CO2 emissions from Motorcycles: Learning's from cars

MCIA electric / alternative powered two wheeler working group

Coventry

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Low Carbon Vehicle Partnership

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

Stimulating opportunities for UK businesses

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Outline

- Climate change
- Opportunities and threats
- Consumer information & labelling
- Electrification
- Supply chain support
- Key messages

Team Inzane's Ducati 800SS, adapted and developed to use E85 – 85% ethanol

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“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

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CO2 emissions present both an opportunity and threat to the motorcycle industry

- Motorcycle fleet average
  - 110g/km
- New car average (with average passengers)
  - 151g/km 2009
  - (116g/km per passenger)
  - 130g/km 2015
  - (100g/km pp)
  - 95g/km? 2020
  - (73g/km pp?)
- CO2 needs to significantly reduce for motorcycles to have credibility as low carbon transport

Isle of Man Zero Carbon TTXGP

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EU regulation of all transport emissions is inevitable – including motorcycles

Cars

- 1997 Car Voluntary Agreement
- 2008 Car regulation
- 2015 Phase II 95g/km?

Fuels

- 2003 Biofuels Directive
- 2008 Renewable Energy Directive
- 2008 Fuel Quality Directive

Vans

- 2004 Measurement of emissions and fuel consumption of N1 vehicle
- 2009 Van CO2 regulation proposals

Trucks

- 2011/2? Truck CO2 emission regulations
- 2018? Transport within EU emissions Trading Scheme

Motorcycles

- 2012-3 Measurement of emissions
- 2014+ Regulation?

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Comparative CO2 data is central to all regulatory, incentive and consumer info. schemes

- Effective labelling schemes are:
  - Simple
  - Relevant to consumers
  - Industry-wide
  - Use multiple marketing channels
  - Absolute not comparative
- Incentives for low carbon vehicles are most effective at point of sale
- Good regulation does not limit market diversity
  - Manufacturer targets

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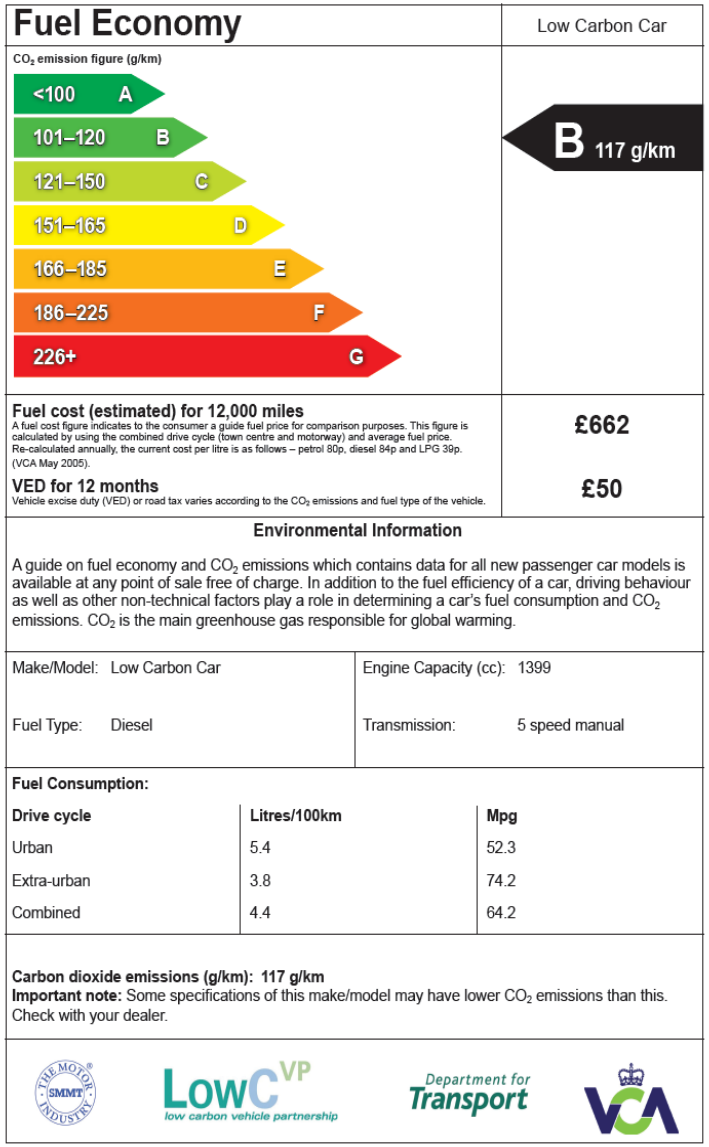


Fuel Economy | Low Carbon Car

CO_2 emission figure (g/km)

<100	A
101–120	B
121–150	C
151–165	D
166–185	E
186–225	F
226+	G

B 117 g/km

Fuel cost (estimated) for 12,000 miles £662
A fuel cost figure indicates to the consumer a guide fuel price for comparison purposes. This figure is calculated by using the combined drive cycle (town centre and motorway) and average fuel price. Re-calculated annually, the current cost per litre is as follows – petrol 80p, diesel 84p and LPG 39p. (VCA May 2005).

VED for 12 months £50
Vehicle excise duty (VED) or road tax varies according to the CO_2 emissions and fuel type of the vehicle.

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-technical 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): 1399
Fuel Type: Diesel
Transmission: 5 speed manual

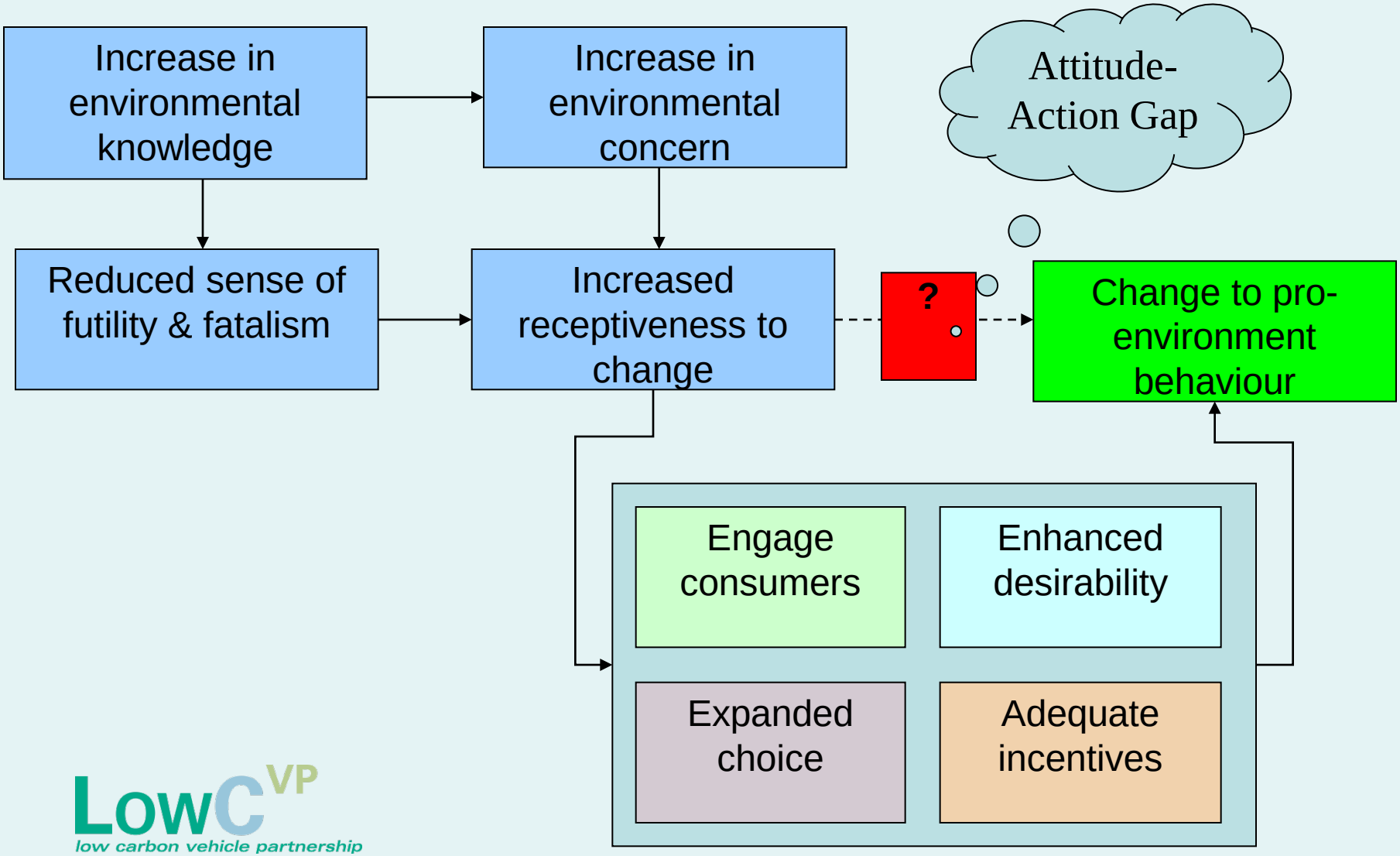
Fuel Consumption:

Drive cycle	Litres/100km	Mpg
Urban	5.4	52.3
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 make/model may have lower CO_2 emissions than this. Check with your dealer.

THE MOTOR INDUSTRY SMMT LowCVP low carbon vehicle partnership Department for Transport VCA

Increasing consumer demand for environmentally friendly vehicles requires bridging the attitude-action gap



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Adapted from Walton 2004

Electric motorcycles and scooters provide a potential early users of recharging infrastructure

- There is global momentum towards electrification of transport
  - Early iconic cars do not represent a mass market
- Technical and commercial barriers make rapid consumer uptake unlikely before 2025
- Strong UK Government support programme for electrification of transport

Electric scooter recharging in Ricmond

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A range of approaches are being used to support low carbon innovation that could be mirrored

ENV fuel cell bike

- Technology road-mapping
- Research and demonstration funding
- Innovative public procurement
- Investor engagement
- Supply chain networking - Technology Challenge
- Automotive, Technology and Supply Chain Councils

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Key messages

- Climate change is real and accelerating
- CO2 emissions represent a threat and opportunity
- Regulation is inevitable
- Comparative information is core
- Labelling is a quick-win, but changing consumer behaviour requires more than information
- Electrification of motorcycles complements car initiatives
- Support for low carbon automotive technologies presents an opportunity for suppliers
- LowCVP is interested to explore how we can support the MCIA

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Thank you for your attention

Any Questions?

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The Low Carbon Vehicle Partnership

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There is a strong UK Government support programme for electrification of transport – but principally for cars

UK support schemes

- Creation Office of Low Emission Vehicles
- £250M purchase support fund for cars
  - 2011-14
  - £5k per vehicle
- 140M Low Carbon Vehicle Innovation Platform
- £30M infrastructure support
  - Plugged-in-Places
- £5M Ultra-low carbon car competition
  - 340 vehicles
  - Joint cities demo programme
- £20M public procurement support for electric vans

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