

RAC Foundation response to the Call for Evidence from the Climate Change Committee on the Fifth Carbon Budget

About the RAC Foundation

The RAC Foundation (Royal Automobile Club Foundation for Motoring Ltd.) is a transport policy and research organisation which explores the economic, mobility, safety and environmental issues relating to roads and their users. The Foundation publishes independent and authoritative research with which it promotes informed debate and advocates policy in the interest of the responsible motorist.

RAC Foundation Response

A. Climate Science and International Circumstances

Question 1 *The IPCC's Fifth Assessment Report will form the basis of the Committee's assessment of climate risks and global emissions pathways consistent with climate objectives. What further evidence should the Committee consider in this area?*

Whilst the Foundation does not claim to be an authority on climate change evidence it recognises that the IPCC's Fifth Assessment Report is the most authoritative and up to date in the field.

Question 2 *To what extent are the UN talks in Paris likely to have implications for the Committee's advice beyond the pledges and positions announced in advance of the talks?*

Past experience, and the difficulties of obtaining prior commitments from some of the major GHG emitters, indicates that it is unlikely that further major advances are likely to be achieved at the Paris talks.

Question 3 *Based on the available evidence, does the EU 2030 package reflect the best path to its stated 2050 ambition? How might this package change, specifically its targeted emissions reduction, either before the end of Paris or after Paris?*

The assessment of likely transport trends in the EU Reference Scenario appears to be broadly sound except in three respects. Firstly the growth of freight traffic with GDP may overestimate this component of transport use (EU Transport in Figures 2014 Figure 2.1.12) and it may be premature to assume that car ownership is reaching saturation levels in the EU15 states - until the recovery from the recent recession has been achieved. The achievement of a 79% growth in rail traffic will depend on significant increases in capacity on many busy corridors; and whether these can be

achieved must be uncertain at this stage. For these reasons it may be that *ceteris paribus* transport energy demands could be a higher than assumed in the formulation of the package.

Question 4 *How does the UK's legislated 2050 target affect its ability to support international efforts to reduce emissions, including its position in negotiations? Does the level of UK carbon budgets have any additional impact (over-and-above the 2050 target) for the UK in international discussions?*

The significance of a legislated target *per se* is uncertain as governments can alter and/or repeal laws in the same way they make them. The fact that the UK has volunteered a target in excess of that of the EU shows how important it believes combating climate change to be; and a belief in setting an example to others. However the challenges and opportunities of reducing GHG emissions vary between countries and the adoption and successful execution by the UK of cost effective measures to reduce GHGs are more likely to give progressive examples of its GHG reduction leadership than the targets themselves. In particular the systematic assessment of the costs and benefits of alternative interventions as a guide to policy making such as in the Stern report provide a valuable example to others of how to approach target setting and its underlying policies.

B. The cost-effective path to the 2050 target

Question 5 *In the area(s) of your expertise, what are the opportunities and challenges in reducing emissions to 2032, and at what cost? What may be required by 2032 to prepare for the 2050 target, recognising that this may require that emissions in some areas are reduced close to zero?*

There are three major challenges for road transport in reducing its GHG emissions to 2032 and beyond. The first is the continued development and deployment of low/zero carbon vehicle drive systems. These are strongly influenced by what the global automotive industry has to offer and the UK has established an Advanced Propulsion Centre to help develop the necessary technologies. Whilst the current motor taxation system encourages the purchase of low carbon vehicles, overall, it is not an efficient one. In future a more efficient taxation system taking account of GHG emissions along with other externalities is needed, but successive governments have been reluctant to introduce such policies. The second is to reduce road congestion which is economically wasteful and environmentally damaging. This should be done by a combination of efficient pricing and improved road infrastructure. Whilst the government has recently reformed the Highway Agency into Highways England and announced a substantial roads improvement programme this will not be easy to implement - and much congestion occurs on urban roads which are the responsibility of cash strapped local government. Thirdly there is the challenge of providing attractive low carbon alternatives to car, van and lorry transport. Whilst recent policy developments seek to promote these, as yet the abstraction of traffic from motorised road

transport has only been modest.

Question 6 *What, if any, is the role of consumer, individual or household behaviour in delivering emissions reductions between now and 2032? And, separately, after 2032?*

To the road transport sector these are crucial as over 70% of road traffic is by individuals and households and over 75% of vehicles owned by private individuals and households. Choices of vehicle type, and extent and manner of their use are very strong factors in road transport's GHG emissions. Whilst government can influence this by taxation and regulation, and the industry through the range and prices of vehicles in the market, consumer preferences and habits will be the most important factor on transport's GHG emissions - both as car users and generators of the need for commercial road transport.

Question 7 *Is there evidence to suggest that actions to further reduce emissions after 2032 are likely to be more or less challenging to achieve than actions in the period up to 2032?*

Looking beyond 2032 is inevitably attended by great uncertainty. From today's perspective the main challenge technologically will be the transition to effective and affordable electric battery and fuel cell technologies by the early 2030s and for the necessary low carbon generating/distribution infrastructure to be in place. The need to develop a highway system fit for purpose will extend well beyond 2032 and this will remain a major challenge.

Question 8 *Are there alternatives for closing the 'policy gap' to the fourth carbon budget that could be more effective? What evidence supports that?*

The Foundation is not in a position to answer this question as it involves a wide range of issues other than road transport.

Question 9 *Are the investments envisaged in the National Infrastructure Plan consistent with meeting legislated carbon budgets and following the cost-effective path to the 2050 target? Would they have wider implications for global emissions and the UK's position in international climate negotiations?*

The Roads Investment Strategy and support for ultra-low emission vehicles are both important measures to help reduce congestion and emissions. However the prospect of significantly increased congestion on the strategic road network remains and there is no estimation in the National Infrastructure Plan of how much these measures are likely to reduce GHG emissions by either 2032 or 2050. The National Infrastructure Plan (NIP 14) has nothing to say about the rest of the road system which carries two thirds of all traffic. Whilst these components of the NIP 14 are

consistent with reducing GHG emissions they need to be accompanied by improvements to non-trunk roads, road pricing measures to contain congestion and emissions, and development of the strategic roads programme beyond the present RIS horizon.

The rail components of the NIP 14 are designed to accommodate growth in both freight and passenger traffic by rail. As rail transport is a relatively low GHG emitter (especially where powered by electricity from renewable sources) this is consistent with reducing transport's GHG emissions. However HS2 will have considerable embedded carbon and, to the extent that its traffic is newly generated, will only make a small contribution to GHG emissions. A more ambitious electrification programme (coupled with increasing decarbonisation of power generation) would be the most important means of assisting in meeting legislated carbon reduction targets.

The effectiveness of NIP 14's local transport proposals in helping to meet carbon reduction targets is uncertain, partly because these have to serve a wide range of economic, social and environmental objectives and partly because recent and prospective local government funding for transport (outside London) means that even keeping roads in reasonable repair and maintaining local buses services is problematic.

C. Budgets and action

Question 10 *As a business, as a Local Authority, or as a consumer, how do carbon budgets affect your planning and decision-making?*

The Foundation is a charity which promotes evidence based measures to support responsible motoring. As such it advocates policies in which reductions in GHG emissions are balanced with other public policy issues such as economic efficiency and social inclusion. Because of its concern with having robust evidence bases for its work, the Foundation believes that assessments using methods such as Marginal Abatement Cost (MAC) analyses are the best way of both determining targets, and equally important, the priorities for interventions to help achieve these.

Question 11 *What challenges and opportunities do carbon budgets bring, including in relation to your ability to compete internationally? What evidence do you have for this from your experience of carbon budgets to date?*

This is not relevant to the Foundations activities.

Question 12 *What would you consider to be important characteristics of an effective carbon budget? What is the evidence for their importance?*

Carbon budgets should be stretching, but achievable. This means that they should be determined

by what can be cost effective - taking into account existing and prospective technologies and behavioural change that is political and socially feasible. Targets should not be arbitrary but those setting them should understand how they can be achieved and have an appreciation of the costs of their achievement. An example of successful target setting in the transport sector was the 1987 road safety target of reducing road casualties by a third by 2000. This was based on a careful assessment of what could be achieved if the main actors worked hard to this end. In the event, though stretching, the target was exceeded. An example of unsuccessful attempts to reduce carbon emissions in transport was the target of increasing fuel duty by 5%, and then 7% a year. This had to be abandoned because those setting the target had failed to understand the impact this would have on commercial vehicle operations - brought home by industrial action by lorry drivers.

D. Other issues

Question 13 *What evidence should the Committee draw on in assessing the (incremental) impacts of the fifth carbon budget on competitiveness, the fiscal balance, fuel poverty and security of supply?*

Any measures in the fifth carbon budget that affect road transport fuel prices will have implications for fuel poverty. Whilst in London the average person travel only about 2,500 miles a year by car, in rural areas this figure is closer to 8,500 miles (national average 5,100 miles). The average household spent £1,222 on motor fuels and oils in 2013 and even the poorest quartile of households spent more on motor fuels and oils than on public transport fares so increases in fuel prices would have significant impacts on transport fuel poverty with poorer rural residents being particularly hard hit unless measures are taken to mitigate these impacts.

Question 14 *What new evidence exists on differences in circumstances between England, Wales, Scotland and Northern Ireland that should be reflected in the Committee's advice on the fifth carbon budget?*

Reducing GHG emissions at the pace envisaged by the fifth carbon budget could have a significant effect on the costs of motoring - depending on how meeting the targets is tackled and how much of the burden has to be met by the road transport sector. Road transport dependence and car dependence in particular varies considerably between different parts of the United Kingdom as indicated in the previous answer. The balance between cities, towns and rural areas differs between the different parts of the United Kingdom and, along with other factors makes Scotland 5% more dependent¹ on road transport than England and Wales 13% more dependent.

¹ Using road vehicle miles/capita as the indicator.

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