

The Fifth Carbon Budget - Call for Evidence

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Question and Response form

When responding please provide answers that are as specific and evidence-based as possible, providing data and references to the extent possible. Please limit your response to a maximum of 400 words per question.

Questions for consideration:

A. Climate Science and International Circumstances

Climate science and international circumstances are important criteria in setting carbon budgets.

- The science indicates the impacts associated with different levels of climate change and the limit on emissions globally if these risks are to be contained.
- International circumstances inform the prospects of future action to reduce emissions globally, potential requirements of the UK to contribute to those actions, and prospects for low-carbon technology development and carbon pricing.
- The EU places obligations on Member States to reduce emissions to contribute to reductions in the bloc as a whole. These imply a minimum level of effort for the UK's carbon budgets.

The Committee intends to draw primarily on the work of the IPCC, as published in the Fifth Assessment Report, in assessing the implications of climate science for the budget advice

The Committee's advice is based on a climate objective to limit central estimates of temperature rise to as close to 2°C as possible, with a very low chance of exceeding 4°C by 2100 (henceforth referred to as "the climate objective"). This is broadly similar to the UNFCCC climate objective, and that of the EU.

In order to achieve this objective, global emissions would have to peak around 2020, before decreasing to roughly half of recent levels by 2050 and falling further thereafter.

The UNFCCC is working toward a global deal consistent with such reductions. Individual parties are submitting pledges for effort beyond 2020, with the details of the agreement to be discussed in Paris late in 2015.

The EU has agreed a package that requires a reduction in emissions of at least 40% on 1990 levels by 2030, on the way to an 80-95% reduction by 2050. The UK Government supported this package, while arguing for an increase to 50% in the context of a global deal.

The US and China have jointly made pledges for the period beyond 2020. The US has pledged a reduction of 26-28% by 2025 versus 2005, requiring a doubling of the rate of carbon reduction compared to 2005-2020 and on a trajectory to economy-wide cuts of the order of 80% by 2050. China has pledged to peak CO₂ emissions around 2030, and to make best efforts to do so earlier.

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?*

ANSWER:

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?*

ANSWER:

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?*

ANSWER:

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?*

ANSWER: Differing degrees to which EU reg.s/targets are interpreted/implemented in the UK can put us at a disadvantage. Gold-plating legislation to make up for other Member States under-performance will have a damaging effect on all business/industry in the UK. The Air Quality infringement against London certainly hampers the UK's position to negotiate internationally as we have seen from RDE. Diesel has and will continue to play a major role in reducing carbon emissions but is

now criticised across the board and this can have a detrimental effect on climate change if for example customers who do regular long journeys begin to choose/are incentivised to choose petrol driven vehicles over diesel ones. Policy messages should be consistently applied and should remain technology neutral, consumers should be encouraged to choose a vehicle which is fit for their purpose i.e. right customer, right car.

Without step-change in battery technology and efficiencies from economies of scale the prospect of 40-50% of the market being plug-in by 2030 looks highly unlikely and may potentially only be achievable through sustained significant government incentives. Norway, up until recently Europe's No.1 EV market is now reviewing incentives because of the strain it puts on the national budget and the success of some of the softer incentives has also resulted in for example the bus lanes now being over-crowded. The removal of government tax incentives in the Netherlands also saw EV sales surge in December 2013 and then drop dramatically in Jan 2014. Caution should be placed on such ambitious targets, OEM product portfolios currently would not support such targets.

B. The cost-effective path to the 2050 target

The carbon budgets need to set a path that is achievable from today without being over-optimistic about what is achievable in later periods to prepare for the 2050 target.

The Committee has previously set out scenarios for 2030 that balance effort before 2030 with potential opportunities from 2030 to 2050. The scenarios aim to include ways of reducing emissions that are likely to be relatively low cost and actions that will develop options that may need to be deployed at scale by 2050.

These scenarios, reviewed in detail in the Committee's report *The Fourth Carbon Budget Review – the cost-effective path to the 2050 target*, include substantial investment in low-carbon power generation, roll-out of low-carbon heat (heat pumps and district heating), development of the markets for ultra-low emissions vehicles and a combination of energy efficiency measures and fuel switching in industrial sectors.

The scenarios also reflect detailed assessments of what is practically deliverable, and the Committee monitors progress towards them as part of its statutory duties. The *2014 Progress Report to Parliament* indicated that current policy would not be enough to meet the fourth carbon budget, but that the 'policy gap' could be closed at affordable cost.

The set of policy options required to close the gap include:

- Strengthening the EU Emissions Trading System.

- Setting a clear objective for Electricity Market Reform (EMR) beyond 2020.
- Focusing on low-cost residential energy efficiency.
- Simplifying policies targeting commercial energy efficiency.
- Tackling financial and non-financial barriers to low-carbon heat.
- Pushing for strong EU targets for new vehicle efficiency in 2030.

The Government has subsequently published various documents, including its formal response, as required under the Climate Change Act, and the National Infrastructure Plan. The Plan includes investments of around £100 billion in low-carbon power generation in the 2020s, in line with the scenarios from the EMR Delivery Plan that reach 100 gCO₂/kWh by 2030. It also has significant investments in offshore oil and gas and in the road network. This includes £15 billion of new spending on roads and around £50 billion on offshore oil and gas.

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?*

ANSWER: Many OEMs including ourselves have invested billions of Dollars/Euros/Yen etc. in the development of ULEVs i.e. plug-in EV's/Range-extenders/PHEVs/Hydrogen vehicles but the market forecasts for the uptake of EVs in particular have not materialised. The battery technology itself is still hugely expensive and without mass market take-up, predicted economies of scale will continue to go unrealised. Whilst legislation in the form of government targets gives OEMs direction, these should also be realistic. Many ULEVs today are sold at a loss in the expectation/hope that at some stage the market will take-off but in the current economic climate this cannot be maintained. If costs do not come down then it means OEMs will have to bear a greater burden should take-up increase and this could potentially mean prices will increase which would in turn lead to softening demand.

It is generally accepted that for each 1g reduction in new vehicle emissions it costs OEMs €100m and as targets become ever more challenging and the technological developments more difficult/radical than that figure will increase.

The burden of achieving future targets should be shared across fuel providers and also consumers so there is a direct relationship between usage/miles

travelled/behaviour and emissions.

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?*

ANSWER: AS above if customers who do regular long journeys begin to choose/are incentivised to choose petrol driven vehicles over diesel ones then it can have a detrimental effect on Climate Change. Policy messages should be consistently applied and should remain technology neutral, consumers should be encouraged to choose a vehicle which is fit for their purpose i.e. right customer, right car.

Post-2020 CO2 targets will play a vital role in achieving the 2030 target but consideration should be given to sharing the burden across the whole of the vehicle parc and not just focused on those people buying new vehicles. Fleet renewal is key to emission reductions but if OEMs alone bear the whole responsibility then the additional cost of engineering could have an impact on demand for new vehicles if prices rise in line with costs. A more consolidated approach to road usage would mean all vehicle owners taking responsibility for the fuel they use, the miles they drive and the congestion they cause. Greater focus is needed to ensure that all sections of the car parc can make a difference to CC, an integrated approach is needed with all parties effectively incentivised to make the more environmental friendly choices, from vehicle manufacturers to consumer and fuel providers – responsibility should not stop with the choice of the car that is purchased.

There has been a massive push on ULEVs over the past four years and whilst take-up is increasing it still represents a small proportion of the car market. Whilst cost is most definitely an issue it is still consumer education that remains a key barrier to success in the market. Significantly one of the most quoted reasons for non-consideration/purchase is the lack of a public charging infrastructure – this despite the fact that it is generally accepted that more than 85% of charges will take place at home or in the workplace and that the majority of public charging points will be rarely used. This results not only in a lack of consumer confidence but also in £m's of tax payers money being spent on an infrastructure that will go largely un-used - £m's that could be better spent on purchase incentives for the ULEVs themselves. Better consumer understanding of the benefits of pure battery vehicles in particular and where they are most appropriate (i.e. inner-city, local use) would serve the market well in the long term.

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?*

ANSWER: Undoubtedly the low hanging fruit in terms of traditional ICE engines has gone and efficiencies will become ever more difficult and costly to achieve. That doesn't mean that OEMs will stop trying to achieve these efficiencies as it is an extremely competitive market. If ULEVs become more prevalent post-2030 (following step-changes in technology & engineering/production cost) then tailpipe emissions will of course reduce in line but the overall reduction in emissions will then be dependent upon the decarbonisation of the grid. Given technology changes, monitoring driving styles or patterns is becoming acceptable particularly where the consumer can see a benefit for example with car insurance, allowing the insurance provider to monitor driving styles can save money of insurance premiums. As the roads become more and more congested some form of road pricing could incentivise smarter journeys and help ease congestion

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

ANSWER:

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?*

ANSWER:

C. Budgets and action

The UK's statutory 2050 target requires actions across the economy to reduce emissions. Many of these actions will be driven by (UK and devolved) Government policy and implemented by businesses and consumers. There will be an important role for Local Authorities in successful delivery.

Although the carbon budgets do not require specific actions, they provide an important indication of the overall direction that policy will take in future. Once set, carbon budgets can only be changed if there has been a significant change in the relevant circumstances set out in the Climate Change Act.

Feedback from businesses as part of the Committee's 2013 Call for Evidence for the review of the fourth carbon budget was that stability is an important and valuable characteristic of carbon budgets.

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

ANSWER:

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?*

ANSWER: whilst it brings certainty the biggest threat to our UK operation is the differing degrees to which EU reg.s/targets are interpreted/implemented in the UK. Gold-plating legislation to make up for other Member States under-performance will have a damaging effect on all business/industry in the UK.

Need to look at reforming ETS in the light of how it has performed. Yes it has achieved its targets but the economic downturn was the major contributor

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

ANSWER: Rewarding business/industry for continuous improvement and setting appropriate targets taking into consideration that not everyone is starting from the same point i.e. easily achievable targets are as dis-incentivising as unachievable ones. Thriving business & industry will deliver targets and therefore they should be encouraged to do so.

D. Other issues

The Climate Change Act requires that in designing the fifth carbon budget we consider impacts on competitiveness, fiscal circumstances, fuel poverty and security of energy supply, as well as differences in circumstances between UK nations. High-level conclusions on these from our advice on the fourth carbon budget were:

- **Competitiveness** risks for energy-intensive industries over the period to 2020 can be addressed under policies already announced by the Government. Incremental impacts of the fourth carbon budget are limited and manageable.
- **Fiscal impacts.** The order of magnitude of any fiscal impacts through the 2020s is likely to be small, and with adjusted VED banding and full auctioning of EU ETS allowances could be neutral or broadly positive.
- **Fuel poverty.** Energy policies are likely to have broadly neutral impacts on fuel poverty to 2020, with the impact of increases in electricity prices due to investment in low-carbon generation being offset by energy efficiency improvement delivered under the Energy Company Obligation. Incremental impacts through the 2020s are likely to be limited and manageable through a combination of further energy efficiency improvement, and possible income transfers or social tariffs.
- **Security of supply** risks due to increasing levels of intermittent power generation through the 2020s can be managed through a range of flexibility options including demand-side response, increased interconnection and flexible generation. Decarbonisation of the economy will reduce the reliance on fossil fuels through the 2020s and thus help mitigate any geopolitical risks of fuel supply interruption and price volatility.
- **Devolved administrations.** Significant abatement opportunities exist at the national level across all of the key options (i.e. renewable electricity, energy efficiency, low-carbon heat, more carbon-efficient vehicles, agriculture and land use).

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?*

ANSWER:

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?*

ANSWER:

Question 15 *Is there anything else not covered in your answers to previous questions that you would like to add?*

ANSWER: