

The role of alternative fuels (including biomethane) in reducing transport emissions

UK National Biomethane Conference

4th June 2009

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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

Renewable Fuels Agency
Carbon and Sustainability Reporting Within the Renewable Transport Fuel Obligation
Technical Guidance Part One
Office of the Renewable Fuels Agency
V1.2
August 2008

cenex

LowC^{VP}

ACT ON CO₂

LowCVP 'Low Carbon Road Transport Challenge'
Proposals to reduce road transport CO₂ emissions in the UK to help mitigate climate change
June 2008

Fuel Economy	Low Carbon Car
115, passenger g/km	
<100 A	
101-110 B	B 117 g/km
111-120 C	
121-130 D	
131-140 E	
141-150 F	
151-160 G	
161-170 H	
171-180 I	
181-220 J	
221+ K	

Fuel cost (estimated) for 12,000 miles
£662

VED for 12 months
£50

LowC^{VP}
low carbon vehicle partnership
Accelerating the shift to Low Carbon Vehicles and Fuels

LowC^{VP}
Engaging with investors' message

ACT ON CO₂

Future events
LowC^{VP} Annual Conference 2009: "The Changing Climate for Vehicles and Fuels"

Low Carbon Transport Innovation Strategy


A quick plug !

- The climate imperative
- Auto-industry support - investing in a sustainable industry or bailing out past failures?
- Advanced and alternative fuels - including electric solutions
- Cutting road transport carbon driving local action
- Strategic marketing and technical approaches to delivering the car CO2 targets
- What Car? Green Awards and Revolve Brighton to London Eco-Rally
- Vehicle displays and inside exhibitions
- 'Open mic' session

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The Changing Climate for Vehicles and Fuels

Monday 8 June 2009, City Hall, London
**Low Carbon Vehicle Partnership
Annual Conference 2009**



In association with:

WHATCAR?
GREEN AWARDS 2009

revolve
towards zero emissions

Supported by:

MAYOR OF LONDON

Scope

- ❑ The scale of the challenge
- ❑ The need for renewable fuels
- ❑ Biomethane opportunities in transport
- ❑ New legislative developments
 - RTFO
 - EU Directives
 - Bus Service Operators Grant
- ❑ The way forward

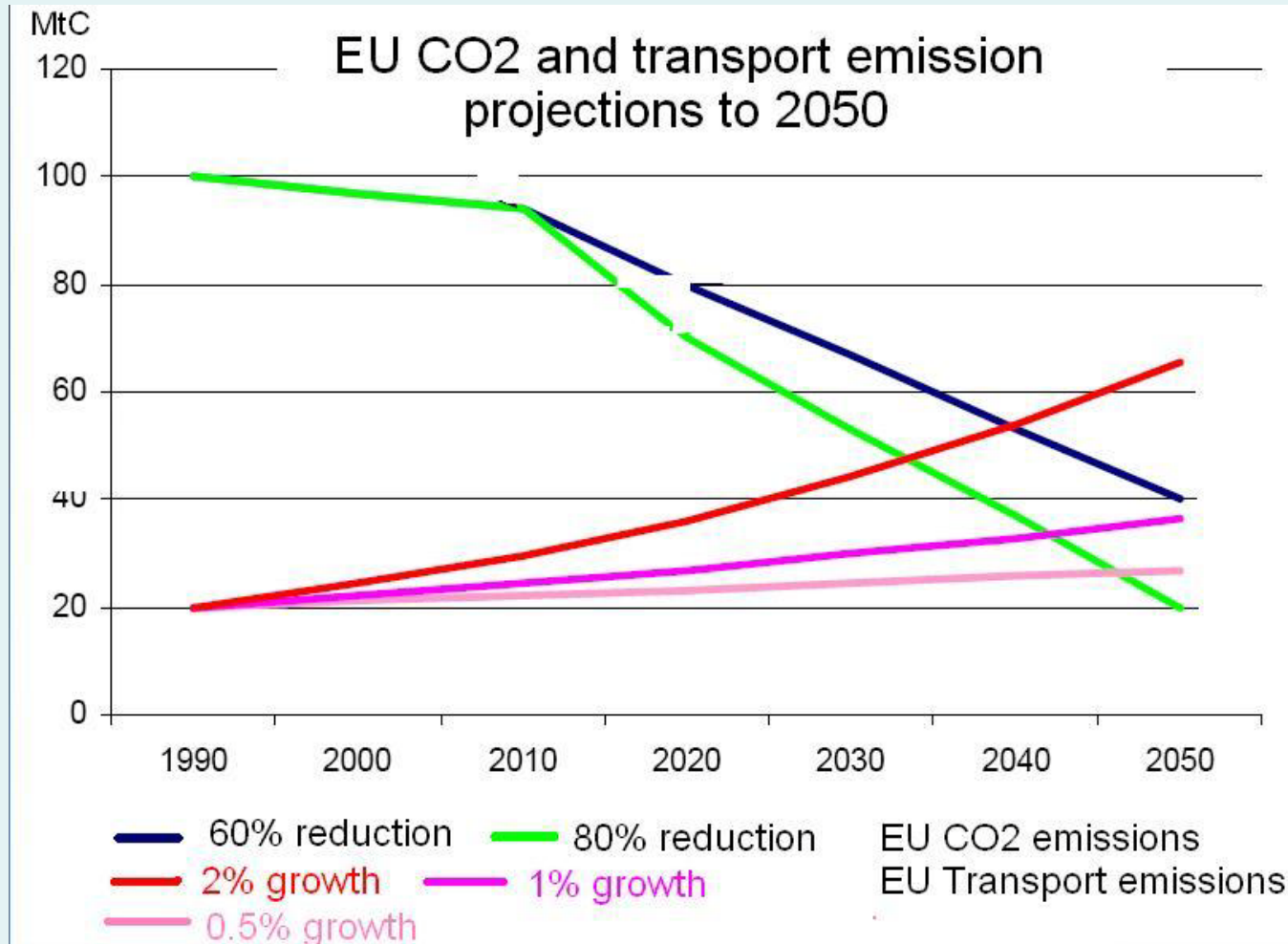


“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level”

IPCC 2007



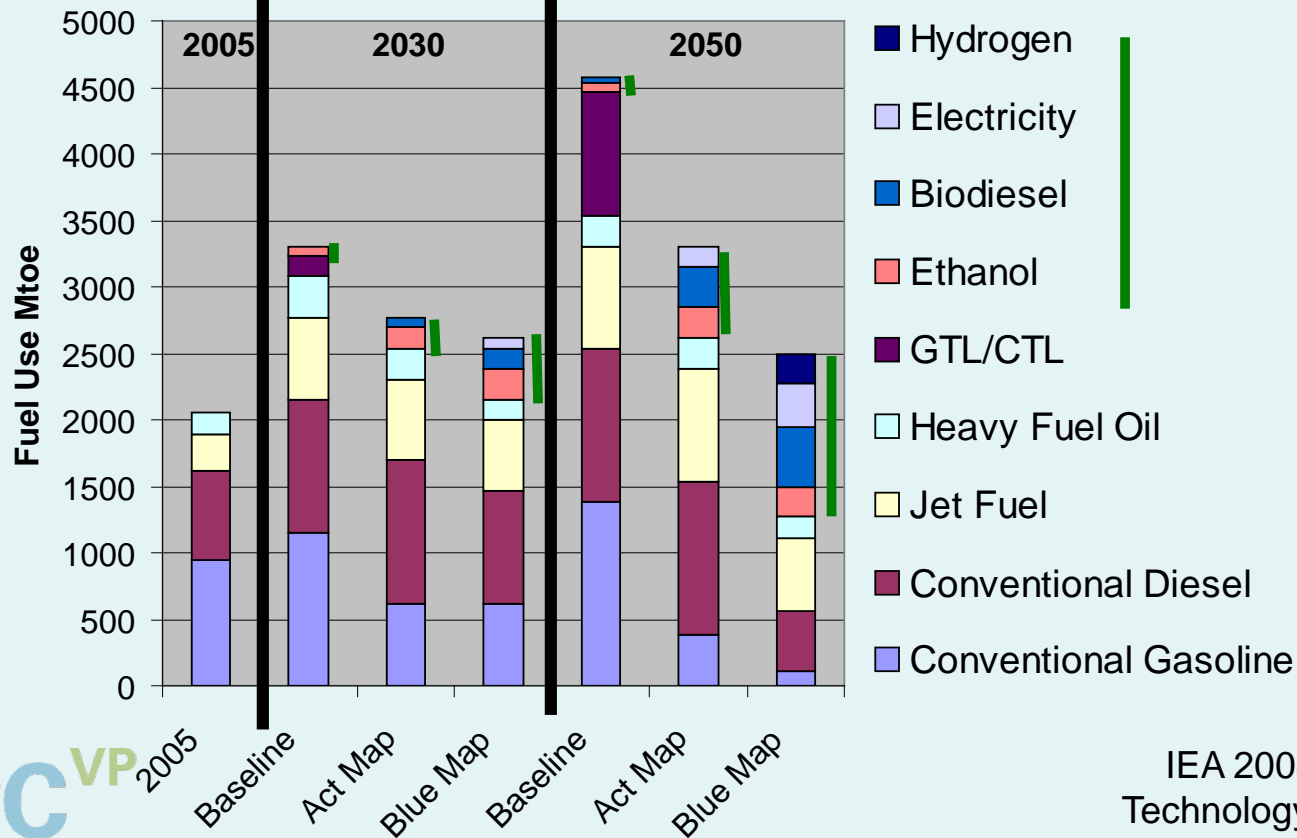
Continuing transport emission growth will consume the entire EU CO2 emissions cap for 2050



To 2020 most transport emissions reductions will be delivered by vehicle efficiency improvements

- Beyond 2020 further decarbonisation of transport will require significant penetration of renewable fuels*
- More ambitious emissions reductions require greater penetration of renewable fuels*

IEA Energy Scenarios for Fuel use

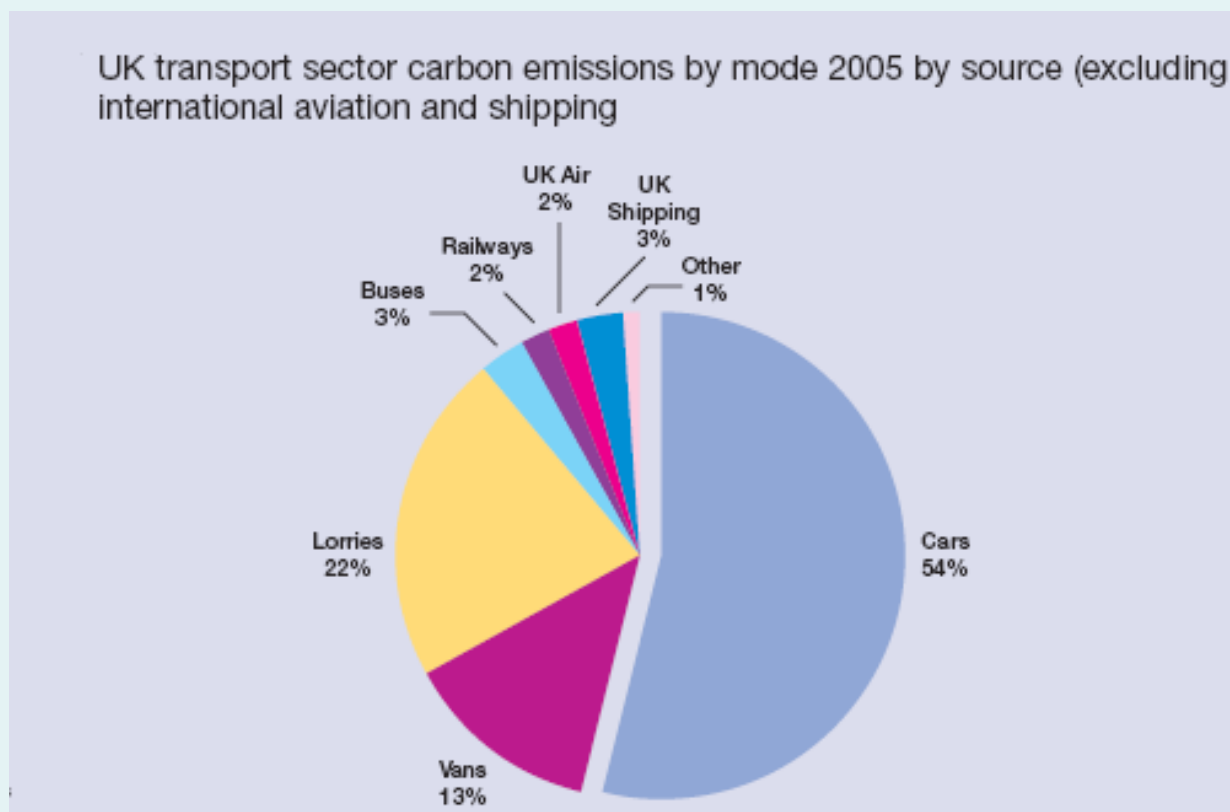


*There are currently issues with all alternative fuels
but opportunities exist in specific niche sectors*

Criteria	1 st G Bio	2 nd G Bio	H2-IC	H2-FCV	Bio- CH4	EV
Technology readiness	Green	Orange	Orange	Red	Green	Orange
Cost competitiveness	Green	Orange	Orange	Red	Orange	Orange
Vehicle availability	Green	Green	Orange	Red	Orange	Orange
Infrastructure deployment	Green	Green	Red	Red	Orange	Orange
Driver acceptability	Green	Green	Orange	Orange	Green	Red
Sustainability	Orange	Orange	Orange	Green	Green	Green

Lorries, vans and buses represents 38% of UK transport sector emissions –

Biomethane offers a promising way to reduce emissions



DfT 2008

The small amounts of biogas supplied through the RTFO are sustainable

Fuel	% Volume	% meeting acceptable env perf	% meeting acceptable social perf	% GHG-saving
Biodiesel	84%	18%	16%	42%
Bioethanol	16%	18%	1%	70%
Biogas	0.03%	100%	100%	69%

EU Renewable Energy and Fuel Quality Directives provide further support for sustainable biofuels (including biomethane)

- ❑ Target of 10% renewable energy in transport by 2020. Transposition deadline likely November 2010
- ❑ Biofuels must fulfil the sustainability criteria
 - minimum GHG savings of 35%, rising to 60% by 2018
 - not from land with high biodiversity, primary forest, carbon stocks, wetlands
 - information on measures taken for soil, water and air protection – comitology
- ❑ Complementary Fuel Quality Directive (FQD) requires fuel suppliers to reduce the lifecycle greenhouse gas emissions of road transport fuels
 - 6% reduction by 2020 relative to a baseline of the EU average figure in 2010

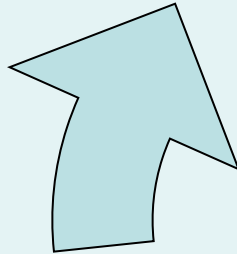
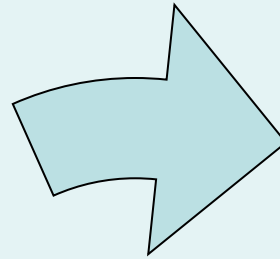


Biomethane buses receive additional support under new UK subsidy arrangements

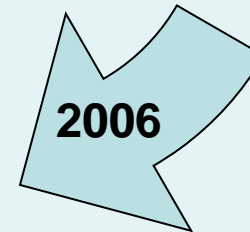
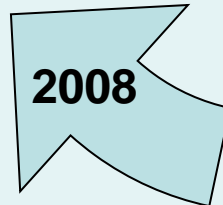
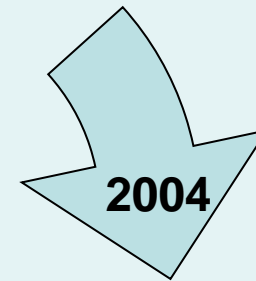
- ❑ Natural gas buses receive 100% duty exemption (19.26p/ kg)
- ❑ From 2010-13 the duty differential on NG will be retained
- ❑ Biogas buses now receive additional 6p/km payment as a low carbon emission bus
 - c£3k pa



*Recent history shows there are no "silver bullets"
- Government should support a portfolio of promising solutions*



***Recent
fashions in low
carbon vehicle
technologies***



In conclusion

- ❑ Evidence of accelerating, “dangerous climate change” is growing
- ❑ Growing transport emissions would consume the entire EU CO2 budget by 2050
 - Vans, trucks and buses emit over a third of UK transport CO2 emissions
 - Renewable fuels will make an important contribution to decarbonising transport
- ❑ Biomethane has considerable potential for commercial vehicles and buses - in the right applications
 - RTFO demonstrates biomethane is sustainable – but currently only supplied in small volumes
 - New low carbon emission bus subsidy for biogas gases
 - New EU directives support biofuels with good GHG-savings
- ❑ There are no silver bullets and technology alone will not sufficiently reduce transport emissions
- ❑ LowCVP is keen to work with the industry to find ways to accelerate the use of biomethane for transport



Any Questions?

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