

# The Government Response to the King Review of Low-carbon Cars

November 2008



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## Introduction

In March 2007, the Government asked Professor Julia King, Vice-Chancellor of Aston University, to lead a review of the vehicle and fuel technologies which, over the next 25 years, could help to 'decarbonise' road transport, particularly cars. Part I of *The King Review of Low-carbon Cars*, on the potential for carbon dioxide (CO<sub>2</sub>) reduction, was published in October 2007. Part II, published in March 2008,<sup>1</sup> made recommendations for action.

The Government warmly welcomes Professor King's wide-ranging and comprehensive report. This document describes how we will take forward Professor King's recommendations as part of our wider mission to tackle the climate change impacts of the transport sector.

### Climate change and the challenges

The Government recognises the context set out in Professor King's Review; the debate has shifted from whether climate change is anthropogenic to the severity and timescale of the impacts. We are committed, with our European and international partners, to respond to this challenge at all levels, both abroad and at home. Road transport is the source of about 92 per cent of domestic transport CO<sub>2</sub> emissions, so it is vital that we take steps to improve the environmental performance of road-based travel. Professor King's report provides grounds for optimism that major reductions in road transport emissions can be achieved in ways that are technologically feasible, affordable and publicly acceptable.

We intend to seize the opportunities a low-carbon transport sector represents. This will help the UK meet our greenhouse gas targets as set out in the Climate Change Bill and benefit the UK economy more widely.

### Our plan of action

The Eddington Study<sup>2</sup> in 2006 showed the importance of mobility to business and the general public. Good transport systems are crucial to our economic prosperity and competitiveness, to our quality of life, and to the promotion of social inclusion. The framework document *Towards a Sustainable Transport System: Supporting Economic Growth in a Low-carbon World* (TaSTS) published in October 2007 and the follow-up documents published on 1 July 2008<sup>3</sup> provide a wealth of analysis about the challenges and possibilities for reducing CO<sub>2</sub> emissions in the transport sector. It also confirmed the Government's ongoing commitment to tackling climate change as one of its top priorities.

We are acting to tackle the climate change impacts of transport. In accordance with the principles set out in the groundbreaking work by Sir Nicholas Stern,<sup>4</sup> our policies can be described broadly as:

- putting a price on carbon;
- developing low-carbon technologies;

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1 [www.hm-treasury.gov.uk/d/bud08\\_king\\_1080.pdf](http://www.hm-treasury.gov.uk/d/bud08_king_1080.pdf)

2 [www.dft.gov.uk/about/strategy/transportstrategy/eddingtonstudy/](http://www.dft.gov.uk/about/strategy/transportstrategy/eddingtonstudy/)

3 [www.dft.gov.uk/about/strategy/transportstrategy/tasts/tastsletter](http://www.dft.gov.uk/about/strategy/transportstrategy/tasts/tastsletter)

4 [http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://www.hm-treasury.gov.uk/sternreview_index.htm)

- helping people make informed choices.

Professor King's recommendations are consistent with this approach, but with a particular emphasis on technology and removing barriers to behaviour change. She has made various recommendations aimed at driving technology change through EU legislation, and promoting the research, development or deployment of relevant technologies to reduce the impacts of vehicles throughout their lifecycle. We are working on all these areas with a view to seeing a new car fleet average of 100 g CO<sub>2</sub>/km by 2020 – a target that will require deployment of a range of technologies such as all-electric and plug-in hybrid cars that hold the promise of ultra-low-carbon private transport. We have recently launched a Low-carbon Transport Innovation Strategy (May 2007) backed by around £100 million of funding to ensure that UK businesses seize the opportunities offered by developing and exploiting new low-carbon technologies. The Government's revised Manufacturing Strategy is focused on how UK manufacturing more generally can exploit the opportunities of globalisation and the move to a low-carbon economy to ensure sustainable competitive advantage and maximise its contribution to the UK economy.

The Government also agrees that policies aimed at encouraging, informing and promoting more sustainable travel options should form a central part of our strategy. Policies such as the 'ACT ON CO<sub>2</sub>' marketing campaign and investment in cycling and public transport provision all help achieve this.

It is important that the actions Government takes to address climate change are achievable, affordable and consistent with economic growth, as well as being aligned with the principles of better regulation.

Much in Professor King's Review acknowledges the work that has already been started by Government. However, the Review also sets Government further challenges, which will inform and guide future policy. The rest of this document sets out in more detail how the Government will work to ensure that the key findings of the King Review are integrated into the ambitious programme for a low-carbon transport system.

## Recommendations and notes/comments

Recommendation	Notes/comments
<p><b>Recommendation 1:</b></p> <p>The Review welcomes the EU's proposed regulatory approach for vehicles. It also welcomes efforts to demand consistent emission standards and set a level playing field and supports the target date of 2012, which is challenging but technically feasible. The Review recommends that the EU agrees the detail at an early stage in order to give industry certainty and ensure the benefits of early reductions in new car emissions are secured as early as possible.</p>	<p>We support the Commission's average new car CO<sub>2</sub> emissions target of 130 g/km by 2012, but in our assessment a gradual phasing-in of compliance will be necessary to account for industry product cycles. To develop a new vehicle technology and bring it to market can take around five years, while bringing forward a new technology which has already been demonstrated takes between two to three years. We have recently consulted on this as part of the proposed EU new car CO<sub>2</sub> regulation, and the outcomes will inform the UK negotiating position. The consultation closed on 3 October 2008.</p>
<p><b>Recommendation 2:</b></p> <p>The Review agrees that the EU should implement the 130 g/km target based on the sales-weighted average emissions of new cars sold in the EU. The Review also agrees with the EU proposals for setting individual manufacturer targets and supports the EU's plans to monitor the weight of vehicles in the run-up to and following implementation of the legislation, to ensure that it does not provide manufacturers with perverse incentives to increase vehicle weight.</p>	<p>We also support the Commission's proposed approach of setting sales-weighted average targets for individual manufacturers. We agree that vehicle mass represents an appropriate parameter to use in defining these targets. Provided that the formula for setting the targets is set correctly, this should not lead to perverse incentives for manufacturers to increase the weight of the vehicles they sell. We also agree that the weight of vehicles should be monitored to ensure that this is not the case. As highlighted above, this formed part of the recent consultation on the proposed EU new car CO<sub>2</sub> regulation.</p>
<p><b>Recommendation 3:</b></p> <p>The EU should adopt a 100 g/km new car sales weighted average target for 2020.</p>	<p>The Chancellor confirmed in Budget 2008 that we will ask the EU to set a longer-term target to reduce average new car CO<sub>2</sub> emissions to 100 g/km by 2020, and this formed part of the recent consultation on the proposed EU new car CO<sub>2</sub> regulation.</p>
<p><b>Recommendation 4:</b></p> <p>The EU should set in place a process for regular target-setting every 7–10 years (or in line with future model cycles) to ensure that the industry can invest in and bring CO<sub>2</sub>-saving technologies to market with certainty about the standards that the EU will require.</p>	<p>We also agree that the motor industry needs certainty about targets, so it can invest and bring the right technologies to the market as quickly as possible. It is also clear that there will continue to be downward pressure on new car CO<sub>2</sub> emissions and we agree that a regular review process to consider setting longer term targets every 7–10 years would therefore be appropriate.</p>

Recommendation	Notes/comments
<p><b>Recommendation 5:</b></p> <p>The Department for Transport, working with the European Commission, should work to design a CO<sub>2</sub> target for vehicles that captures the full CO<sub>2</sub> impact of vehicle production, disposal, usage and the production of the fuel or power used by the car.</p>	<p>Work is already being considered in this area through the United Nations Economic Commission for Europe (UNECE). Its Working Party on Pollution and Energy (GRPE), in which the Department for Transport participates, is examining the feasibility of developing international standards for environmentally friendly vehicles. This study is expected to run until late 2009 and will consider appropriate methodologies for assessing environmental performance, including a lifecycle CO<sub>2</sub> assessment approach. The Working Party meets a minimum of two times a year and a maximum of four.</p> <p>In the UK, the Department for Environment, Food and Rural Affairs (Defra) has commissioned a short research project to pull together existing evidence on the whole life-cycle environmental impacts of cars – with a view to analysing the key tradeoffs, gaps and improvement potential. This project will also summarise the current interventions (e.g. policy and legal) aimed at improving the environmental performance of cars as well as wider sustainable transport goals and the improvements they seek to achieve. This work will take into account CO<sub>2</sub> emissions and other impacts (i.e. greenhouse gas emissions, waste, resources depletion). The report will be published in March 2009.</p> <p>Variations across Member States in the carbon intensity of biofuels and electricity (for electric and plug-in hybrid vehicles) and the need to account for actual in-service usage of biofuel (in the case of Flex Fuel Vehicles) and electricity (in the case of plug-in hybrid vehicles) may make lifecycle assessment and targets difficult. An alternative approach may be required, such as a lifecycle methodology based on energy rather than CO<sub>2</sub>. We shall consider appropriate next steps in the light of the outcome of the work noted above.</p>
<p><b>Recommendation 6:</b></p> <p>The Department for Transport should assess the case for a mandate to reduce the carbon intensity of the fuel mix covering all fuels, through a Low-carbon Transport Fuel Obligation, alongside other options to link the Renewable Transport Fuels Obligation to life-cycle CO<sub>2</sub> emissions already under consideration. The obligation should be enforced through a system of tradable credits.</p>	<p>We agree that measures to encourage the reduction of greenhouse gas emissions from transport should so far as possible be neutral as to the technology for achieving them. A Low-carbon Transport Fuel Obligation, prescribing targets but not methods, would be one way to achieve this and, if based on tradable credits, would be an incentive to fuel suppliers to adopt the most cost-effective methods.</p> <p>We will continue to consider the scope for such a measure, particularly in the context of negotiations on the European Commission’s proposal for a greenhouse gas reduction target for road transport fuels. Any measure of this sort would need to be compatible with EU legislation.</p>

Recommendation	Notes/comments
<p><b>Recommendation 7:</b></p> <p>The European Commission should develop policy instruments to provide flexibility between fuel and vehicle targets, such as allowing trade of credits between targets. In the absence of flexibility between targets, EU mandates on fuels and vehicles should be balanced such that the overall costs of reducing CO<sub>2</sub> emissions are minimised – at present, this suggests vehicle targets should be more stringent relative to fuel targets.</p>	<p>The Gallagher Review (published in July 2008)<sup>5</sup> has confirmed that the indirect effects of biofuels can be significant and can reduce or negate the carbon savings of the biofuel. We believe that, until these effects are better understood, it would be premature to consider new policy instruments that could affect demand for biofuels. Flexibility between fuel and vehicle targets could reduce certainty for the fuel and motor industries, as what each would be required to do would depend on the level of effort made by the other sector. This would be an important factor in any future consideration of this proposal.</p>
<p><b>Recommendation 8:</b></p> <p>The UK Government should assess the case for inclusion of road transport in trading schemes such as the EU Emissions Trading Scheme (with fuels suppliers as the regulated entity).</p>	<p>The UK has asked the European commission to explore the potential for including road transport emissions in the EU Emissions Trading Scheme, as part of their wider strategy on the EU Emission Trading Scheme (EU ETS).</p> <p>In their announcement on the EU ETS review in January 2008, the Commission committed to further analysis of the costs and benefits of including road transport in the EU ETS before deciding whether this was the most appropriate way of tackling rising emissions from surface transport. Key questions that will need to be examined include potential impacts of this measure on the EU ETS allowance prices, electricity and fuel prices, and EU and UK competitiveness.</p> <p>The UK will continue to work closely with the Commission and other stakeholders as they take this analysis forward.</p>
<p><b>Recommendation 9:</b></p> <p>To reduce the risk of damaging land-use change from large increases in biofuels production, the EU Fuel Quality Directive target on CO<sub>2</sub> (requiring a 10 per cent reduction in the carbon intensity of fuels by 2020) should be revised downwards and a gentler compliance trajectory implemented.</p>	<p>We recognise that the greenhouse gas reduction target, as proposed by the European Commission for inclusion in the Fuel Quality Directive, would be likely to require a big increase in the use of biofuels. Estimates indicate that the amounts needed would be much greater than the biofuels target proposed separately by the Commission in the draft Renewable Energy Directive. The Gallagher Review confirmed that, whilst there was a future for a sustainable biofuels industry, there was significant uncertainty around the potential indirect effects of biofuel production. Gallagher recommended that Government proceed with caution with respect to biofuels targets and policy. The Government agreed with Gallagher. We are therefore seeking to negotiate appropriate targets in the Council of Ministers and with the European Parliament in the light of this evidence. The current timetable is that the targets will be agreed by the end of 2008.</p>

<sup>5</sup> [www.dft.gov.uk/rfa/\\_db/\\_documents/Report\\_of\\_the\\_Gallagher\\_review.pdf](http://www.dft.gov.uk/rfa/_db/_documents/Report_of_the_Gallagher_review.pdf)

Recommendation	Notes/comments
<p><b>Recommendation 10:</b></p> <p>The Department for Transport should lead on developing an agreed EU methodology for measuring the land efficiency of a biofuel, and consider how this might be reflected in policy options within the Renewable Transport Fuel Obligation (RTFO) and EU targets.</p>	<p>We agree that land efficiency, as measured by the amount of biofuel which can be produced from a given area of land, could in principle be a useful indicator in relation to sustainability. However, the Gallagher Review has shown that the effects of biofuels are complex and not yet well understood. The sustainability characteristics of a biofuel, and in particular the lifecycle greenhouse gas emissions, can change dramatically when co-products and indirect land use changes are taken into account. We are negotiating that the sustainability criteria surrounding the EU renewable transport fuels target of 10 per cent by 2020 address indirect effects, including indirect land use change, and these criteria will be reflected in the Renewable Transport Fuel Obligation once the EU target is agreed. This is likely to occur from 2010.</p>
<p><b>Recommendation 11:</b></p> <p>Policies to prevent environmentally damaging land-use change around the world should continue to be developed as a matter of urgency alongside specific measures to reduce the land-use impacts of biofuels. The Department for Environment, Food and Rural Affairs should continue to make this a priority in international negotiations such as in the United Nations Framework Convention on Climate Change (UNFCCC).</p>	<p>Incentivising sustainable land use is a priority for the Government. The Intergovernmental Panel on Climate Change (IPCC) estimates that deforestation accounts for approximately 18 per cent of global annual emissions. The UK was therefore extremely pleased with the agreement at the UNFCCC in Bali in December 2007 to incentivise reduced emissions from deforestation in developing countries in post-2012 climate agreements, and set out a process under the Bali Action Plan establishing how to achieve this before Copenhagen in 2009.</p> <p>The UK will remain actively engaged in formulating an appropriate mechanism for inclusion and is supporting Reduced Emissions from Deforestation and Degradation (REDD) demonstration activities to help build capacity in developing countries to participate. An example of this is the UK contribution of £15 million to the Forest Carbon Partnership Facility, which was declared operational in June 2008.</p> <p>The UK will continue to seek broader inclusion of Land Use, Land Use Change and Forestry (LULUCF) activities in future climate agreements. We will review progress on this in Poznan in December 2008 and in the three interim negotiating sessions before Copenhagen in 2009.</p>

Recommendation	Notes/comments
<p><b>Recommendation 12:</b></p> <p>Establishing a global market for biofuels is very important in ensuring fuels are decarbonised effectively and efficiently. This Review recommends that the UK Government continue to work internationally on developing a sustainable global market for biofuels. In particular by:</p> <ul style="list-style-type: none"> <li>• encouraging convergence of global policies on fuels;</li> <li>• working towards an internationally-agreed carbon and sustainability reporting methodology; and</li> <li>• reducing barriers to trade in biofuels.</li> </ul>	<p>The Government agrees that international trade in sustainable biofuels is important: an effective global market will encourage the production of biofuels in the most cost-effective ways; it will help to ensure their widespread availability, and will promote the growth of a sustainable biofuels industry in developing countries.</p> <p>Trade in biofuels must be underpinned by appropriate sustainability criteria. In looking at the sustainability of biofuels, the effects of indirect land-use change are of particular importance in the wider international context, as the Gallagher Review has confirmed. We are committed to reaching international agreement on robust and comprehensive sustainability criteria for biofuels that take these effects into account, as discussed in Recommendation 10.</p> <p>With these in place, we shall continue to explore ways of reducing barriers to trade in sustainable biofuels.</p>

Recommendation	Notes/comments
<p><b>Recommendation 13:</b></p> <p>The European Commission should conduct a study to assess the cost-effectiveness of different measures to enable blends of biofuels of 10 per cent or greater by energy content – reporting before 2010 – and use this to inform any future decisions on vehicle and fuel specifications.</p>	<p>The Government recognises that there are various ways to achieve compatibility between higher-blend biofuels and vehicle engines, and that these could have different cost implications depending on any changes needed to the specifications for new and perhaps existing engines. A short study carried out on behalf of the Department for Transport showed that:</p> <ul style="list-style-type: none"> <li>• increasing ethanol blends to 10 per cent by volume (6 per cent – 7 per cent by energy) does not appear to be problematic for new vehicle engines. Blending ethanol above 10 per cent by volume by 2020 is feasible. although this needs to be investigated further;</li> <li>• increasing biodiesel blends to 10 per cent by volume (9 per cent by energy) also needs further investigation and there may be limited opportunity to blend above this level;</li> <li>• higher blends of biofuels could be possible with hydrogenated vegetable oil, and second-generation ‘Biomass To Liquid’ fuels designed to be interchangeable with fossil fuel;</li> <li>• many of the issues need to be investigated further and may be resolved with long lead times and changes to the quality of the fuel.</li> <li>• retro-fitting vehicles to be able to run on higher biofuel blends would be prohibitively expensive and unfeasible;</li> <li>• introducing separate 7 per cent and 10 per cent blends by volume as suggested by the EU Commission for both ethanol and biodiesel could be expensive.</li> </ul> <p>The Government will make its own assessment of implications and costs of biofuel blends for vehicles and fuel specifications (drawing on data from other governments, where it exists), and take these into account in negotiations in the EU on targets affecting biofuels. We also agree that it would be helpful for the European Commission to look at comparative costs of the different options for the EU as a whole and will write to the Commission later this year.</p>

Recommendation	Notes/comments
<p><b>Recommendation 14:</b></p> <p>Options to facilitate the efficient use of electric vehicles (such as smart-metering, time-of-day pricing and fast charging points) should be considered alongside existing work by the Department for Business, Enterprise and Regulatory Reform (BERR) on smart-metering in the home and the Government's eco-towns initiative. In addition, BERR, the Department for Transport and the power industry should include the impact of electric vehicles on the electricity grid in relevant scenario planning.</p>	<p>We agree that electric and plug-in hybrid vehicles can potentially make a significant contribution to reducing carbon emissions from the road transport sector.</p> <p>We are therefore developing a work programme which will examine these impacts in more detail. This combines internal Government analysis, supported by external technology experts from Genex (the Centre of Excellence for low-carbon and fuel cell technologies) and engineering consultants Arup. This work has examined:</p> <ul style="list-style-type: none"> <li>• the market penetration by electric and plug-in hybrid vehicles necessary for a significant impact on CO<sub>2</sub> and renewable energy targets and the CO<sub>2</sub> impacts of electric vehicles in a range of scenarios;</li> <li>• factors affecting the current and likely future economics and viability of electric and plug-in hybrid vehicles;</li> <li>• the extent to which the market might develop without government intervention and the case for policy options to assist market penetration;</li> <li>• the potential impacts, benefits and risks to UK grid operation.</li> </ul> <p>The report<sup>6</sup> was published on 27 October 2008 and will be used to inform future policy decisions.</p>
<p><b>Recommendation 15:</b></p> <p>Government should strengthen demand-side policy measures to enable and encourage consumers to choose 'best in class' or downsize. A package of measures is required to deliver change. Consumers should be provided with clear and easy to understand information on the running costs and emissions of different vehicles to support their purchase decisions. This must be backed up by strong and consistent price signals from Government to encourage people to choose the vehicle with the lowest CO<sub>2</sub> emissions that will meet their needs.</p>	<p>Budget 2008 included significant reform of graduated Vehicle Excise Duty (VED) for cars registered on or after 1 March 2001, aimed at encouraging motorists to purchase the most fuel-efficient car in their preferred class. This is part of a package approach involving both fiscal incentives and provision of information to consumers to help to deliver change in both car purchasing and car driving behaviour. Further details of the Government's policies in this area are detailed below against the specific recommendations that Professor King has made.</p>

6 [www.berr.gov.uk/files/file48653.pdf](http://www.berr.gov.uk/files/file48653.pdf)

Recommendation	Notes/comments
<p><b>Recommendation 16:</b></p> <p>The Review welcomes the introduction of the fuel economy labels to inform consumer purchase decisions. To increase their impact the Department for Transport should:</p> <ul style="list-style-type: none"> <li>• extend the labels beyond new cars to cover second-hand cars registered from March 2001 that are sold through dealerships;</li> <li>• extend the labels to cover new and second-hand vans once the required information on CO<sub>2</sub> emissions is published for all new vans;</li> <li>• make display of the labels compulsory on all vehicles in the range of the scheme; and</li> <li>• include comparative information on CO<sub>2</sub> emissions and fuel economy on the label, through providing comparative figures on the class average or ‘best in class’ vehicle, and by giving prominent information on the fuel cost savings that would result from choosing a more efficient vehicle, in addition to the absolute figures that are currently presented.</li> </ul>	<p>The Low-carbon Vehicle Partnership (LowCVP) annual survey of usage of the new car fuel economy label (published in July 2008) found that 91 per cent of car dealerships were displaying the labels (up from 86 per cent in 2007). Recent focus group research for the Government’s ‘ACT ON CO<sub>2</sub>’ campaign suggests that consumers welcome the label as an objective information tool that is transparent and simple to understand. There is scope to promote it further and increase its impact, for example by using the ‘ACT ON CO<sub>2</sub>’ campaign to encourage consumers to seek them out when visiting dealerships.</p> <p>In addition, the Department for Transport is carrying out research into the potential for extending the label to the second-hand car market. This research is due to be completed around the end of the year. We will then have further discussions with the LowCVP, Society of Motor Manufacturers and Traders (SMMT) and the Retail Motor Industry Federation (RMIF) about potential next steps.</p> <p>In terms of extending use of the label to cover vans, the Department for Transport is working with the SMMT to make a database of van CO<sub>2</sub> data available to consumers by next year. DfT and SMMT will continue to work together to decide how best to present this data appropriately to consumers, bearing in mind the purchasing decision for vans is often more complicated than is generally the case for cars.</p> <p>The existing European Labelling Directive (1999/94/EC) requires the provision of certain types of information at point of sale. The current new car fuel economy label is predominantly used by industry to do this, and the LowCVP survey data shows very high levels of usage by car dealers. We will continue to engage with the SMMT on options for improving coverage during the course of 2008/09.</p> <p>In light of the European Commission’s announcement that it will be reviewing the Labelling Directive – a proposal is scheduled for early 2009 – we are keen to make sure that any activity we undertake in this area, or encourage the industry to undertake voluntarily, does not pre-empt proposals from the Commission. This is similarly the case for provision of comparative information, which is covered in more detail as part of the response to Recommendation 18.</p>

Recommendation	Notes/comments
<p><b>Recommendation 17:</b></p> <p>Colour-coded tax discs should be introduced by the Driver and Vehicle Licensing Agency for cars registered from March 2001 that reflect the CO<sub>2</sub> emissions of the vehicle. The discs should be based on the vehicle excise duty bands, for example using a traffic light approach with different coloured discs for vehicles with lower, average and higher emissions.</p>	<p>As identified by Professor King, it is important to engage consumers in such a way that they realise fully the potential for reducing CO<sub>2</sub> from road transport. For this reason, one of the Department for Transport's continuing priorities is to provide consumers with helpful information to enable them to make the best car-purchasing decisions for their needs and circumstances – enabling them to potentially save money and also reduce road transport CO<sub>2</sub> emissions. We recognise that it is important that we provide consistent messages and that consumers trust the tips and advice that they are given.</p> <p>There are a number of consumer information initiatives under way, such as the 'ACT ON CO<sub>2</sub>' campaign and the new car fuel economy label, which is viewed by the public as an objective, comprehensive information tool.</p> <p>At present our priority and focus of resource and activity is the improvement and extension of existing consumer information tools (e.g. 'best in class' rankings, fuel economy label, 'ACT ON CO<sub>2</sub>' creative material) without introducing further complication or the potential for consumer confusion. Current thinking is informed by:</p> <p>(a) practical/presentational concerns that, if a three-colour tax disc scheme were adopted (low, average and high CO<sub>2</sub> emissions), someone who had made a conscious effort to purchase a 'best in class' vehicle could quite easily find themselves with the same-coloured tax disc as someone who purchased a less fuel efficient vehicle. This would potentially send out not just a confusing message to consumers but also tell the majority of people that they do not need to think about the choices they make. In comparison, Budget 2008 announced an increase in the number of graduated VED bands for cars, in order to strengthen the incentive to develop and use more fuel-efficient cars.</p> <p>(b) the initial public opposition to the colour coded discs proposal expressed in a small piece of focus group research where consumers – including those with the most pro-environment approach – felt that colour coding tax discs on emissions grounds stigmatised those with the least fuel efficient cars and represented Government interfering and applying more controls over people's individual choices; and</p> <p>(c) concerns about the potential for increased costs and operational difficulties (e.g. distribution and storage) for DVLA, if the required number of discs increases.</p>

Recommendation	Notes/comments
<p><b>Recommendation 18:</b></p> <p>Regulation of vehicle advertising should be strengthened so that information on CO<sub>2</sub> emissions and fuel economy is presented in a more prominent and consistent form in advertisements across all media. This should include a requirement to display comparative information on emissions relative to other vehicles in class. The Review recommends that the Department for Transport should establish an advisory group including the advertising industry and the Committee of Advertising Practice to gather and review available evidence and recommend the regulatory standards that consumers would find most helpful, reporting with specific proposals by the end of 2008.</p>	<p>The European Commission is working on a proposal – due later this year – to revise the existing European Labelling Directive (which encompasses the use of CO<sub>2</sub> emission and fuel economy information in advertising). The Government does not therefore intend to take forward work in this area separate to and in advance of negotiations and consideration of any proposals the Commission may make.</p> <p>However, this summer, the Department for Transport, Vehicle Certification Agency (VCA) and Department for Culture, Media and Sport (DCMS) met with representatives from the advertising industry (the Advertising Association, Institute of Practitioners in Advertising, the Incorporated Society of British Advertisers and the Outdoor Advertising Association) and the advertising regulatory regime (the Advertising Standards Authority, Committee of Advertising Practice and CAP (Broadcast)) together with the SMMT and LCVP, to discuss the various workstreams that are under way in relation to car advertising, for example:</p> <ul style="list-style-type: none"> <li>• SMMT with LowCVP are considering running a workshop to look at existing requirements for car manufacturers in the context of European developments – in order to help manufacturers better understand existing rules and sensibly and appropriately promote their products;</li> <li>• the Advertising Standards Authority (ASA), the Committee of Advertising Practice (CAP) and the Broadcast Committee of Advertising Practice (BCAP) ran an environmental claims seminar in June and CAP and BCAP are currently reviewing the Motoring sections of the Advertising Standards Codes as part of their general code review;</li> <li>• DfT and VCA are currently considering, in conjunction with the car manufacturing and advertising industries, how the current DfT-VCA Guidance Notes on The Passenger Car (Fuel Consumption and CO<sub>2</sub> Emissions Information) Regulations (as amended) could be rendered still clearer for users. The aim is for this work to be completed by the end of 2008;</li> <li>• Defra will review the Green Claims Code and related guidance to ensure that it is relevant to new developments in environmental claims. Amongst other issues, advertising claims made by the transport sector will be addressed in conjunction with DfT and appropriate stakeholders.</li> </ul> <p>As indicated above, the Department for Transport is engaging with the advertising industry and the advertising regulatory regime, as well as car manufacturers and wider stakeholder or lobby groups, and therefore at this time will not formalise an advisory group.</p>

Recommendation	Notes/comments
<p><b>Recommendation 19:</b></p> <p>The Department for Transport should develop and reinforce the ‘ACT ON CO<sub>2</sub>’ campaign. To enhance the effectiveness of the campaign:</p> <ul style="list-style-type: none"> <li>• in addition to the current advertising campaign, the campaign’s messages should be promoted to people face to face, for example through providing information in shopping centres, supermarkets and petrol stations. Drivers may be particularly receptive to messages on smarter driving when taking their vehicle for a service or MOT; and</li> <li>• a greater focus should be placed on emphasising the financial benefits to consumers, as this is likely to influence the behaviour of a wider range of people.</li> </ul>	<p>The initial focus of the motoring strand of the ‘ACT ON CO<sub>2</sub>’ campaign (launched in 2007) was on establishing the brand within people’s minds, and the messages used were mainly informative and educative.</p> <p>This year the Department has been working in partnership with Defra on the campaign, developing a joint strategy to develop the brand so that it encourages real behavioural change and makes the potential savings that can be achieved (both financial and environmental) more tangible to the public.</p> <p>We are confident that by building on the experience of the last year of activity, combined with a new and comprehensive segmentation, ‘ACT ON CO<sub>2</sub>’ will be able to deliver the right messages to the right people, in the right way and time. This will enable the campaign to have a real chance to effect behavioural change, which will help meet the Government’s CO<sub>2</sub> reduction targets and reduce the scale and intensity of climate change – saving money, energy and fuel.</p> <p>Direct face-to-face engagement with the public was carried out this year via an ‘ACT ON CO<sub>2</sub>’ stand at the British Motor Show in July where we promoted the smarter driving, car purchasing and car sharing messages. Partnership marketing activity is another channel that helps engage the public in the campaign. For example, we welcome involvement from fuel suppliers, such as Total, who have been actively engaged in giving over prime forecourt space to campaign material on smarter driving, and last year Michelin held ‘fill up with air’ events to help drivers maintain the correct tyre pressure for their vehicles.</p> <p>In taking ‘ACT ON CO<sub>2</sub>’ forward, we are also ensuring our communications align with our partners and that we work with key stakeholders to enable them to support ‘ACT ON CO<sub>2</sub>’ communications and benefit from them. For example, the Energy Saving Trust (EST) undertook a number of road shows last year to promote smarter driving tips/advice. This year EST has recently started trialling ‘lunch and learn’ smarter driving sessions with large companies – usually those who have participated in the EST Green Fleet Review consultancy service (which is funded by DfT). The aim of these sessions is to let employees in the company have the opportunity to spend time with a driving instructor. The instructor can take the employees through the smarter driving tips and show them how they can benefit from them, as well as potentially improving their fuel efficiency and saving money.</p>

Recommendation	Notes/comments
	<p>Promotion of the more tangible benefits to drivers from following the campaign's tips and advice has taken the form of emphasising how the public can potentially save up to a month's worth of fuel in a year by following all of the smarter driving tips. Also, by choosing the most fuel-efficient car in its class, savings of up to three months' worth of fuel in a year can be possible. The campaign continues to provide information on the CO<sub>2</sub> savings that can be made.</p>
<p><b>Recommendation 20:</b></p> <p>The Department for Children, Schools and Families should ensure that children of all ages have the opportunity in school to learn how driving contributes to CO<sub>2</sub> emissions and how different choices can reduce its impact.</p>	<p>The Government's strategy for children and young people, The Children's Plan, aims to make this country the best place in the world for our children and young people to grow up. Children cannot grow up into a stable and secure world unless we, as a country and as an international partner, find ways to improve our well-being without destroying the planet, and it is in this context that the Department for Schools and Children (DCFS) has developed a sustainable schools strategy, set out in the Sustainable Development Action Plan <a href="http://www.dcsf.gov.uk/aboutus/sd">www.dcsf.gov.uk/aboutus/sd</a>.</p> <p>DCFS has taken steps to embed sustainability issues right across the curriculum, so that young people can learn about the wider world and apply their learning both within and outside school. This includes the impact of different travel choices.</p> <p>DCFS agrees that this momentum needs to be maintained and will continue to support schools as they mainstream sustainability into the curriculum, operations and ethos of the school. The Sustainable Schools website will remain a key point of information, with new support materials and good practice examples scheduled for inclusion over the coming year.</p> <p>Sustainable development is a compulsory part of the National Curriculum in geography, science, citizenship and design and technology. It will have a sharper focus in the new secondary curriculum that commenced in all schools from September 2008. By way of examples, as part of the new Key Stage 3 geography curriculum, all pupils will be required to explore sustainable development and its impact on environmental interaction and climate change; the new Key Stage 3 science curriculum requires pupils to understand how human activity and natural processes can lead to changes in the environment and to study renewable energy resources.</p>

Recommendation	Notes/comments
	<p>Through the Travelling to School initiative, DCSF and DfT are providing £7.5 million a year to fund a network of school travel advisers in local authorities (LAs) to assist LAs and schools developing and implementing School Travel Plans. DCSF is providing £20 million a year in capital grants to support schools with approved travel plans – worth around £5,000 for a typical primary and around £10,000 for a typical secondary school.</p> <p>The main aim of the school travel plan programme is to promote sustainable and safer transport for the whole school community. It aims to reduce the number of car trips on journeys to and from schools, as well as removing the barriers to walking, cycling and using public transport for school journeys. It will increase understanding among the whole school community of the travel options that are available to them and increase the number of young people choosing active travel options over that of the car.</p> <p>Through the Travelling to School Initiative, DCSF are funding two school travel curriculum adviser posts to design lesson plans and activities which schools can use to cultivate the knowledge, values and skills needed to address travel and traffic issues, and reinforce this through positive activities in the school and local area. DCSF plan to conduct an evaluation of this work later in the year.</p>
<p><b>Recommendation 21:</b></p> <p>The Review welcomes local authorities introducing measures that incentivise consumers to choose lower emission vehicles where they are appropriately designed and are introduced with the objective of reducing CO<sub>2</sub>. Where introduced, measures should:</p> <ul style="list-style-type: none"> <li>• be based on carbon emissions rather than technology, equally incentivising all vehicles with equivalent CO<sub>2</sub> emissions;</li> <li>• be maintained for a reasonable period of time to give consumers confidence in opting for lower emission vehicles. However, they should also be reviewed over time as the CO<sub>2</sub> emissions of the average car decline; and</li> <li>• not encourage people to drive more, by making it easier or cheaper to do so, leading to increased congestion and higher CO<sub>2</sub> emissions.</li> </ul>	<p>We are in the process of preparing new Guidance on Local Transport Plans and will look at how these measures can be incorporated to ensure that local authorities give them due consideration when developing their plans.</p> <p>We expect to publish draft Guidance by the end of 2008, and to finalise it by the summer of 2009.</p>

Recommendation	Notes/comments
<p><b>Recommendation 22:</b></p> <p>All public bodies should look to match central government by setting an ambition to reduce the average emissions of new vehicles procured for administrative purposes to 130 g/km by 2010–11.</p>	<p>Government agrees with the King Review that public bodies should take an active role in the ‘greening’ of their fleets and that public procurement has a role to play in helping to stimulate the market for lower carbon vehicles.</p> <p>Government departments have set themselves the target that by 2010/11 new vehicles procured for administrative purposes will have average CO<sub>2</sub> emissions no higher than 130 g/km. We encourage all public bodies to adopt similarly ambitious or appropriate CO<sub>2</sub> reduction targets for their vehicle fleets, taking account of their specific circumstances.</p> <p>More generally, the Department for Transport has been developing a new programme to support the public procurement of innovative lower carbon vehicles, with £20 million of initial funding. The first procurement competitions under this programme, for lower carbon and all-electric vans, were launched in the summer of 2008.</p> <p>At a European level the Government is supporting the adoption of a proposed new Directive which will require all organisations subject to public procurement legislation to consider the environmental (air quality and CO<sub>2</sub>) impacts of vehicles in their procurement processes and decisions.</p> <p>Council working groups have been ongoing in 2008 and we expect that a final version of the Directive will be agreed this year. We plan to consult on the implementation of the Directive in 2009.</p>

Recommendation	Notes/comments
<p><b>Recommendation 23:</b></p> <p>The Department for Transport should promote the benefits of undertaking training in more efficient driving techniques, both to individuals and businesses, as part of the 'ACT ON CO<sub>2</sub>' campaign, and should provide accreditation to suitable training programmes.</p>	<p>As is shown in our response to Recommendation 19, the Department for Transport agrees that it is important to continue to promote efficient or smarter driving techniques as part of the 'ACT ON CO<sub>2</sub>' campaign in the future, especially as eco-safe driving became part of the practical driving test in September this year. As mentioned, the Energy Saving Trust has been considering how it can work the concept into its green fleet review activity – targeting already potentially receptive businesses and their employees – and we will be watching this work and its results with interest. Our intention is to conduct some research in 2009 to identify demand and to establish how best to proceed in this area.</p> <p>Under the Department for Transport's Safe and Fuel Efficient Driving (SAFED) programme, some 12,000 HGV drivers and 8,000 van drivers have been trained via demonstration programmes with funding support from Government since 2003. Further SAFED training is being supported with Government funding in the aggregates and van sectors up to 2010 to encourage transition to fully commercial delivery of SAFED by the trainers. Information for companies, trainers and drivers about the SAFED training programmes is available from the SAFED website at <a href="http://www.safed.org.uk">www.safed.org.uk</a>.</p>
<p><b>Recommendation 24:</b></p> <p>The Department for Transport should work with the European Commission and manufacturers to ensure an evidence base is developed on what dashboard technology could be safely incorporated into vehicles to promote more efficient driving. The European Commission should then regulate to make appropriate technology mandatory in all new vehicles sold in the EU. The Government should also promote and incentivise the retrofitting of technology to existing vehicles.</p>	<p>The European Commission intends to bring forward regulation for new vehicles on dashboard instruments, such as gear shift indicators to advise drivers of the optimum points to change gears for good fuel economy, and has brought forward proposals on tyre pressure monitoring systems. The Commission will be developing its proposals throughout this year, and the UK Government has been feeding in to the consultation.</p> <p>No standards exist for retrofit dashboard technologies to ensure they deliver benefits. The cost-benefit of retrofitting technologies is never as favourable as it is for fitting them to new vehicles, because of the shorter (remaining) vehicle life in which the technology will deliver benefits. It is also unclear whether a significant proportion of drivers of used vehicles could be encouraged to pay for the cost of retrofitting such devices. In view of these factors we have no current plans to promote or incentivise the retrofitting of such technologies to existing vehicles.</p>

Recommendation	Notes/comments
<p><b>Recommendation 25:</b></p> <p>All local authorities should ensure that Smarter Choices are a priority in their local transport strategy.</p>	<p>Last year, DfT published a study looking at all 82 of the local transport plans that came into operation in April 2006 to assess the extent to which Smarter Choices were embedded in the local authority strategies (<a href="http://www.dft.gov.uk/pgr/sustainable/smarterchoices/smarterltps/">www.dft.gov.uk/pgr/sustainable/smarterchoices/smarterltps/</a>.) The report found that this varied considerably among authorities. All the Local Transport Plans (LTPs) made at least some reference to the role Smarter Choices were playing, with just over 80 per cent of them making reasonable or significant reference to Smarter Choices as a whole. We are now actively working with stakeholders to encourage the remaining local authorities to increase the take-up of Smarter Choices within their transport strategies. We are looking to reassess this towards the end of the LTP2 funding period in 2011.</p>
<p><b>Recommendation 26:</b></p> <p>The Department for Transport should work with local authorities to establish how a widespread implementation of personal travel planning could be sustainably funded. To strengthen the evidence base on the benefits of personal travel planning in different settings, the Department for Transport should consider establishing new pilots to assess the effectiveness of personal travel planning in larger urban areas.</p>	<p>The Department for Transport has actively supported the development and take-up of personal travel planning (PTP), initially in 2002 through part-funding 14 pilot PTP schemes and since 2004, funding the three Sustainable Travel Towns that included PTP projects as major parts of their activities. In December 2007 we published a research report and case studies on making PTP work, and by the end of 2008 we aim to publish our best practice guidance. These documents provide the most up-to-date evidence in the UK of what can be achieved with PTP (<a href="http://www.dft.gov.uk/pgr/sustainable/travelplans/ptp/makingptpworkresearch/">www.dft.gov.uk/pgr/sustainable/travelplans/ptp/makingptpworkresearch/</a>).</p> <p>We now have sufficient evidence to show that personal travel planning works and are looking to encourage greater take-up of personal travel planning projects across the country including in the new eco-towns.</p> <p>We will be working with local authorities and others to increase local authority understanding of the benefits of the full range of Smarter Choices measures, including PTP and their capacity to deliver in this area. We will be considering, in particular, how to develop the concept of PTP in larger conurbations than tested to date.</p> <p>Eco-towns will be required to include travel plans as part of their planning applications.</p> <p>DfT has commissioned research to evaluate the progress made in the three Sustainable Travel Towns by assessing the available evidence for the impact of the programme on traffic levels, carbon emissions and wider benefits (e.g. health), to draw conclusions on value for money and possible future delivery of large-scale Smarter Choices programmes elsewhere, including costs and staff resource needed. The findings are expected to be completed by September 2009.</p>

Recommendation	Notes/comments
<p><b>Recommendation 27:</b></p> <p>All large public sector bodies should have a workplace travel plan in place by 2010.</p>	<p>In June 2006 the Prime Minister announced Sustainable Operations for the Government Estate (SOGE) targets, which all government departments and Executive Agencies have signed up to achieving. This includes a target to reduce carbon emissions from road vehicles, used for government administrative operations, by 15 per cent by 2010/11, relative to 2005/06 levels.</p> <p>Although individual measures to achieve this may be introduced on their own, we would encourage a comprehensive approach in aiming to meet the targets; such measures can have the most impact when included in a workplace travel plan. In March 2008, the Department for Transport updated its guidance <i>The Essential Guide to Travel Planning</i>, which includes both advice on commuting and business travel. We encourage large public sector bodies to consider this.</p> <p>In August 2008, the Office of Government Commerce published guidance for 2008/09 on how the government estate could achieve the SOGE targets. This guidance, for use by government departments and Executive Agencies, identifies that travel plans, and other measures to reduce vehicle use, can be an important way for any organisation seeking to make its operations more sustainable in order to meet this target.</p>
<p><b>Recommendation 28:</b></p> <p>Local authorities should consider promoting car clubs in their area as part of their local transport strategy. The Department for Transport should also raise awareness of car clubs so that people can make informed decisions over whether they are an appropriate option for them.</p>	<p>In the guidance issued to local authorities to assist them with preparing their Local Travel Plans (LTPs) that came into operation in 2006, we specifically urged them to consider car-based schemes such as car clubs as part of their LTPs.</p> <p>In 2005, we published guidance on setting up and running car clubs: <i>Making Car Sharing and Car Clubs Work</i> (<a href="http://www.dft.gov.uk/transportforyou/roads/planning/makingcarsharingandcarclubsw">www.dft.gov.uk/transportforyou/roads/planning/makingcarsharingandcarclubsw</a>).</p> <p>We have been supporting the development and take-up of car clubs through providing funding to Carplus, which is the Non-Governmental Organisation (NGO) promoting car clubs and car sharing. This financial year we have provided them with £50,000 to pilot new arrangements for setting up car clubs in areas that are less attractive to commercial operators. The success of these arrangements will be reviewed in 2010 following the end of the pilot.</p>

Recommendation	Notes/comments
<p><b>Recommendation 29:</b></p> <p>This Review welcomes the Government's increased expenditure on research and development (R&amp;D) in recent years and recommends to Government and independent bodies responsible for public R&amp;D funding that they increase the share of the funding assigned to low-carbon R&amp;D, including low-carbon vehicles.</p>	<p>The Government welcomes the King Review's acknowledgement of the significant expansion of funding for research and development in the area of low-carbon vehicles. The Low-carbon Vehicles Innovation Platform was launched by the Technology Strategy Board (TSB) in 2007 to accelerate the market introduction of low-carbon road vehicles. The aim is both to maximise the benefit to UK business and to respond to the challenges of reducing transport CO<sub>2</sub> emissions.</p> <p>The Platform coordinates Government support mechanisms for technology development within the wider market transformation context of the Low-carbon Transport Innovation Strategy. The first activity was a collaborative R&amp;D programme with £20 million of support from the Department for Transport (DfT) and the Technology Strategy Board, focused on bringing forward vehicle technologies that could be viable candidates for commercialisation or fleet procurement over the next 5–7 years.</p> <p>The Low-carbon Vehicles Integrated Delivery Programme was launched in late 2008 with an initial investment of £100 million jointly supported by the TSB, the Department for Transport, the Engineering and Physical Sciences Research Council (EPSRC) and Advantage West Midlands and ONE North East. This programme will co-ordinate low-carbon vehicle activity from initial research through to future procurement opportunities, speeding up the time it takes to get low-carbon vehicle technologies into the market place.</p> <p>The aim of the Low-carbon Vehicles Integrated Delivery Programme is to fully map the UK's technological capability in the area and, using the full range of TSB interventions, make the business connections needed to develop an automotive sector capable of delivering the required low-carbon products and services within the medium to long term.</p> <p>The TSB will invest £20 million in the programme over five years, and will manage it through their Low-carbon Vehicles Innovation Platform. The Department for Transport and the EPSRC will also each contribute £10 million. Advantage West Midlands and ONE North East have each agreed to £30 million of investment, dependent on the regional economic benefits, and further support will be sought from other Regional Development Authorities and the Devolved Assemblies.</p>

Recommendation	Notes/comments
	<p>The Low-carbon Vehicles Integrated Delivery Programme has been developed in close partnership with UK-based companies and academic institutions, and it is strongly anticipated that the Government's £100 million investment in the Programme will be matched by funding from industry.</p>
<p><b>Recommendation 30:</b></p> <p>The UK organisations conducting and funding R&amp;D should establish and publish clear statements setting out the distinctive role that they will undertake to provide clarity at the earliest opportunity. In addition the current arrangements as a whole should be evaluated by DIUS and HM Treasury in terms of effectiveness and value for money in advance of the next Government Spending Review.</p>	<p>The Government recognises that there is a range of organisations which are active in the areas of research and development relevant to lower carbon vehicles and fuels and that there is thus the risk of duplication or overlap of activity – and a lack of clarity for key stakeholders.</p> <p>This was one of the driving considerations behind the decision to create the Low-carbon Vehicles Innovation Platform in 2007 – bringing together within a single programme four major funders in the form of the Technology Strategy Board, the Engineering and Physical Sciences Research Council, the Regional Development Agencies (RDA) and the Department for Transport. The Platform has therefore become the key focal point for our R&amp;D programmes, and we are continuing to seek to expand the scale and co-ordinating aspects of the programme through RDA and industry engagement.</p> <p>We are also seeking to ensure clear communication of activities, priorities and organisational roles through existing channels such as the Low-carbon Vehicle Partnership and the Low-carbon &amp; Fuel Cell Knowledge Transfer Network managed by Cenex in collaboration with SMMT, Foresight Vehicle, Fuel Cell Today and Fuel Cells UK.</p> <p>It is still very early days in the development of the Innovation Platform activities (the first projects commenced in May of this year), but we will continue to keep the impact of these programmes under review – including in the context of forthcoming Spending Reviews.</p>

Recommendation	Notes/comments
<p><b>Recommendation 31:</b></p> <p>The Technology Strategy Board (TSB) and its partners should extend the Low-carbon Vehicle Innovation Platform to provide clear demonstration opportunities for new low-carbon vehicle technologies through implementation of experimental fleets linked to future procurement opportunities.</p>	<p>The Government agrees that there can be a valuable role for demonstration projects in assessing and showcasing the potential of new low-carbon vehicle technologies, further incentivising innovation and providing opportunities for real-world learning on the performance and reliability of lower carbon options.</p> <p>These are some of the factors behind the DfT's development of a new programme of public procurement of lower carbon vehicles, which will provide fleet-scale demonstration opportunities for a range of lower carbon options. DfT has allocated £20 million to the programme in the initial phase, with the potential to extend to £50 million if the first phase is successful. Initially the programme will focus on demonstration of lower carbon vans, with smaller demonstrations of all-electric vans, lower carbon mini-buses and potentially plug-in hybrid passenger cars.</p> <p>In addition the Integrated Development Programme, which forms the second phase of the Low-carbon Vehicles Innovation Platform, referred to in the response to recommendation 29 above, includes provision of up to £10 million worth of funding for the demonstration of ultra-low-carbon vehicles (i.e. those with emissions of less than 50 g CO<sub>2</sub>/km) and should provide for additional opportunities for vehicle demonstration in the future. The TSB launched this second phase in October 2008.</p>
<p><b>Recommendation 32:</b></p> <p>The TSB should review the current support mechanisms for assisting companies in winning EU funds, including whether some of the other TSB 'products', such as the Knowledge Transfer Networks, could play a stronger role in this area. The TSB should also work to strengthen UK influence within the 'Framework 7' transport programmes.</p>	<p>The Technology Strategy Board currently provides guidance on the Framework Programme through the <a href="http://www.fp7uk.org">www.fp7uk.org</a> website and a network of National Contact Point experts. In addition, organisations such as regional development agencies also provide support.</p> <p>The Technology Strategy Board is currently reviewing the support available to assist UK companies in accessing EU funds, including from the Framework Programme. It will consult to find out the type of support business would find most beneficial, with a view to strengthening the support available. The Technology Strategy Board also considers it important to strengthen UK influence within the current and also future Framework Programmes and will put in place activities to increase levels of influence.</p>

Recommendation	Notes/comments
<p><b>Recommendation 33:</b></p> <p>Defra should facilitate an informed public debate, by exploring emerging evidence on the risks and benefits of genetically modified plants for non-food applications, in the context of the impact of climate change and wider sustainability issues.</p>	<p>Genetically Modified (GM) technology remains a controversial issue on which there are polarised opinions, and recent debate on biofuel production has raised important questions about its sustainability and impact on food production and prices. In this context, Defra would need to carefully consider how and when a GM debate initiative might best be progressed, taking account of relevant emerging evidence.</p> <p>Whilst the potential use of GM plants for biofuel production has some aspects which are distinct from the issue of GM crop cultivation for food, in practice these topics overlap and it could be difficult to confine a debate just to the non-food arena. A given type of GM crop might be used for either food or biofuel production, and the same basic questions arise in relation to potential risks to the environment. Stakeholder groups and the public would probably want to consider the GM issue in the round, and it would arguably be better if any debate process had that broader aim. Defra will keep the idea of facilitating a debate under review.</p>

Recommendation	Notes/comments
<p><b>Recommendation 34:</b></p> <p>The new Research Centre on Sustainable Behaviours should make low-carbon cars an early priority, including the potential for future approaches to road charging, drawing on DfT findings.</p>	<p>Research on low-carbon cars and road pricing is funded from a number of sources, which include the Department for Transport's research programmes, the research councils, and a range of external organisations. It is also anticipated that in the future the Transport Research Centre (UKTRC) will be undertaking relevant research on 'transport and the environment' and 'transport and technology'. It will be important that any new research taken forward in this area avoids duplication by building on the evidence base and taking account research that is already under way or planned. The DfT would welcome the opportunity to work with the Research Centre on Sustainable Behaviours once it is established to ensure ongoing collaboration and that duplication is avoided.</p> <p>Current DfT work on low-carbon cars includes deliberative work to identify the barriers and motivations to a range of behaviours, including using cleaner fuels, driving more efficiently and purchasing more efficient vehicles. The Department for Transport has also recently commissioned a study to explore the factors influencing vehicle purchasing decisions within the used car sector.</p> <p>Specifically in relation to road pricing, the Department for Transport has funded a range of research, including a detailed deliberative research project to explore public attitudes to congestion and road pricing. Findings from this study were published in May 2008. Looking to the future, an important element of the road pricing demonstrations that were announced in May 2007 will be to further understand how concerns in relation to privacy, trust and confidence might be addressed in practical terms.</p>

Recommendation	Notes/comments
<p><b>Recommendation 35:</b></p> <p>The Research Councils should urgently identify a limited number of critical long-term challenges, and focus research efforts and funding around them, exploring innovative approaches to instil a sense of urgency and excitement for the research community and the wider public.</p>	<p>The Research Councils (RCs) support a range of activities relevant to lower carbon vehicles. Strategic advice on the relevant challenges is gained from both the scientific and user community (e.g. roadmaps).</p> <p>The Engineering and Physical Sciences Research Council is heavily involved in the Technology Strategy Board's Low-carbon Vehicle Innovation Platform, providing funding for basic research under the umbrella mechanism of the Integrated Delivery Programme. A new framework is being established to ensure university work under the programme is informed by industrial and expert views of the key challenges. The Integrated Delivery Programme was launched on 28 October 2008 at the UK's national low-carbon vehicle event.</p> <p>The Engineering and Physical Sciences Research Council and the Economic and Social Research Council (ESRC) are also involved in the TSB Intelligent Transport Systems and Services Innovation Platform.</p>
<p><b>Recommendation 36:</b></p> <p>The UK Government should explore with other EU countries whether an EU-level prize could be developed to find low cost solutions for retrofitting to existing cars to reduce their emissions by a minimum of, say, 25 per cent.</p>	<p>The Government is examining the potential for prizes to form part of the policy response to stimulating innovation and technology development for new lower carbon technologies. Department of Energy and Climate Change (DECC) has undertaken analysis of this and other possible areas where a technology prize could be applied. Its findings will be published in late 2008/early 2009.</p>
<p><b>Recommendation 37:</b></p> <p>The Review recommends that the Research Councils and the TSB examine whether it would be possible for their grant mechanisms to support innovative entries for major international prizes.</p>	<p>Research Council and Technology Strategy Board grant funding mechanisms could support research and development projects which were to be entered into technology prize competitions. Some alignment to priorities would be necessary.</p> <p>However, the central basis for award of grant support would remain the technical merit of the research proposed, as assessed by independent peer reviewers.</p>
<p><b>Recommendation 38:</b></p> <p>Government, industry and research bodies should look to forge links with counterparts around the world. More specifically, the Government should work with the TSB and other potential partners including the Research Councils, The British Council and UK Trade and Investment (UKTI) to design and fund a programme to support consortia of Indian and UK companies and universities to develop and demonstrate the 'low cost, low emissions car'.</p>	<p>Following a meeting in August between the Chancellor of the Exchequer (Alistair Darling) and his Indian opposite number, Mr Chidambaram, at which Professor King spoke about her Review, it was announced that the UK and India would jointly hold a workshop early in the new year to bring together government, business and academia from the two countries to consider how best collaboration could be pursued on this issue to mutual benefit. The detailed focus of the workshop will be determined by a preceding programme of BERR/UKTI engagement with industry, research institutes, academia, and other potential partners in both the UK and India.</p>

Recommendation	Notes/comments
<p><b>Recommendation 39:</b></p> <p>DfT should establish a clear implementation plan for leading progress across Government on the full range of recommendations.</p> <p>This should be supported by a Steering Group made up of senior representatives of HM Treasury, Defra, BERR and DIUS to provide cross-government support from the Departments that will need to take forward many of the recommendations.</p>	<p>Delivery of the relevant King Review recommendations will be fully integrated into the DfT's Climate Change Programme, which monitors delivery of transport commitments on climate change and drives progress on these issues through the existing inter-departmental governance arrangements. These arrangements include the DfT management board, the inter-departmental Domestic Climate and Energy Programme board and the Delivery and Strategy High-Level Board (both chaired by DECC and attended by BERR, Defra, HMT, DIUS, CLG and DfT). This work is overseen by the Cabinet Sub-Committee on Economic Development (Energy and Environment), which considers these issues and is attended by Ministers from across Whitehall.</p>
<p><b>Recommendation 40:</b></p> <p>The Sustainable Development Commission (SDC) should be asked to report in 12 months' time on the progress the Government has made in implementing the recommendations of the Review.</p>	<p>The DfT proposes to integrate delivery of the relevant King recommendations within its current programme of climate change policies and as such will ensure that the SDC have suitable opportunities for scrutiny through the annual sustainable development reporting process.</p>



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