

Tourist air travel and climate change

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Different perspectives

From a global perspective:

- Need to reduce emissions: higher airfares, less travel, climate impact reduced

From a destination perspective:

- Need to maintain/grow arrivals: higher airfares, less travel, reduced economic benefit

Dilemma for NZ as a “sustainable destination”



Let's start with the global picture

Global Tourism Emissions in 2005: CO₂ Only (UNWTO Davos report)

| <u>Sub-Sectors</u> | CO ₂ (Mt) | |
|-----------------------------------|----------------------|-----|
| Air transport * | 522 | 40% |
| Car transport | 418 | 32% |
| Other transport | 39 | 3% |
| Accommodation | 274 | 21% |
| Activities | 52 | 4% |
| TOTAL tourism | 1,307 | |
| Total World (IPCC 2007) | 26,400 | |
| Tourism Contribution | 4.95% | |

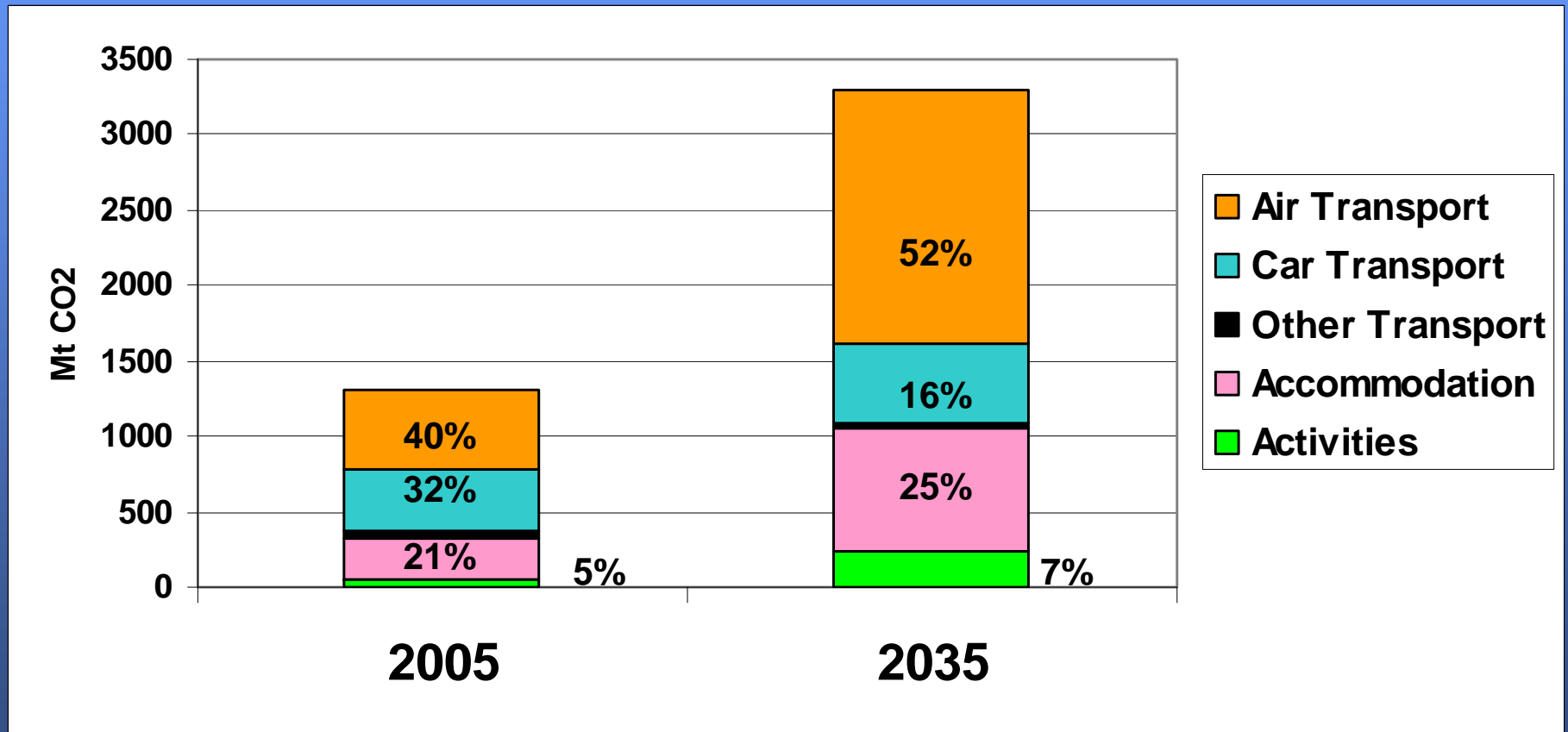
} Transportation of Tourists = 75% of Sector Emissions

* - does not include non-CO₂ emissions and impact on climate

If Tourism was a Country

| Rank | Country | Percentage of total emissions (2005) |
|------|---|---|
| 1 |  United States | 22.2 % |
| 2 |  China | 18.4 % |
| - |  <i>European Union</i> | 11.4 % |
| 3 |  Russia | 5.6 % |
| - | Global Tourism Sector | 4.95% |
| 4 |  India | 4.9 % |
| 5 |  Japan | 4.6 % |
| 6 |  Germany | 3.0 % |
| 7 |  Canada | 2.3 % |
| 8 |  United Kingdom | 2.2 % |
| 9 |  South Korea | 1.7 % |
| 10 |  Italy | 1.7 % |

'Business as Usual' Projection of Future CO₂ Emissions from Tourism*



* Excluding same-day visitors; UNWTO Davos report



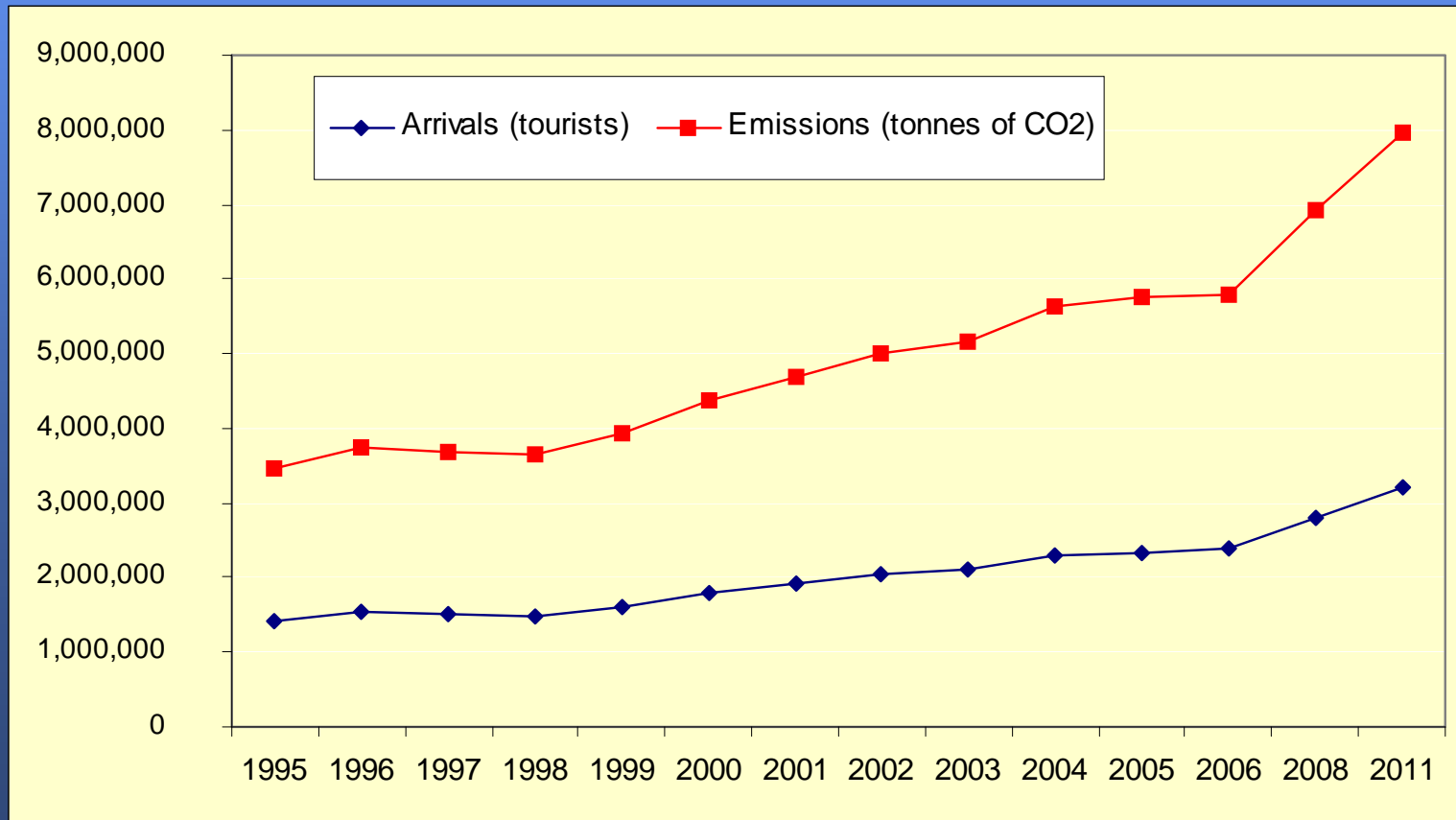
Now to New Zealand

... reflects the global picture

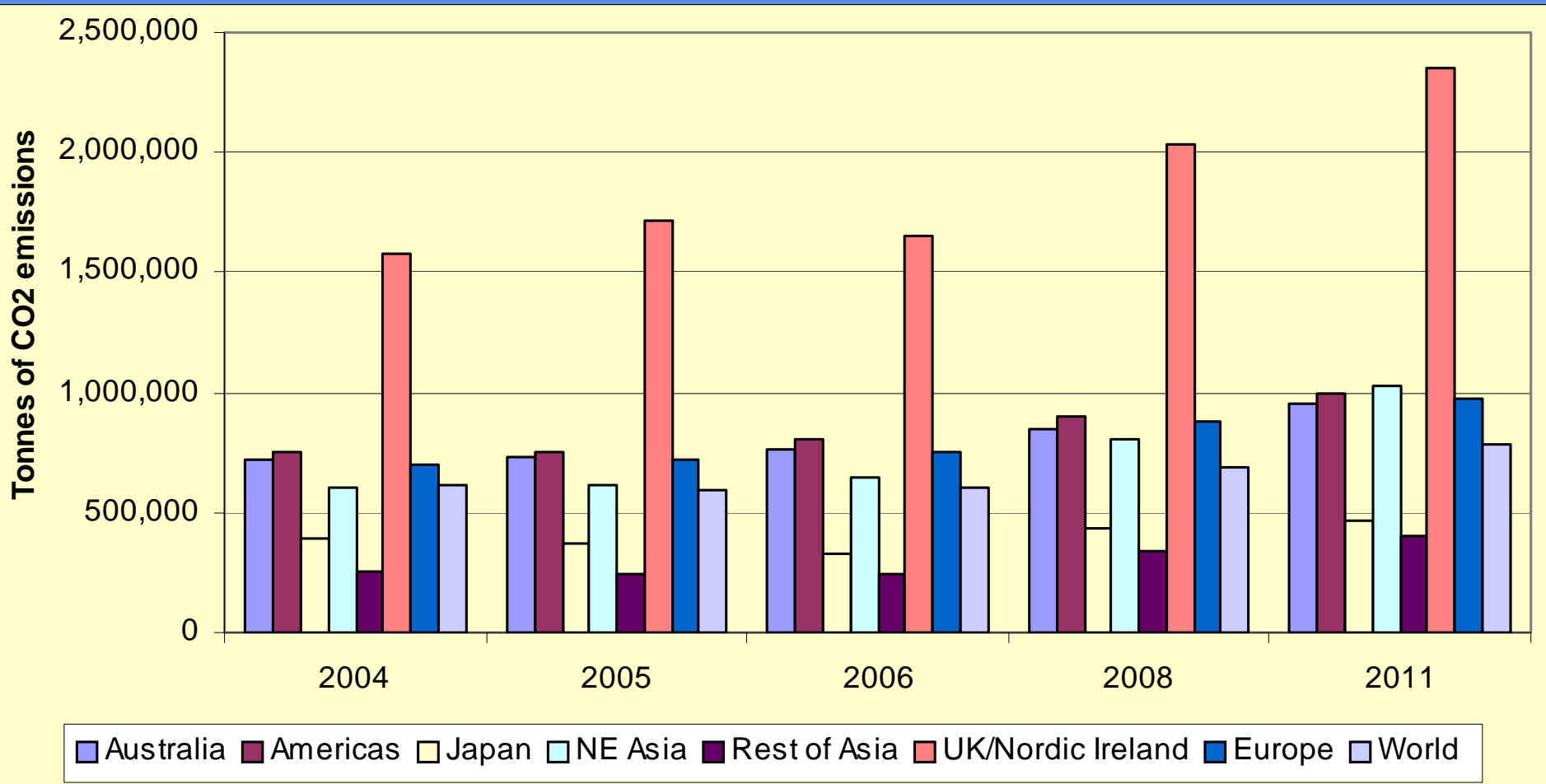


Emissions: international tourists to NZ

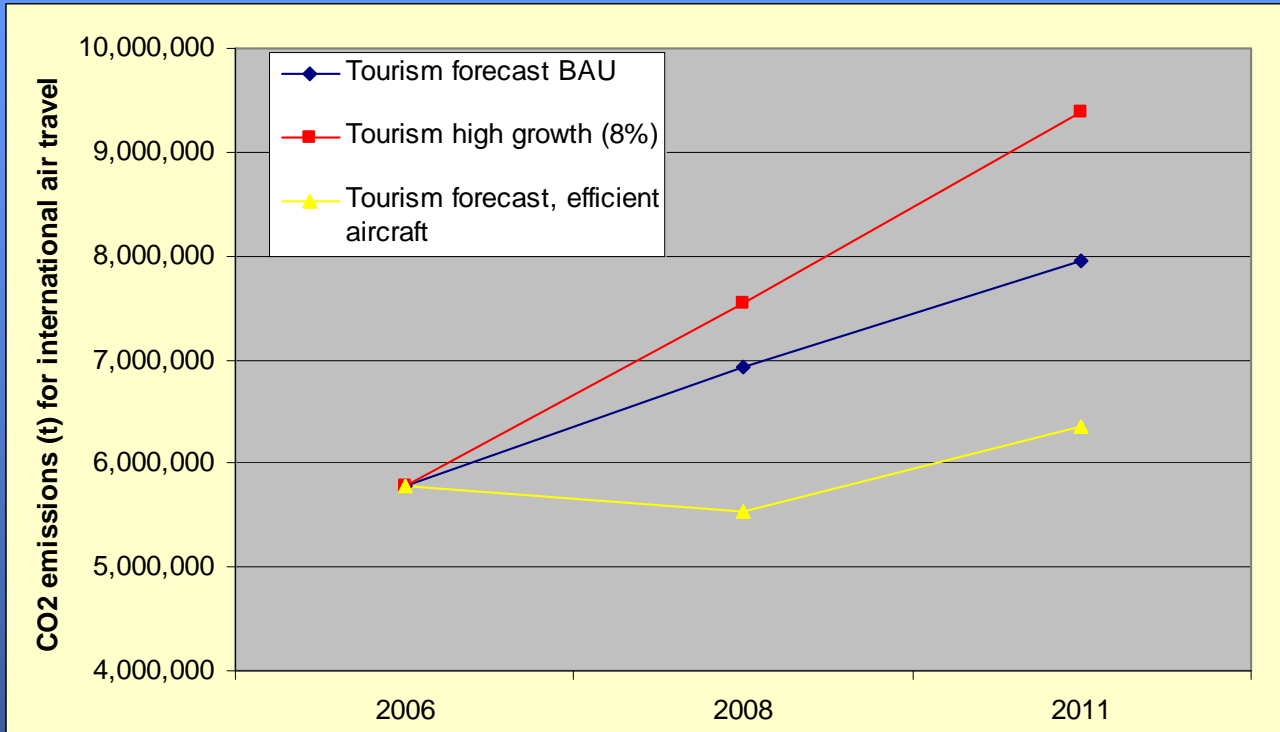
- Historic and forecast arrivals to New Zealand, and CO2 emissions for resulting return travel by air



Emissions by markets



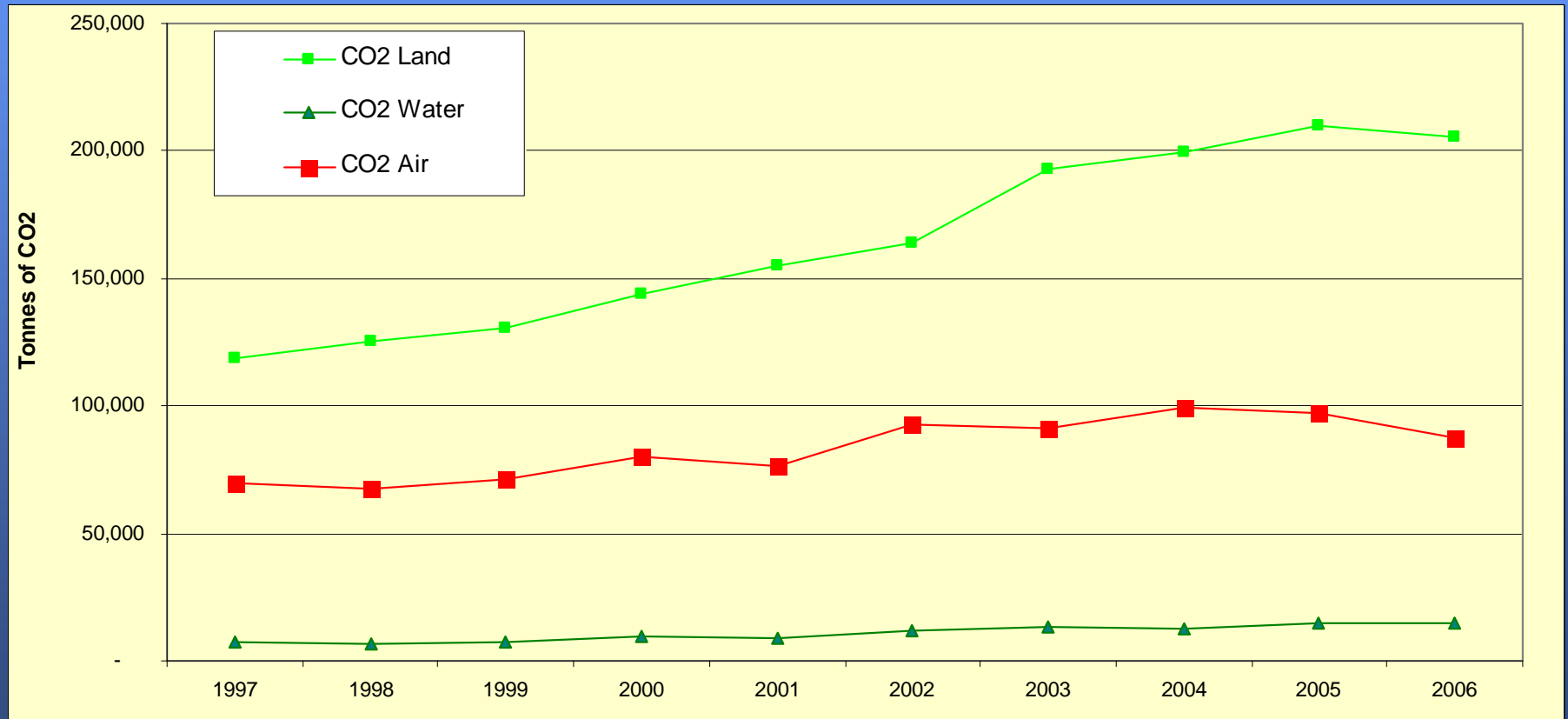
Very simple scenario



- Tourism forecast BAU: as in the Ministry's forecast
- Tourism high growth: 'aspirational' 8%
- Tourism forecast (as in BAU), and 20% more efficient aircraft



In addition: emissions from tourists' domestic travel





Drivers of change

What would lead to reduced emissions?

- Environmental perceptions
- Climate policies (i.e. \$)
- Global oil prices (i.e. \$)

Let's focus on international air travel again



Environmental perceptions

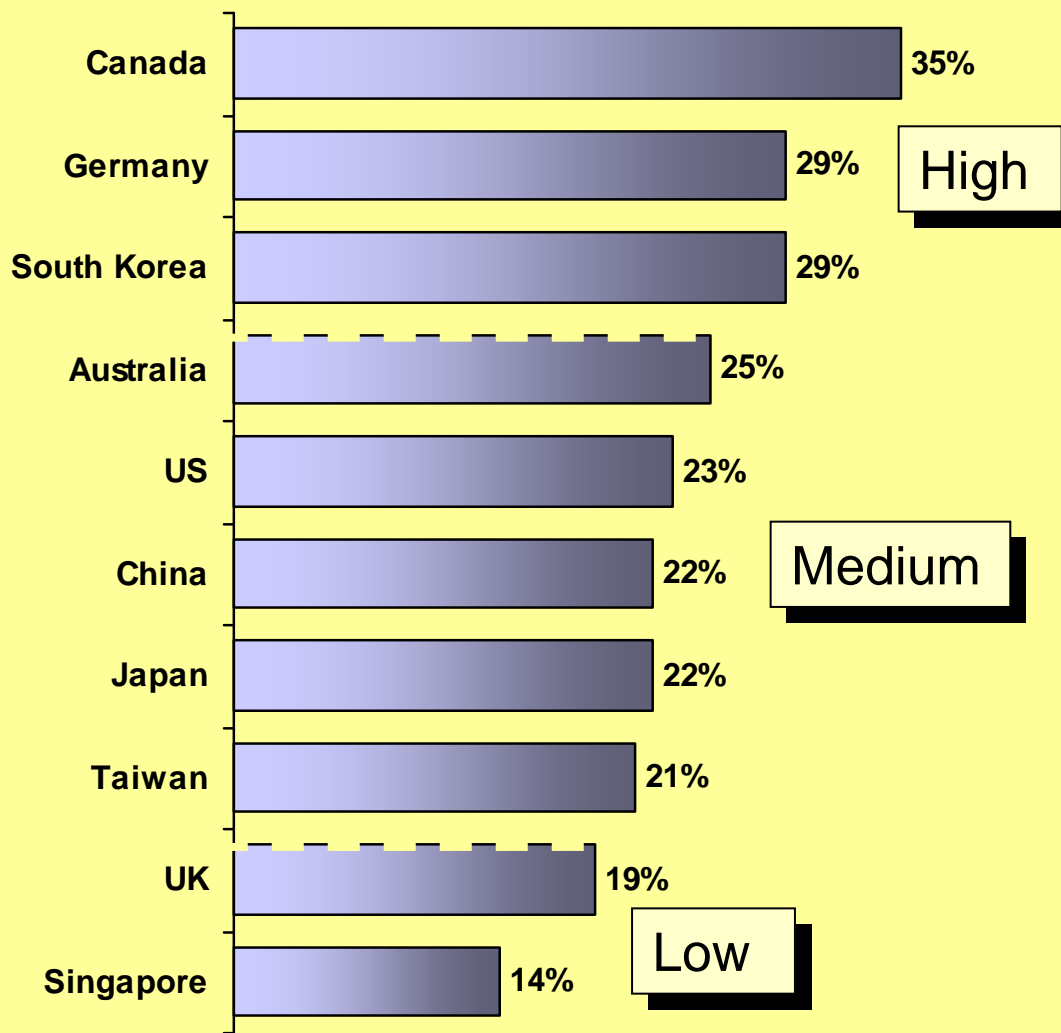
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ACNielsen study: How concerned are you about the environment? % Very Concerned





2007 Lonely Planet Survey

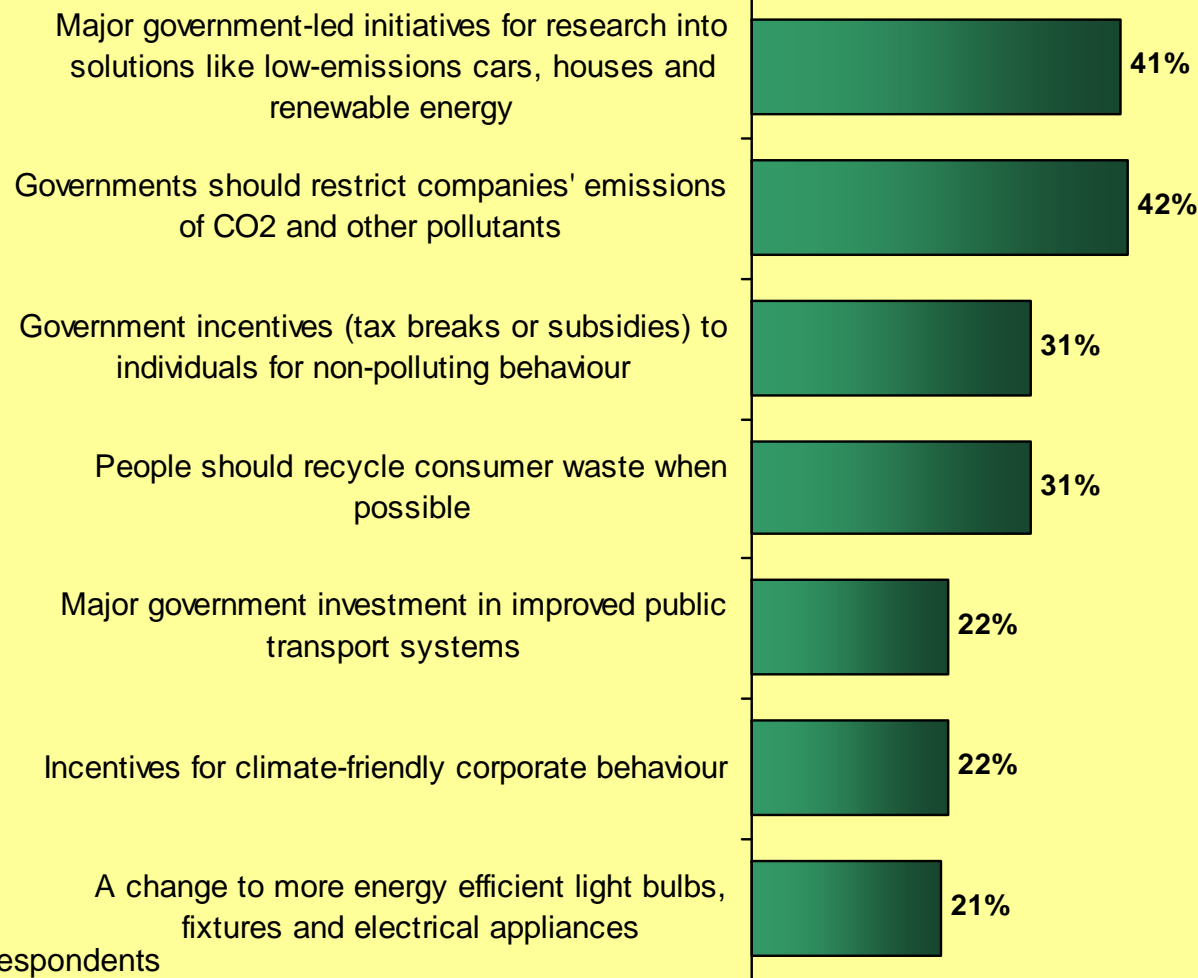
- 24,500 respondents globally
- 84 percent would consider carbon offsetting of travel emissions
- 31 percent had already done so
- Similar responses Asia and rest of World
- Only 7 percent did not think carbon emission were a concern
- 93 percent would/might participate in environmentally friendly travel in future



However...



What are the biggest contributions society can make to combat global warming/climate change?

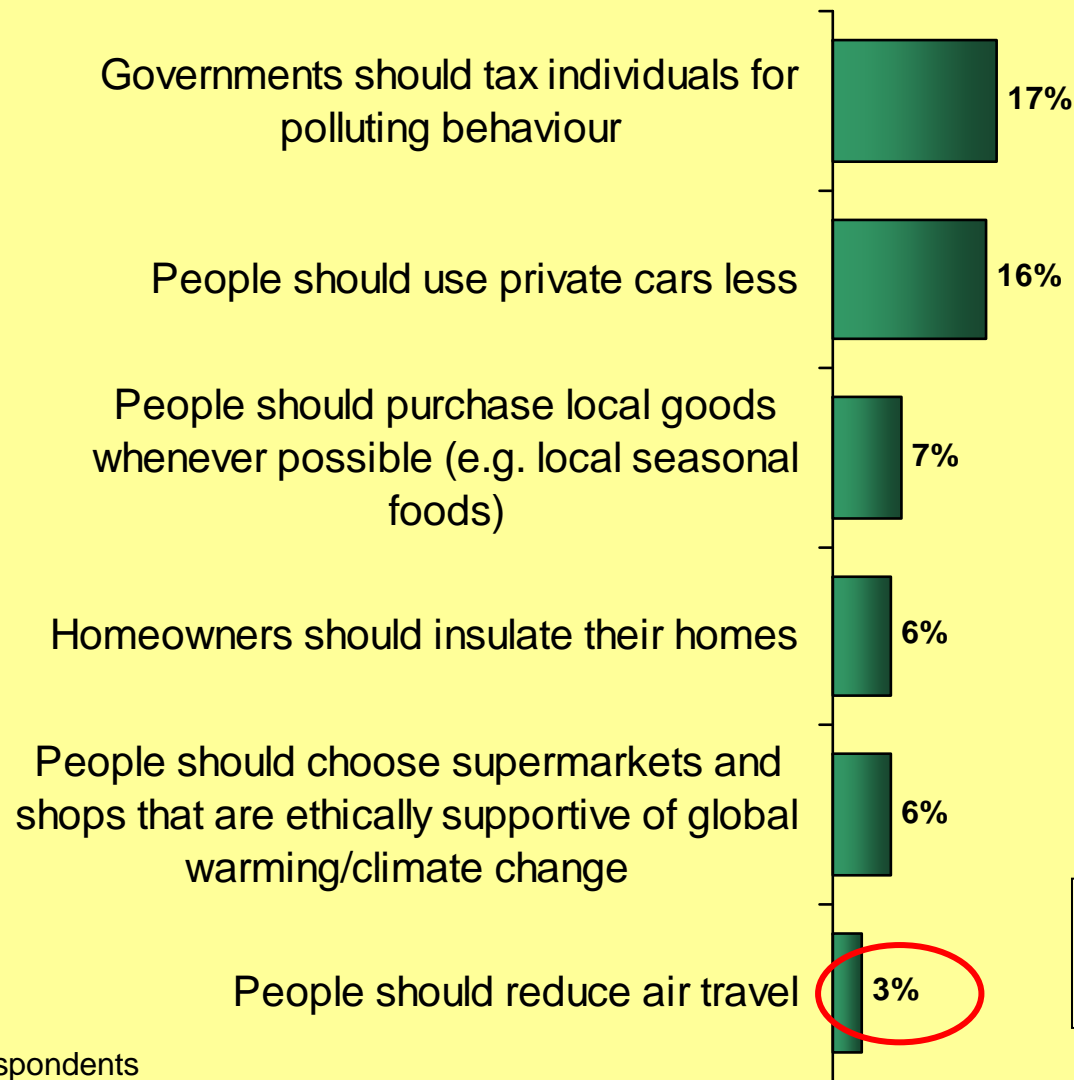


Government-led initiatives come first

Base: All respondents



Continued



Reducing air travel comes last

Base: All respondents



So-called *Green Market Gap*

Tourists are aware (and feel guilty, and maybe carbon offset) but have not changed behaviour –yet.



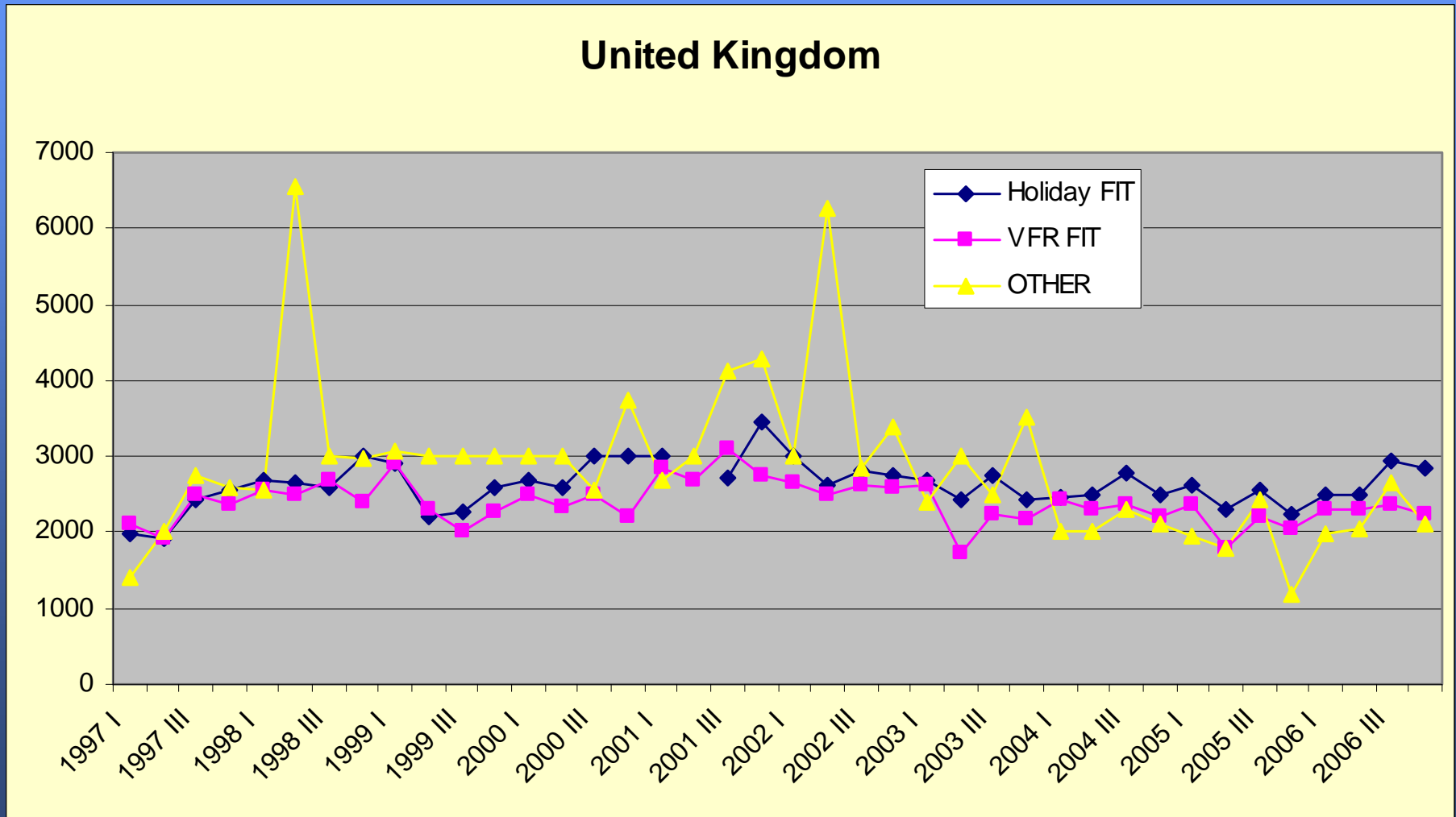
Increased airfares

- As a result of climate policies or oil prices

Price elasticity: say -0.7

- \Rightarrow for every increase in airfare of 1%, demand will decrease by 0.7%

Airfares are a complicated matter





Example for UK-NZ

- Airfare from Europe to NZ about \$2500
- Estimated carbon cost, e.g. \$250
- Airfare increases by 10%
- Demand expected to decrease by 7%
- The average UK visitor spends \$3283 in NZ
- 7% less => 19,000 fewer UK tourists
- Loss of about \$62 million



Economic implications

- Could be huge
- Depend on different price sensitivities of different markets
- Depend on climate policies
- Will also be influenced by environmental attitudes
- Too early to say

Recommendations

- Further analysis into price sensitivity (Lincoln University's oil project)
- Monitoring of perceptions
- Exploring domestic tourism
- Identifying high-yield niches
- Preparing for less growth than anticipated