

# Future Labels

**Green Global NCAP Labelling / Green Scoring Workshop  
Global Fuel Economy Initiative**

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# ***LowCVP Research – Testing Alternative Label Designs Study***

## **Aims**

- Improve the presentation of financial information to demonstrate the benefits of choosing fuel efficient, low CO2 vehicles
- Placing greater emphasis on MPG, less on CO2 g/km, and how displayed
- Provision of comparative information of the vehicle with other vehicles ‘in the model range’, integrate concepts of behaviour science
- Inclusion of QR code and appropriate links
- Future-proof label to take account of electric vehicles & plug-in hybrid vehicles.

## **Methodology**

- Designer created series of prototype label designs, tested with consumers over two rounds of testing, used focus groups and internet based survey.
- Consumer testing programme led by STS Transport Consultancy 2012.

# Label Designs Tested With Consumers



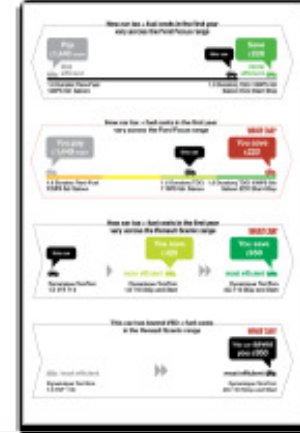
Current label  
x 1



'Slider'  
x 1  
Per mth slider  
Per mth rank  
Per mile



'Dashboard'  
x 3  
Petrol  
Diesel



'Buyers Guide'  
comparisons  
x 5  
Petrol  
Diesel



'Dashboard'  
x 4  
EV  
PHEV

**QR CODE READER TOOLS**



Scan this QR code with your smartphone to calculate actual fuel costs for this model.

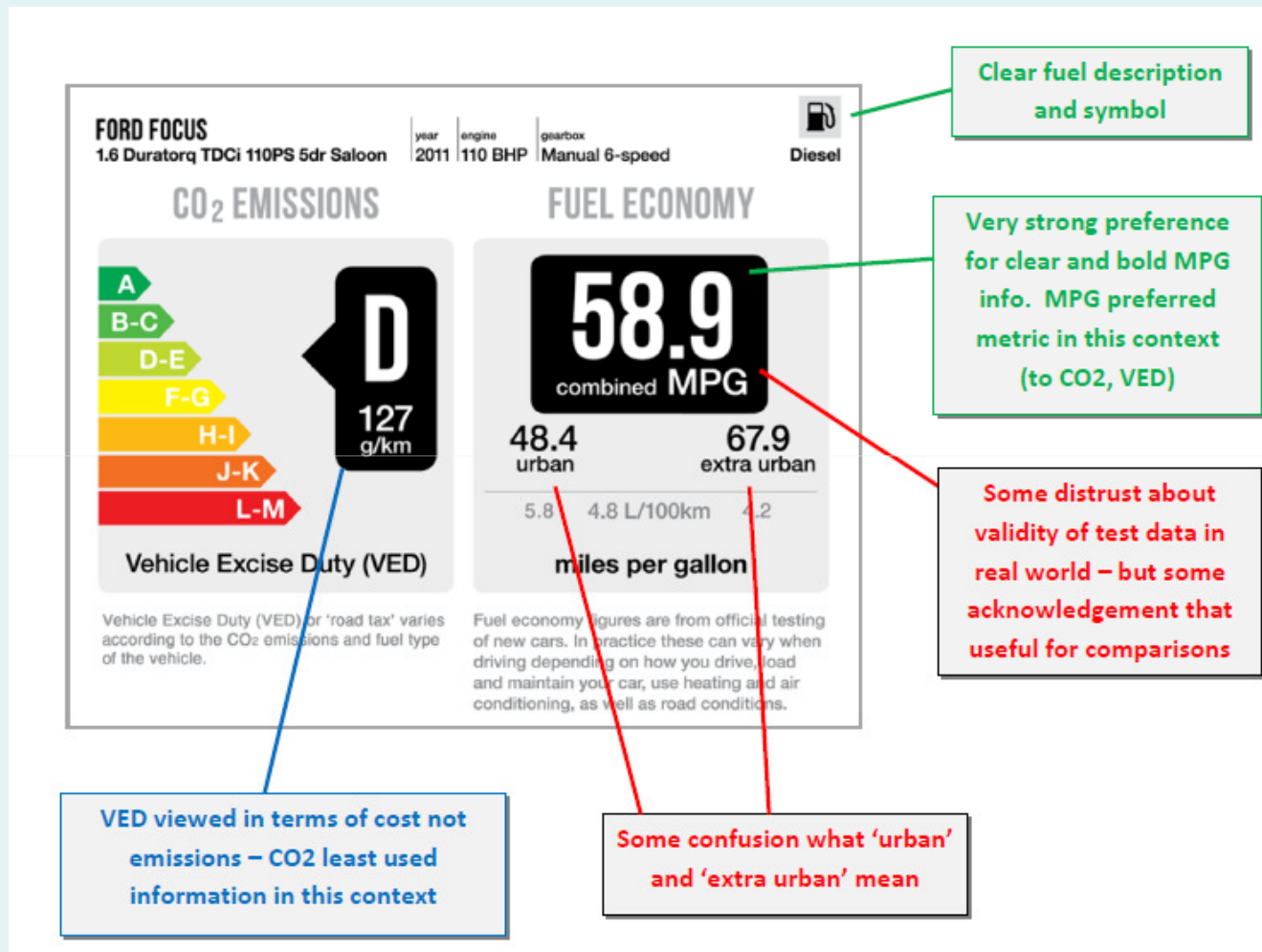
Freephone 0800 815 015 for help from the team at Energy Saving Trust (Mon-Fri 9am-5pm).

A guide on fuel economy and CO<sub>2</sub> emissions for all new car models is available for free at any point of sale and online at the address below.

[carfueldata.direct.gov.uk](http://carfueldata.direct.gov.uk)

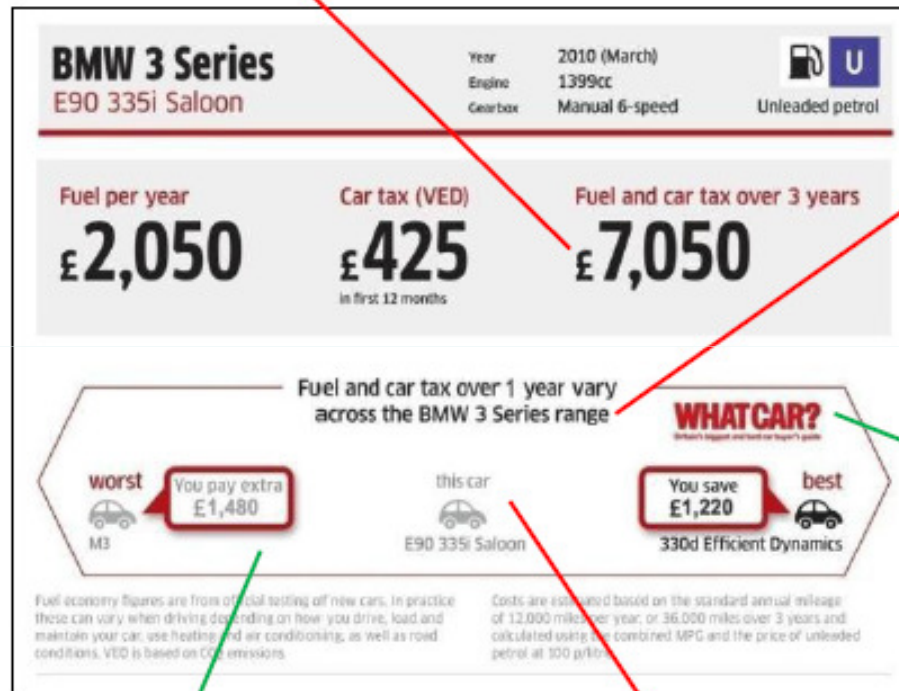
Mock up website created featuring a cost calculator and car comparison tools.

# CO<sub>2</sub> and Fuel Economy Information



# Introducing New Comparative Element

Most participants tended NOT to like 3 year comparisons – some distrustful that fuel and tax costs could be predicted over such a timescale



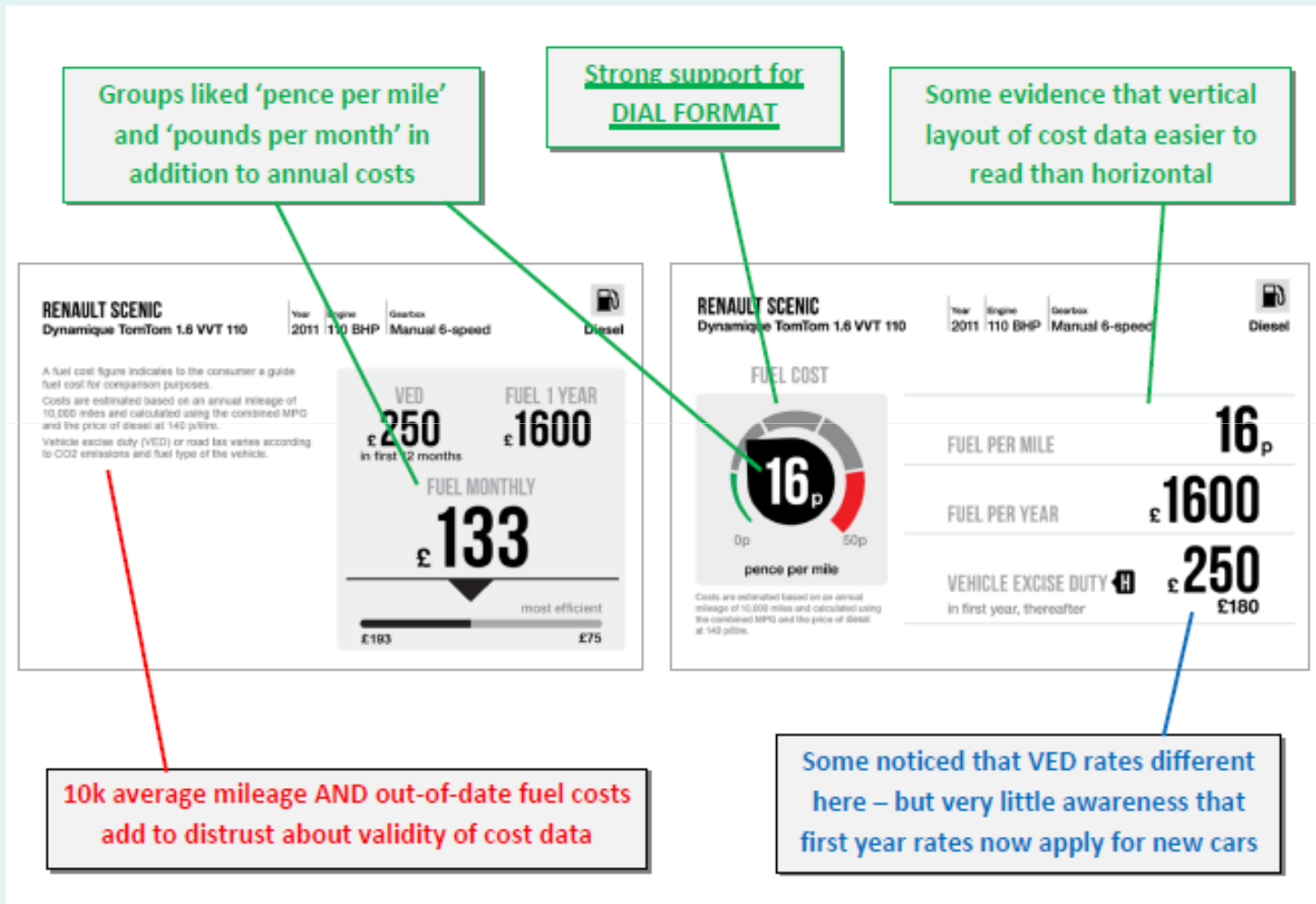
Participants NOT in agreement about what 'model range' means – some have general idea but often confused with vehicle class

Positive reaction to having info from independent source – add 'authority' – but DVLA, DfT can have same effect

Liked seeing real comparisons – understood 'worst' and 'best'

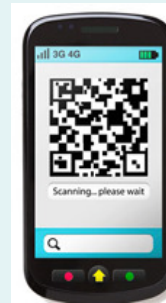
Format issue – not clear that the figures above link to 'this car'

# Fuel and Taxation Cost





# QR Code Reader



Almost unanimous support for QR Code reader tools – whether knew about technology or not. Of the two types of tools tested, vast majority prefer the **CALCULATE** tool rather than the ‘flat’ information glossary.

### FUEL COST CALCULATOR

**VW Polo 1.2 TDI 75PS BlueMotion**  
Supermarket, Manual 5-speed, 1195cc (1.2 liter), Diesel



*For this model...  
Select your driving information using the following menus*

Your MPG

Your driving style

Your fuel price

Your annual mileage

**Calculate your fuel cost now**

**VW Polo 1.2 TDI 75PS BlueMotion**  
Supermarket, Manual 5-speed, 1195cc (1.2 liter), Diesel



*Based on your driving information, your fuel costs for this model would be:*

**Per year: £1000**

**Per month: £100**

**Per week: £100**

**Per mile: 17p**

**New fuel cost calculation?**

### MODEL RANGE COMPARATOR

**VW Polo 1.2 TDI 75PS BlueMotion**  
Supermarket, Manual 5-speed, 1195cc (1.2 liter), Diesel



**83.1** Miles per gallon (combined)  
more: 1.4 1000cc

**80** CO2 Emissions  
more: 1.4 1000cc

**Car tax - Standard rate 2014/15**  
£140 (more: 1.4 1000cc)

**Car tax - First year rate 2014/15**  
£140 (more: 1.4 1000cc)

**Fuel used per mile**  
more: 1.4 1000cc

**EV** Electric Vehicles (Standard)  
ED 6.023 (more: 1.4 1000cc)

**ED** London Congestion Charge  
1075 (more: 1.4 1000cc)

**Compare with best in model range**

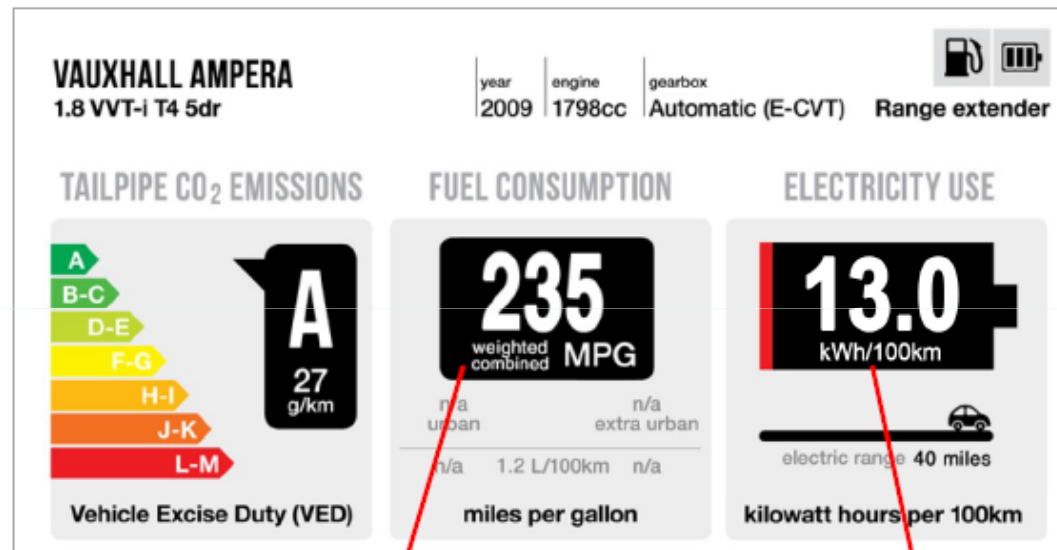
**Top Polo models**  
Let others guess in this badgeage

Model	Miles per gallon	CO2 Emissions
Polo 1.2 TDI 75PS BlueMotion (Manual 5-speed)	83.1	80
Polo 1.2 TDI 75PS BlueMotion (Manual 5-speed)	80.7	81
Polo 1.4 TDI 85PS without AC (MP 200 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS BlueMotion (MP 200 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89
Polo 1.4 TDI 85PS without AC (MP 170 Manual 5-speed)	74.3	89

View more vehicles in this range

# Plug-in Hybrid Label

Initial REEV label trialled at first R2 focus group showing 'weighted combined' fuel economy data as appears on the Certificate of Conformity



Low understanding of electricity units leads to assumption that 235 MPG is the only fuel economy data for the Ampera – which then links to trust issue as few believe that car will travel 235 miles on a gallon of fuel

Very low level of understanding of 'Wh' and 'kWh' units

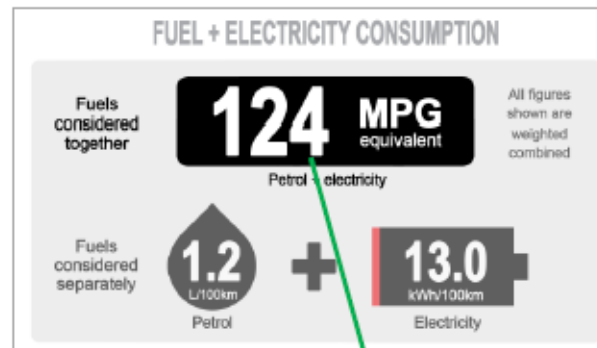
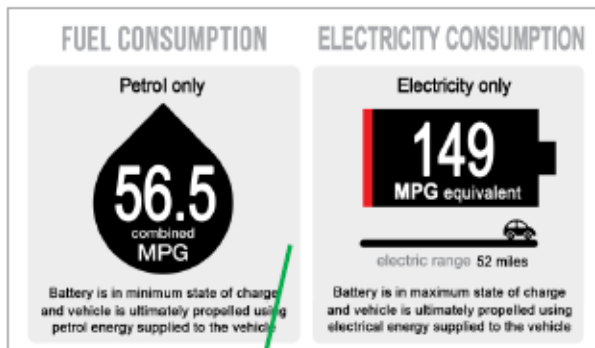
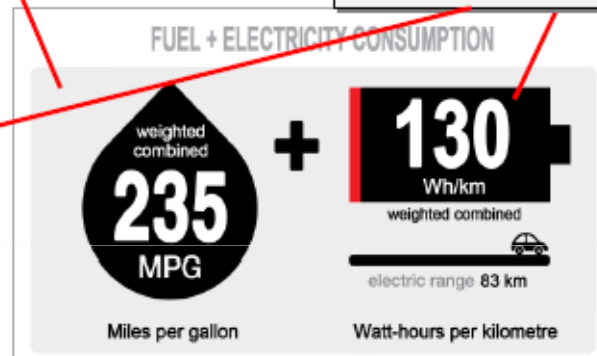
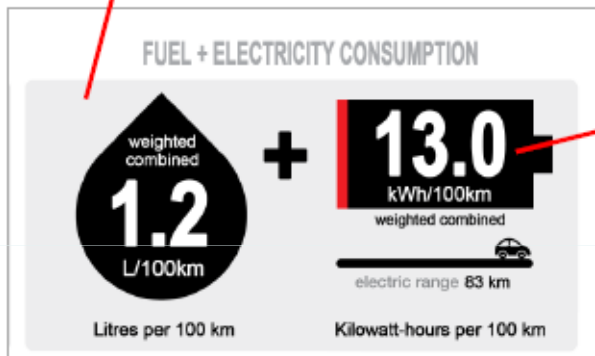


# Exploring alternative ways to present 'weighted combined' MPG

PHEV/REEV labels trialled at remaining R2 focus group showing 'weighted combined' fuel economy data (Certificate of Conformity) AND/OR Condition A+B data as measured by EC R101 tests

Participants report information overload and incomprehension

Low level of understanding of 'Wh' and 'kWh'

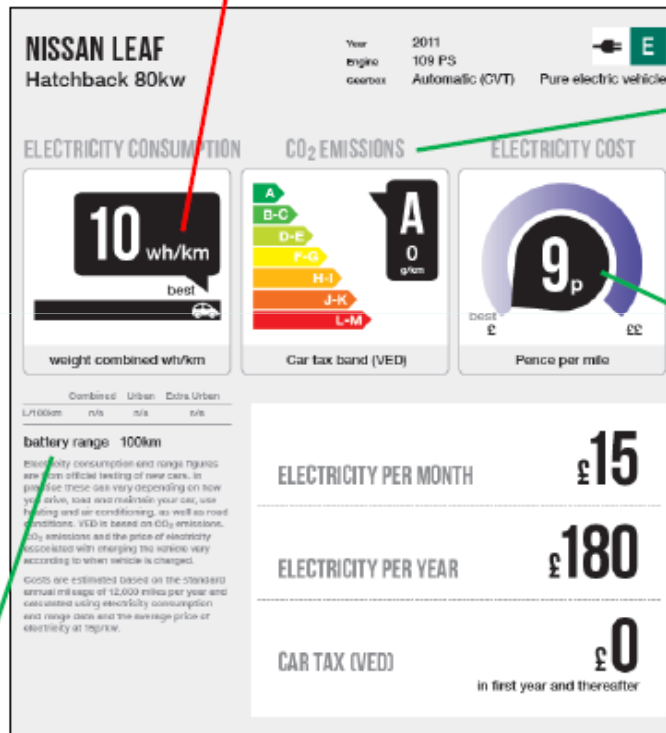


Some preference for Condition A+B data equivalents

Some preference for overall MPG equivalent data

# Electric Vehicle Label

Majority confused about what 'Wh' means – more clearer about 'km' but most would prefer units in miles – Alternative to show MPG equivalent

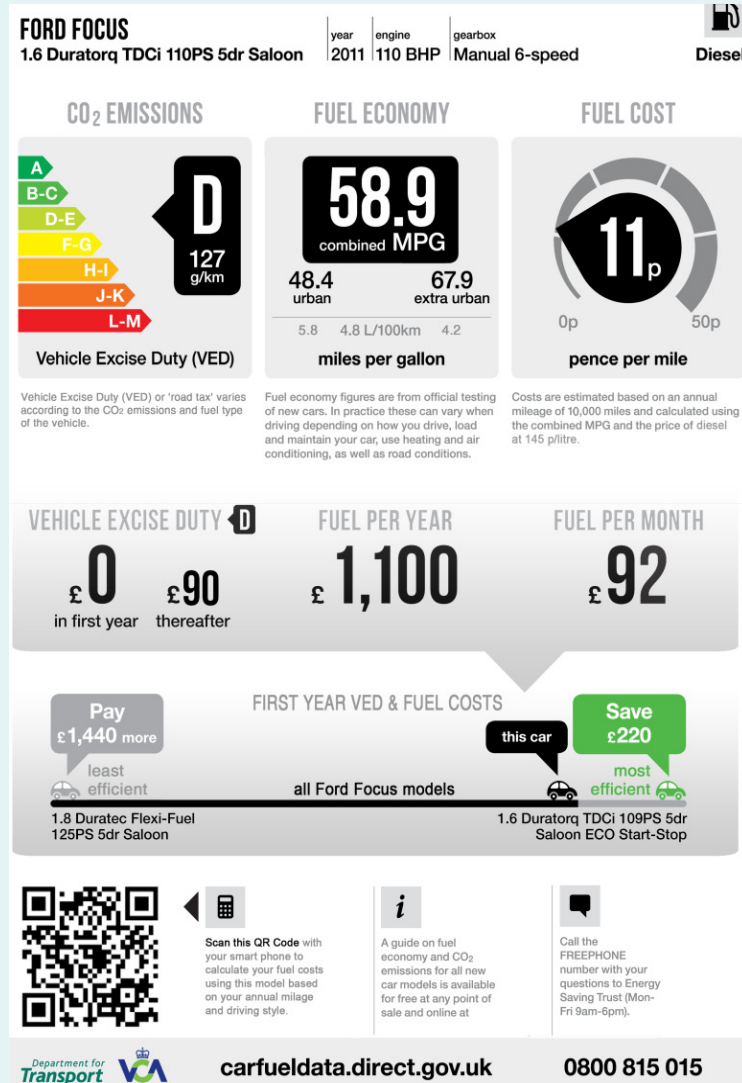


Majority of participants found this format clear (although many noted power-station emissions)

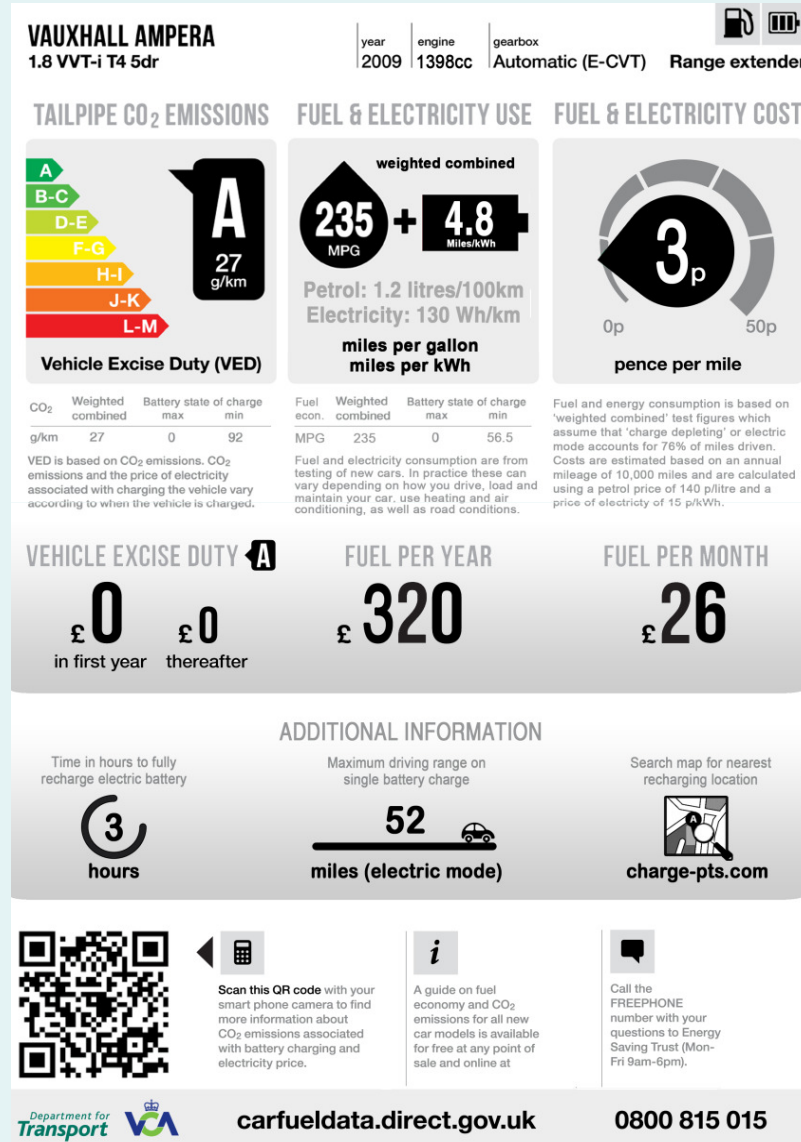
Groups that preferred p/mile comparison liked this for EVs as it enabled direct comparison with conventional vehicles – However, some commented that fuel costs only part of the total cost

Most wanted additional information about EVs as knowledge base was low – Info mentioned included driving range, recharge time and charging map

# What Could Future Labels Look Like?



# What Could Future Labels Look Like?



Need to be mindful of information overload

# New UK Plug-in Hybrid Fuel Economy Label

Fuel Economy		VED band and CO <sub>2</sub>							
<p>CO<sub>2</sub> emission figure (g/km)</p> <p>A ← 100            101-110 B            111-130 C            131-150 D            151-160 E            161-180 F            181-195 G            196-215 H            216-235 I            236-255 J            256-275 K            276-295 L            296+ M</p>		<p><b>A</b> 49 g/km<sup>(1)</sup> (weighted)</p>							
<p><b>Fuel and electricity cost (estimated) for 12,000 miles</b></p> <p>A guide price for comparison purposes is calculated using the combined drive cycle (town centre and motorway) and average fuel and electricity price.</p> <p>Fuel consumption for plug-in hybrid vehicles is measured in two conditions, one with the battery freshly charged and another where it is significantly depleted. A weighted average of the two figures obtained is calculated based on an assumption that a vehicle is driven 16 miles (26km) beyond its maximum electric range, using the engine as required without recharging.</p> <p>Cost is recalculated annually. Unit cost as at March 2012: petrol £1.36/litre, electricity 13.7p/kWh.</p>		<table border="1"> <thead> <tr> <th>Fuel</th> <th>Electricity</th> <th>Total<sup>(2)</sup></th> </tr> </thead> <tbody> <tr> <td>£564</td> <td>£138</td> <td>£702</td> </tr> </tbody> </table>	Fuel	Electricity	Total <sup>(2)</sup>	£564	£138	£702	
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£564	£138	£702							
<p><b>VED for 12 months</b></p> <p>Vehicle Excise Duty (VED) or road tax values according to the CO<sub>2</sub> emissions and fuel type of the vehicle.</p>		<table border="1"> <thead> <tr> <th>1st year rate</th> <th>Standard rate</th> </tr> </thead> <tbody> <tr> <td>£0<sup>(3)</sup></td> <td>£0<sup>(3)</sup></td> </tr> </tbody> </table>	1st year rate	Standard rate	£0 <sup>(3)</sup>	£0 <sup>(3)</sup>			
1st year rate	Standard rate								
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<p>Energy consumption: <b>134.5</b> Mpa and <b>11.9</b> Miles/kWh<sup>(4)</sup></p>		<p>Electric range: <b>16</b> Miles<sup>(5)</sup></p>							

- ❑ EU Directive on consumer information on fuel economy and CO<sub>2</sub> of new cars amended 2012 to include zero emission vehicles.
- ❑ UK introduce new electric and plug-in hybrid labels Feb 2013
- ❑ Explains how 'weighted' combined MPG is derived
- ❑ Weight combined MPG = Fuel (MPG) + electricity(m/kwh)
- ❑ Annual electricity cost
- ❑ EV Range
- ❑ URL to charging point map

# What Further Work is Required?

- ❑ How to overcome consumer mistrust of MPG figures?

*Include text on label explaining difference test v real world, could suggest % difference, web-based solution eg link to real-world MPG (fuelly.com)*

- ❑ How to ensure consumers do not misinterpret 'weighted' combined MPG in plug-in hybrid label

*Identify both fuel consumption and electricity consumption on label*

- ❑ How to make comparison of vehicle efficiency of different fuels and technologies easier for consumers

*Use MPG equivalent or cost based metric eg cost pence/mile*

- ❑ How can labels integrate with an increasingly evolving digital media landscape?

*Mobile apps, digital label, QR codes – what next?*

- ❑ Further testing with consumers to explore level of understanding and use of 'future' labels during the car buying process