

Low carbon heavy commercial vehicles programme

Update on UK progress

Presented to ARTC

29th June 2011

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Agenda

- ❑ Low Carbon Vehicle Partnership
 - Working with stakeholders

- ❑ Low Carbon Buses
 - Outline of programme & progress to date

- ❑ Low Carbon Truck Certification
 - LowCVP Recommendations to UK Government

- ❑ Car labelling

LowCVP 's mission is to accelerate a sustainable shift to low carbon vehicles and fuels & stimulate opportunities for UK businesses

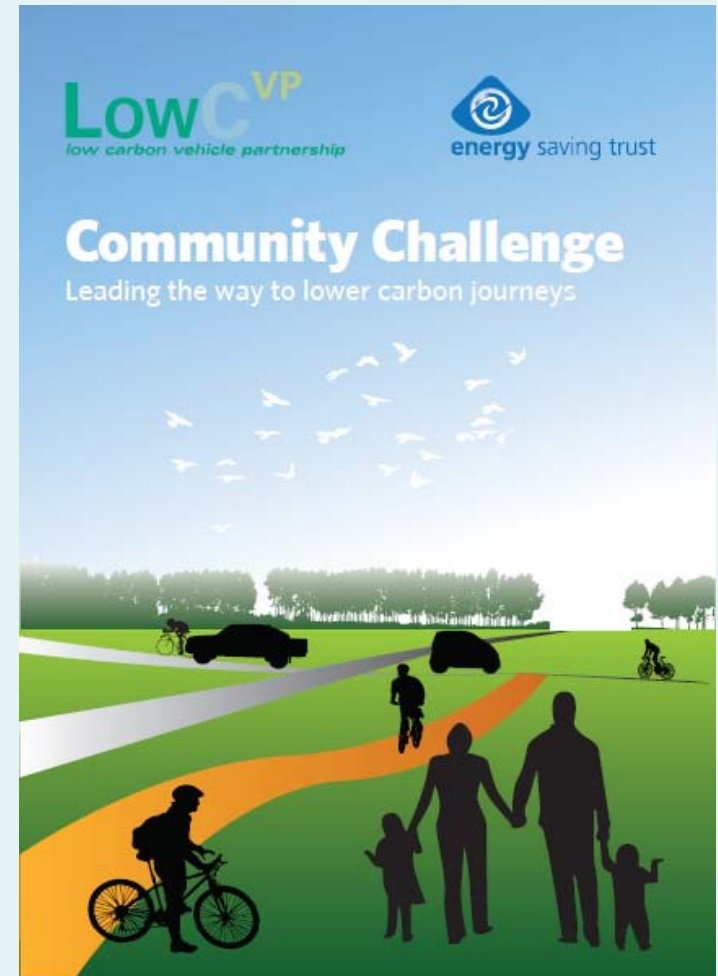
LowCVP delivers its mission by:

- ❑ Working with Government (and other policy makers) to enable the development and deployment of more effective market transformation policies and programmes
- ❑ Engaging industry, stimulating and leading voluntary industry-wide initiatives
- ❑ Ensures consumers are informed about the opportunities and benefits of lower carbon options promoting their uptake
- ❑ Helping UK business, especially SMEs, to benefit from the new market opportunities
- ❑ Encouraging action and building a consensus for sustainable change through enhancing stakeholder knowledge and understanding.



Enabling the development and deployment of more effective market transformation policies and programmes

- ❑ Community Challenge conceived, delivered and used to inform development of new Sustainable Transport Fund
- ❑ Original “risk management” approach developed to address biofuels iLUC issued. Positive feedback received from European Commission
- ❑ Technical work complete on whole-life carbon accounting for cars
- ❑ Work in-train on the drivers of the market for low carbon car technologies 2020-30
- ❑ Green Bus Fund 2 and Scottish Green Bus Fund launched



Stimulating and leading market transformation interventions by relevant stakeholders

Best Practice Principles for environmental claims in automotive marketing to consumers

LowC^{VP}
low carbon vehicle partnership



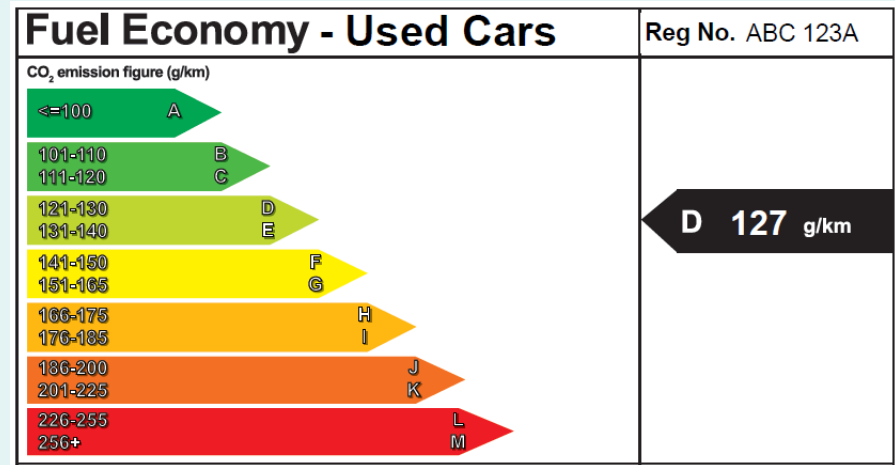
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- ❑ Best Practice Marketing Principles launched with SMMT and ISBA
- ❑ Costed proposals for certification of HGVs and HGV technologies developed for Government
- ❑ Led- biomethane in transport element of the DEFRA Anaerobic Digestion Framework
- ❑ Toolkit developed for local authorities to increase uptake of Green buses
- ❑ September Meeting with Norman Baker
- ❑ 3 Climate Clinic events at autumn party conferences
- ❑ Parliamentary Lunch + 12 MP briefings

Strengthening consumer information and incentives to encourage their purchase, deployment and use

- ❑ Published research on car buyer understanding of alternative information display formats
- ❑ Initial evaluation of used car labelling scheme shows one-third of a million used labels displayed in first 12 months
- ❑ Cabinet Office invites LowCVP to increase relevance of labelling
- ❑ Car label features in CBI report on voluntary action by business
- ❑ Study on provision of information to van purchasers completed



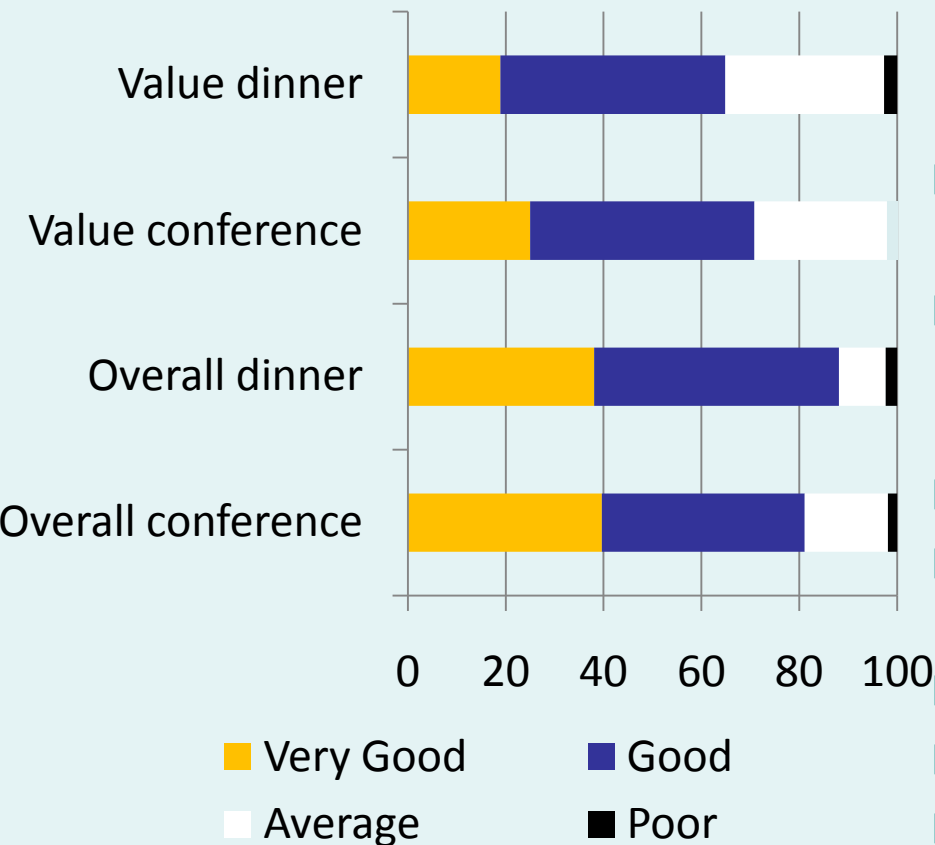
Creating opportunities for UK businesses

- ❑ Successful HGV Technology Challenge
- ❑ Technology and Manufacturing Readiness levels published with Auto. Council and SMMT
- ❑ Test facilities database developed to identify potential support to SMEs
- ❑ Support in publication of the Automotive Directory
- ❑ Investor event attended by 100+



Enhancing stakeholder knowledge, understanding and engagement

Overall Assessment and Value for Money Feedback



- First sponsored, 1.5 day annual conference
 - 200 delegates
 - 8/10 Good or Very Good
 - £5k profit
- Inaugural Awards dinner
 - 9/10 rate Good or Very Good
- Seminar series run as part of Sustainability Live! And Eco2 Transport and LCV10 exhibitions
- 23 conference presentations
- Updated web-site launched with improved search functionality
- 8 webinars
- Newsletter subscribers up 5% to 2500
- Engaging in social media through Twitter and Linked-in

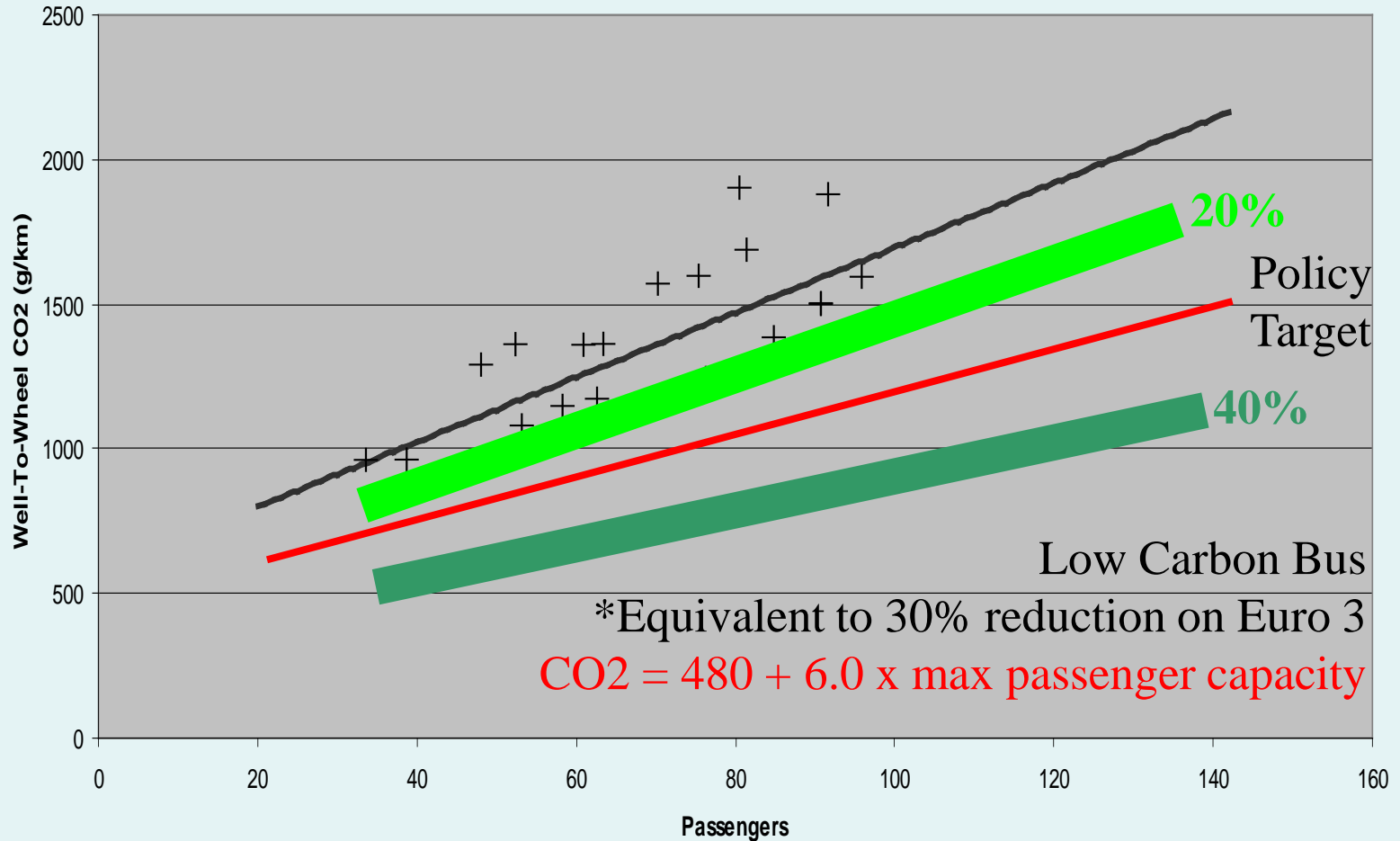
Low Carbon Buses

Specifying a clean low carbon bus

- ❑ There are two important issues which need to be tackled in developing a definition of what a clean low carbon bus is;
 - Ensuring the definition is technology neutral and is not bias in some way against specific technologies
 - Ensuring that the definition can be tested and that the test reflects what is happening in reality

- ❑ The approach we have taken is to;
 - Develop performance targets for the bus in real life operation.
 - Look at the impact of the fuel production as well as the vehicle on the environment.

Establishing a target for clean low carbon bus



Government support for low carbon buses

- ❑ Bus Operators Support Grant (BSOG)
 - Low Carbon Bus supplement, 6 p/km for eligible buses
 - Linkage of future uplifts to fleet fuel efficiency
 - Secured for the current Government Spending Review

- ❑ Green Bus Fund
 - £35 m by March 2011 in England and Scotland
 - Additional £5m by 2012

LowCVP has played a material role in creating the largest European market for low carbon buses

- ❑ LowCVP developed definition, test procedures and recommended incentives for low carbon buses to DfT.
 - LowCVP website provides portal for low carbon bus resources
- ❑ Govt support has made low carbon buses viable:
 - 6 p/km supplement available via Bus Service Operators Grant,
 - Capital grants ,Green Bus Fund
- ❑ GBF and SGBF will support:
 - 33 bus operators across England and Scotland
 - procuring 566 low carbon buses
 - UK based bus manufacturers beneficiaries
- ❑ Low carbon buses will save 0.8MtCO2 by 2020



Green Bus Fund and Scottish Green Bus Fund grant awards 2010



Low Carbon Truck Certification

LowCVP's low carbon HGV programme

- ❑ In December 2009, following the publication of 'The *Low Carbon Transport: A Greener Future* ', DfT requested LowCVP to investigate how to accelerate the market for low carbon HGVs.

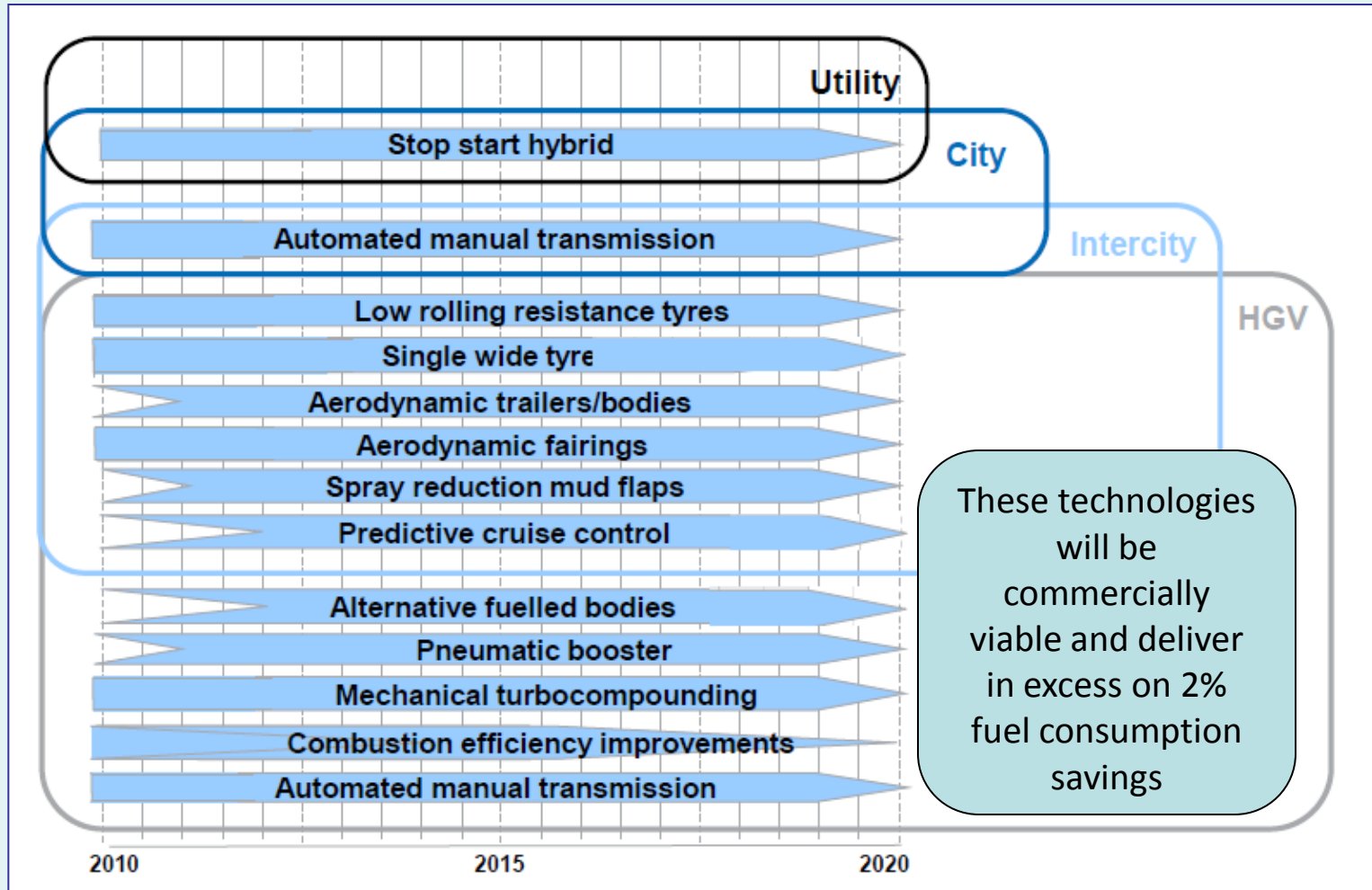
- ❑ As part of the programme DfT asked LowCVP to:
 - Confirm the technologies which should be prioritised in encouraging a reduction in carbon emissions from HGVs.

 - Determine whether it is possible to develop a performance measure or target for HGVs which could be used as well as or instead of incentivising one or more particular technologies.

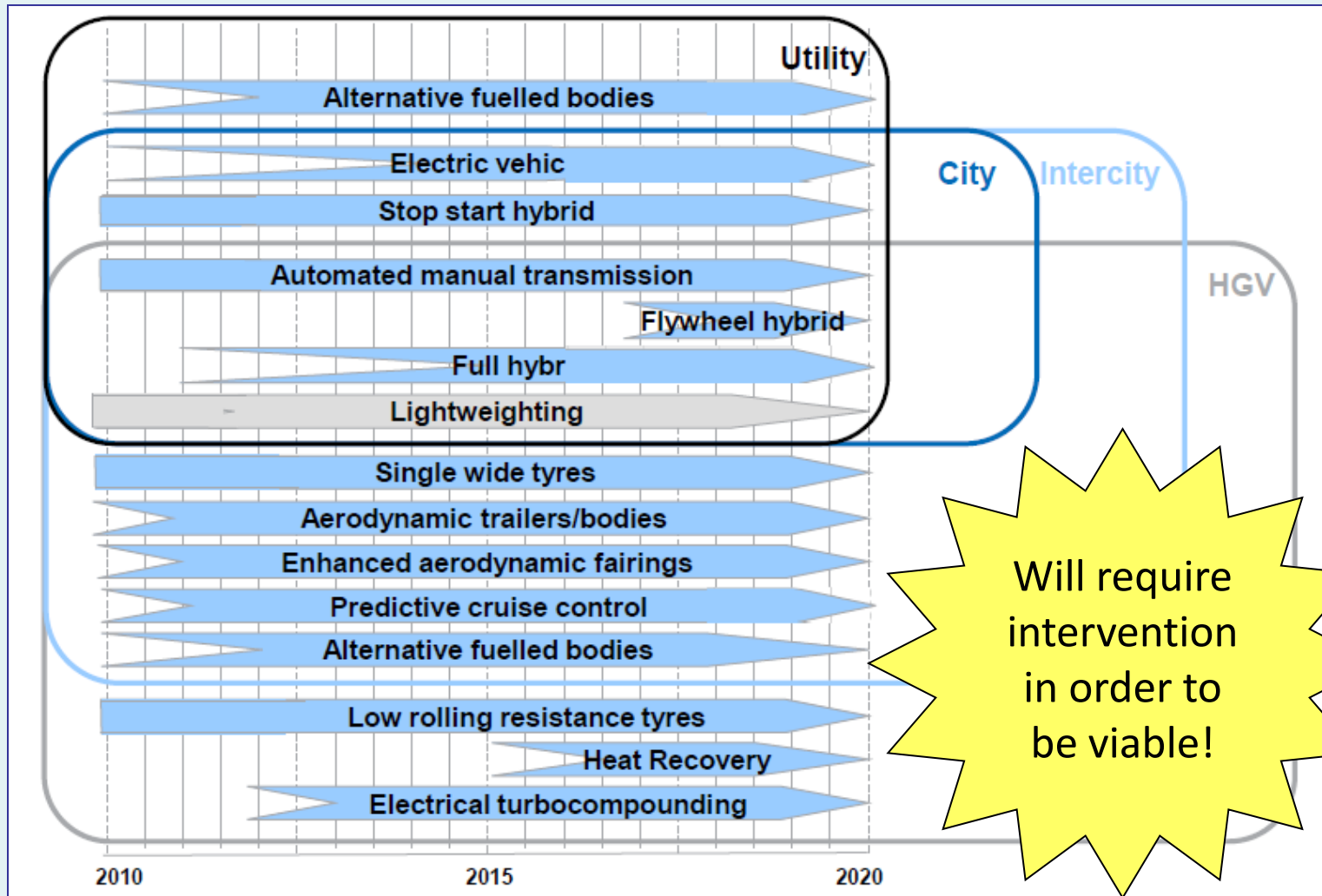
 - Evaluate options to incentivise low carbon HGVs or selected technologies.

- ❑ LowCVP developed the work programme which was approved by DfT and commenced work in February 2010.

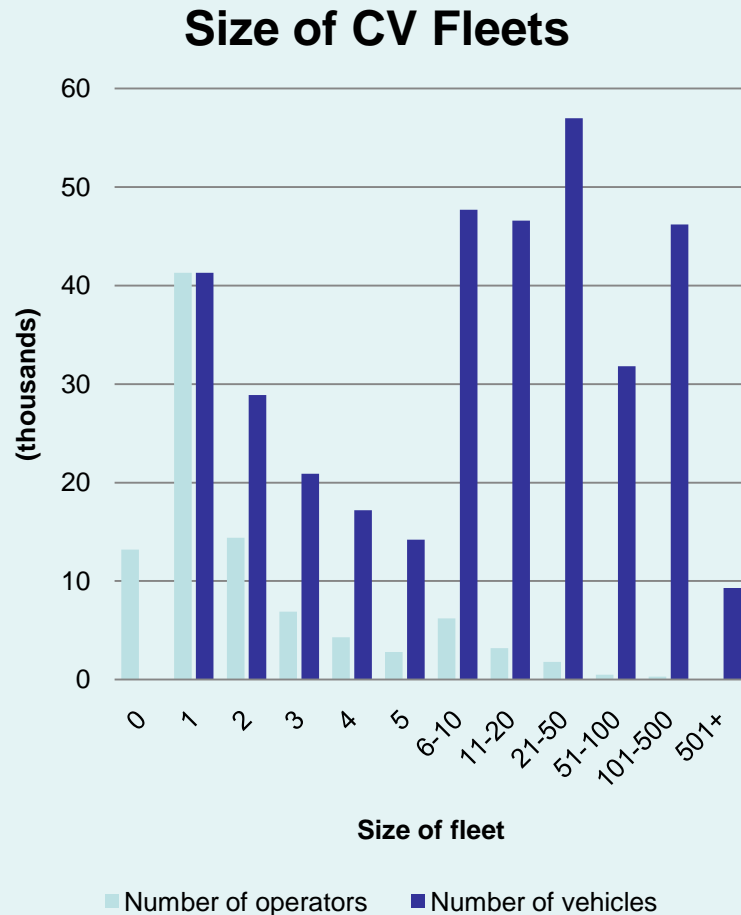
Range of low carbon HGV technologies which have the potential to significantly reduce fuel consumption



Majority do not provide a return on investment sufficiently quickly to be considered by fleet operators, particularly SMEs.



Small and medium fleets are critical in delivering CO2 savings from HGVs



- ❑ Fleet operators lack confidence in manufacturer claims, expressed demand for independent certification.
- ❑ SME fleet operators lack in-house engineering expertise.
- ❑ Haulage industry works on a low margin which is why people don't invest that much in the new technologies.
- ❑ Financial support in relation to the running costs of the fleet were highlighted more frequently than lump-sum financial support.

Purchasing decisions of fleet operators don't deliver most fuel efficient vehicle fleet



- ❑ Reliability and flexibility of vehicles and trailers has a greater impact on the profitability of a HGV fleet than fuel consumption.
 - Market failure to deliver fuel efficient HGVs.
- ❑ Fleet operators are very short term focused but purchasing decisions now will have impact for at least a decade.
 - Policy instruments required now in order to help deliver Climate Change Act targets for 2022.
- ❑ Public sector controlled fleets are most in line with CO2 agenda but relatively small and specialised.

How to identify a low carbon HGV?

- ❑ No standard for measuring fuel consumption and CO2 emissions for HGVs.
- ❑ Cost of physically testing all technologies in all vehicle types in all appropriate applications would be prohibitive.
- ❑ Number of different physical tests available;
 - Dynamometer testing most accurate but not suitable for heavy vehicles or for testing steering.
 - Track testing can provide accuracy within 2%
- ❑ Computer modelling proved to be useful compliment to physical testing



Recommendation 1: Establish a certification scheme

- ❑ An independent certification scheme for the performance of low carbon technologies for use with HGVs be established. The scheme should be:
 - Government endorsed for credibility but could be self financing through charge to manufacturers wishing to participate.
 - Designed to minimise the cost of certification and the risk of mis-certifying or of undermining air quality and other regulated areas.
 - Based upon physical tests complemented by computer modelling witnessed by DfT executive agencies.
 - Initially based upon back-to-back testing initially to reduce cost of establishing scheme.
 - This system should be augmented in time with a scheme based upon a threshold based upon a metric appropriate for HGV operation in order to reduce testing costs.

Recommendation 2: Accelerate the adoption of low carbon

- An incentive mechanism be introduced to help kick-start the market for qualifying low carbon HGVs and extend the range of technologies which could be commercially viable.
 - To help kick-start the market for qualifying low carbon HGVs
 - Extend the range of technologies which are commercially viable by achieve a ROI in approximately 2 years.
 - Options for incentive mechanisms include; Enhanced Capital Allowance and capital grants.

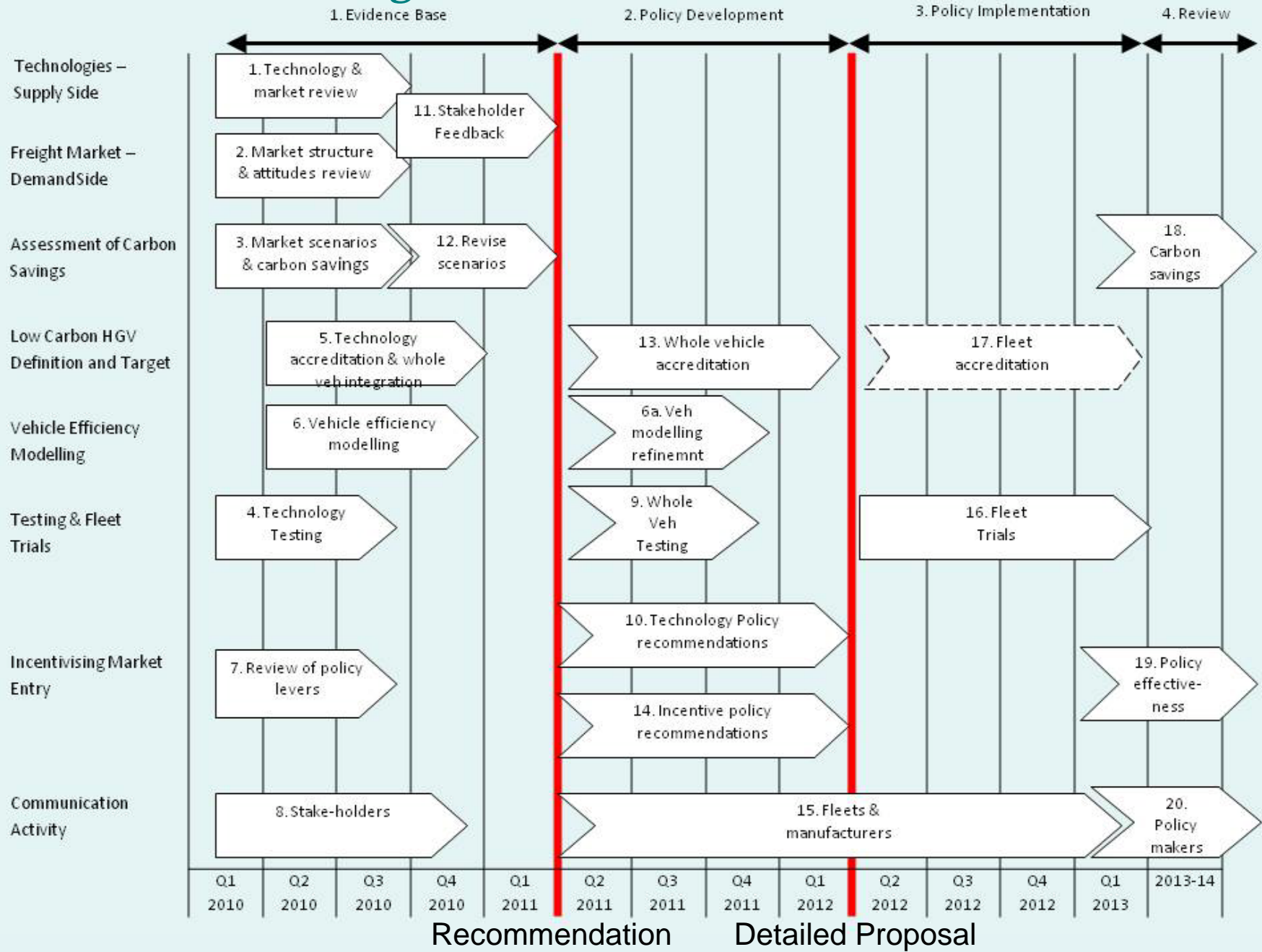
Recommendation: Need to access small and medium HGV fleet operators

- ❑ There is a huge range in the size of HGV fleets and that vast majority of vehicles are operated by small and medium sized fleets. Historically have been difficult to engage with through Government funded schemes.
 - The scheme should be designed to be accessible to small and medium size fleet operators, as well as larger fleets.
 - The scheme should be designed to be delivered as an integrated offering with other Government backed schemes targeting HGV fleets.
 - Scheme will need to be credible and demonstrate benefits to operators. To achieve this monitoring of early adopters should be used to provide case studies.
 - Small fleets should be given access to professional advice in technology selection.

Recommendations: Link to European Commission research into HGVs and CO2

- The European Commission is undertaking research into this area and future regulation of CO2 may come from Europe.
 - A UK certification scheme take account of the final form of any regulation coming from the EC.
 - In particular, the certification scheme should adopt drive cycles and classes of operation common to those adopted by regulation as and when it is developed in Europe
 - A UK certification scheme would provide invaluable evidence in informing the UK position in negotiating any future European regulation of CO2 from HGVs.
 - The LowCVP also recommend that DfT continue to engage with closely with the EC research into HGV CO2 and support observers posts from the private sector.

Revised Work Programme



Recommendation

Detailed Proposal

Next steps

- ❑ LowCVP submitted a revised draft work programme and costing for the remaining Low Carbon HGV programme in February 2011.
 - LowCVP secretariat 80 days resource
 - Contracted out work, budgeted at £243k

- ❑ Officials met with Sec State for Transport, Philip Hammond, in March 2011.
 - DfT have yet to confirm if they wish to proceed
 - Low Carbon HGV programme won't proceed without project funding
 - DfT has made contact with European Commission and are discussing synergies with EC funded research

Labelling

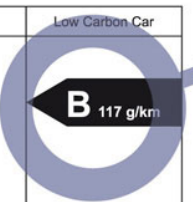
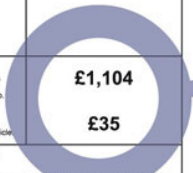

94% of new car showrooms provide point of sale CO2 labelling

Thirteen VED bands

The figures on the coloured arrows (A-M) indicate the 13 ranges of emissions by g/km that correspond to levels of annual Vehicle Excise Duty (VED or Road Tax). Low carbon-emitting cars pay less tax. The lowest – Band A – pay no tax.

Make, model and engine details

The vehicle make, model, fuel type, engine capacity and transmission type are all listed. Together they determine the CO₂ emissions and running costs.

Fuel Economy		Low Carbon Car												
CO ₂ emission figure (g/km)														
≤100 A														
101-110 B	111-120 C													
121-130 D	131-140 E													
141-150 F	151-165 G													
166-175 H	176-185 I													
186-200 J	201-225 K													
226-255 L	256+ M													
Fuel cost (estimated) for 12,000 miles <small>A fuel cost figure indicates the no-charge, a guide, fuel price for comparison purposes. This figure is calculated by using the combined drive cycle (urban, extra-urban and motorway) and average fuel price. Re-calculated annually, the current cost per litre is as follows – petrol 116p, diesel 113p and LPG 56p.</small>														
VED for 12 months <small>Vehicle excise duty (VED) or road tax varies according to the CO₂ emissions and fuel type of the vehicle.</small>			£1,104 £35											
Environmental Information														
<small>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.</small>														
Make/Model: Low Carbon Car			Engine Capacity (cc): 1399											
Fuel Type: Diesel		Transmission: 5 speed manual												
Fuel Consumption: <table border="1" style="width: 100%;"> <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>52.3</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	52.3	Extra-urban	3.8	74.2	Combined	4.4	64.2
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Urban	5.4	52.3												
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Combined	4.4	64.2												
Carbon dioxide emissions (g/km): 117 g/km <small>Important note: Some specifications of this make/model may have lower CO₂ emissions than this. Check with your dealer.</small>														
														

CO₂ emissions figure

The black arrow points to the vehicle's relevant band of CO₂ emissions on which Vehicle Excise Duty (VED or Road Tax) is based.

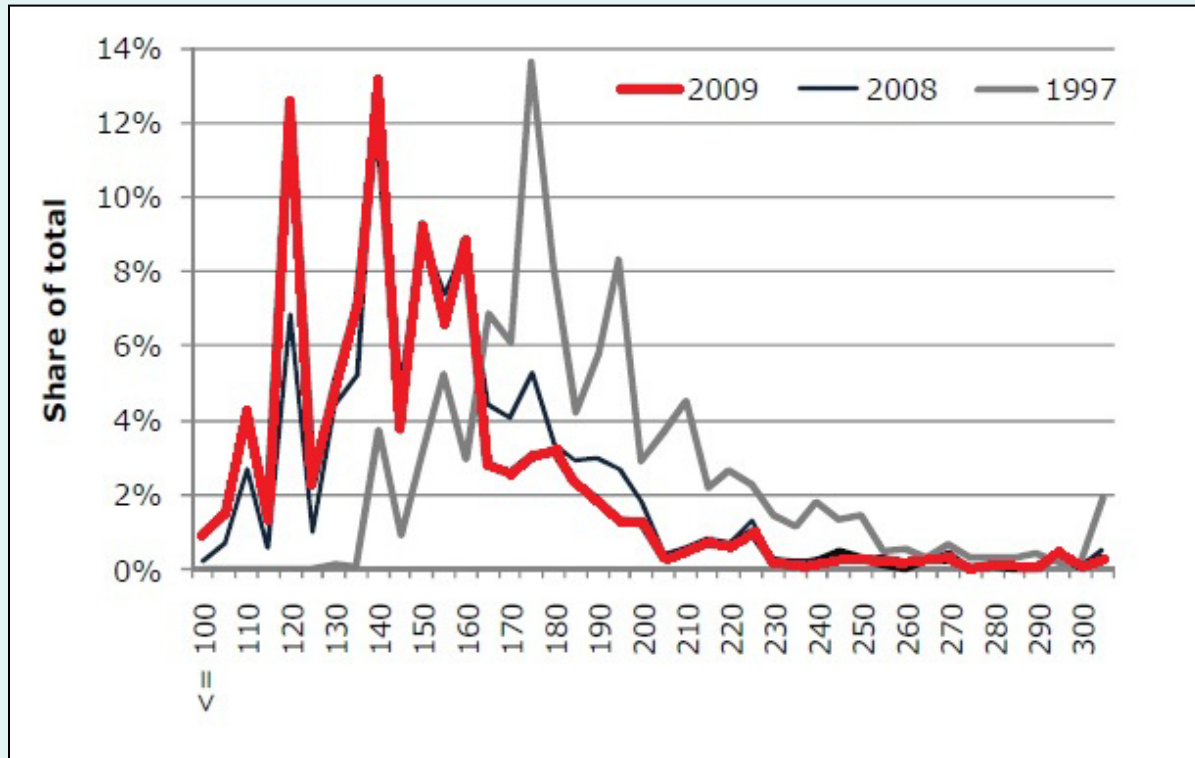
Running costs

Average yearly fuel costs are calculated and displayed together with the relevant level of Road Tax. Figures updated with recent prices.

Fuel consumption

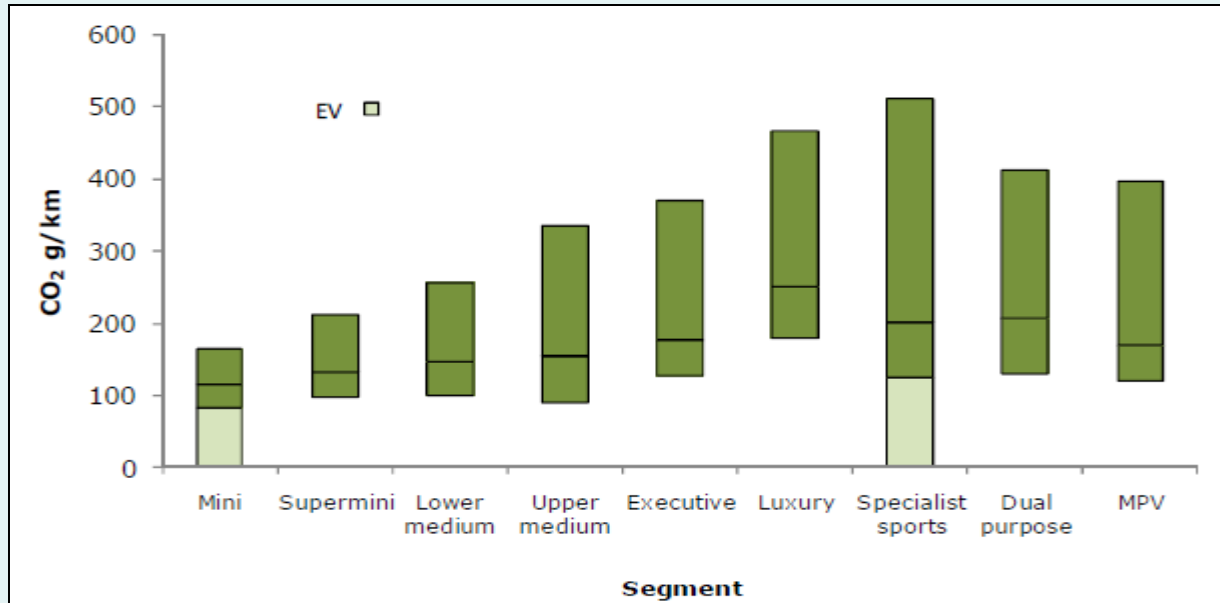
Shows how efficient the car is in miles per gallon and litres per 100km in town, country and combined driving situations.

Shift to lower carbon cars is a market trend which is continuing



- ❑ Sub 120 CO2 g/km cars account for 20% of new car registrations
- ❑ Technology gains as well as market shift key to improvements
- ❑ Host of new models and eco sub brands introduced

Choosing best in class offers significant opportunities to reduce carbon footprint now



Segment	Average	Lowest	Make/model	Low vs average
Mini	115.6	0*	Smart fortwo EV	-
Supermini	131.9	98	Ford Fiesta/SEAT Ibiza	-25.7%
Lower Medium	147.4	99	VW Golf	-32.8%
Upper medium	154.4	89	Toyota Prius	-42.4%
Executive	177.1	127	Mercedes C Class	-28.3%
Luxury	250.3	178	BMW 7 series	-28.9%
Sports	201.1	0*	Tesla	-
Dual purpose	207.1	129	Toyota Urban Cruiser	-37.7%
MPV	169.7	119	Citroen Nemo Multispace	-29.9%

Thank You!

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