

Prospects for carbon savings from vehicle and fuel technologies in the CV market.

Will incentives be needed?

SMMT Automotive Summit

30th June 2010

Jonathan Murray, Deputy Director

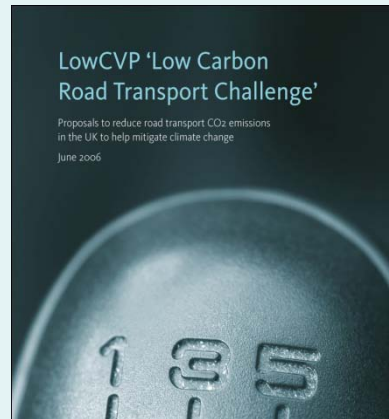
Low Carbon Vehicle Partnership

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												
<p>CO₂ emissions figure (g/km)</p> <p><100 A 101-120 B 121-150 C 151-180 D 181-225 E 226-275 F 276+ G</p>		B 117 g/km												
<p>Fuel cost (estimated) for 12,000 miles</p> <p>VED for 12 months</p>		£662 £50												
<p>Environmental Information</p> <p>A guide on fuel economy and CO₂ 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-technical factors play a role in determining a car's fuel consumption and CO₂ emissions. CO₂ is the main greenhouse gas responsible for global warming.</p>														
Make/Model: Low Carbon Car	Engine Capacity (cc): 1396													
Fuel Type: Diesel	Transmission: 5 speed manual													
<p>Fuel Consumption:</p> <table border="1"> <thead> <tr> <th>Drive cycle</th> <th>Litres/100km</th> <th>Mpg</th> </tr> </thead> <tbody> <tr> <td>Urban</td> <td>5.4</td> <td>53.3</td> </tr> <tr> <td>Extra-urban</td> <td>3.8</td> <td>74.2</td> </tr> <tr> <td>Combined</td> <td>4.4</td> <td>64.2</td> </tr> </tbody> </table>			Drive cycle	Litres/100km	Mpg	Urban	5.4	53.3	Extra-urban	3.8	74.2	Combined	4.4	64.2
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Urban	5.4	53.3												
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Combined	4.4	64.2												
<p>Carbon dioxide emissions (g/km): 117 g/km Important note: Some specifications of this model may have lower CO₂ emissions than this. Check with your dealer.</p>														



LowC^{VP} marketing challenge

CARS NOT CARBON
A competition to promote a 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

Partners:



LowC^{VP} Accelerating the Shift to Low Carbon Vehicles and Fuels

Home

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Latest news

LowCVP Annual Conference 28 June 2007 [View news item](#)

LowCVP 2007
The LowCVP 2007 annual conference on June 28th will feature a high profile lineup of speakers including Transport Secretary Douglas Alexander and will focus on some of the key challenges in the battle to reduce the climate change impact of road transport.

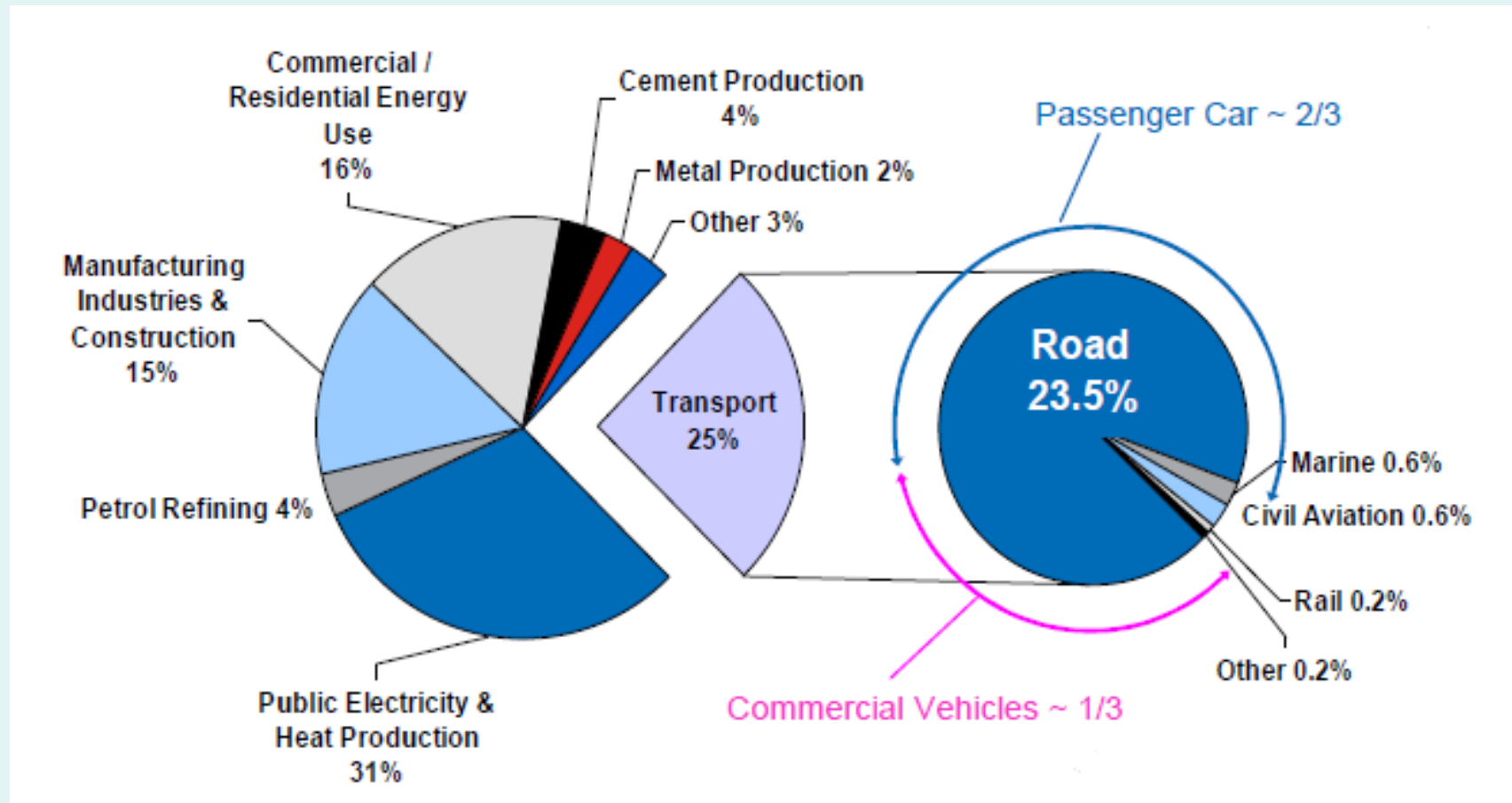
LowCVP sponsors at LowCVP Conference 28 June, London 2007
There are a limited number of places for exhibitors at the LowCVP annual conference which will be held on 28 June in central London. The event, which has been fully subsidised by most major sponsors, is a great opportunity to showcase products and services related to low carbon road transport projects in a high profile setting.

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Supporters of the Low Carbon Transport Revolution 2007
The Government has announced the Low Carbon Transport Revolution 2007, a £100 million programme to support the Low Carbon Vehicle Partnership. The LCVTP will not be a formal part of the programme through which

Road transport accounted for 23.5% of man-made CO2 emissions in 2007 and has been increasing since 1990



Source: DfT

Policy makers looking to technology for CO2 savings. Can it deliver in CV market?

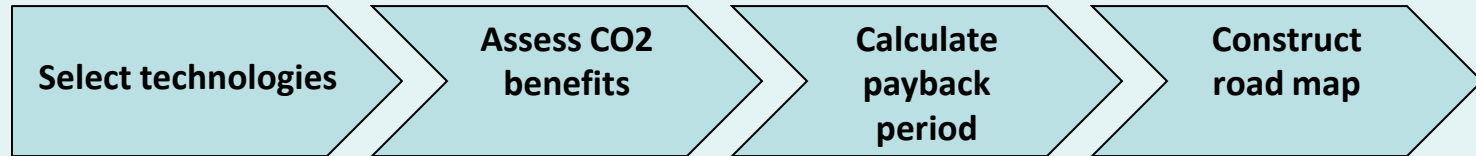
- ❑ *The Low Carbon Transport: A Greener Future states that “DfT aims to determine the best incentives – regulation, support for investment or best practice – to encourage greater uptake of lower carbon HGV technologies and help industry achieve significant reductions in fuel consumption and CO2 emissions from HGV operations.”*

- ❑ **Low Carbon HGV Programme**
 - “Develop an objective whole vehicle definition of a low carbon commercial vehicles reflecting different operational requirements which is appropriate for the basis for incentivisation through fiscal or policy measures.”*

 - Technologies capable of delivering CO2 reductions.
 - Methodology for identifying low carbon HGVs/technologies.
 - Evaluate options to incentivise low carbon HGVs/technologies.

Technologies were assessed through a four stage process for four types of operation

Technology road mapping process



Four applications



Heavy Goods



Inter city delivery



City delivery

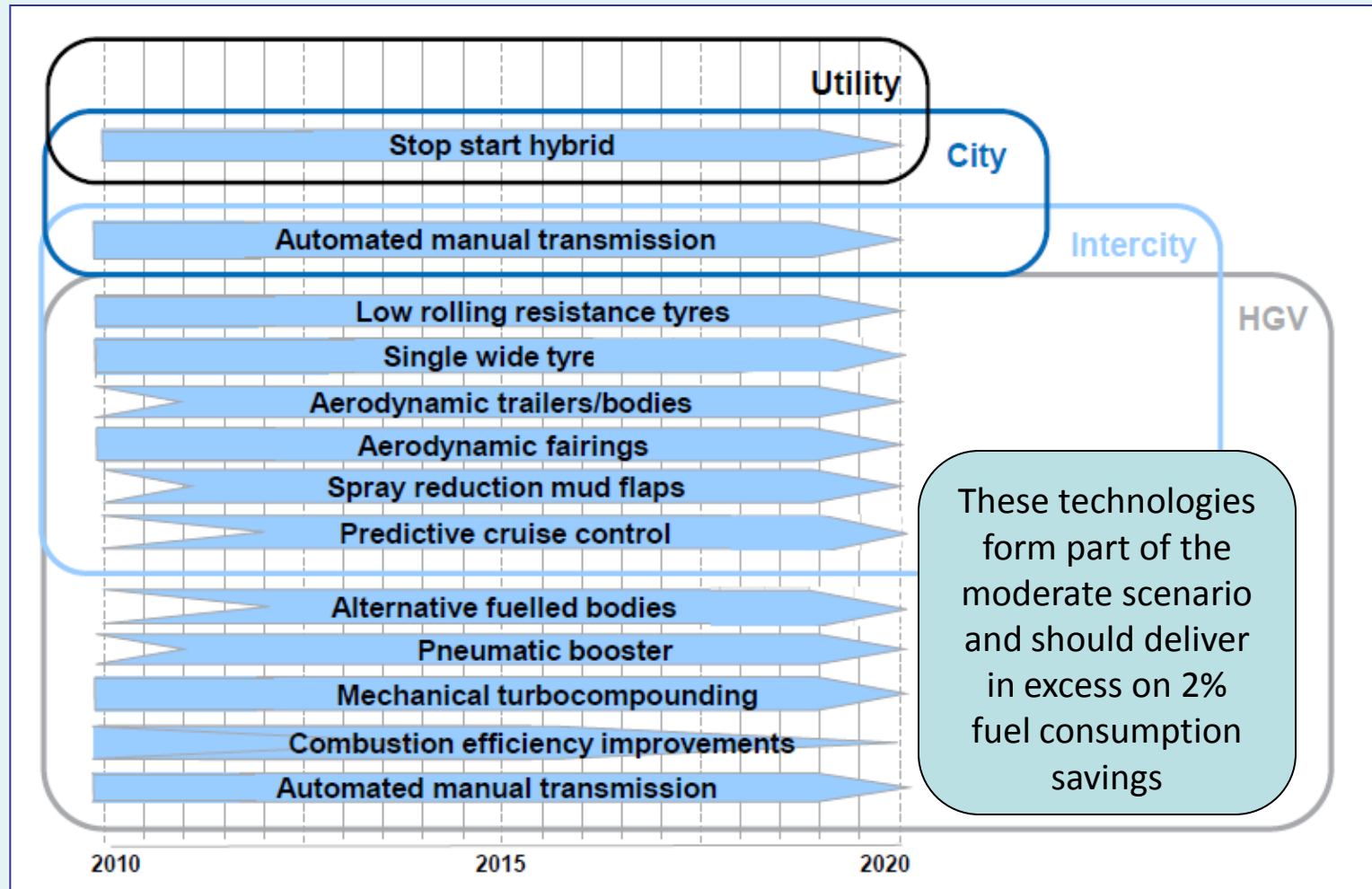


Utility

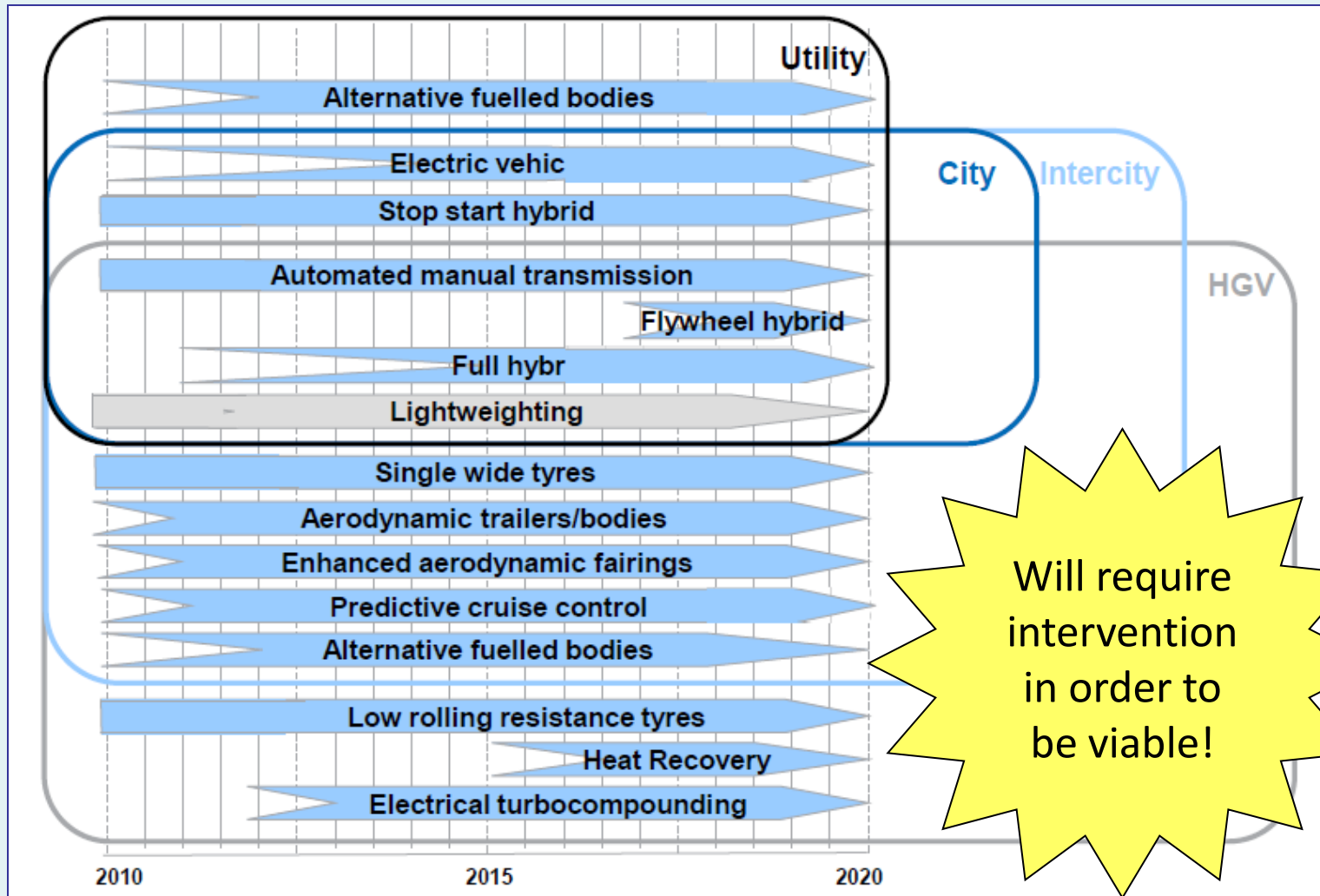
Technology Areas

Vehicle		Powertrain		Fuel	
Aerodynamics	Fairings	Efficiency	Combustion	Alternatives	Natural gas
	Trailers		Friction		Biofuels
	Spray suppression		Acillaries		Biogas
Rolling	Low Res tyres		Gas Exchange		Electricity
Resistance	Single wide tyres		Waste heat use		Hydrogen
	Auto tyre pressure		Trans/Driveline		
Driver /	Predictive cruise	Alternatives	Fuel cells/Evs		
Control	AMT		Hybrids/ICE		

Vehicle and powertrain technologies which are likely to be commercially viable by 2020

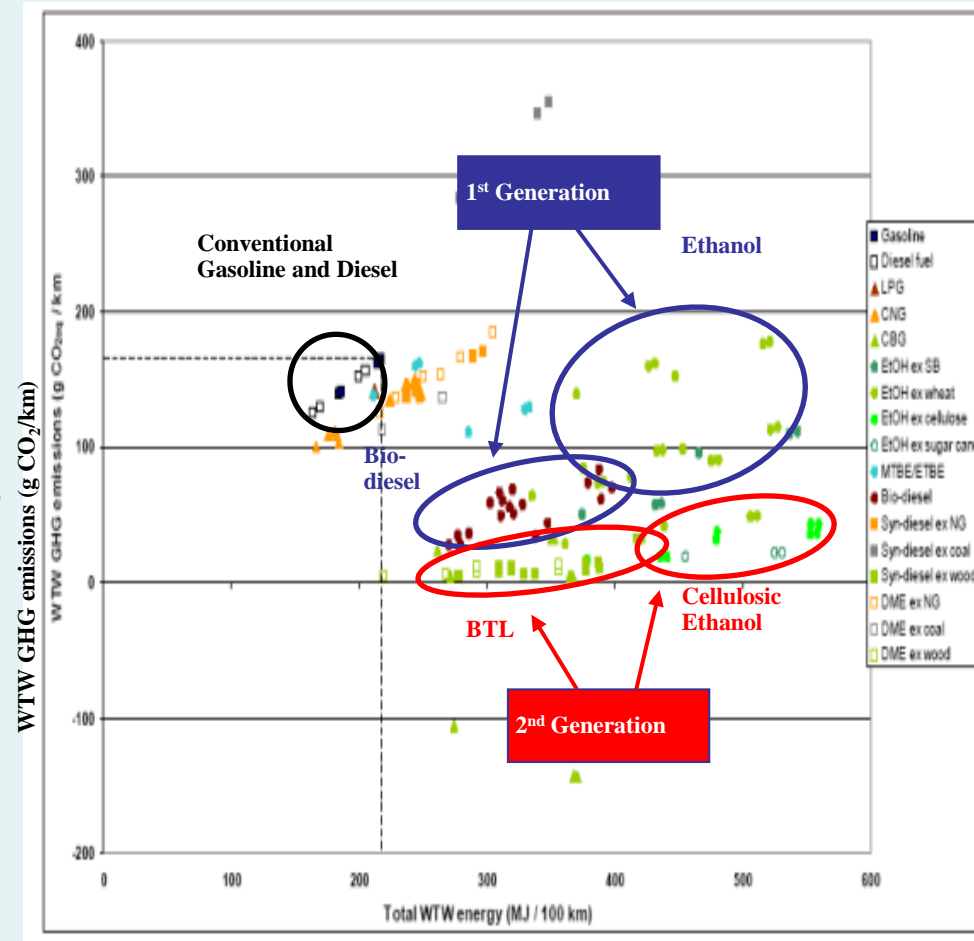


Technologies which can deliver more aggressive fuel savings but are unlikely to be commercially viable



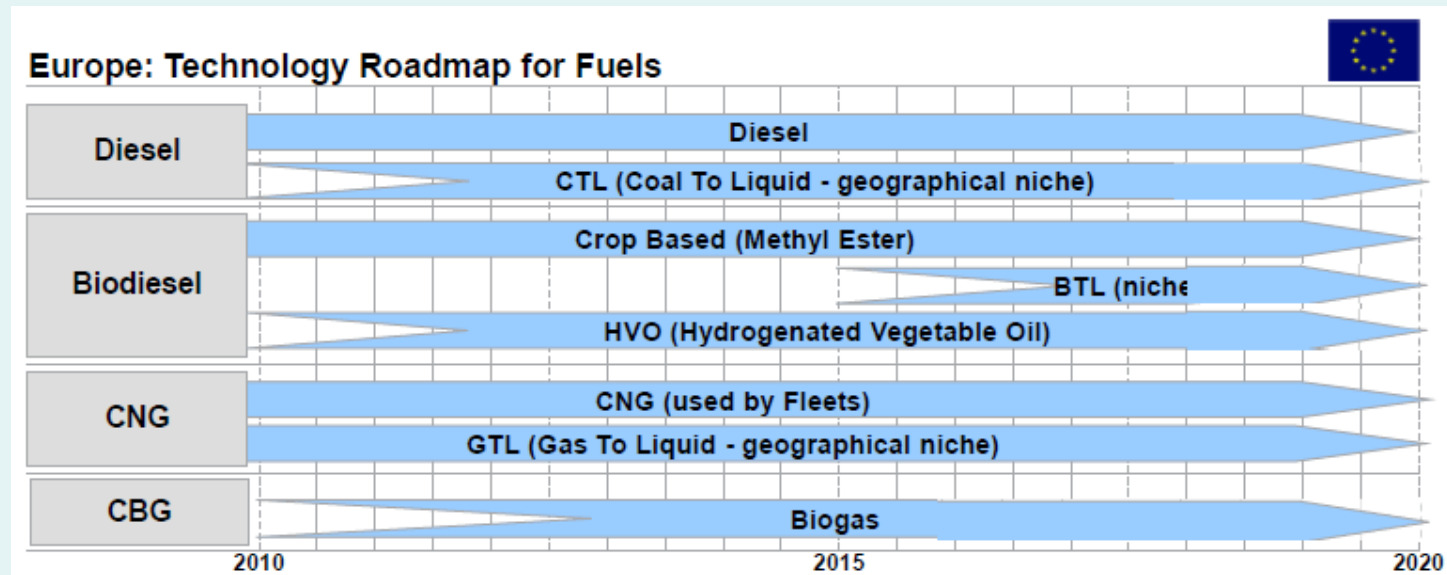
1st generation biofuels can deliver up to 80% WTW CO₂ reductions but 2nd generation expected to do better

- 1st generation biofuels deliver 5%-80% CO₂ reductions
 - Highly dependent on production process
- 2nd generation biodiesel gives significant CO₂ benefits when compared to 1st generation fuels
 - BTL (Biomass To Liquid) is expected to give 60-90% reductions
 - HVO (Hydrogenated Vegetable Oil) is expected to reduce WTW CO₂ emissions by 40-60%
 - Less harmful emissions are produced by BTL and HVO than diesel
 - They contain no sulphur or aromatics



WTW Energy to travel 100km (MJ/100km)

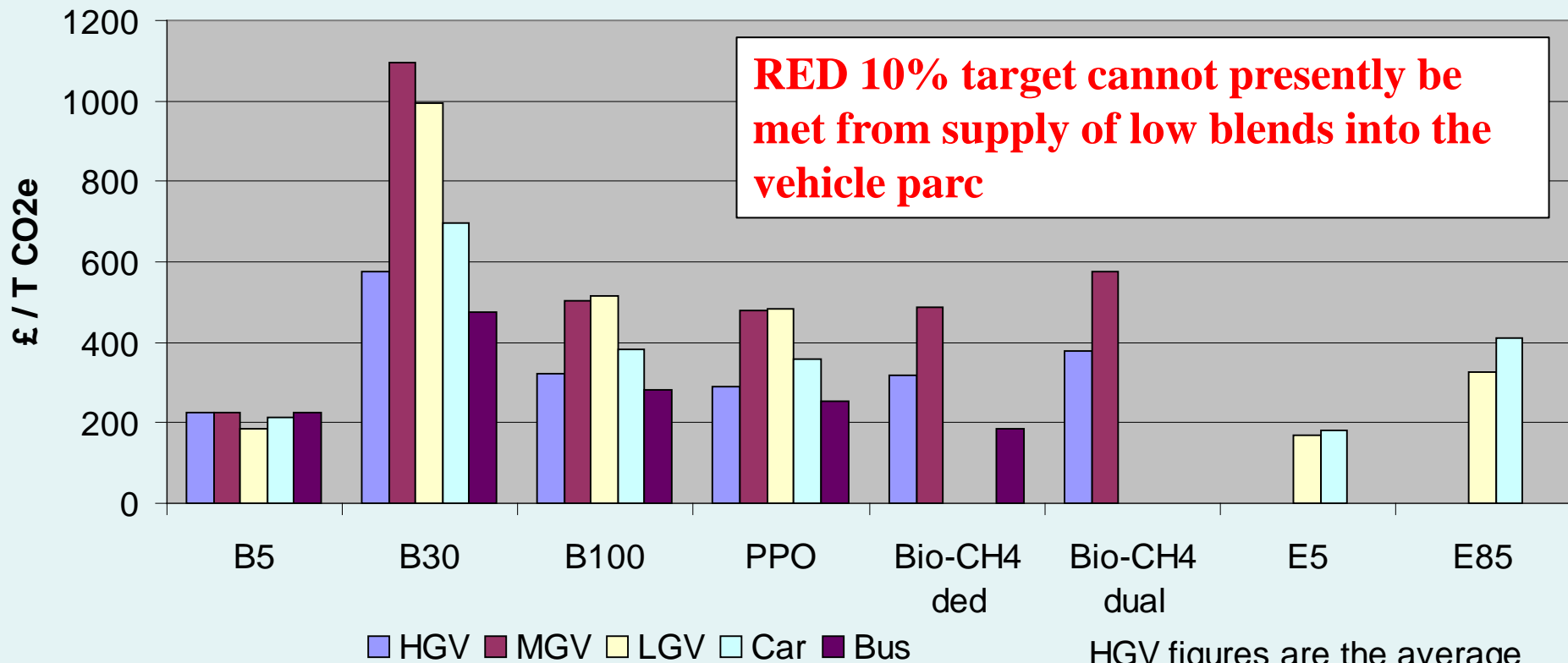
It's expected there will be a diversification of fuels used for heavy duty on-highway applications



- ❑ FAME (Fatty Acid Methyl Ester) is currently used as a blended component in diesel fuel
- ❑ HVO is currently a niche product with a small number of Neste plants supplying HVO [1]
- ❑ BTL (Biomass To Liquid) is expected to remain a niche product up to 2020
 - Currently only pilot plants for production of BTL exist [2], with further R&D and development of industrial scale processes and logistics required
- ❑ GTL and CTL are expected to remain as niche products, used where they are favoured geographically
- ❑ DME (Dimethyether) can be produced from biomass or fossil feedstock but is expected to remain a small volume niche fuel

Low blends are (generally) more cost effective than other options particularly for HGVs & buses.

Cost effectiveness of alternative options



HGV figures are the average across all sub-sectors

Summary

- ❑ Road transport is an important source of carbon dioxide and fuel consumption is a major cost to the transport industry.
 - We need to reduce both.
- ❑ There are a range technologies with the potential to deliver carbon savings.
 - Clear guidance which is backed up with evidence is needed
- ❑ Commercially viable low carbon technologies may not offer significant savings when set against other requirements e.g. Euro 6.
- ❑ To deploy vehicle and powertrain technologies capable of more aggressive reductions in carbon emissions may require incentives.
- ❑ Market forces will lead to low blend biofuels, delivering limited CO2 WTW savings
 - No clear policy on how to comply with the RED and secure greater WTW CO2 savings.
- ❑ At a European and national level a consistent strategy to promote low carbon vehicle and fuel technologies is needed.

LowCVP Annual Conference 14-15 July, Twickenham Rugby Stadium

- Key issues covered
 - Policy leaders national and international
 - Best practice in cutting carbon
 - Focused session on low carbon commercial vehicles

- Winners of the LowCVP Low Carbon Champions

- Road Freight



- Launch of Technology Challenge 2

- Low carbon technologies for HGVs

- For details see LowCVP website
 - www.lowcvp.org.uk

The poster has a blue header with the text 'Low Carbon Vehicle Partnership'. Below this, the main title 'Moving to a low carbon future' is written in large white letters. The event details 'LowCVP Seventh Annual Conference and Awards Dinner Twickenham Stadium, 14-15 July 2010' are listed in white. The background is a photograph of a road curving through a green landscape. On the right side, a list of sponsors is provided, including the International Energy Agency, International Council on Clean Transport, Department for Transport, Campaign for Better Transport, WhatCar?, Renewable Fuels Agency, Committee on Climate Change, Ford Motor Co., and Transport for London. Logos for 'LowCVP Online Media Partner', 'WHATCAR? GREEN AWARDS 2010', and 'MICHELIN' are also present. At the bottom, it states 'The LowCVP Conference 2010 is sponsored by Michelin' and the 'LowCVP low carbon vehicle partnership' logo.

Thank You!

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The Low Carbon Vehicle Partnership

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