

The economy and CO² - the biggest transport challenge

Kate Jennings

Head Europe and International Division

Department for Transport, UK

Kate.jennings@dft.gsi.gov.uk

00 44 20 7944 6112

- The UK approach to domestic carbon targets including preparations for a **Carbon Reduction Strategy** to be published in July.
- **Why** the UK position is that international aviation and shipping emissions must be included in the Copenhagen agreement.

Green economic growth is possible

Department for
Transport



Rod Eddington said:

- transport is vital to sustained economic growth



Nick Stern said:

- climate change is real and linked to human activity
- averting the worst impacts of climate change means limiting climate change to **2 degrees** by holding greenhouse gases (GHGs) to 450-550ppm CO₂e
- developed countries must cut GHGs by 60%-80% by 2050
- cutting GHG costs c1% of global GDP (higher for UK) in 2050
- not averting it would cost 5-20% of global GDP in 2050

- we don't have to be 'poor' to be 'green'.
- And we don't have the option of being 'rich and dirty'

New economy-wide targets

Climate Change Act 2008

- 34% GHG reduction by 2020
- 80% GHG reduction by 2050

EU 2020 Climate & Energy Package

- 20% GHG reduction by 2020
- 30% GHG reduction by 2020 (if there is a Copenhagen deal)

(All compared to a 1990 baseline)

Renewable Energy Directive

- Across the EU, 20% of all energy to come from renewable sources by 2020 (10% in the transport sector)

- CO₂ reduction targets to be delivered by five-yearly carbon budgets (1st three already set: 2008-12, 2013-17, 2018-22)
- Renewable transport fuels target to be met by revised Renewable Transport Fuels Obligation (RTFO)

The current transport policy framework

Carbon pricing
(tax, trading,
regulation)

Sending the right signals

Fiscal measures



Biofuels



Emissions Trading



Technology
and
innovation

Delivering vehicle efficiency measures

New Car CO₂ Standards (EU)



R&D/Public Procurement



Remove
barriers to
change

Encouraging and facilitating behaviour change

Alternatives



Freight



'Smarter Choices'

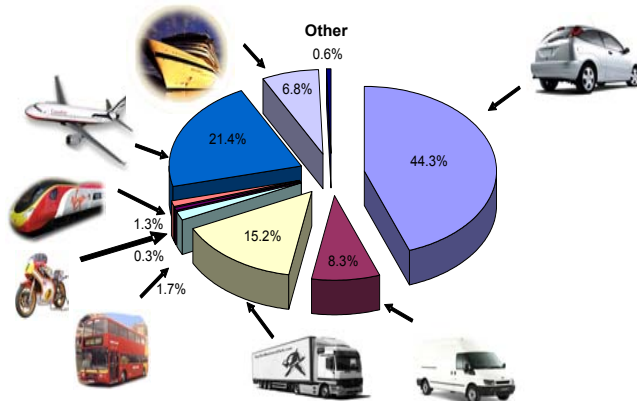


Information



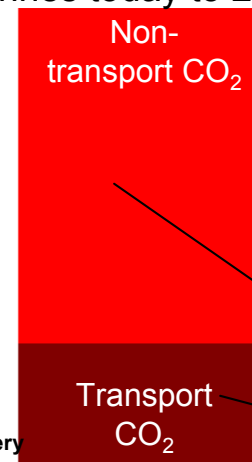
Delivering on growth & CO₂

Domestic and international transport accounts for 30% of UK CO₂ emissions made up as follows:



Includes UK and international emissions 2007 Total: 173.3 MtCO₂
Other includes LPG, other road vehicle engines and other mobile sources and machinery

Meeting the UK's national and EU targets means cutting CO₂ emissions per head from around 11 tonnes today to 2 tonnes by 2050



To set this in context:

- one year's motoring in average petrol car = 1.7 tonnes CO₂
- an annual 50 mile rail commute = 2.1 tonnes CO₂
- a return flight UK to Spain = 0.4 tonnes CO₂

UK now has binding domestic and EU legal targets for GHG reductions. Our approach in the transport sector is based on

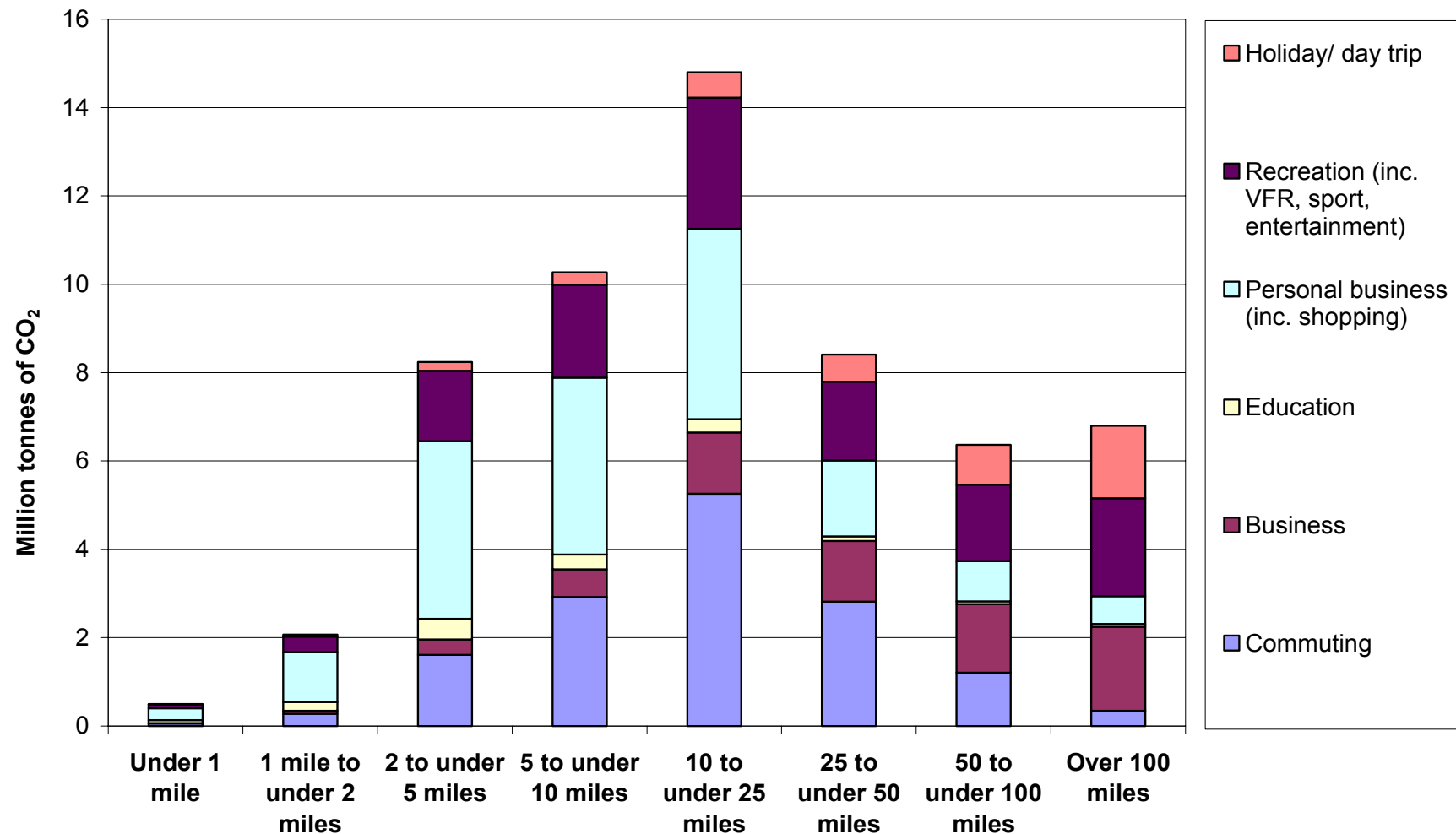
- Supporting mobility and freedom of choice
- facing people with the true 'cost of carbon'
- forcing the pace of technological change
- promoting lower-carbon & non-travel alternatives

There are big differences between:

- **International.** Rapid demand growth over past 25 years. Limited scope for modal shift. No ultra-low CO₂ power source in prospect. Bring within international emissions 'cap & trade' schemes.
- **Domestic.** Demand growth slower (peaking?). Scope for modal-shift. Ultra-low carbon is feasible. CO₂ emissions should decline. Is non-traded, but covered by mandatory targets & carbon budgets.

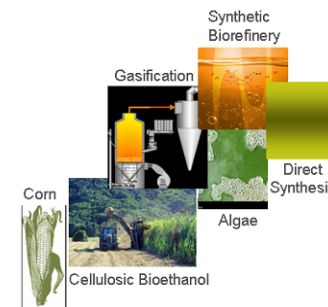
Analysis is providing useful pointers...

Estimated CO2 emissions from household cars by journey purpose and journey length, GB, 2002/2006 average

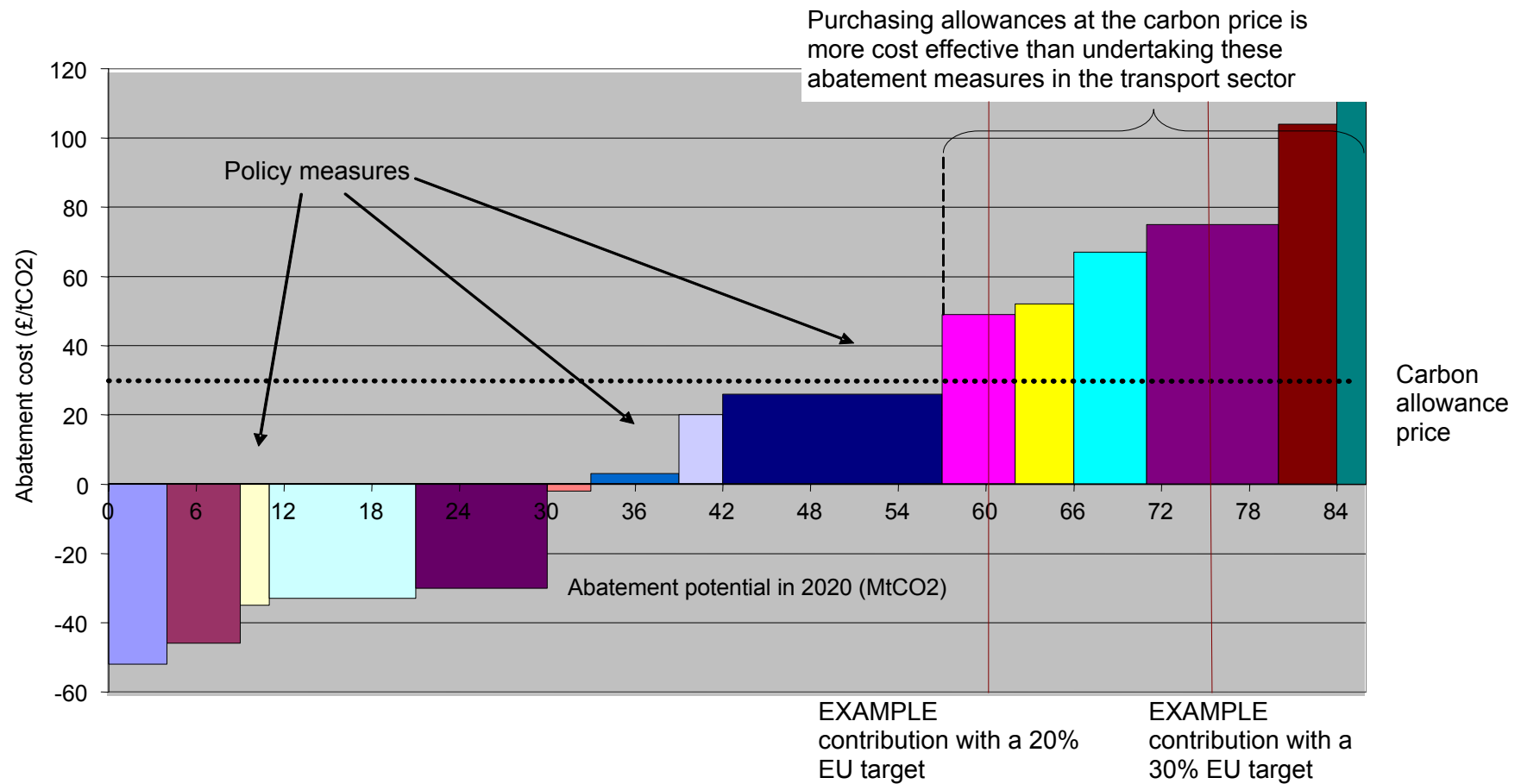


Vehicle technology – a radical shift

- **New car CO₂ standards – significant reductions to reach new 95g 2020 target**
- **Ultra low emission vehicles – research programme (£100m) and new incentives (£250m)**
- **Vans – possible CO₂ targets**
- **Biofuels – 10% by 2020**

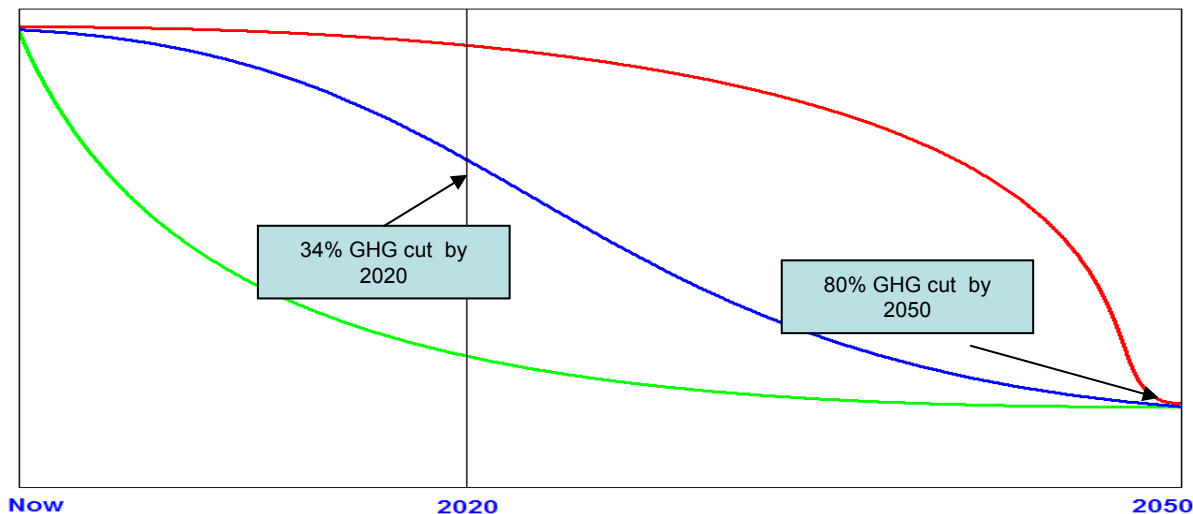


Sample MAC curve



The transport CO₂ agenda

Holding CO₂e at 450-550ppm depends on how far global emissions are cut, and how fast.



We will publish a Carbon Reduction Strategy (CRS) for Transport in early July, alongside other Government announcements. We know where transport CO₂ comes from. We have assessed the **cost** and **impact** of different policy measures.

Long term transport de-carbonisation involves:

- electrification of rail and road transport
- reducing CO₂ footprint of electricity generation
- re-engineering cities & lifestyles to reduce travel
- switching to alternative transport modes

Short term options are more limited:

- new vehicle emission standards & biofuels
- eco-driving, car sharing & 'smarter choices'
- fiscal action (HM Treasury lead)

International Aviation and Shipping



Rod Eddington: “transport is vital to sustained economic growth”:

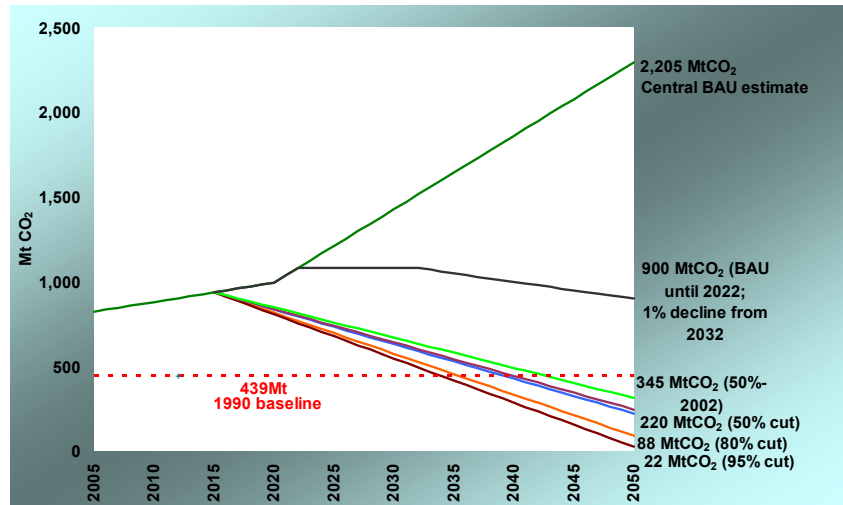
- around eighty percent of world trade by volume is carried by sea,
- aviation's global economic contribution is estimated to be in the region of eight percent of world GDP.

Nick Stern:

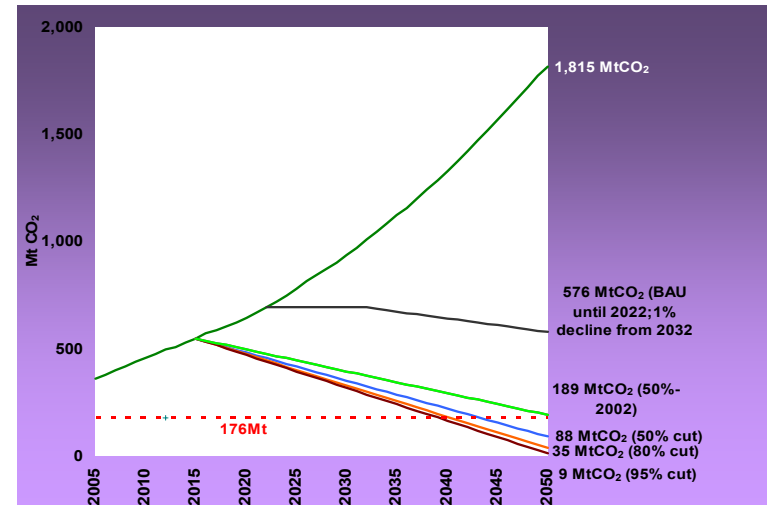
- By 2050 aviation and shipping could account for over 10% of CO2 emissions

What do emissions look like, compared to global targets?

Aviation



Shipping

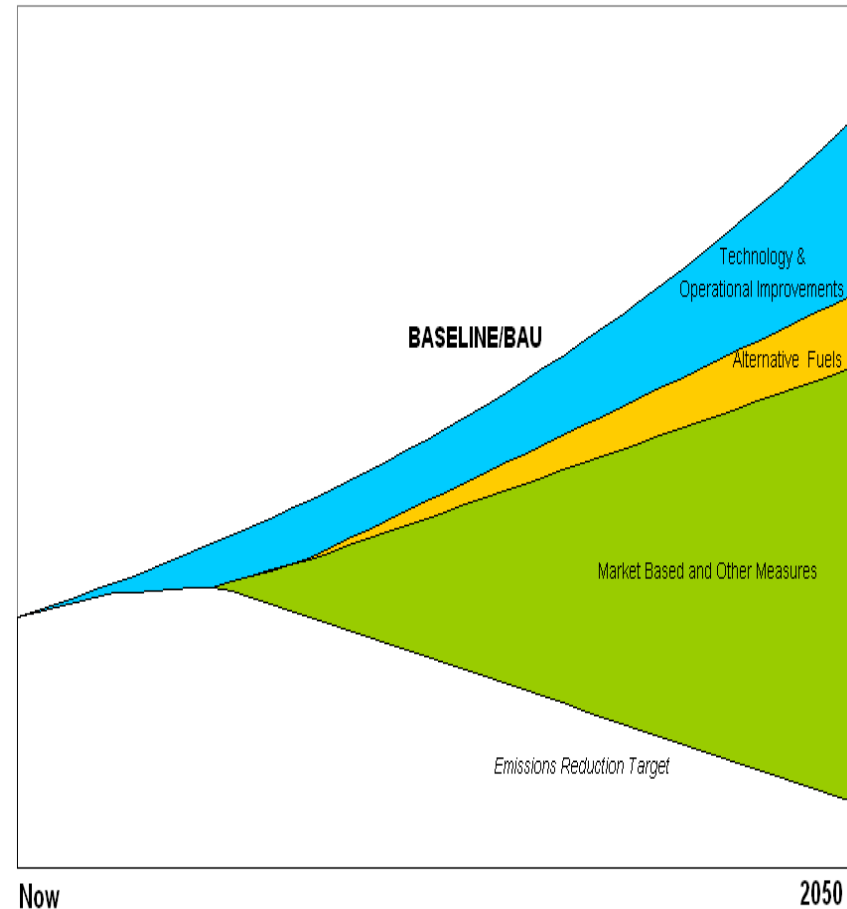


Country/organisation	2050 target
IPCC	80% reduction against 1990 levels
Kyoto Protocol	50% reduction against 1990 levels
European Union	80-95% reduction against 1990 levels
UK	80% reduction against 1990 levels
Australia / OECD Pacific	60% reduction against 2000 levels
Canada	70% reduction against 2006 levels
India	BAU until 2035, then no change
Mexico	50% reduction against 1990 levels
South Africa	BAU until 2022, then no change until 2032; annual decline of 1% thereafter

- Failure to address emissions from these two sectors would significantly undermine national emissions reduction efforts.
- Sectors must be integral part of climate change deal at Copenhagen

Why we favour market based measures and why we need to act now

- Standards can drive technology
- But technology and efficiency measures are not enough
- Long technology lead times
- Long life span (25 – 40 years for a ship or plane)



Why is industry beginning to agree with us?

A global, sectoral trading system, backed by UNFCCC targets would:

- Ensure a level competitive playing field
- Incentivise R&D
- Incentivise fleet renewal and alternative fuels
- Allow **full** participation in global carbon market
- Facilitate access to **adaptation** funds

- **IATA June 2009:** called on world governments to agree a global sectoral approach for the aviation sector in talks on a post-2012 successor to the Kyoto Protocol. Globally binding emissions standards for new aircrafts should also be set.
- **Aviation Global Deal Group:** propose a global sectoral emissions trading scheme.
- **British Chamber of Shipping:** “We can agree some recommendations readily, eg the call for a global regime.” “We believe that international shipping emissions have to be treated as a separate entity – like a country”

What do alternatives look like?

- International transport a target for global levies:
 - Yvo de Boer, UNFCCC: transport “the cash cow of the Copenhagen agreement”
- Denmark: propose global shipping levy
- Maldives: propose global air passenger tax

- But taxes and levies do not create a “cap” – not necessarily consistent with 2 degrees
- Global system needed, with the flexibility to reflect differences in aviation and shipping markets

Need to reflect differences in aviation and shipping markets

- International aviation and shipping not like domestic sectors – many developing countries are major players
- Recognise that any mechanism needs to reflect differences in markets
- Range of possible approaches:
 - Appropriate level of auctioning of allowances
 - Activity threshold, to exempt small operators
 - Phased introduction to allow for capacity building
 - Reserves for new operators, to reduce entry barriers
 - Mechanisms to support capacity building and share expertise
 - Increased revenues provide for greater finance flows

Key Messages

- The science is real – and to limit climate change to 2 degrees aviation and shipping must be included at Copenhagen
- The best mechanisms for delivering low carbon transport both nationally and internationally include **standards** and **emissions trading** because they create business certainty, promote R and D and enable cost effective carbon reduction
- As transport professionals we need to work together, and with our climate change colleagues, to share analysis and develop solutions which allow the transport sector to support sustainable mobility and economic growth