

Accelerating the shift to low carbon cars

All Party Parliamentary Group on Peak Oil and Gas
Future Car Technologies: What next after a century of oil?

House of Commons
20th January 2009

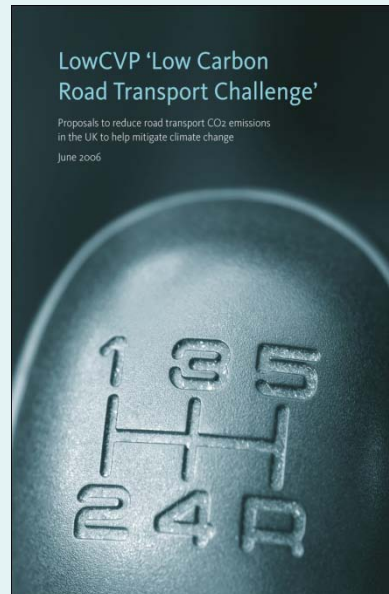
Greg Archer
Director, Low Carbon Vehicle Partnership

Low Carbon Vehicle Partnership

Accelerating a sustainable shift to low carbon vehicles and fuels in the UK

Stimulating opportunities for UK businesses

LowC^{VP}
low carbon vehicle partnership



Fuel Economy		Low Carbon Car
CO ₂ emissions (g/km) (petrol)		
<100	A	B 117 g/km
101-120	B	
121-150	C	
151-180	D	
181-210	E	
211-240	F	
241+	G	
Fuel cost (estimated) for 12,000 miles		£662
VED for 12 months		£50
Environmental Information		
A guide on fuel economy and CO ₂ emissions which contains data for all new passenger car models is available at any point of sale free of charge. In addition to the fuel efficiency of a car, driving behaviour as well as other non-financial factors play a role in determining a car's fuel consumption and CO ₂ emissions. CO ₂ is the main greenhouse gas responsible for global warming.		
Make/Model:	Low Carbon Car	Engine Capacity (cc): 1396
Fuel Type:	Diesel	Transmission: 5 speed manual
Fuel Consumption:		
Drive cycle	Litres/100km	Mpg
Urban	5.4	53.3
Extra-urban	3.8	74.2
Combined	4.4	64.2
Carbon dioxide emissions (g/km): 117 g/km		
Important note: Some specifications of this model may have lower CO ₂ emissions than this. Check with your dealer.		



LowC^{VP} marketing challenge

CARS NOT CARBON
A competition to promote greener motoring marketing

Event outline

Winners to be announced at the LowCVP Annual Conference
28th June 2007
DTI Conference Centre, Westminster

Accelerating the shift to low carbon vehicles and fuels

energy saving trust | campaign | marketing | BSH/BRUNNEN | greenTV | UNEP



LowC^{VP} marketing challenge

Accelerating the shift to Low Carbon Vehicles and Fuels

Welcome

The Low Carbon Vehicle Partnership is an action and enabling group, established in 2003 to take a lead in accelerating the shift to low carbon vehicles and fuels in the UK and to help secure that the transition is as smooth as possible.

The LowCVP is a partnership of nearly 200 organisations from the automotive and fuel industries, the environmental sector, government, academia, road users groups and other organisations who share a vision of the low carbon vehicle and fuel future.

Latest news

LowCVP Annual Conference - 28 June, agenda announcement
17/05/2007
The LowCVP's 2007 annual conference on 28th will feature a high profile line-up of speakers - including Transport Secretary Douglas Alexander - and will focus on some of the key issues facing the industry in the context of the climate change challenge.

Guidelines for members of LowCVP Conference - 28 June, London
17/05/2007
There are a limited number of spaces for the additional 200 LowCVP annual conference which will be held on 28 June in central London. The event, which has been fully subsidised by the government, provides a great opportunity to connect people and network products. It is a free event and transport agents in high profile setting.

Government and Low Carbon Transport Ministers 28 June
17/05/2007
The Government has published its Low Carbon Transport Strategy. It sets out a vision for the transport system in 2050 and the role of the Low Carbon Vehicle Partnership in achieving the vision.

Sign up to our email bulletin
Search our new member directory

Scope

- ❑ The scale of the challenge

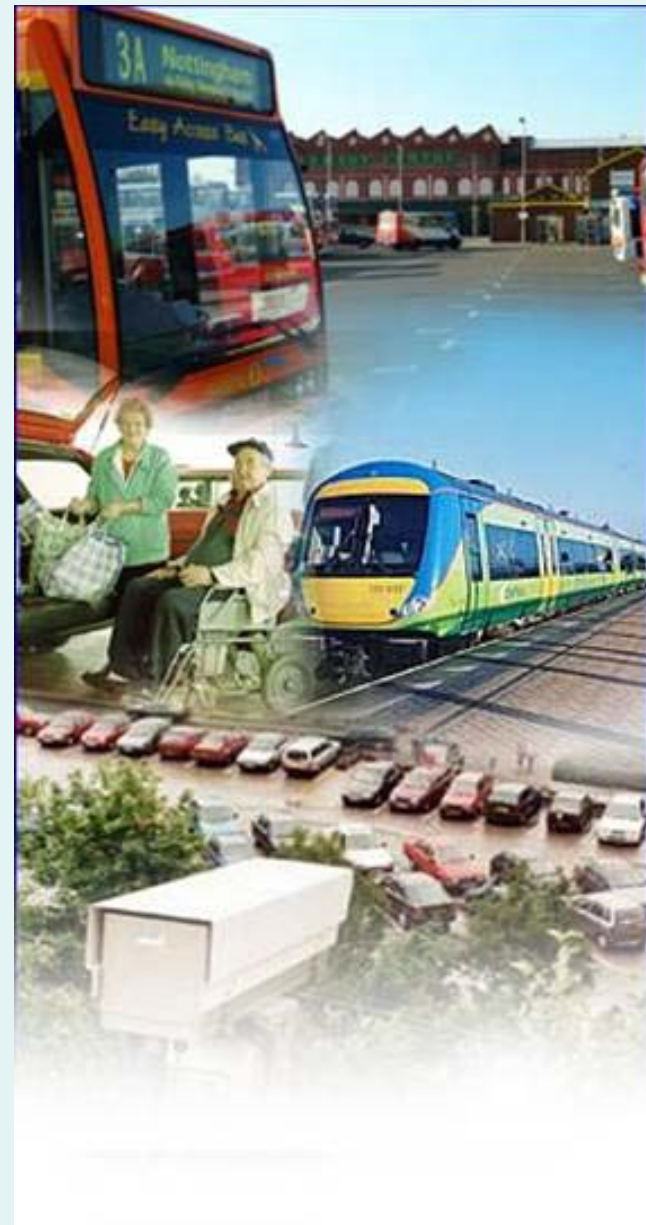
- ❑ Technology solutions

- ❑ Deployment challenges

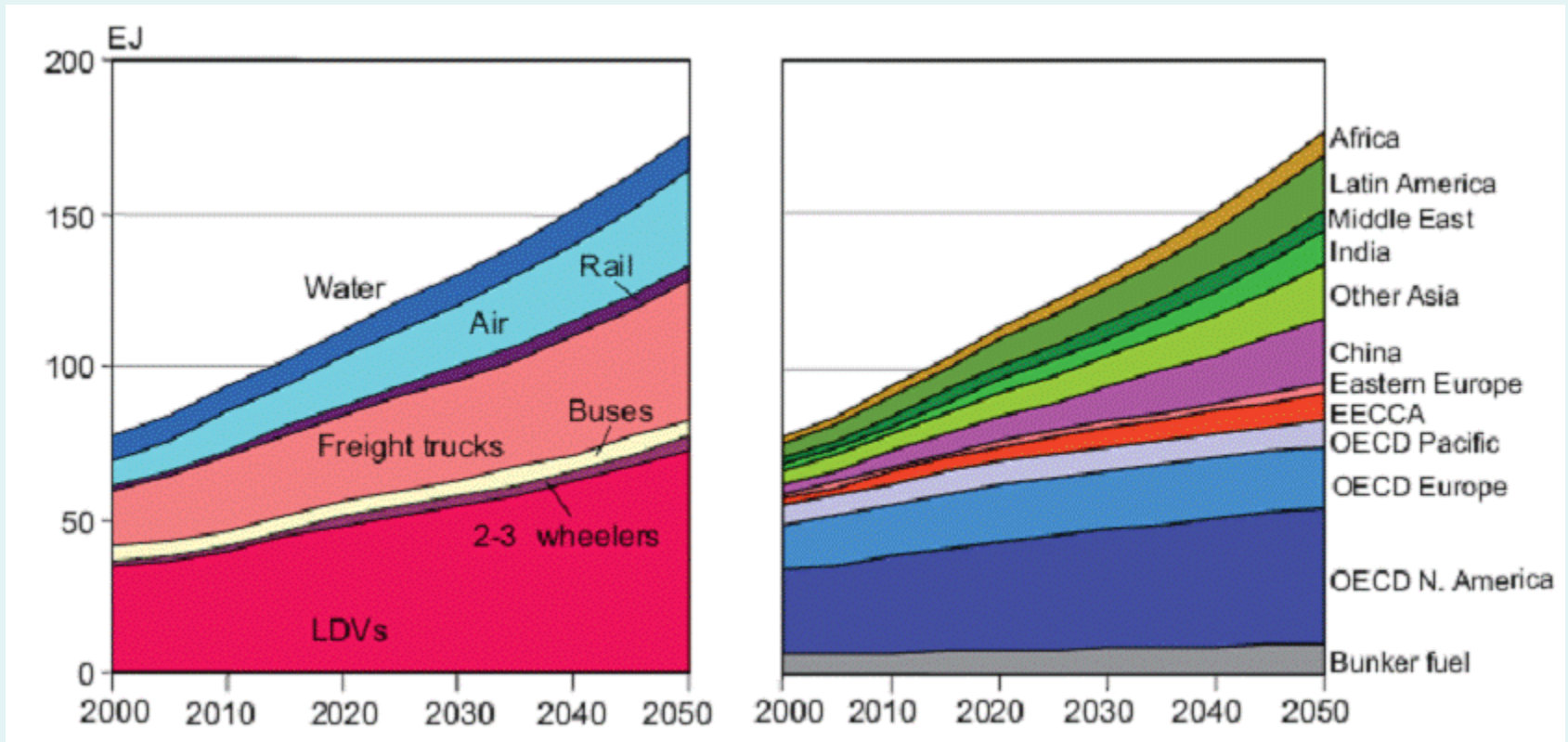
- ❑ Policy effectiveness

- Vehicle technologies
- Biofuels
- Electric Vehicles
- Hydrogen fuel-cells

- ❑ The future?



Global energy demand for transport is projected to more than double by 2050

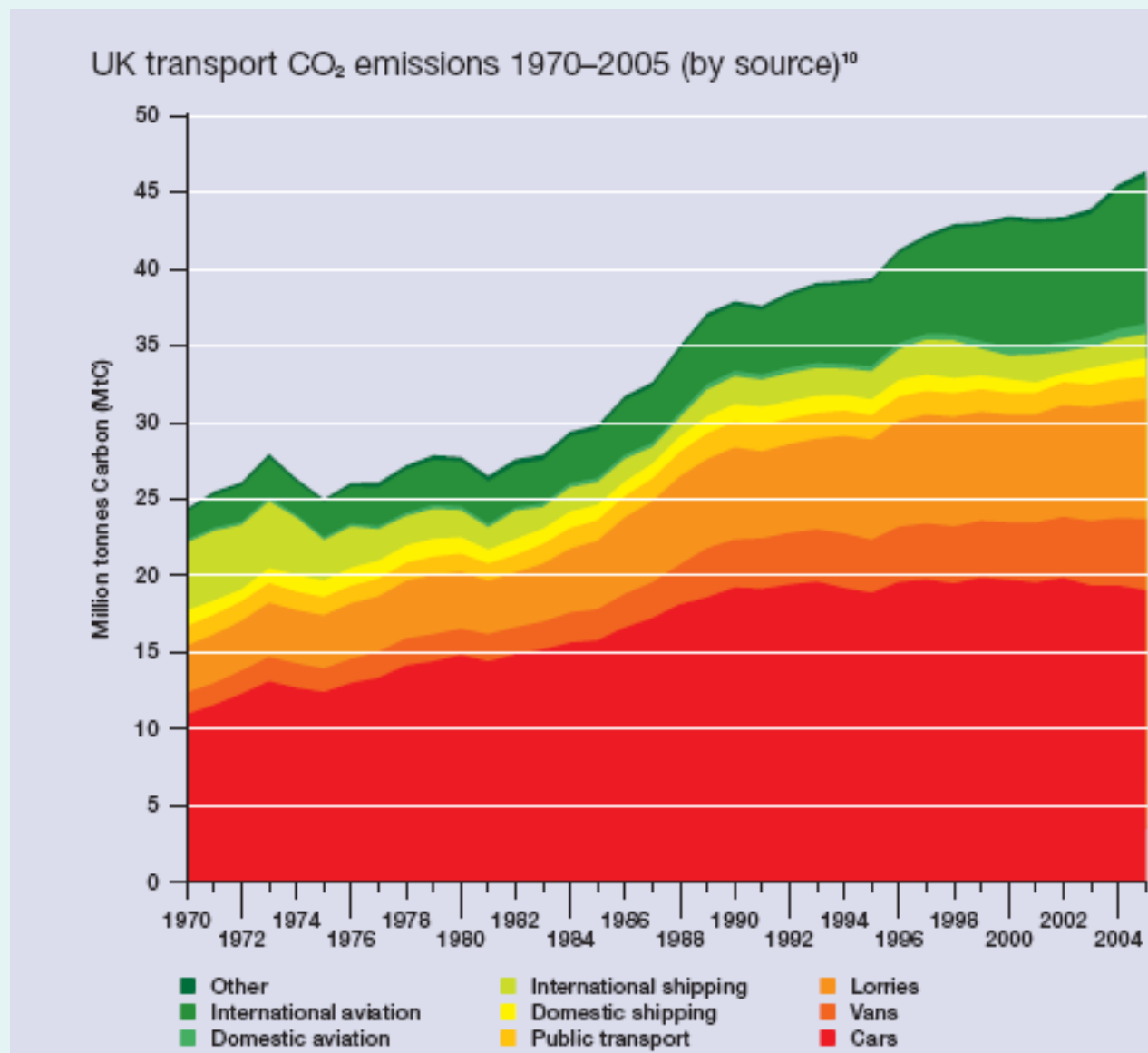


IEA 2008, citing WBCSD 2004

UK transport emissions have almost doubled since 1970

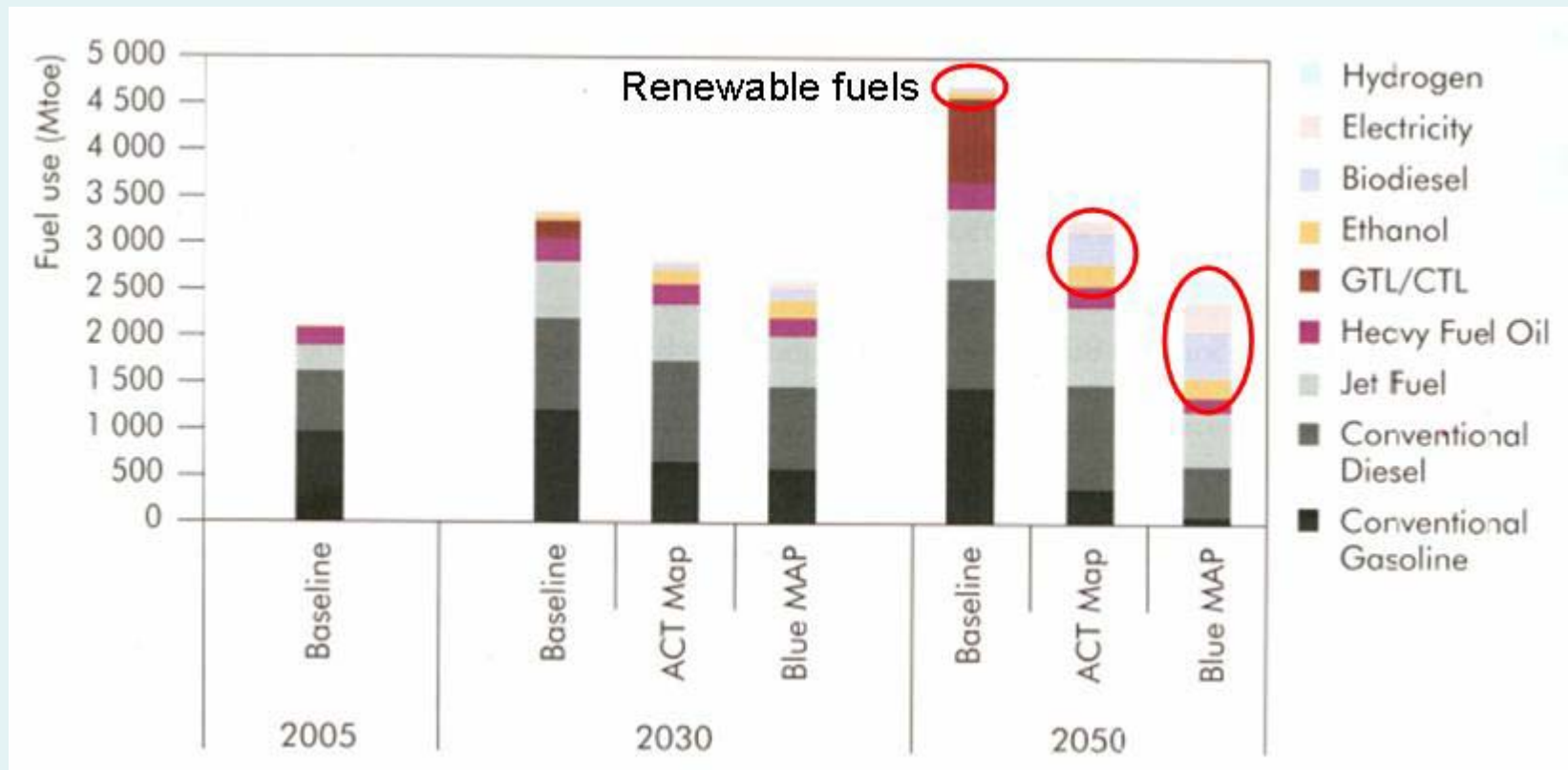
Emissions trends are driven by:

- ❑ The demand for movement and need to access facilities, services and goods
- ❑ The mode of transport used
- ❑ The carbon intensity and efficiency of the mode
- ❑ The operational efficiency of vehicle use

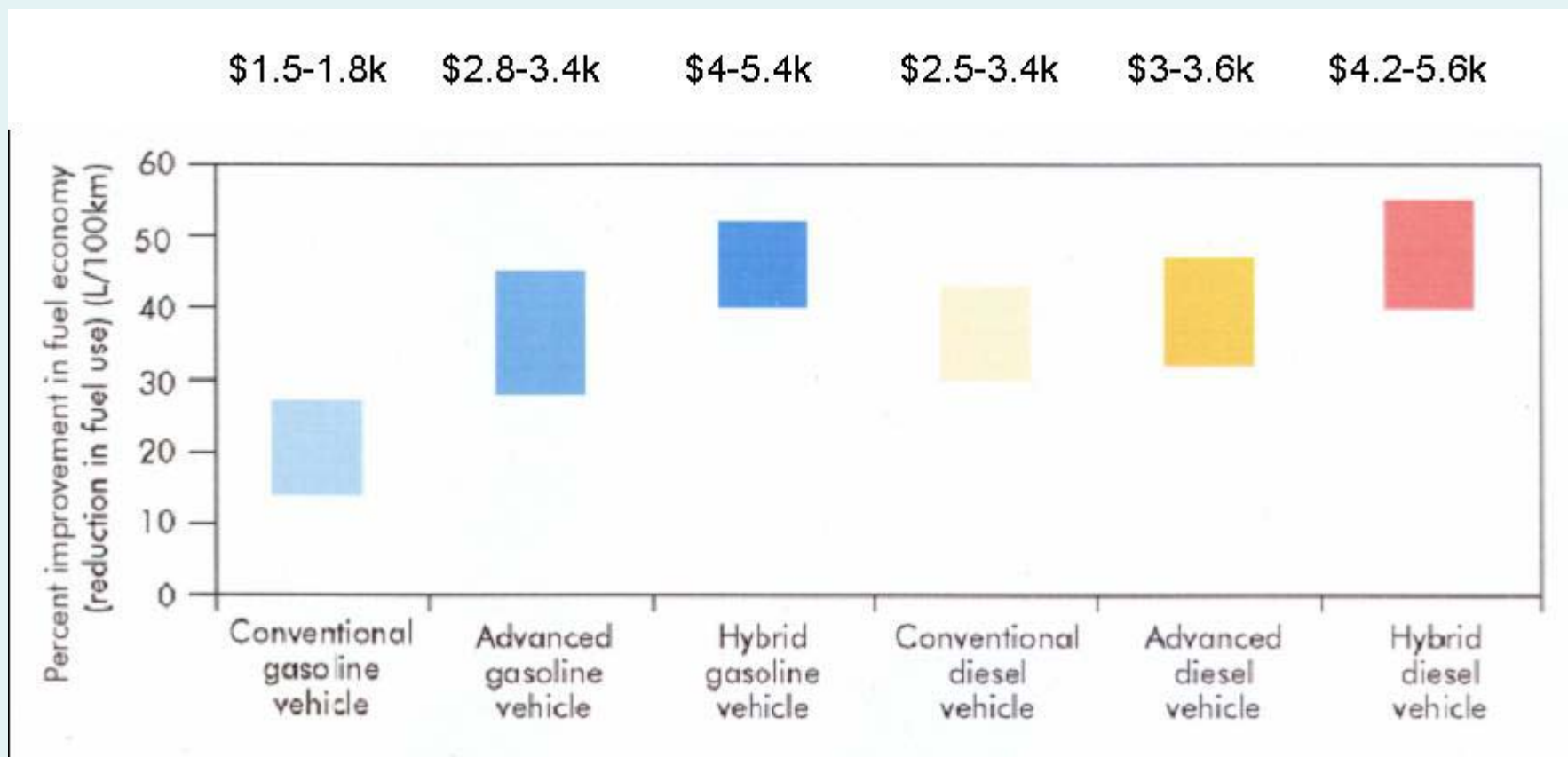


BAU is for increasing amounts of higher carbon intensity fossil fuels for transport

Energy use by year and scenario



50% fuel economy savings are possible using existing technology – at a cost

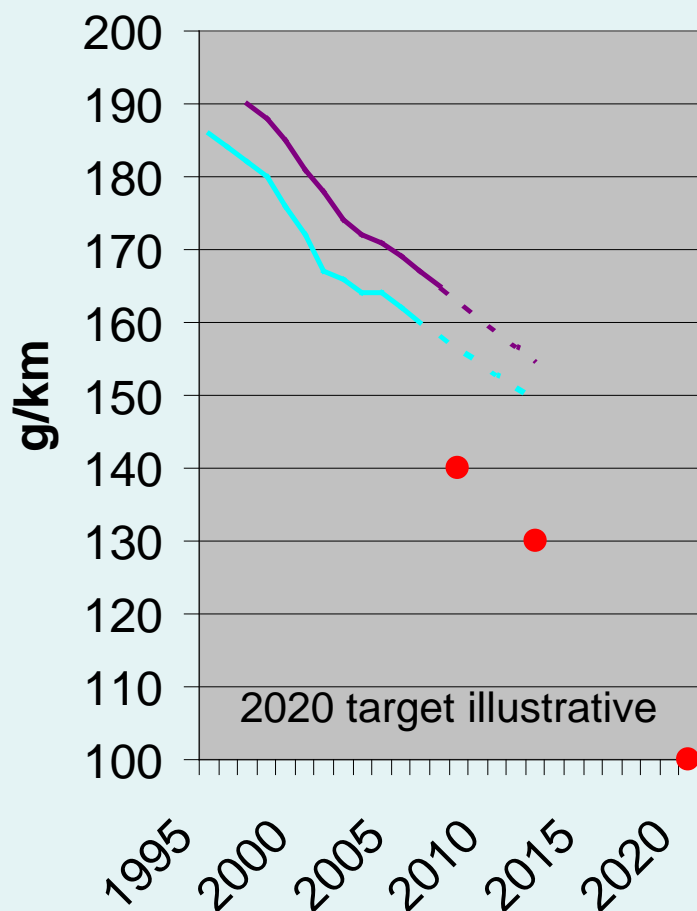


*Progress is being made –
2008 saw the introduction of a range of low carbon models*



New car CO2 emissions are falling slowly - Technology deployment remains the challenge

EU and UK new car CO2 emissions



Current new car emissions and the progress to reduce these since 1990 is highly variable:

	Change	g/km
– EU	c -12%	160
– Japan	- 19%	145
– US	+ 4.5%	250
– Australia	-1.0%	-
– China	-	190

Progress constrained by:


- Increasing vehicle size
- Increasing vehicle power
- Increased equipment specification
- Low consumer demand
- Low oil prices
- Weak / ineffective legislation / voluntary agreements
- Low margins on small vehicles
- Higher capital costs

Consumer information has been significantly improved – but incentives are still inadequate

2003

Department for Transport

Drive cleaner, drive cheaper



HM TREASURY dti Department of Trade and Industry defra

2005

Fuel Economy

CO₂ emission figure (g/km)

<100	A
101–120	B
121–150	C
151–185	D
186–225	E
226+	F

B 117 g/km

Fuel cost (estimated) for 12,000 miles
A fuel cost figure indicates to the consumer a guide fuel price for comparison purposes. This figure is calculated by using the estimated drive cycle (town, extra-urban and highway) and average fuel price. For calculated annually, the current cost per litre is as follows: petrol 50p, diesel 54p and LPG 30p (VCA May 2005).

£662

VED for 12 months
Vehicle excise duty (VED) or road tax varies according to the CO₂ emissions and fuel type of the vehicle.

£50

Environmental Information

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LowC^{VP} low carbon vehicle partnership Department for Transport VCA

2007

Department for Transport

PUMPED UP TYRES MEAN LESS CO₂



Under inflated tyres mean your engine works harder. Keeping them at the right pressure is just one way you can reduce your engine's workload. This will burn less fuel and cut your CO₂ emissions. For more tips visit dft.gov.uk/ActOnCO2

ACT ON CO₂

*Biofuels can contribute to delivering GHG-savings –
but indirect effects must be managed*



EVs and plug-in hybrids are a very promising technology – but will not achieve significant market share until 2020+



Hydrogen fuel cell vehicles offer significant (but not still distant) prospects

Key challenges:

- ☐ Higher costs per unit of energy
 - Adequate price of carbon mitigation
- ☐ Supply of renewable hydrogen
- ☐ Development of refuelling infrastructure and practical storage
 - Chicken and egg supply problem
- ☐ Supply of a range of affordable vehicles
 - Fuel cell costs, durability and reliability
- ☐ Improving public acceptability
- ☐ Alternative LC-options
- ☐ RD&D funding



Substantial new investment in encouraging road transport technology and innovation -

but there is insufficient coordination between programmes

Technology Strategy Board

Driving Innovation

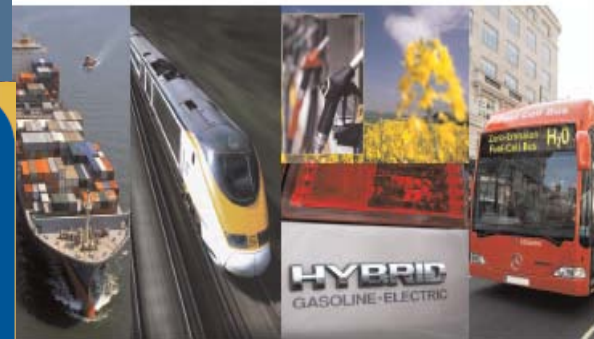


Low Carbon
and Fuel Cell
Technology

Knowledge Transfer Network

Department for
Transport

Low Carbon Transport
Innovation Strategy



May 2007

Recent history shows there are no “silver bullets”



In the next 5-years?



Small, light-weight,
efficient cheap vehicles
e.g., TATA Nano



Diesel hybrid
e.g., Citroen C4



Efficient family cars
e.g., Ford Econetic



Electric vans and gas trucks
e.g., Modec



In-use efficiency tools
e.g., Fiat Eco-drive

Conclusions

- ❑ BAU is for transport energy demand to more than double by 2050
- ❑ A halving of transport emissions is possible but hugely challenging requiring
 - An 50%+ improvement in vehicle efficiency (achievable at a cost)
 - Successful introduction of advanced biofuels avoiding indirect land use change
 - Significant market share for electric / hybrid vehicles and possibly FCVs (long-term)
- ❑ Current progress is not matching the growth in vehicle numbers
 - Faster technology deployment requires stronger consumer incentives, regulation and better consumer education
- ❑ To 2020 vehicle technology (rather than alternative fuels) will deliver most CO2 reduction
- ❑ Near-term trends are likely to be for:
 - Small efficient cheap vehicles in non-OECD countries
 - Increased demand for fuel economy in OECD countries with higher penetration of hybrids, and down-sized engines
- ❑ Technology is only part of the solution – demand management and building public transport infrastructure to encourage modal shift will be key

Any Questions?

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The Low Carbon Vehicle Partnership

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