

Towards a Sustainable Transport System

**Supporting Economic Growth in a Low
Carbon World**

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Transport Analysis and Review

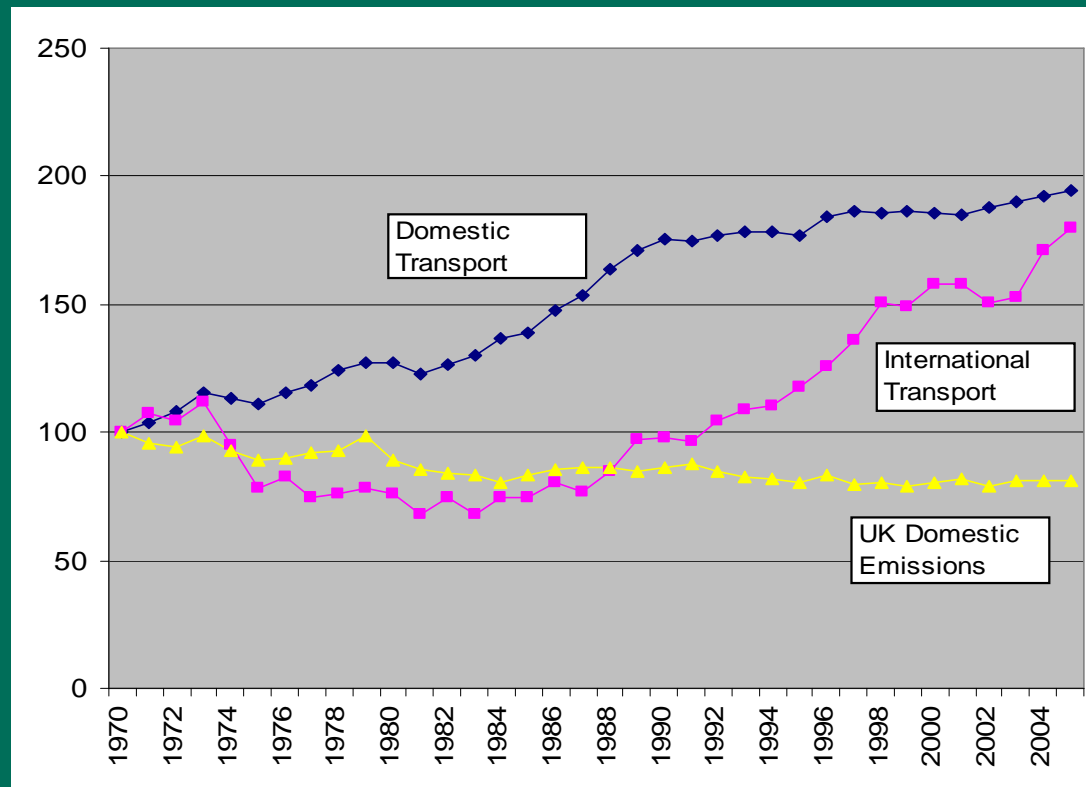
Presentation to BIEE seminar 23 January 2008

Structure of the presentation

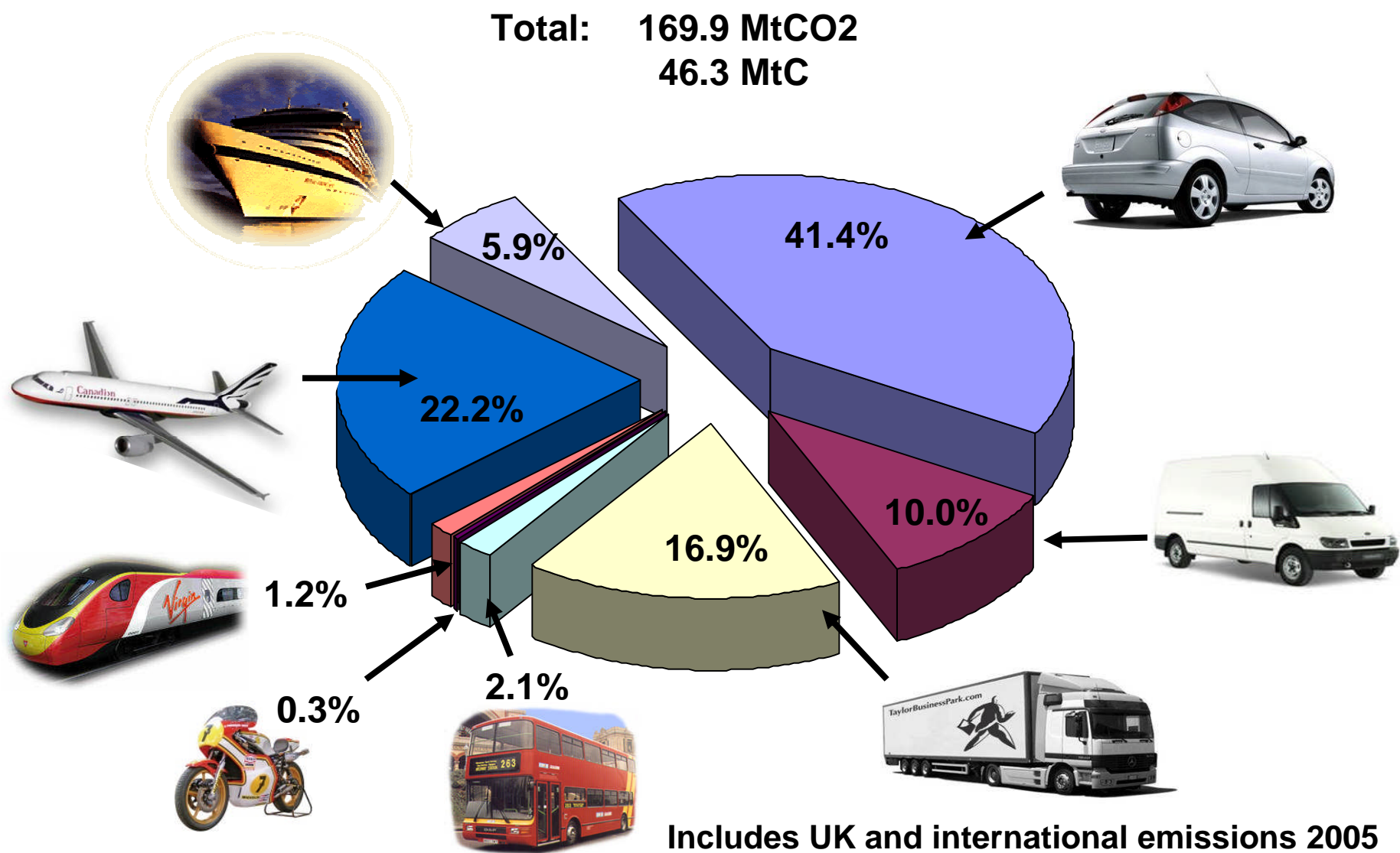
- Context - Transport CO2 emissions
- Stern, Eddington, Climate Change Bill
- The DfT response in *Towards a Sustainable Transport System*
- Future challenges

Transport = around 25% UK emissions

1970-2005: CO2 Emissions



Climate change: CO₂ from transport...



Stern Conclusions

- Unless emissions are curbed, climate change will bring high costs for human development, economies and the environment
 - Concentrations of 550ppm CO₂e and above - very high risks of serious economic impacts
 - Concentrations of 450ppm CO₂e and below - extremely difficult to achieve *now* and with current and foreseeable technology
- Limiting concentrations within this range is possible. The costs are modest relative to the costs of inaction.
- Even with strong action to reduce greenhouse gas emissions adaptation must be a crucial part of development strategy
- Policy requires urgent and international action, pricing for damages from greenhouse gases, supporting technology development and combating deforestation

Eddington Study

- Commissioned by the Chancellor and SoS Transport at Budget 2005
- Remit to advise on long-term links between transport and UK economic productivity, growth and stability, within context of Govt's commitment to sustainable development
- Focus on 2015 and beyond
- No recommendations about specific schemes

Eddington conclusions

- Transport offers some exceptional returns on investment
- Requires a sophisticated policy mix, including best use of the existing network through getting the prices right across all modes
- Where infrastructure is needed, small can be beautiful
- There is a case for targeted fixed investment but it is affected by pricing policy
- Step change measures unlikely to be a priority

Getting the prices right...

- “... makes strong economic as well as environmental sense” (Sir Rod Eddington, foreword to his report)
- Essential that environmental impacts of transport fully reflected in decision making
- Transport should meet its full environmental costs
- Welfare returns from most interventions lower once environmental and social costs and benefits factored in, but remain remarkably high

Climate Change Bill includes

1. Statutory targets
 - 2050 60% reduction
 - 2020 26-32% reduction
 - 5 year Carbon Budgets – set 3 at a time
2. Committee on Climate Change
 - Independent advice on performance
 - Advise on 5 year budgets

EU 2020 Climate and Energy Package – expected content

- How to achieve targets agreed at 2007 Spring European Council – 20% reduction in GGEs, and 30% as part of international climate agreement
- Revised EU ETS Directive
- Sharing of reduction effort for emissions not covered by EU ETS
- Framework for increasing share of renewable energy to 20% of final EU energy consumption; UK share

“Towards a Sustainable Transport System” framework document – DfT response to Eddington and Stern

- Sets out transport sector role in meeting challenge of climate change and delivering economic growth
- Describes our ambitious policy and investment plans through to 2014
- Sets out new approach to strategic transport planning for 2014-19 and beyond, based on Eddington’s recommendations

Bringing Stern and Eddington together

- Framework document establishes that we are serious about addressing climate change – addressing climate change by cutting emissions of CO2 and other GGEs set out explicitly as 1 of 5 goals for DfT

“Towards a Sustainable Transport System”

- The first key point to remember: Stern on the costs of action or inaction



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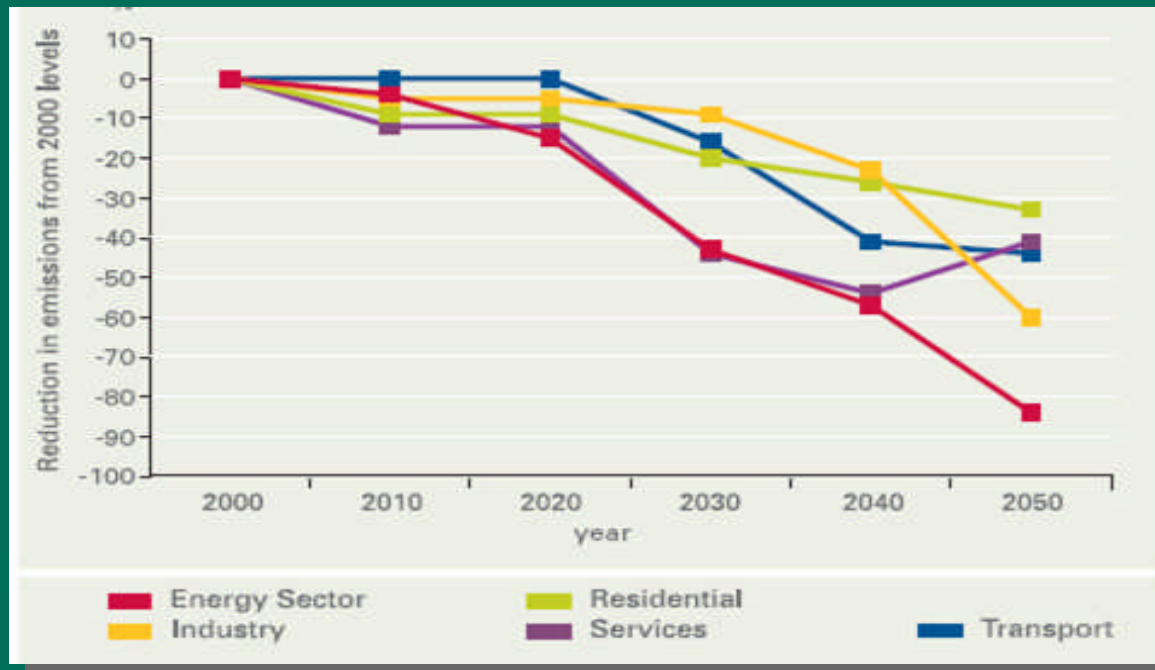


... so it's not about being “rich and dirty” or “green and poor”

"Towards a Sustainable Transport System"

- The second key point to remember:

Pathways for carbon reduction



... what should we be aiming for?

...how would we get there?

So what are the CO₂ policies?

Carbon pricing

Technology and
Innovation

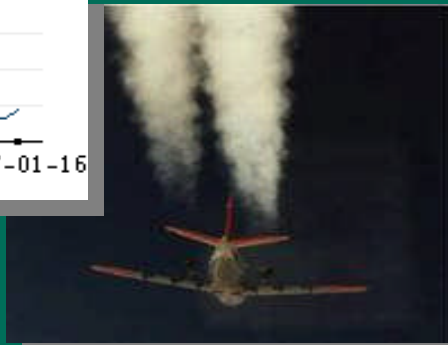
Remove barriers
to change

Stern lever 1: Carbon pricing

Taxation



Emissions Trading



Traded Regulation: RTFO / Biofuels



Stern lever 2: Technology & Innovation

Vehicle standards: moving to mandatory in the EU



Low Carbon Transport Innovation Strategy:



King Review, October 2007

- Cars emitting 30% less CO₂ per kilometre could be available within 10 years
- 50% reductions possible by 2030 based on battery-electric hybrids and some bio-fuels (but caution here)
- 90% reductions by 2050 possible from zero-carbon electricity and electric or hydrogen [powered cars]
- Overall requires: cleaner fuels; more efficient vehicles; smarter driver choices

Stern Lever 3: Remove barriers to change

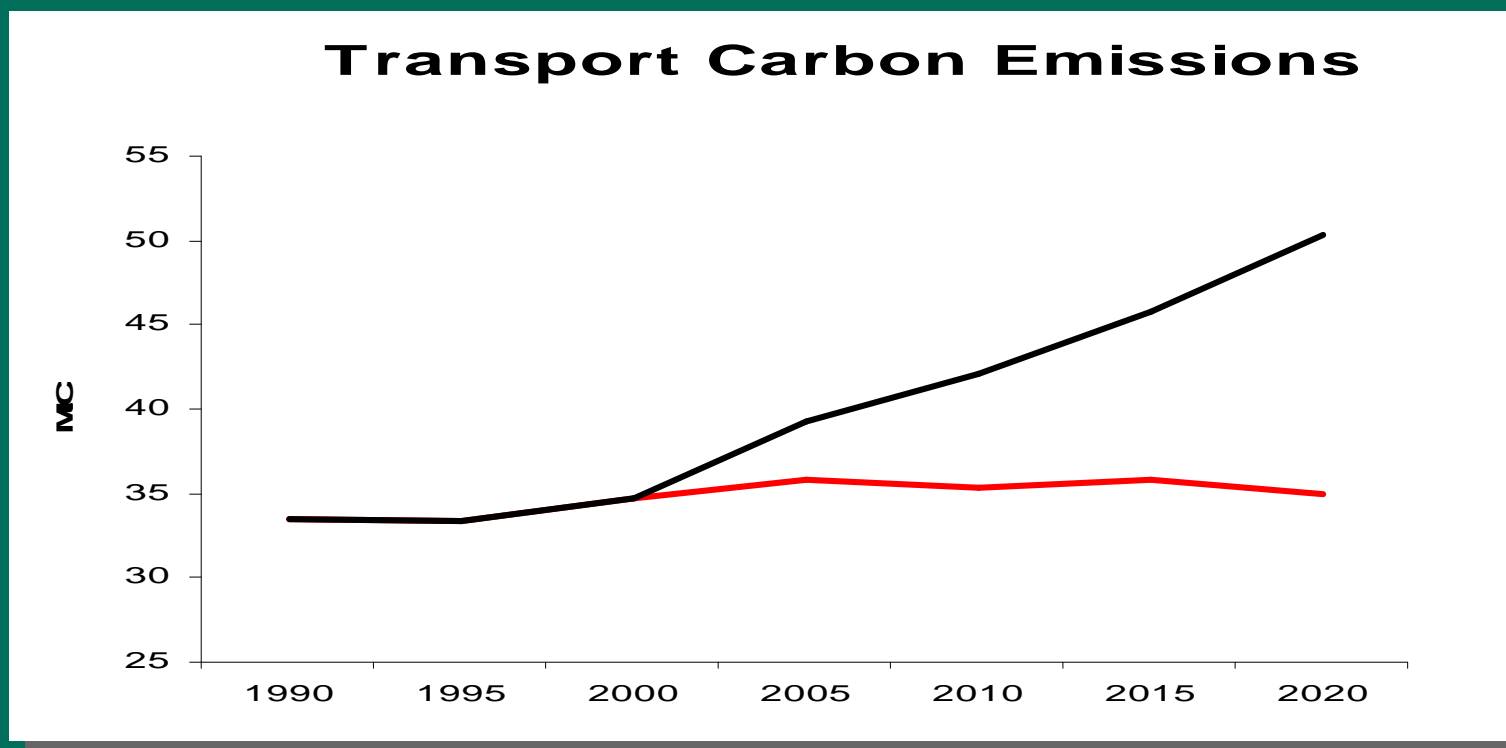
Smarter choices:



Driver information:



Overall policies are making a difference...



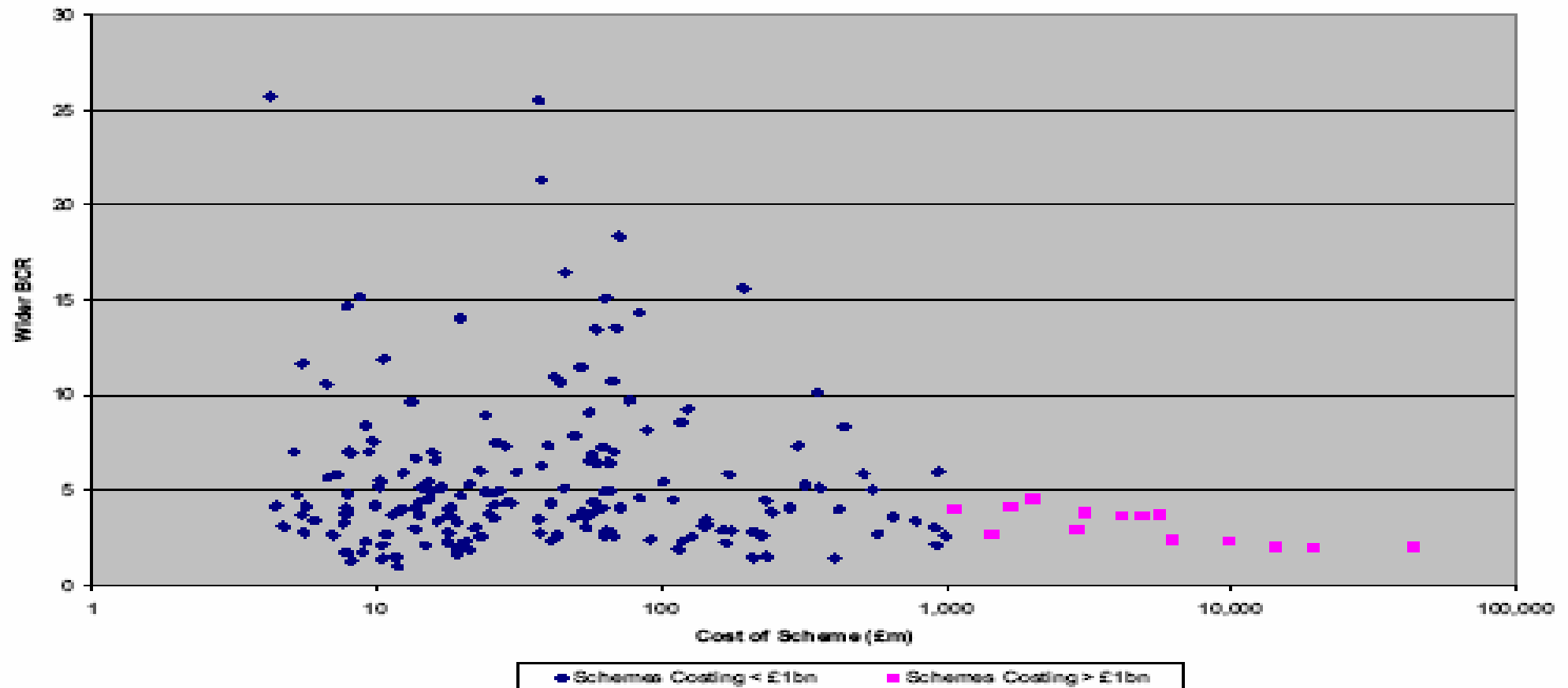
Effect of *Climate Change Programme* on domestic transport emissions

Evidence from database of projects

- Potentially very substantial returns across modes, areas and links
- This conclusion remains taking account of environmental and social impacts
- Good returns possible from variety of interventions which improve utilisation, smarter choices, small scale
- Wide variation in returns, depending on precise nature, location and type of intervention, as well as envt/social impacts. Have to prioritise best BCRs

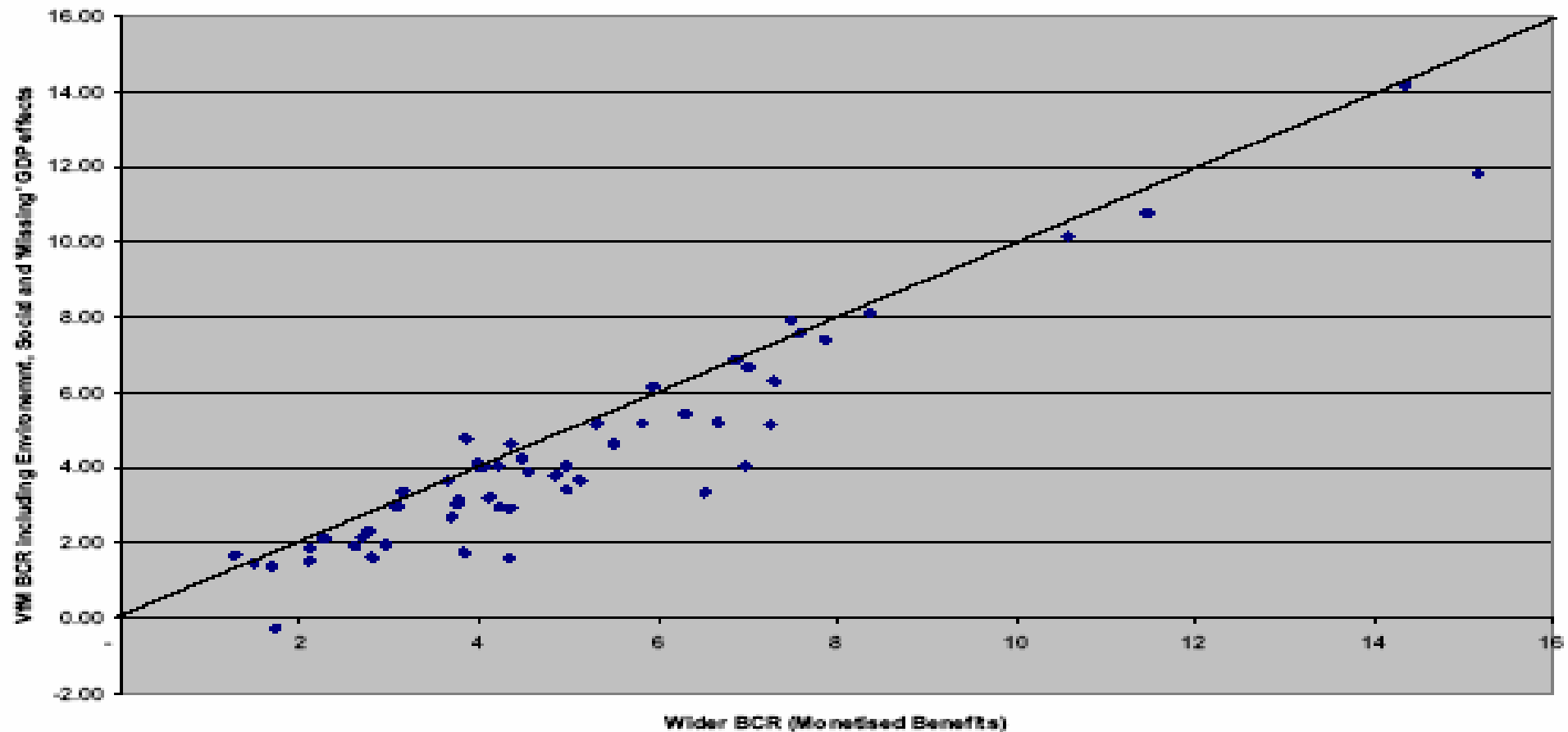
Wider BCR by cost of scheme

Figure 6.4 - Scatter Graph of Returns by Size of Scheme



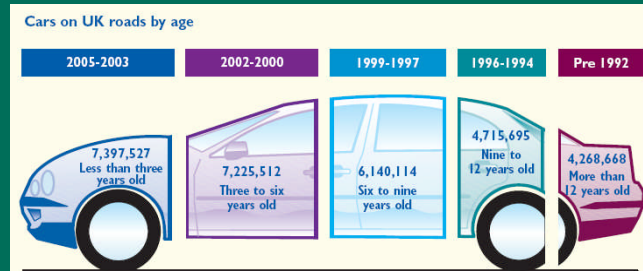
Wider BCR vs VfM BCR

Figure 6.6 – Scatter Graph of Wider BCR Compared to VfM BCR



The underlying context is challenging

Transport interventions have a 'long tail'



...and more so for infrastructure

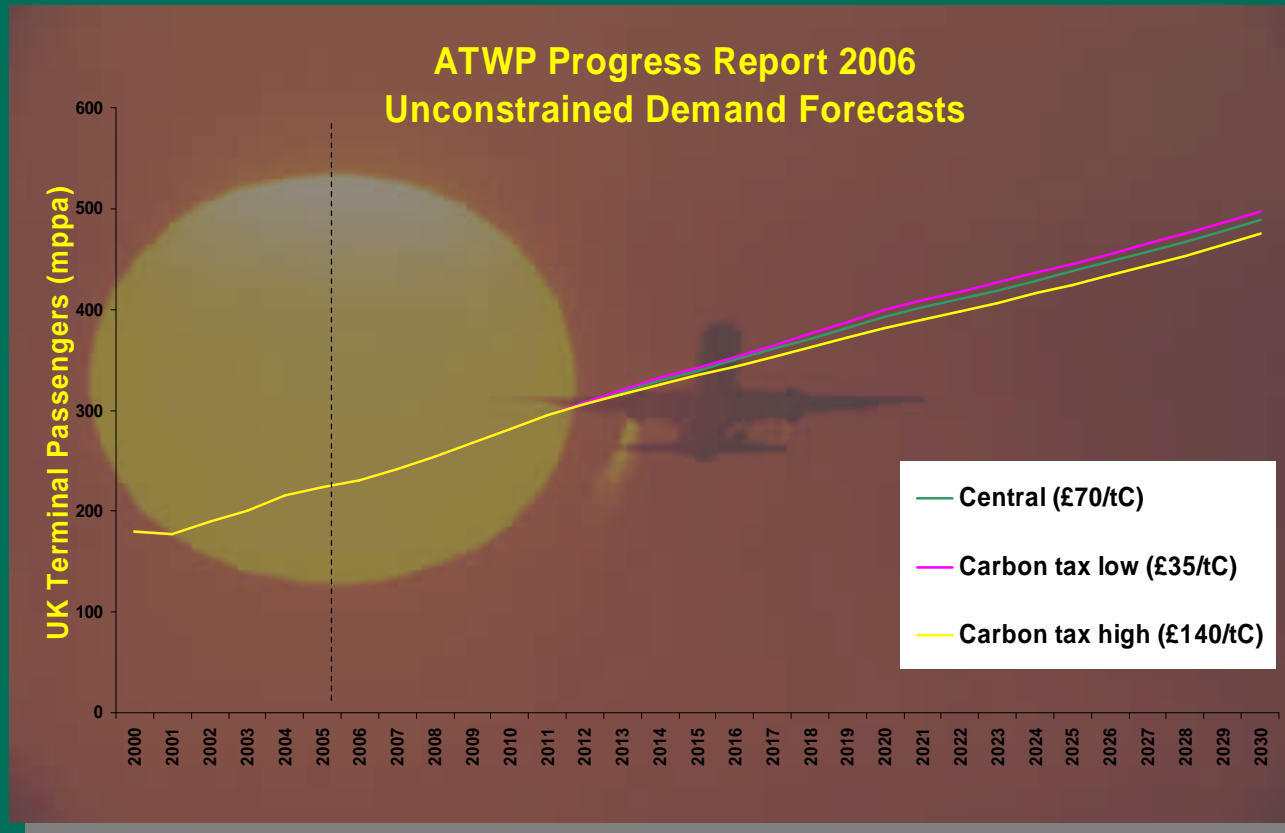


Transport solutions can be expensive & may have biggest impact in long term (technology)

As people get richer they travel more



Future challenges: inelastic demand



Discussion

