

## Review of the Fourth 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**

The Committee's advice assumes 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 in the next few years, 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, to be agreed by 2015. Earlier attempts (e.g. at Copenhagen in 2009, before the fourth budget was recommended or legislated) have failed to achieve a comprehensive global deal to limit emissions.

It is difficult to imagine a global deal which allows developed countries to have emissions per capita in 2050 which are significantly above a sustainable global average, implying the need for emissions reductions in the UK of at least 80% from 1990 levels by 2050.

The EU has not yet agreed a package beyond 2020, but the European Commission is consulting on a range of issues relating to development of climate and energy targets for 2030. In its 2011 Roadmap for moving to a competitive low-carbon economy, the Commission suggested a reduction in emissions of 40% on 1990 levels by 2030, as being on the cost-effective path to an 80-95% reduction by 2050. The UK Government has signalled its support for a 40% reduction by 2030, and for an increase to 50% in the context of a global deal.

China has made ambitious commitments to 2020 which would, if delivered, cut carbon-intensity relative to GDP by around 45%.

The United States could achieve its Copenhagen Accord commitment to reduce emissions by 17% on 2005 levels without the need for further federal legislation.

**Question 1: Does the scientific evidence justifying the climate objective remain the same as in 2010? In particular, is there new evidence on climate change impacts?**

More or less. Despite pause in global surface temperatures, worrying new science e.g. Arctic methane plumes, and observed severe weather impacts, provide more than sufficient justification for the climate objective to remain the same.

**Question 2 Have the emissions pathways consistent with achieving this objective changed? In particular, is there new evidence on climate sensitivity to emissions?**

ANSWER: n/a

**Question 3 Does the climate objective remain in play given international developments? Has the likelihood of getting global agreement changed significantly since the budget was set, and if so why?**

Yes. Further delays in the global agreement raise the stakes and suggests the need to enhance adaptive capacity.

**Question 4 How have the prospects for a new EU package for 2030 changed since the Committee's advice and the setting of the budget? What implications do the latest expectations have for the fourth carbon budget?**

There is a danger of drifting away from specific and stretching 2030 goals (GHG emissions, renewable energy, energy efficiency) to vague emissions reduction only.

The overall 2020 framework with its three headline targets sent a clear message about EU climate and energy policy and set an international example. In particular, the adoption of the 2009 Renewable Energy Directive (RED), and its legally binding renewable energy targets, have resulted in significant growth in renewables deployment in most Member States. Despite progress towards attaining interim targets, the steepening trajectory for most Member States means that additional effort may be required to stay on track, just at a time when EU-wide economic pressures and possible competition from unconventional fossil fuels threaten to slacken the pace of renewables uptake. .

**Question 5** *What flexibilities are appropriate to reflect possible future changes in EU and international circumstances?*

The EU risks losing its own internal consensus and its assumed world leadership on climate change, but this is not a reason to give up UK efforts, where influence on other major players (US, China, India, Brazil) may be just as important.

**B. Technology and economics**

In recommending the level of the fourth carbon budget, the Committee developed scenarios which embodied cost-effective emissions reductions to meet the 2050 target.

These scenarios, set out in detail in the Committee's report *The Fourth Carbon Budget – Reducing emissions through the 2020s*, 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.

They were based on official emissions projections together with an assessment of the cost and feasibility of abatement options. Since 2010, official emissions projections have been significantly reduced in the industry and waste sectors, meaning that meeting the legislated 4<sup>th</sup> carbon budget would require less effort than originally envisaged.

**Question 6** *Is there any new evidence to suggest that the type of scenarios*

*upon which the budget was based are no longer feasible or cost effective?*

No. The reality is that the short-term economic and policy context is prone to change, but this does not alter the long-term goals or the need to progress towards them.

*Question 7 In particular, does the possibility of shale gas in the UK change the economics of the fourth carbon budget?*

No. On consideration of the evidence to date, the NFU agrees with the CCC's previous conclusions that delaying major investment in low carbon technologies in favour of shale gas is a high-risk strategy based on an unlikely outcome.

*Question 8 Should the budget be tightened to reflect headroom due to significantly lower emissions projections (e.g. due to slower than expected economic growth) since 2010?*

Tightening the budget could backfire and risks losing industry support - rather advantage should be taken of the opportunities for flexibility presented by reduced urgency.

### **C. Other issues**

As required by the Climate Change Act, in designing the fourth carbon budget we considered impacts on competitiveness, fiscal circumstances, fuel poverty and security of energy supply, as well as differences in circumstances between UK nations. Previous high-level conclusions on these 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 9 *Is there any new evidence to suggest that (incremental) impacts of the fourth carbon budget on competitiveness, the fiscal balance, fuel poverty and security of supply have become unmanageable?***

In general, no. There are bigger risks from economic recession and slow investment in low-carbon technologies.

However in your recent competitiveness report you noted rising electricity prices due to low-carbon policies could pose a potential competitiveness risk for certain sectors in agriculture (e.g. indoor pigs and poultry). In the broiler industry, feed tracker contracts follow the price of feed (as feed is approximately 60% of costs) but not that of electricity. Whilst electricity is a small percentage of overall costs there could be a similar supply chain response to help manage energy cost risks, including advice on energy efficiency and on-site renewables. As suggested in your report, such opportunities should be further assessed.

**Question 10** *Is there any new evidence on differences in circumstances between England, Wales, Scotland and Northern Ireland that suggest the need to change the budget?*

n/a

**Question 11** *Is there anything else not covered in your answers to previous questions that you would like to add?*

The default methodology for the improved UK GHG inventory will be according to IPCC 2006 Guidelines, representing a significant change for some sources from the currently applied 1996/2000 IPCC Guidelines. Work undertaken by the GHG Research Platform suggests that the overall impact of implementing the IPCC 2006 Guidelines on GHG emissions from UK agriculture in 2010 was a 21% reduction when expressed as CO<sub>2</sub>e.

The last 18 months have clearly demonstrated the potential impact of a changing climate and in particular extreme events, on agriculture. The nature of agricultural emissions means that the mitigation potential of the sector cannot legitimately be estimated without consideration of the impacts of a changing climate on the range of mitigation measures.

We believe there is a need to more fully recognise the low carbon potential of the land-based sector, driven by renewables energy opportunities and a growing awareness (among producers, processors, retailers and consumers) of the carbon footprint of agricultural production.