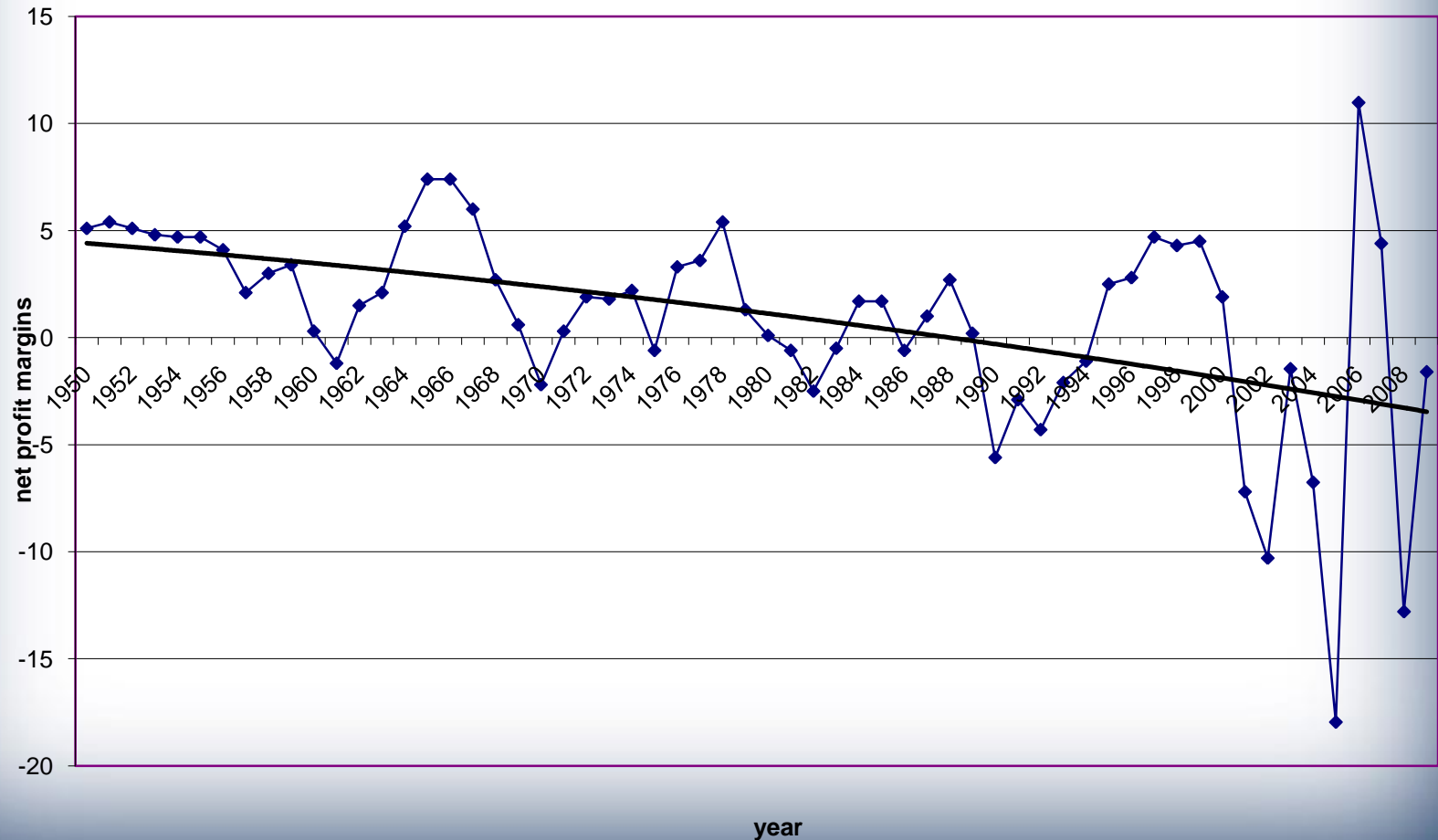


IATA International & Domestic Passenger Traffic Growth:
From 2,5 B passengers to 3,3 B between 2009 and 2014

Global Challenges

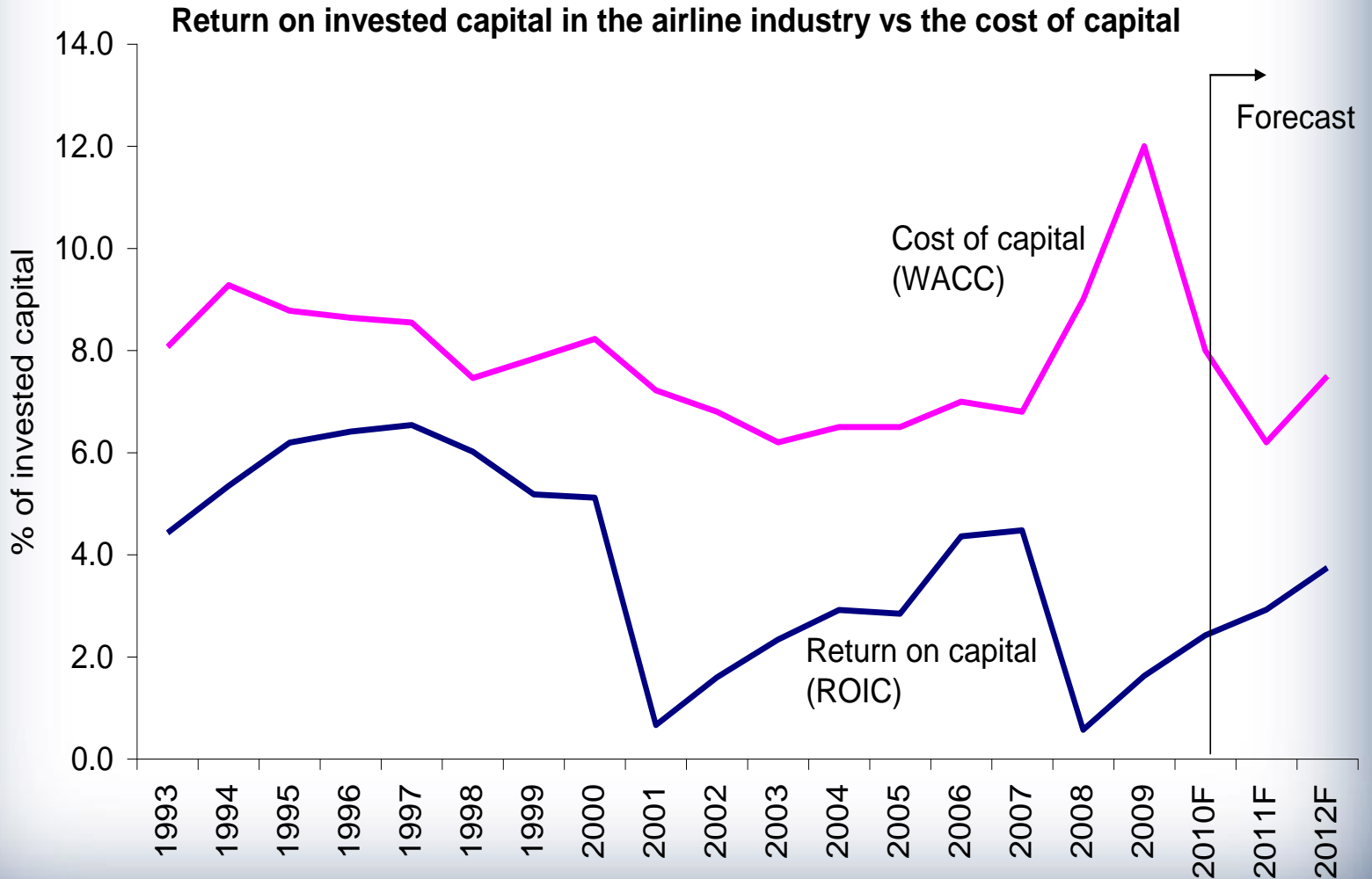
Business risk – Airline Profitability

US AIRLINE INDUSTRY NET PROFIT MARGINS 1950-2009



Global Challenges

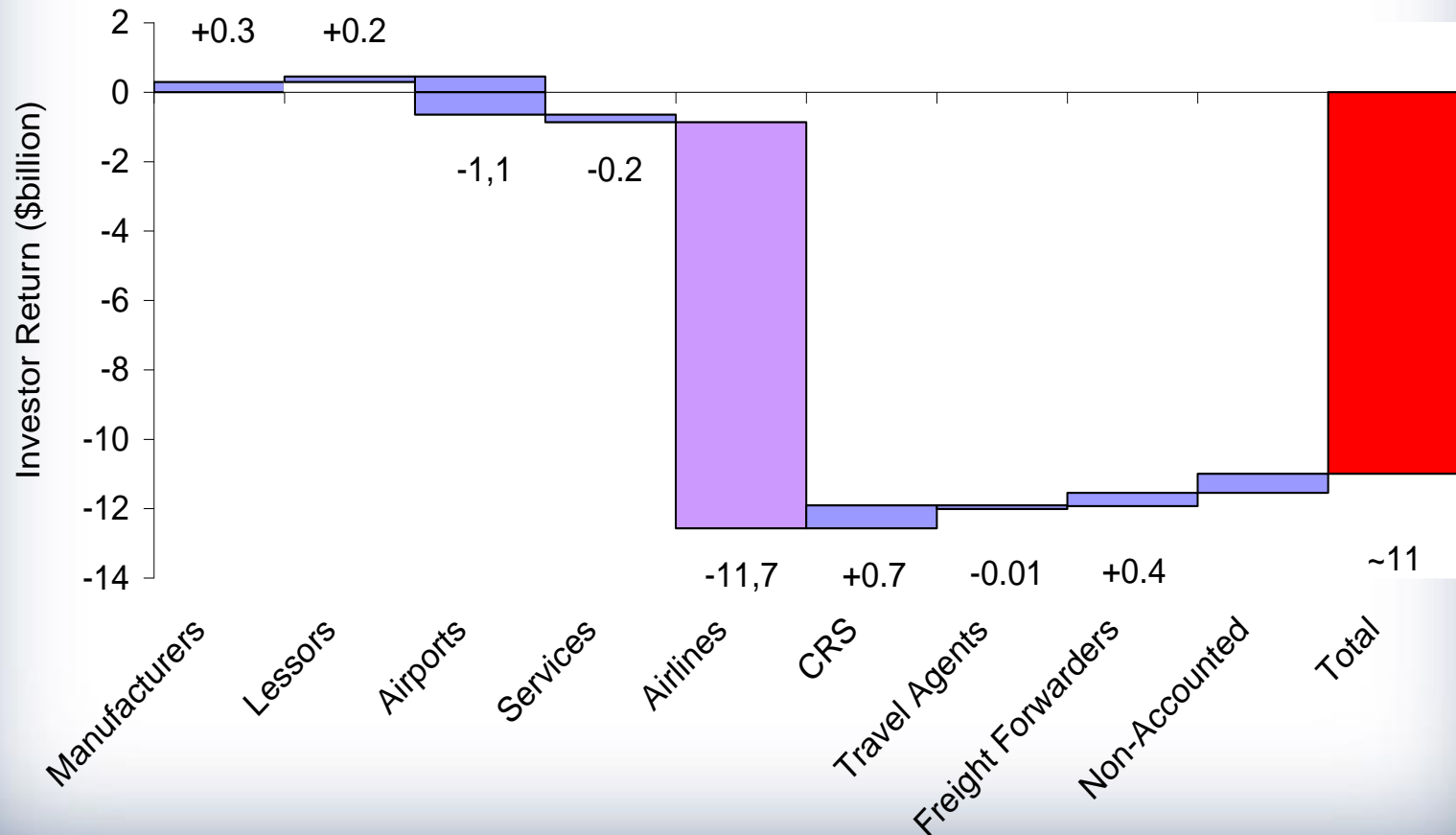
Business risk – Return on investment



Global Challenges

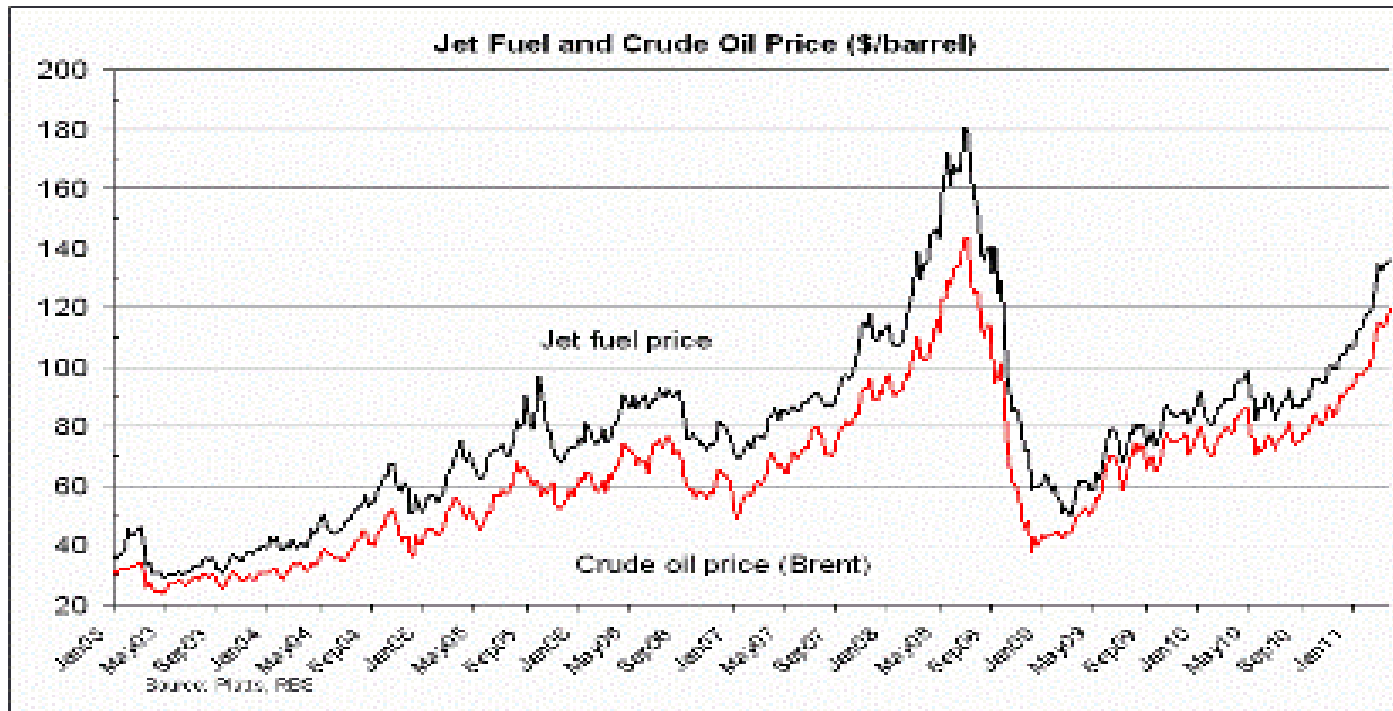
Business risk – Industry structure

Annual investor returns (US\$bn) in the air transport value chain (1996-2004)



Global Challenges

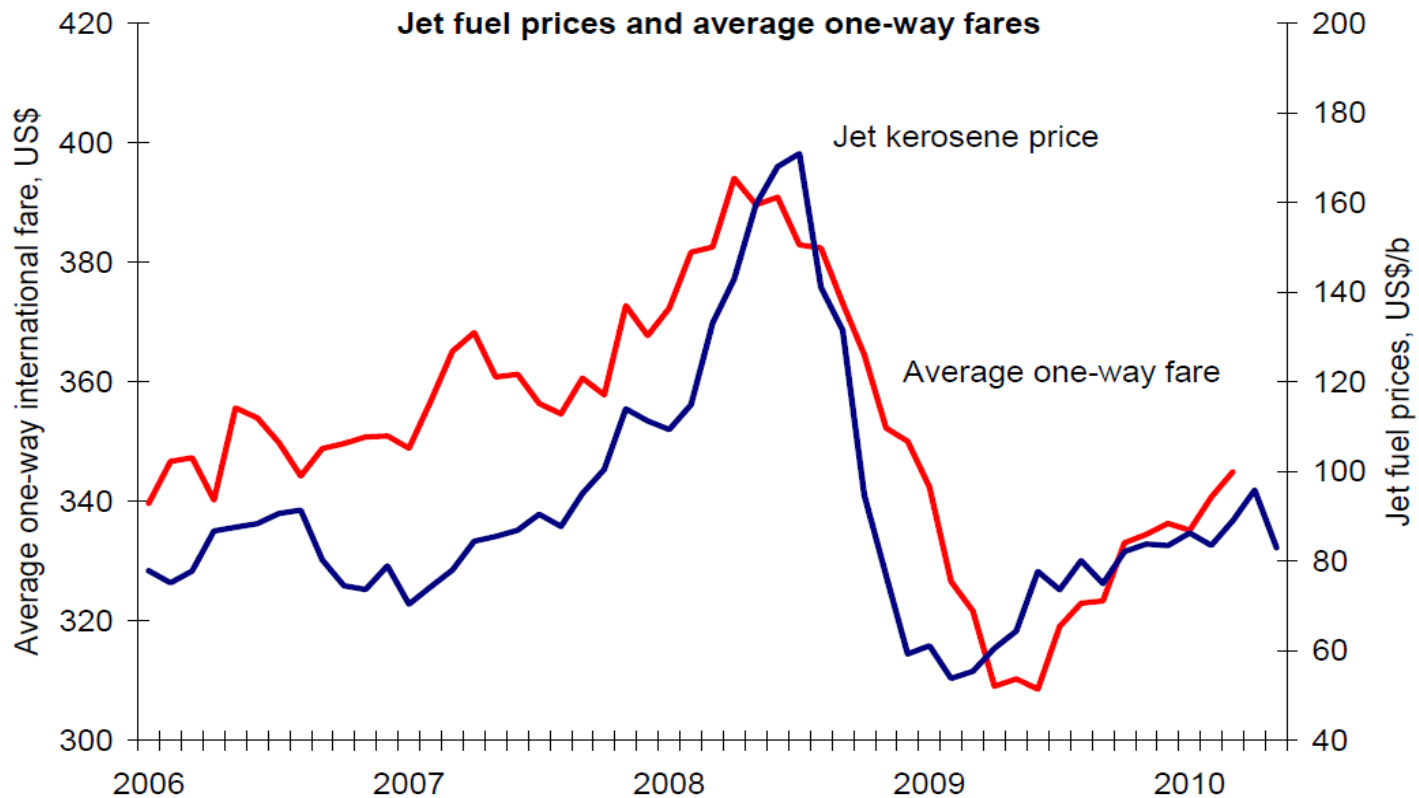
Oil Price



| Percentage change vs. | | | Impact on this year's fuel bill of the global airline industry: | |
|-----------------------|-------------|------------|---|--------------------------|
| 1 week ago | 1 month ago | 1 year ago | New fuel price average for 2011 | Impact on 2011 fuel bill |
| 1.30% | 2.30% | 45.20% | \$123.1/b | +\$53 billion |

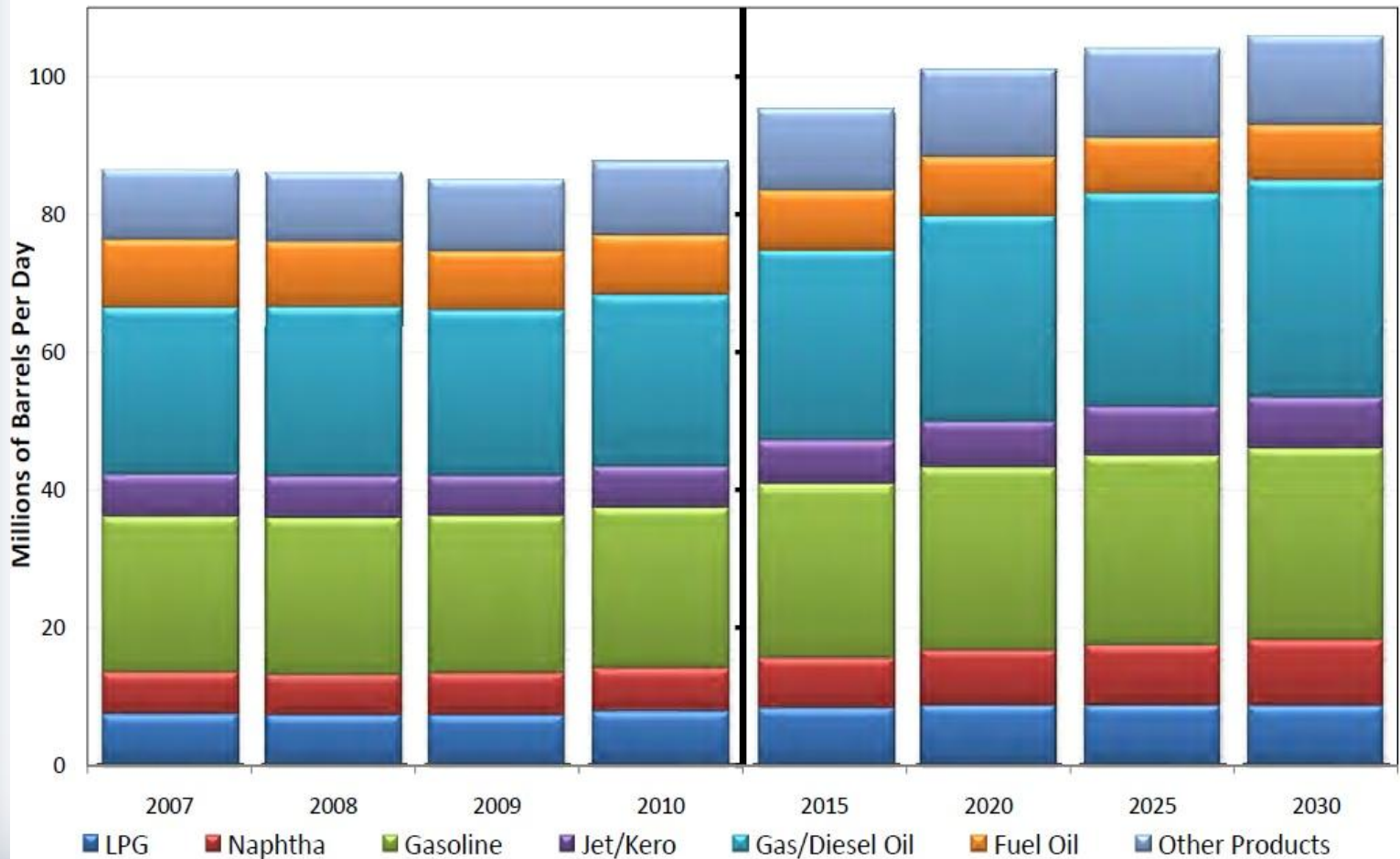
Post crisis challenge : Oil

Will jet fuel and crude oil surge again?

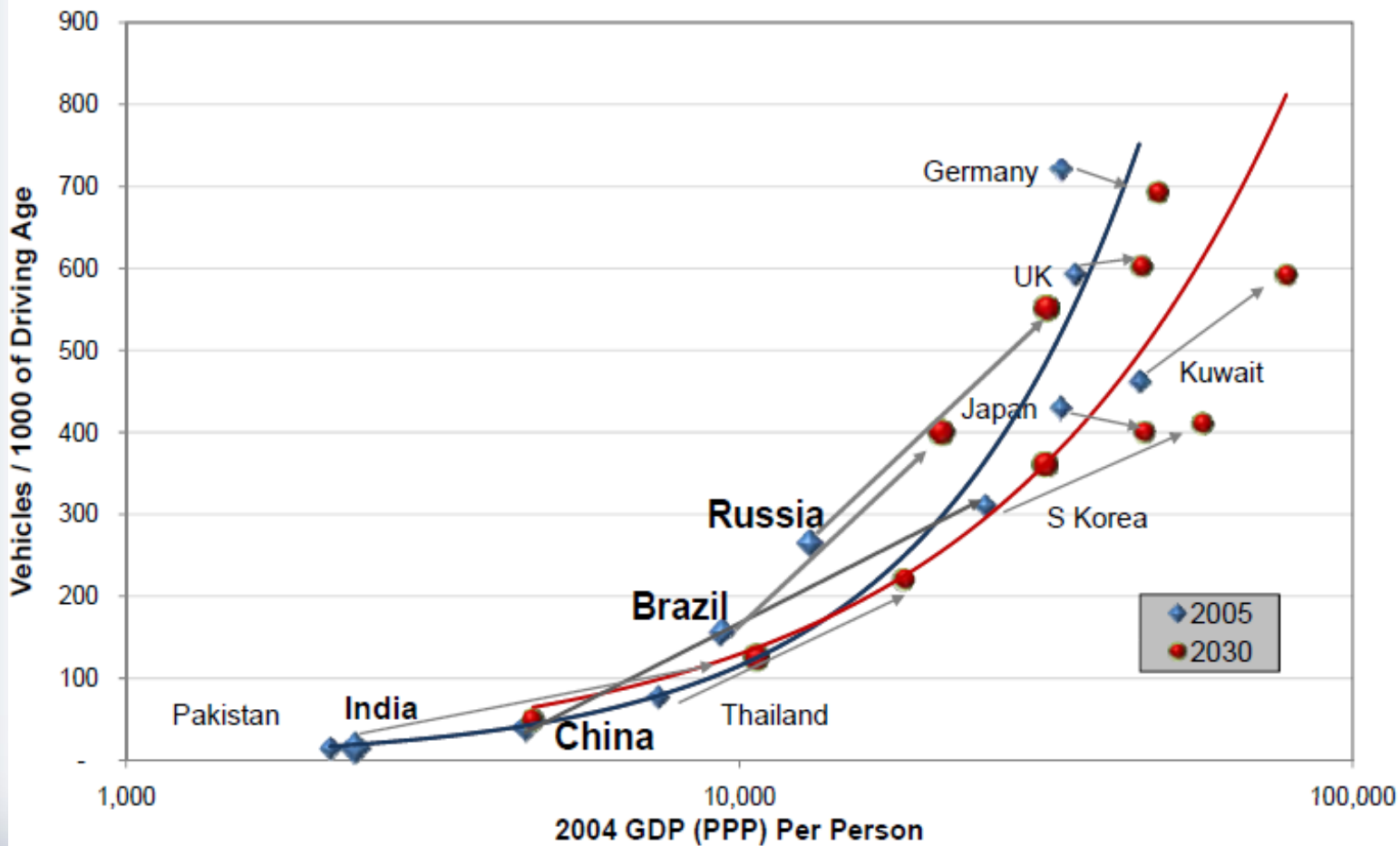


Future Demand of Oil

Demand by Products



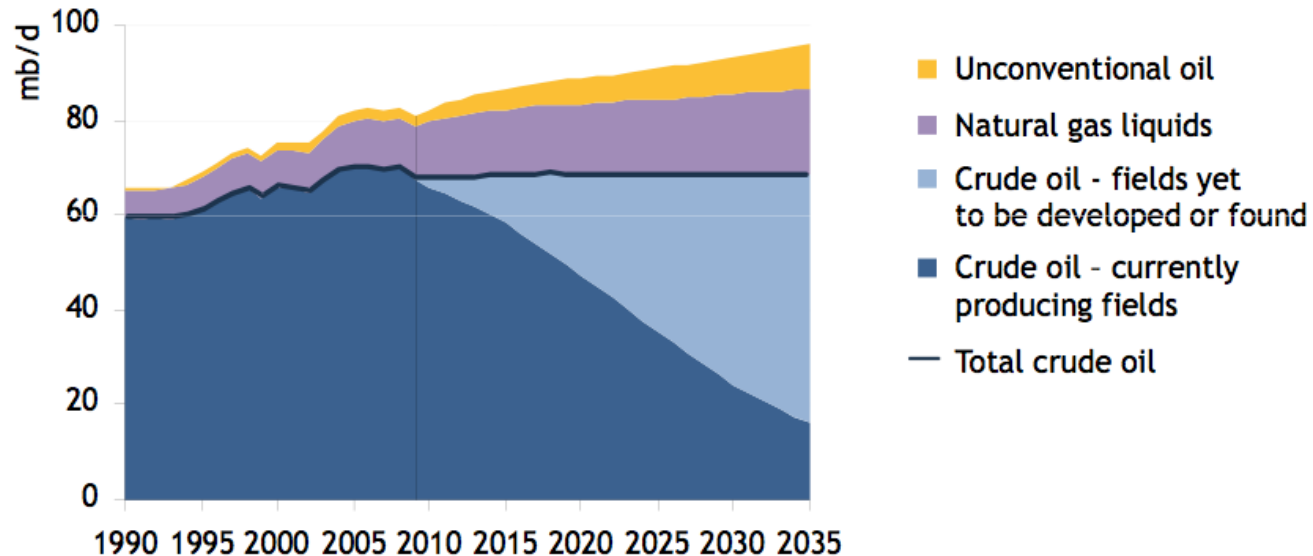
Future Demand of Oil Transport Sector is Driver



Future Oil Production

IEA Scenario: Crude Oil Plateau

World oil production by type in the New Policies Scenario

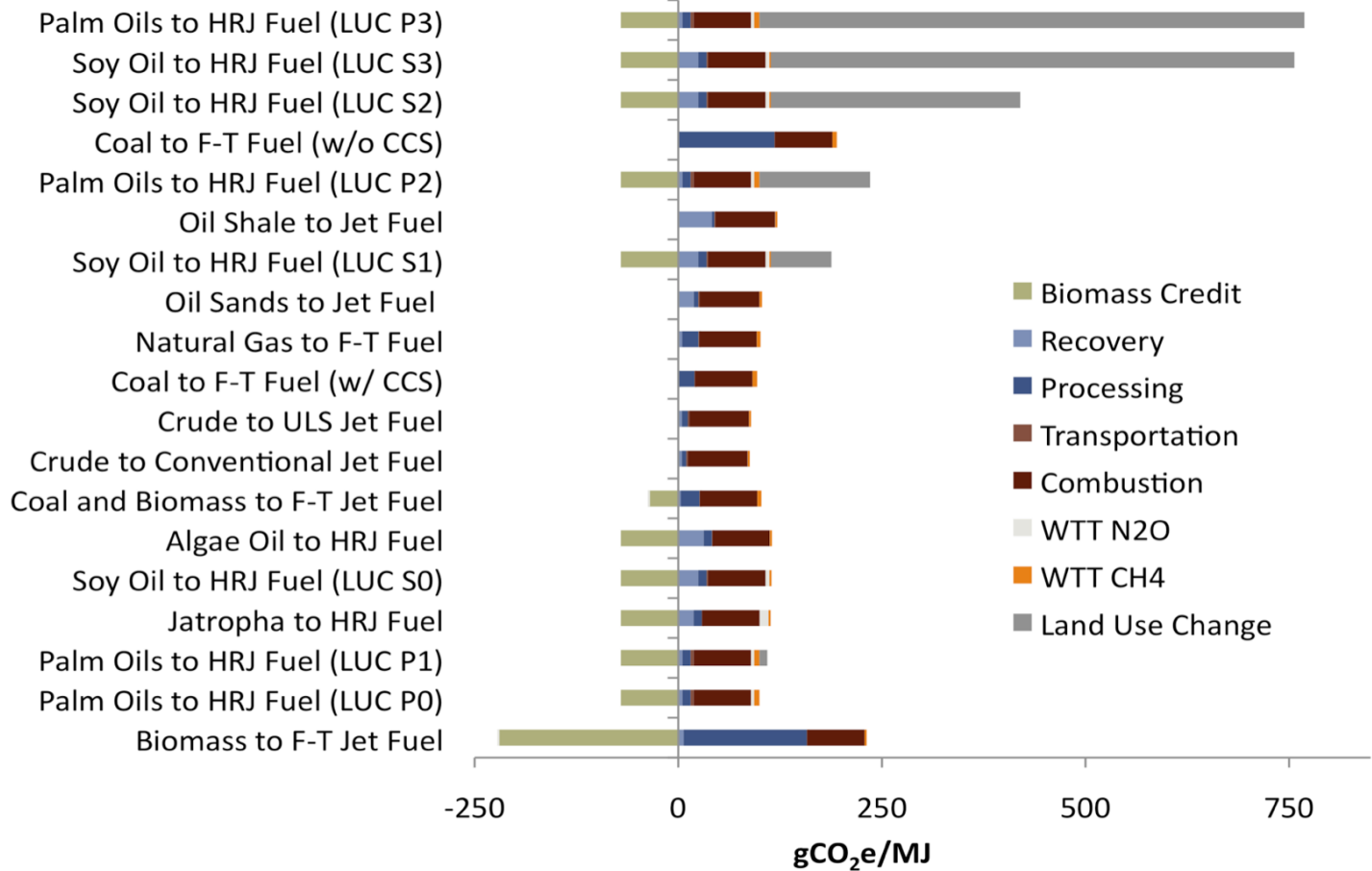


Global oil production reaches 96 mb/d in 2035 on the back of rising output of natural gas liquids & unconventional oil, as crude oil production plateaus

© OECD/IEA 2010

Jet Fuel and the Environment

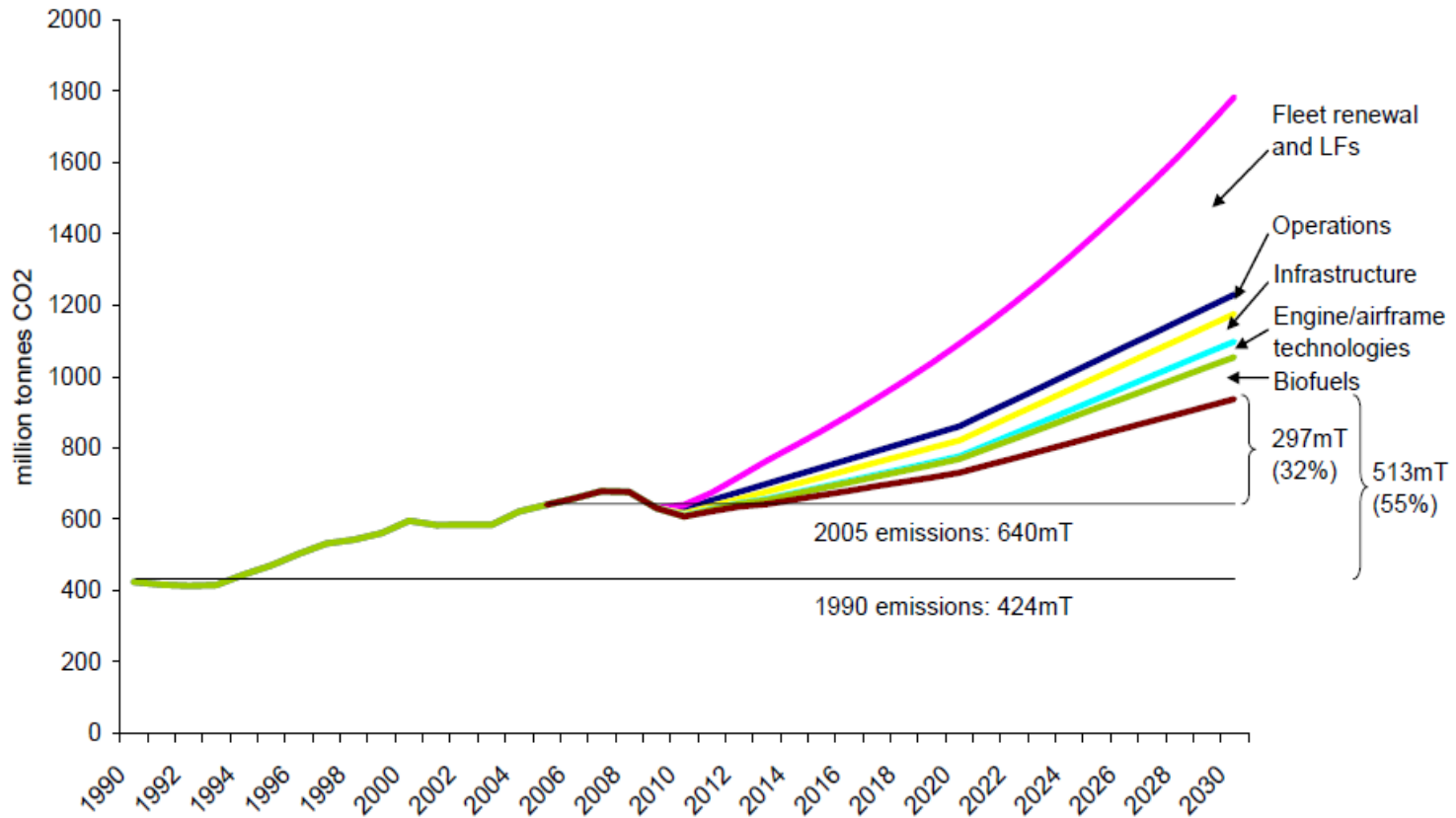
Life-cycle Analysis of various Types



Jet Fuel and the Environment

Reduction of CO₂ Emissions

CO₂ emissions and reduction potential from commercial airline global fuel burn, million tonnes CO₂



The World Bank Group



IFC Projects- Ethanol

| Project Name | Country | Material | Product | IFC Investment | Time invested |
|--------------------------------|-----------|------------|------------------------------|----------------|---------------|
| Pantaleon Sugar | Guatemala | sugar | ethanol and power generation | \$20 million | 2008 |
| Monte Rosa Sugar | Nicaragua | sugar | ethanol and power generation | \$50 million | 2008 |
| Maple Energy | Peru | sugar cane | ethanol and power generation | \$40 million | 2007 |
| Balrampur II | India | sugar | ethanol and power generation | \$40 million | 2007 |
| BHSIL | India | sugar | ethanol and power generation | \$45 million | 2007 |
| Nicaragua Sugar Estates | Nicaragua | sugar | ethanol and power generation | \$25 million | 2006 |

IFC Projects- Biomass

| Project Name | Country | Material | Product | IFC Investment | Time invested |
|------------------------------|-----------|----------|----------------|----------------|---------------|
| Auro Mira Energy | India | biomass | Electric Power | \$10.6 million | TBD |
| Auro Mira Bio Systems | India | biomass | Electric Power | TBD | TBD |
| Lanco Infratech | India | biomass | Electric Power | TBD | TBD |
| PT Holcim | Indonesia | biomass | Electric Power | TBD | TBD |

IFC Projects- Alternative Fuels

| Project Name | Country | Material | Product | IFC Investment | Time invested |
|--|--------------|---|---|----------------|---------------|
| Combustibles Ecologicos Mexicanos | Mexico | natural gas | Gas-to-liquid alternative fuel for vehicles | \$10 million | 2001 |
| OEA/Foz | Brazil | ETH, a biofuel company which produce ethanol and energy | | \$50 million | 2010 (signed) |
| Bioventures Fund | South Africa | | development of biofuels | \$2.5 million | 2002 |

IFC Projects- Jet Fuels

| Project Name | Country | Material | Product | IFC Investment | Time invested |
|--------------------------|--------------------|--------------|--|----------------|---------------|
| ERC Refinery | Egypt | residual oil | ultra low sulfur diesel, jet fuels, hydrogen plant | \$100 million | TBD |
| Alliance Refinery | Russian Federation | petroleum | diesel/kerosene, hydrogen | TBD | TBD |



Muito Obrigado!

www.worldbank.org/airtransport