

# Informing and influencing car buyers to support market growth for low carbon cars

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## Abstract

This paper reviews how consumer information and advertising practices are being used to influence car buyer attitudes and analyses buyers' responses in terms of the adoption of low carbon and fuel efficient models. The paper uses both qualitative and quantitative research to better understand car buyer attitudes and motivations and how these can be most effectively focused to accelerate the low carbon shift in the car sector.

The paper draws upon the Low Carbon Vehicle Partnership's original work and includes the outcomes of dealer and consumer attitude surveys to vehicle energy efficiency labelling (operated in most UK dealers and over 2000 used car showrooms). It includes recent work to understand the most effective form(s) for the display of information. The paper also makes use of the LowCVP's work on car advertising practices and trends in environmental communications. It also highlights recent UK progress to provide more consistent information to consumers through the adoption of best practice marketing principles (an initiative recently launched by the LowCVP in collaboration with the UK motor and advertising industries).

## Introduction

Road transport is an important sector in the context of attempts to relieve fuel insecurity, conserve energy resources and mitigate climate change through associated emissions reductions targets set by governments. The UK, for example, now has legally binding emissions reduction targets enforced through the Climate Change Act (2008).

The road transport sector is responsible for about 20% of CO<sub>2</sub> emissions in Europe, a share which has been on a rising trend, with cars accounting for around 60% of emissions from the sector (European Parliament, 2010).

European regulations and national regulatory and incentive programmes have brought an increasing number of lower carbon vehicles to the market and have been quite successful in lowering the emissions of the average new car sold in Europe (T&E, 2010). In the UK, for example, average new car CO<sub>2</sub> emissions have fallen from over 160g CO<sub>2</sub>/km in 2008 to a little above 144g CO<sub>2</sub>/km at the end of 2010 (SMMT, 2011).

Regulations designed to encourage the production and marketing of lower carbon cars have been accompanied by both official and unofficial attempts to support demand for these products through the provision of advice and information to car buyers.

This support has taken a variety of forms; from the provision of general information about climate change and the reasons for the need to reduce emissions, to vehicle rating and labelling schemes designed to show the emissions and associated cost benefits of lower carbon cars. Schemes range from being quite sophisticated - providing relative emissions performance between vehicle models (eg Netherlands, UK) - to more limited or stand-alone ratings systems (eg Germany, Italy, Sweden). (European Parliament 2010)

Information designed to support lower carbon vehicle choices is also widely complemented by attempts to promote more efficient driving behaviour (eco-driving) - which, a recent study by Fiat claimed, can reduce emissions by up to 16% (Fiat, 2010) - and other environmentally-preferred behaviours such as lift-sharing, car clubs and the use of public and other forms of transport (particularly walking and cycling).

The UK Government has introduced an over-arching communications campaign 'Act on CO<sub>2</sub>' which aimed to provide practical information to consumers across a range of sectors, including road transport (DfT, 2011).

The Low Carbon Vehicle Partnership has played a leading role in the introduction of colour-coded fuel economy labels for both new and (in 2010) used cars and has also recently worked with car manufacturers and the advertising industry to produce agreed guidelines for environmental advertising and marketing.

This paper uses a range of published references from public sector, commercial and academic sources in the UK, Europe and the US, as well as the LowCVP's own sources, some previously unpublished. It aims to provide a basis for a better understanding of car buyer attitudes and motivations and how these can be most effectively focused to accelerate the low carbon shift in the car sector.

## Policy and market context

Regulations introduced in Europe, the US and elsewhere to improve vehicle efficiency require that car buyers must be persuaded in increasing numbers to choose ever lower carbon models. Otherwise emissions reduction targets will not be met and manufacturers will be burdened by low carbon vehicles they can't sell, also facing the possibility of incurring fines associated with a failure to meet the regulatory requirements.

To date, most of the focus of policy has been on technological solutions to the problem. Beyond 2015, as legislative requirements become more demanding, the role of consumer information and marketing in persuading buyers to choose lower carbon models is likely to become increasingly important.

Cousins et al (2006) showed that the economics of vehicle production has, historically, undermined attempts to reduce emissions and encourage fuel saving. This analysis showed that new car purchasers have been willing to pay a purchase price directly proportional to the power of a vehicle. Meanwhile, manufacturers have been able to supply incremental power fairly cheaply and so have been able to enjoy better margins by selling more powerful vehicles. Factories in Europe and North America have been tooled and designed to produce car models offering steadily increasing power. Thus, Cousins says, the basic driver for the increase in CO<sub>2</sub> emissions from cars was the need of the car company groups to deliver more power in order to improve profitability given their high capital cost production methods in steel.

In recent decades, therefore, the dynamics of vehicle manufacture and the drive for profitability have been pulling in a direction different from that desired by policy makers seeking to meet environmental and energy security objectives.

The car companies marketing and communications strategies have, until recent years, been focused largely on selling the benefits of ever greater power and performance while understating running cost considerations. While this is now changing, driven by regulatory requirements and other pressures, there remains a legacy of messages and attitudes reinforcing the - understandable - desire of drivers for power and performance. Against this backdrop, attitudes and priorities towards car purchase decisions are likely to take time to shift.

## Market actors

Motor companies provide much of the information which reaches consumers about the qualities and attributes of the vehicles they sell, but the media is an important conduit for information offering more impartial assessments about the qualities of competing vehicles. Governments, recognizing the importance of consumer attitudes in the low carbon transport shift, are playing an increasingly important role, both directly and through associated agencies, in providing the information they believe is required to promote the change desired.

Increasingly, governments are working in collaboration with industry to provide consumer information about both the aims of policy and the abilities of different products to deliver those aims.

There is a question about whether governments should be directly involved in marketing and advertising to deliver particular policy goals or whether government's role should be to set a framework of market regulation designed to deliver those goals, leaving private actors to work out communications messages aligned with the requirement to meet regulated targets.

There is quite clear evidence, for example, that the European Commission's Cars and CO<sub>2</sub> regulation (European Commission, 2011) is leading motor companies to focus more frequently on efficiency and environment messages in their marketing communications and less on power and performance. Two surveys of car advertising commissioned by the LowCVP in 2007 and 2010 (Ebiquity, 2007 and 2010) showed a considerable growth in the proportion of advertising focusing on lower carbon, fuel efficient cars and in the increased spread of messages about CO<sub>2</sub> and emissions.

However, the difficulties involved in effectively regulating complex, international markets to deliver policy objectives often leaves governments with little choice but to intervene where they can, and this involves attempts to shift consumer preferences in a desired direction.

The design and delivery of effective communications requires the participation of a large number of industry, media and governmental actors, often requiring quite difficult and detailed negotiations. Organisations like the LowCVP in the UK were established, in part, to facilitate collaborative industry-government action. One outcome of this approach has been the almost universal adoption (on a non-compulsory basis) of a colour-coded fuel economy label showing the relative emissions performance of new cars. The LowCVP has recently also brokered a deal which has seen a similar label introduced for used cars, also on a voluntary basis (see below).

## Communications channels

Communications messages to car buyers are distributed through a wide variety of channels including print and broadcast media, on-line or web-based and at the point of sale as well as through word-of-mouth (via salespeople, experts, friends etc).

Lane and Potter (2006) noted that consumers draw on a wide range of information when researching car purchasing, including manufacturers' brochures, consumer guides, sales staff, advertising and editorial across a range of media and discussions with family and friends.

This paper focuses on areas where there have been specific interventions (in the UK) involving non-commercial actors with the specific aim of shifting consumer preferences towards environmental and low carbon objectives. These are not necessarily the most powerful communications 'levers' but are measures which, so far, have proved possible to introduce.

These include:

- Vehicle labelling
- Advertising and marketing guidance
- Web-based information provision

These are discussed in more detail later in this paper.

## Communications messages

A Eurobarometer survey (2007) suggested that the majority of EU citizens recognise that the type of car that they own and the way they use it have important impacts on the environment. Of the respondents, 35% believed that the best way of reversing the rising trend of CO<sub>2</sub> from transport would be to allow only the sale of low emission vehicles, while 30% felt that tax incentives would be the best way to produce the desired change in behaviour. Only 16% thought that promoting the sale of fuel-efficient cars through improvements in the provision of information would be the most effective way of cutting emissions.

Clearly, the provision of effective communications is only one – and possibly a lesser – tool in the armoury of policymakers charged with delivering a low carbon road transport future.

There is sufficient evidence, though, that effective communications can make a difference to purchase choices and that their effect may even be underestimated by the EU citizens questioned by Eurobarometer.

Most studies on the subject have concluded that environmental considerations are not – yet, at least - high in the list of priorities of car buyers when considering their next car purchase. Where environmental issues are considered by car buyers, it appears that lower emissions are often seen as a 'bonus' once the primary objectives of size, functionality and acceptable price have been secured.

Fuel economy is consistently rated as a second level priority, though during periods of high or rapidly increasing fuel prices (as have occurred repeatedly in recent years) the reported importance increases to become one of the top priorities. A literature review carried out for the US' Environmental Protection Agency (2010) looked at 25 different econometric studies of consumers' valuation of fuel economy. 12 of the studies found that consumers significantly undervalue future fuel savings and 8 that they value it about right. Only 5 found that consumers overestimate future fuel savings.

Fuel economy, of course, is only one element of a vehicle's running costs and there is plenty of evidence to show that car buyers do not take life-cycle costs properly into account. The full-life costs of ownership are increasingly directly linked with lower emissions and better environmental performance (European Parliament, 2010). Circulation taxes, congestion charges, parking access and even insurance are lower in many countries for low carbon vehicles while resale values are likely to be higher.

Even where private car buyers are more aware of more detailed life-cycle costs, they generally have a short time horizon (typically up to 3 years or less) and a high 'discount rate' (ie future costs are considered to be of much less importance than current costs, and this difference is much greater than would be the case from a properly commercial perspective).

In attempts to influence most car buyers to choose low carbon models, emphasising the cost savings is likely to have much greater impact. Reminding buyers of the environmental benefits may provide a 'feel-good' factor and help to 'clinch the deal' but are not the primary motivator.

Where companies choose to emphasise environmental messages in advertising this may be primarily to increase awareness and present the brand as sustainable and responsible rather than to directly support sales.

There are also important nuances in the way fuel economy information is presented. Car buyers are much more familiar with the concept of 'fuel economy' than vehicle emissions (often presented as grams per kilometre CO<sub>2</sub>). In the UK, car buyers are consistently more able to benchmark a figure quoted in 'miles-per-gallon' than they are a value of CO<sub>2</sub> emissions. The overwhelming majority of new car buyers favour the use of 'miles-per-gallon' over 'litres/100km'. This presents an issue for harmonisation of consumer information in the EU.

Some research (eg Anable et al, 2008) suggested that even 'miles per gallon' is an alien concept for many, who are really aware only – and then quite vaguely - of the cost of filling up their fuel tank during the regular trip to the filling station.

Clearly, presenting effective fuel economy or other cost-related message to car buyers in this category presents considerable challenges.

To further complicate the situation, research undertaken for LowCVP identified what has been termed a 'fuel economy paradox' (Lane and Potter, 2006) in which although most car buyers say fuel efficiency is an important buying criteria there is little evidence that they actually act on this assertion in terms of their car choice, or undertake significant research of the options. Instead, most simply compare the new vehicle against their current model leading to only modest incremental improvements in fuel efficiency and CO<sub>2</sub> reduction.

Subsequent research by Anable (2008) goes beyond the 'fuel economy paradox' to what is termed 'the mpg mirage'. Analysis based on a survey of car buyers which underpinned the research showed the large influence of social factors and, in particular, car buyers' social and personal identity in determining car choice. They concluded that for most car buyers, the notion of fuel-efficiency remains a relatively weak element in the process of social or personal identity construction and that fuel-efficient and low carbon vehicles are not, as yet, associated with aspirational or high status values.

The research, nevertheless, supported the provision of up-to-date fuel cost information for each specific model; preferably on the vehicle, or nearby in the vehicle showroom. It also highlighted the necessity of updating information as fuel prices change – possibly through the provision of a web-based tool. It recommended that available information should include best-in-class fuel costs to provide consumers with a relevant benchmark for fuel cost comparisons. By raising awareness of the best-in-class performance presents a significant opportunity for emissions reductions without the need for consumers to physically down-size to a different market segment.

There is also evidence that car buyers *perceive* a trade-off between fuel economy and vehicle size and cost. This is partly a result of the fact that efficiency is associated with smaller vehicles or with new, expensive technologies, such as petrol-electric hybrids; or, perhaps, because manufacturers artificially increase the prices of their most fuel-efficient conventional models. The perceived trade-offs can act as a barrier to rational car purchasing decisions.

A 2007 review (Lane, 2007) explored the question of why knowledge and attitudes about climate change or environmental issues appear to be failing to be translated into changes in travel and related purchasing behaviour to mitigate its adverse effects. This is termed the attitude-action (or attitude-behaviour) gap. According to the Department for Transport (2007) the attitude-action gap could be described as one of the greatest challenges facing the public climate change agenda.

UK and other policy makers have been working to tackle the question: does it actually matter whether people have a detailed knowledge of the causes and consequences of climate change?

There are three broad views on the role of providing information on climate change with respect to its role in closing the attitude-action gap:

- If only people are informed and knowledgeable, they will act in accordance with this new knowledge (termed the 'deficit model');
- This information (knowledge of causes and consequences of climate change) is necessary but not sufficient to encourage individual action.

- Providing Information about the causes and consequences of climate change is not necessary. Desired individual action can be prompted by other signals (particularly price).

The evidence review suggests the second view is clearly emerging as the consensus. Indeed, it has been quite clear for decades - and at least since Harding wrote 'The Tragedy of the Commons' (1968) - that an understanding of the negative effects of individual action on a shared environment is not on its own sufficient to alter individual behaviour.

It seems clear that information about climate change (and other undesired effects) does help to pave the way for a greater acceptance of policies designed to encourage lower carbon choices but it is far from sufficient to directly influence the behaviour of all but a small minority.

Other strong signals (pricing, regulatory) are essential if desired change is to be achieved, and even these may be insufficient if suitable alternative products are unavailable or if people are not provided with the information necessary to conclude that a behaviour change makes sense from both individual and societal viewpoints.

While there has been progress in understanding the importance of the communications message in terms of public policy on climate change, further work should help to deliver a deeper understanding of the different roles played by knowledge, attitudes and current behaviour and provide the opportunity for more effective delivery of appropriate information to support wider policy goals.

## Policy interventions involving communications with car buyers in the UK

The UK has been amongst the World leaders in its analysis of what creates behaviour change and in designing and delivering policies in which public information and marketing communications have been important components.

### *Vehicle labelling*

The UK has operated a voluntary new car label scheme since 2005. An initiative of the LowCVP, it has received strong support from the UK motor industry (through the SMMT) and Government which funds a system for dealers to download the colour-coded labels free of charge.

Use of the label has steadily increased until, in 2009, 88% of vehicles and 94% of dealers participated. General consumer awareness of the scheme has also increased from 40% (2006) to 55% (2009). (LowCVP 2010)

The label uses an absolute scale with bandings based upon vehicle taxation thresholds to link the display with the tax benefits associated with the choice of lower carbon options. The linkage with tax bands means that the label displays information in grams per kilometre whereas fuel efficiency as miles per gallon has been shown by prior research to be more relevant and influential.

The label includes information about circulation tax (Vehicle Excise Duty) costs and the estimated fuel costs for 12,000 per year. Surveys consistently find this is considered the most valuable information by car buyers.

The lower-half of the label presents the statutory information required by the EU Labelling Directive. Before the introduction of the voluntary labelling scheme implementation of this statutory labelling requirement was patchy but the introduction of the voluntary scheme has now resulted in much higher compliance rates. Early research by Mori (2003) found most car buyers did not find this statutory, data-based information useful. (MORI, 2003)

The LowCVP's research shows that, overall, 71% of recent and intending new car buyers say the label is useful in helping them to choose the make and model of their new car. However, 81% said that they would like comparative information for vehicles in the same market segment.

Surveys of car buyers report that salespeople remain a key source of information in the car buying process. 'Mystery shopping' exercises undertaken in dealerships have found that UK sales staff are increasingly knowledgeable about fuel efficiency and climate issues and that they are increasingly using the label in conversation with prospective car buyers. Research for the LowCVP (2008, unpublished) found a reasonably high level of awareness and understanding amongst car dealers about the purpose of the label. Of the 395 car dealers interviewed about the purpose and use of the label, over 60% mentioned financial savings in conversations with potential car buyers visiting their showrooms, 45% introduced the label, 33% talked about climate change and 25% mentioned the connection between fuel consumption and climate change .

As a follow-up to the new car fuel economy label scheme the LowCVP with the UK motor industry trade body, the SMMT, and the Retail Motor Industry Federation launched a used car label in November 2009. The absence of any statutory basis for supplying this information to used car buyers means take-up is less than the established new car scheme. Nevertheless, in September 2010 over 1200 used car dealerships were engaged

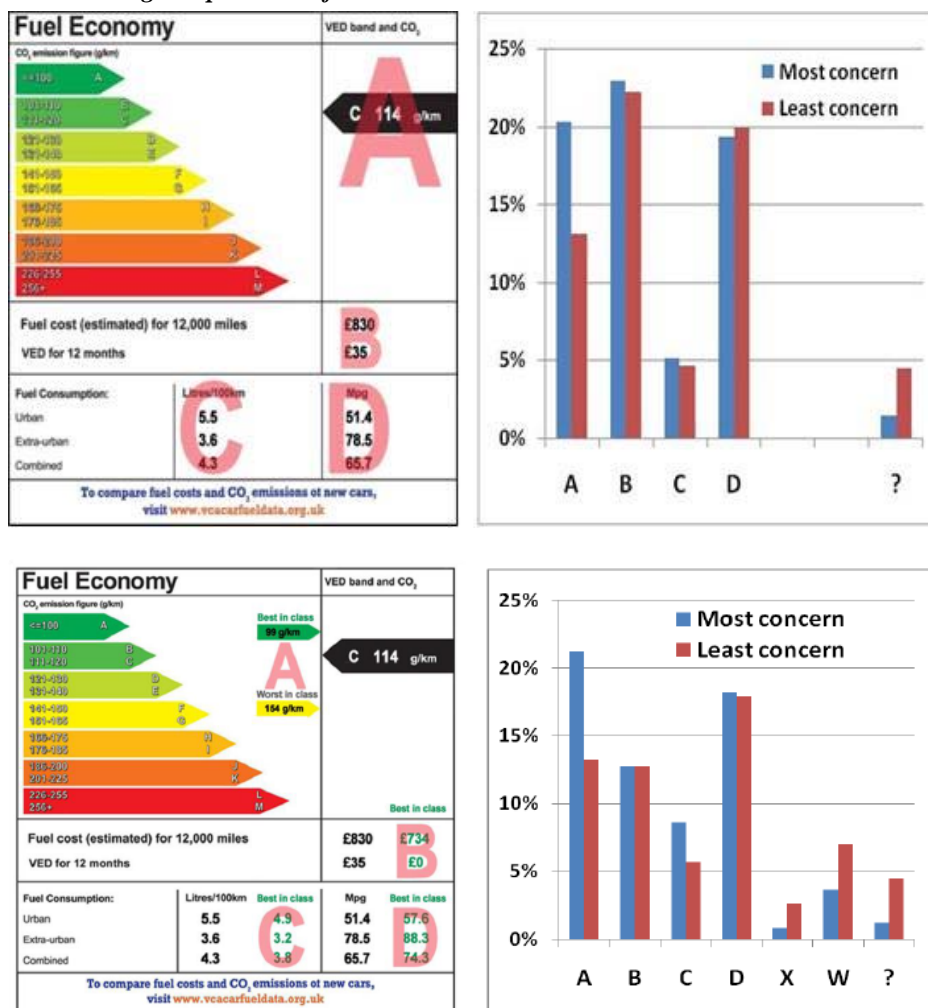
with the scheme and around 180,000 used vehicles for sale had been labelled. Particularly strong support for the introduction of the used car label has been received from Ford, Toyota, VW, Honda and BMW. The LowCVP is presently working with dealerships and the motor industry to increase uptake.

Recent work for the LowCVP by Ecolane and Sustain (2010) has examined car buyer attitudes to different forms of vehicle labelling. Overall the results confirm the findings of previous work, notably:

- The simpler the information the more it is understood and useful
- Colour-coded banding is an excellent form of presentation and familiar to consumers
- Fuel cost information and fuel efficiency information are highly rated but must be provided in a relevant metric - in the UK this should be miles per gallon, not litres per 100km
- Best in class information is useful – but it adds a degree of complexity that may confuse around 10% of buyers
- Linking to local tax systems is welcomed but it may mean using inappropriate g/km metrics
- The use of urban, extra-urban and combined test-cycle descriptions are poorly understood. City-driving, motorway driving and combined-cycle would be better understood
- The use of the g/km CO<sub>2</sub> emissions figures are not widely understood or yet considered to be very relevant by consumers
- When tested, around 90% of car-buyers were able to identify the correct information in the UK label

The research also examined responses to a USEPA style label. This does not use colour-coded bands but does provide information on fuel economy and comparative information on other vehicles in the market segment.

**Figure One: UK Fuel Economy labels – consumer recognition of different sections of the current label and label showing comparative information**



(Source: The LowCVP. See Archer, 2010) (Note: X =none of the additional info. W = Prefer label without additional info. ? = No opinion)

The pictures above illustrate which parts of the UK label car buyers find to be most informative, according to the research by Ecolane and Sustain<sup>7</sup>. The top image shows the current label while the lower image shows a label including comparative information for vehicles in the same market segment. Data is presented in a way designed to appeal to those both most and least concerned about the environment. For the current label the bands, information about fuel costs and fuel efficiency information are all considered to be useful. Where comparative information is provided the importance of fuel costs (section B above) declines – possibly because there is now a new and better comparator for the user. Only 5-10% of buyers surveyed preferred the label without comparative information

Whilst comparative information is welcomed in this example, consumers generally prefer absolute measures over relative systems. The LowCVP tested reactions to a weight-based system similar to that recently adopted in Germany. Overwhelmingly, consumers preferred information about vehicles in different market segments rather than in weight classes.

A weight-based system would lead to confusion in showrooms where a small vehicle with lower emission could be in a lower efficiency band than a larger car with higher absolute emissions.

The weight-based approach will present some larger vehicles in an inappropriately positive light with the potential to mislead consumers and undermine the credibility and effectiveness of information displayed. The revision of the Labelling Directive must pay particular attention to these issues

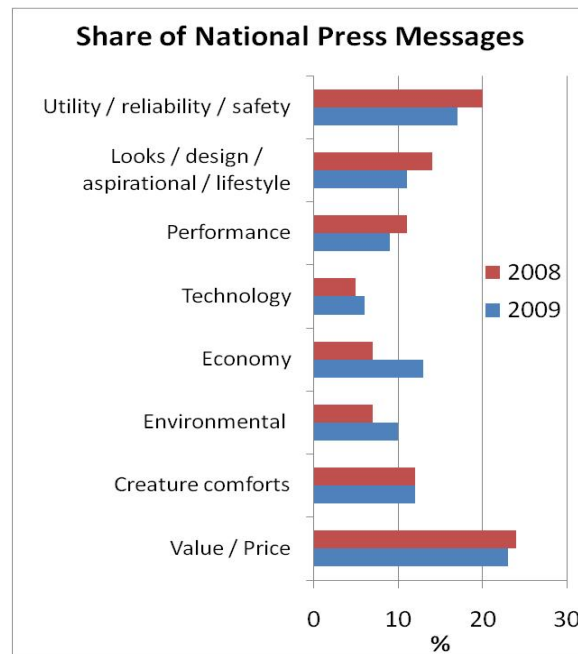
Whilst improved information can assist in addressing misconceptions to support the market for lower carbon models it is also essential for lower carbon models to be desirable choices.

### ***Advertising and marketing guidance***

Many people feel a degree of emotional attachment to their car and project their self-image through their choice of vehicle. Advertisers play on the individual’s sensitivities to control, power, social status and self-esteem in marketing campaigns.

Historically advertisers focused on messages to emphasise power and performance with a larger amount of expenditure on vehicles displaying these attributes. More recently there has been a higher share of efficiency and environmental messages in UK advertising.

**Figure Two: Share of UK national press messages 2008 & 2009 (categories by predominant message type)**



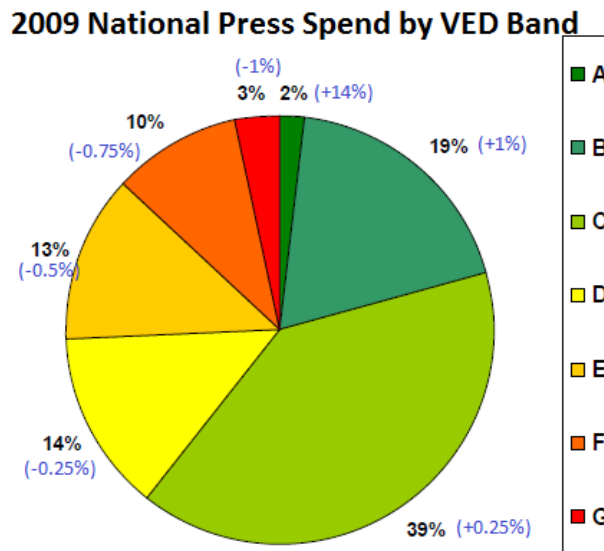
*(Source: Billets for the LowCVP. See Archer, 2010)*

The graph above shows the share of alternative UK national press messages in 2008 and 2009. The data (unpublished) was compiled for the LowCVP by Billets a specialist media monitoring company (an Ebiquity brand). In 2009, environmental and economy messages collectively accounted for a quarter of the total,

equivalent to those for value and price. 20% messages in outdoor advertising on billboards also focused on environmental issues or on efficiency – although in this media value/price predominate.

Whilst these were exceptional economic times it is notable that just 10% of messages emphasised power.

**Figure Three: UK national press spending by Vehicle Excise Duty (VED) band**



(Source: Billets for the LowCVP. See Archer, 2010) Note: A = lowest carbon; G = highest carbon car

In terms of spending there has also been a rapid shift in favour of advertising for more fuel efficient models. In 2009, 60% of press advertising spending was for vehicles under 130g/km (VED bands A-to-C under the older system or A-to-E under the system adopted since 2010) compared with 39% in 2008. By contrast, just 5% of spending was for vehicles over 185g/km, a fall from over 12% the previous year.

Intuitively, at least, it seems that advertising can be a useful positive influence in promoting the shift to lower carbon options by increasing the desirability of lower carbon vehicles and addressing misconceptions. Inappropriate environmental claims, however, risk undermining the credibility of all such marketing and, with it, the industry’s longer-term ability to use these approaches to inform and influence consumers to ‘buy greener’.

The use of green claims in advertising has increased rapidly in the past five years and, with this trend, a growing number of advertisements have had to be withdrawn after failing to meet mandatory industry codes of practice – operated in the UK by the Advertising Standards Authority (ASA). Since 2007, around 20 campaigns in the automotive sector have been halted with most major companies affected at some time or other.

The LowCVP, working with the UK motor and advertising industries through the SMMT and the UK advertisers association, ISBA, set out to develop best practice principles for environmental claims in automotive marketing to consumers. The Principles (LowCVP, SMMT and ISBA, 2010) complement existing legislation and mandatory codes applying to all marketing and promotional activities – including websites, in-showroom advertising, press releases, corporate reports and other marketing and promotional activities not covered by current codes. The UK automotive industry has agreed to adopt the spirit of the Principles and implement them in good faith.

The Principles say that environmental claims must be: specific, not mislead, be transparent, unambiguous and be clearly expressed and capable of substantiation. The detailed Principles concern: the form of environmental claims, accessibility of information, appropriate comparisons and the use of green imagery, symbols and endorsements. For example, the Principles specify that if only one drive-cycle is used this must be the combined data and that comparisons must compare like-with-like and make clear where they relate to a model range, specific vehicle or attribute. These issues are two of the most common reasons for complaints.

The LowCVP is working to disseminate the Principles and is developing an examples Guide and an award for the best implementation. Since the Principles were launched, only two advertisements have been compulsorily withdrawn by the ASA for misleading claims (just after the Principles’ introduction). Interestingly both relate to electric vehicles claiming zero emissions – a specific area in which more detailed guidance may be useful. Early

signs are positive and illustrate the value of gaining participation and buy-in from the advertising and automotive industries to the initiative.

### ***Web-based information provision***

In the UK, best-in-class passenger car CO<sub>2</sub> information is made available through the transport section of the 'Act on CO<sub>2</sub>' Government website (UK Government, 2011). The website provides useful explanatory information and an on-line tool allowing users to compare fuel costs and CO<sub>2</sub> emissions of new cars. The site also provides information on eco-driving, car sharing and car clubs, as well as advice to encourage modal shift.

The 'Act on CO<sub>2</sub>' website was supported by a large cross-government advertising campaign but the UK's new coalition government has decided to abandon virtually all Government advertising as part of a far-reaching range of austerity measures. The future of the 'Act on CO<sub>2</sub>' campaign is consequently in serious doubt.

The UK's Vehicle Certification Agency (VCA), which is funded by the Department for Transport, does provide a highly detailed on-line database of new cars and their emissions and related performance. (VCA, 2011) The database allows users to search for new car options according to a range of criteria including fuel economy, running costs and VED band. It provides the source data on which other initiatives to popularise low carbon choices (such as Act on CO<sub>2</sub>) are based.

Official sources of information relating to new car CO<sub>2</sub> are, of course, not the only influence on car buyers seeking web-based information. Buyers increasingly refer to a wide range of third-party, media and official manufacturer websites for their information.

A recent study into the presentation of CO<sub>2</sub>-related information on car makers' websites by Lane et al (2010) found that, on average, only 52% of participants' attempts to find the official CO<sub>2</sub> rating for a particular car were successful. Even in cases where users were able to retrieve a CO<sub>2</sub> value for a particular model, only 68% of these were correct.

The research found that even manufacturers of lower carbon vehicles were no more successful in accurately informing users of their websites of CO<sub>2</sub> information than manufacturers of high emission vehicles.

It also found that few companies are using the colour-coded fuel economy label, directly or indirectly, on their websites.

## **Conclusions**

Policy interventions in Europe, the US and elsewhere to date have mainly focused on regulations to enforce improved emissions performance in new vehicles to be sold by car manufacturers. It has become increasingly clear, however, that car buyers must also be persuaded in increasing numbers to choose ever lower carbon models or emissions reduction targets will not be met and manufacturers could find themselves left with low emission vehicles which they can't sell.

Effective communication of the reasons for the introduction of low carbon vehicle policies and the benefits to consumers of adopting them has been a more important area of focus for policy, particularly in the UK.

A number of specific conclusions can be drawn from experience and evidence-based research that has been carried out in the UK and on which this paper is based:

- Energy efficiency labelling is a useful tool for informing car buyers, though increasing environmental awareness has little direct effect on purchase choices (but may be a necessary enabler for change)
- The current statutory labelling requirements fail to engage consumers
- Information used in labelling and other communications must be simple in form and in terms of the language and metrics used. These must also be relevant to local consumers with attention paid to local customs and cultural values
- Environmental concerns are still a low priority for most car-buyers; fuel economy and other (including tax) costs are much more influential purchase criteria and should be explicitly linked to environmental benefits where possible
- There are perceived trade-offs between efficiency and other key buying decisions which improved consumer awareness can address
- Extending appropriate consumer information requirements to all relevant marketing media will help the dissemination of messages. Engaging with the relevant media and with the industry can help to promote better awareness and understanding of the need to rapidly introduce lower carbon vehicles and the benefits to consumers of doing so

- Most car buyers fail to recognise “best in class” opportunities but relevant, comparable “in-segment” information can address
- Vehicle weight is not seen to be a relevant comparator by car buyers
- An entirely harmonised EU label will use inappropriate metrics for some markets (e.g., l/100km) so some flexibility is needed
- Providing reliable information to build consumer trust is essential
- The promotion of best practice in terms of environmental claims made by car advertisers can help to reduce the use of misleading claims. Unrealistic or misleading claims in advertising messages may undermine the overall drive to encourage consumers to make environmentally responsible choices

### ***The Low Carbon Vehicle Partnership***

The LowCVP is a UK-based partnership between business, government and environmental organisations which works to accelerate a sustainable shift to low carbon vehicles and fuels in the UK - stimulating opportunities for UK businesses

Comprising approaching 200 organisations the 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
- Enhancing stakeholder knowledge and understanding to build a consensus for sustainable change and encouraging active engagement.

### References

- Anable J et al, 2008, Car buyer survey: from ‘mpg paradox’ to ‘mpg mirage: How car purchasers are missing a trick when choosing new and used cars’ (Research conducted on behalf of the LowCVP):  
<http://www.lowcvp.org.uk/assets/presentations/Microsoft%20PowerPoint%20-%20Jillian%20Anable%20%5BCompatibility%20Mode%5D.pdf> (presentation)  
[http://www.lowcvp.org.uk/assets/reports/Car\\_Buyer\\_Report\\_2008\\_Final\\_Report.pdf](http://www.lowcvp.org.uk/assets/reports/Car_Buyer_Report_2008_Final_Report.pdf) (report)
- Archer G (LowCVP), 2009, Changing Car Buyer Attitudes to Fuel Efficiency:  
<http://www.lowcvp.org.uk/assets/presentations/Valuing%20fuel%20economy.pdf>
- Archer G (LowCVP), 2010, Informing and Influencing Consumers to Adopt Lower Carbon Models, Presentation to Automotive Summit, Brussels, November 2010.  
<http://www.lowcvp.org.uk/assets/presentations/Auto%20Summit%20-%20LowCVP%20-%20Final.pdf>
- Cousins S.H., Garcia Bueno J., Palomares Coronado O., 2006, Powering or De-Powering future vehicles to reach low carbon outcomes: the long term view 1930 – 2020:  
[http://www.lowcvp.org.uk/assets/reports/climate\\_change\\_cousins.pdf](http://www.lowcvp.org.uk/assets/reports/climate_change_cousins.pdf)
- Department for Transport (UK) ‘Act on CO2’ website, 2011: <http://actonco2.direct.gov.uk/home/what-you-can-do/On-the-move/Compare-car-CO2-emissions.html>
- Department for Transport website (based on 2007 research by Lane et al), The attitude-behaviour gap:  
<http://www.dft.gov.uk/pgr/sustainable/areviewofpublicattitudestoc15731?page=3>
- Ebiquity survey for the LowCVP, 2010, Trends in marketing communications within the automotive sector: (unpublished)
- Ebiquity survey for the LowCVP, 2007, Trends in marketing communications within the automotive sector:  
<http://www.lowcvp.org.uk/assets/presentations/Ebiquity%20-%20BMM%20-%20lowcvp%20report.pdf>
- Ecolane & Sustain, 2010, LowCVP Car Buyer Survey: Improved environmental information for consumers:  
<http://www.lowcvp.org.uk/assets/reports/LowCVP-Car-Buyer-Survey-2010-Final-Report-03-06-10-vFINAL.pdf>
- Environmental Protection Agency (EPA), 2010, by David L Greene, How Consumers Value Fuel Economy:

A Literature Review, <http://www.epa.gov/oms/climate/regulations/420r10008.pdf>

Eurobarometer, 2007, Attitudes on issues related to EU Transport Policy, Analytical Report

European Commission website, 2011, Reducing CO2 emissions from passenger cars:  
[http://ec.europa.eu/clima/policies/transport/vehicles/cars\\_en.htm](http://ec.europa.eu/clima/policies/transport/vehicles/cars_en.htm)

European Parliament (DG for Internal Policies), 2010, Study on consumer information on fuel economy and CO2 emissions of new passenger cars:  
<http://www.europarl.europa.eu/activities/committees/studies/download.do?language=fr&file=312592>

Fiat, 2010, Eco-Driving Uncovered: [http://www.lowcvp.org.uk/assets/reports/Fiat\\_Eco-Driving%20Uncovered.pdf](http://www.lowcvp.org.uk/assets/reports/Fiat_Eco-Driving%20Uncovered.pdf)

Hardin, G, 1968, The Tragedy of the Commons:  
[http://www.garretthardinsociety.org/articles/art\\_tragedy\\_of\\_the\\_commons.html](http://www.garretthardinsociety.org/articles/art_tragedy_of_the_commons.html)

Lane, B and Potter, S, (2006), The adoption of cleaner vehicles in the UK: exploring the consumer attitude-action gap, <http://design.open.ac.uk/potter/documents/Cleancarslaneandpotter.pdf>

Lane B, 2010, Car CO<sub>2</sub> Internet Survey - How accessible is CO2 information on car manufacturers' websites?:  
<http://www.energysavingtrust.org.uk/content/download/943216/3154682/file/Car-CO2-Internet-Survey-Appendix-3-27-01-10.pdf>

Lane, B, 2007, Promoting low carbon vehicles: Can we influence attitudes to change car purchasing behaviour (Presentation to King Review): <http://www.lowcvp.org.uk/assets/presentations/Lane.pdf>

LowCVP, SMMT and ISBA, 2010, Best Practice Principles in Environmental Marketing,  
[http://www.lowcvp.org.uk/assets/reports/best\\_practice\\_principles\\_environmental\\_marketing\\_of\\_cars.pdf](http://www.lowcvp.org.uk/assets/reports/best_practice_principles_environmental_marketing_of_cars.pdf)

LowCVP, 2010, Press Release: More than half of car buyers aware of fuel economy label for the first time,  
[http://www.lowcvp.org.uk/assets/pressreleases/Label%20survey%20-%20June%2009%20\(Final\).pdf](http://www.lowcvp.org.uk/assets/pressreleases/Label%20survey%20-%20June%2009%20(Final).pdf)

MORI, 2003, Comparative colour-coded labels for passenger cars - research commissioned by DfT:  
<http://www.dft.gov.uk/pgr/roads/environment/research/consumerbehaviour/comparativecolourcodedlabels3819?page=1>

Society of Motor Manufacturers and Traders (SMMT), 2011, New Car CO2 report 2011:  
[http://www.smmt.co.uk/wp-content/uploads/SMMT\\_New\\_Car\\_CO2\\_Report\\_2011.pdf](http://www.smmt.co.uk/wp-content/uploads/SMMT_New_Car_CO2_Report_2011.pdf)

Transport & Environment, 2010, How Clean are Europe's Cars report:  
[http://www.transportenvironment.org/how\\_clean\\_are\\_europe-s\\_cars/](http://www.transportenvironment.org/how_clean_are_europe-s_cars/)

UK Government, 2011, Act on CO2 website: <http://actonco2.direct.gov.uk>

Vehicle Certification Agency (VCA), 2011, Car Fuel Database: <http://www.vcacarfueldata.org.uk/>