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Environmental Audit
Committee

Carbon Budgets

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Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume.

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Summary

The Government is required to set a series of carbon budgets in order to monitor progress against the UK's statutory targets, as set out in the Climate Change Act, to cut carbon emissions by at least 34% by 2020 and by at least 80% by 2050. Each carbon budget places a limit on the UK's emissions over a five year period. Under the Act, the Committee on Climate Change is charged with advising Government on setting the level of the carbon budgets, and to report annually on progress on cutting emissions. The first three carbon budgets, covering the period 2008–2022, were set in May 2009 and the Government was required to set the fourth carbon budget, covering the period 2023–2027, in law by 30 June 2011.

The Committee on Climate Change provided advice on the level of the fourth carbon budget, consistent with its recommended emissions reduction trajectory, in December 2010. The Committee on Climate Change also made a number of other recommendations to help ensure that the fourth carbon budget can be met. The Government is not required to follow the Committee on Climate Change's advice and in the build up to the Government setting the fourth carbon budget there were reported disagreements between Ministers on whether that advice should be followed or a less stringent fourth carbon budget set.

In carrying out this inquiry we explored the Government's decision on the level of the fourth carbon budget and its response to the recommendations made by the Committee on Climate Change, and examined the Government's 'Carbon Plan' to meet the carbon budgets.

The Government can be commended for setting the fourth carbon budget at a level recommended by the Committee on Climate Change. This would entail a 50% reduction in emissions by 2025, and would be consistent with the more distant 2050 target. However, at the same time that it decided to accept the recommended fourth carbon budget, the Government also announced a review of the carbon budgets in 2014 that could ease the budget if it is found that the UK's emissions reduction trajectory is inconsistent with that of the EU Emissions Trading System (EU ETS). The Government's concern is that a too lax EU-wide carbon cap in the 2020s might put unreasonable demands for emissions reductions on the sectors of the economy not covered by the EU ETS.

The developing science and international dialogue is building the case for seeking more, not less, ambitious emissions reductions. The fourth carbon budget as currently set represents the minimum needed to ensure the 2050 emissions reduction target is met, and loosening the budget following the review in 2014 would put achieving that target in jeopardy. The prospect of the review changing the budgets in itself undermines the benefit of having a degree of longer-term certainty about Government policy that investors in low-carbon need. Moreover, the 2014 review comes before a review of the EU ETS and a possible international climate change deal to limit global temperature rise to 1.5°C, so will come at a point when it will be little better placed to reflect likely developments than now. There is, more fundamentally, an inconsistency in the Government's position of trumpeting its acceptance of a recommended carbon budget for

20 or so years hence while at the same time envisaging the possibility of overturning that commitment just three years from now, and risks undermining the Climate Change Act which aims to set a long term trajectory of emissions reductions based on independent scientific advice.

We would expect a 'greenest Government ever' to accept all the recommendations made by the Committee on Climate Change, but it has not done so. We are concerned about the lack of transparency of how the Government's response to each of the Committee on Climate Change's recommendations was arrived at, and communicated. The Government's proposal for the fourth carbon budget did not respond to each recommendation made by the Committee on Climate Change and was silent in a number of areas. The Government has rejected other important recommendations from the Committee on Climate Change: on making the second and third carbon budgets consistent with the pace of emissions reductions required by the fourth budget, and rejecting the use of international carbon offset credits to meet the second carbon budget. This risks making the fourth carbon budget unattainable.

Carbon budgets reflect emissions *produced* in the UK, and exclude emissions embedded in goods imported from abroad. The scope for measuring emissions on a *consumption* basis, and how that might be worked into the carbon budgets regime, should be reviewed.

It is difficult to assess whether the policies listed in the Government's draft Carbon Plan are likely to deliver the carbon budgets. The draft Carbon Plan abandons the departmental carbon budgets regime of the 2009 *Low Carbon Transition Plan*. The Government's rationale for this is unconvincing. Departmental carbon budgets could provide a useful way of understanding the quantum of effort required by each department and provide a way of focusing departments' policies in their sector on the resultant emissions impacts.

Moves to monitor emissions reductions at a local authority level are welcome but it will not be enough to ensure that all local authorities make a full contribution to emissions reduction. Local Authorities should be required to set emissions reduction targets, supported by the Committee on Climate Change. A review of local authorities performance in reducing emissions should be presented to Parliament by Ministers. In a similar vein, mandatory reporting of emissions by businesses will help aid transparency and illustrate the contributions businesses are making, and need to make, to help tackle climate change.

When setting carbon budgets the Government needs to be mindful of the possibility that action on climate change may result in some production and jobs moving abroad, to countries with less stringent policies or carbon-related taxes. Without care, this could harm UK industry and could actually increase global emissions. Some energy intensive industries have expressed particular concerns about the carbon budgets driving production abroad, but Government has given little priority to generating hard evidence of such 'carbon leakage'. A lack of transparency and information on the risks to energy intensive industries, and how these should be tackled, need to be resolved to allay fears of lobbying dictating policy. We recognise the importance of policy measures to help energy intensive industries, but before these are introduced a comprehensive and robust

assessment of the actual risk to each sector affected, on a case by case basis, should be made by departments working in concert. Measures to help energy intensive industries must be fair and tailored to each sector affected, and should keep a strong incentive to reduce emissions.

1 Introduction

1. The Government has a commitment under the Climate Change Act 2008 to meet targets to cut carbon emissions by at least 34% by 2020 and at least 80% by 2050, compared to a 1990 baseline. Under the Act, the Committee on Climate Change (CCC) is charged with advising Parliament and Government on setting the level of five-year carbon budgets intended to help meet these targets, and to report annually on progress on cutting emissions. In May 2009, the levels of the first three carbon budgets were set in secondary legislation. The fourth carbon budget, for 2023-27, reflecting the advice from the CCC, was similarly set in June 2011 (Figure 1).

Figure 1: The first four carbon budgets

	Budget 1 (2008-12)	Budget 2 (2013-17)	Budget 3 (2018-22)	Budget 4 (2023-2027)	Climate Change Act (2050)
Carbon Budgets (MtCO₂e)	3018	2782	2544	1950	
Reduction below 1990 levels	22%	28%	34%	50%	80%

2. The Climate Change Act targets reflect the UK's contribution to cutting global emissions by 50% by 2050.¹ Cuts of this scale would limit expectations of global temperature rises by 2100 to as close to 2°C as possible (and risk of extremely dangerous climate change – i.e. 4°C – to very low levels).² Holding increases in average temperatures below 2°C was agreed internationally in the Cancun Agreement at the 2010 UN Climate Change Conference. The Committee on Climate Change said that a 'fair global deal' for achieving this would require the UK to cut emissions by at least 80%, which was accordingly subsumed in the Climate Change Act targets.³

3. The EU has a long-standing target to cut emissions by 20% in 2020 relative to 1990, which would be less than the effort needed to deliver the EU objective of cutting emissions by 80-95% by 2050.⁴ The European Council has recently reconfirmed that objective, although no formal target has been set.⁵ The Committee on Climate Change recently concluded that the UK's 'share' of the EU 2020 target is reflected in the UK's Climate Change Act target of a 34% cut by 2020.⁶ The EU has agreed to raise its 2020 target to 30%, consistent with the reductions needed by 2050,⁷ if other developed countries and the more advanced developing nations commit to comparable emission reductions.⁸

1 Committee on Climate Change, *Building a low-carbon economy – the UK's contribution to tackling climate change*, December 2008, page xiii.

2 *ibid*, page xiv.

3 *ibid*, page xiii.

4 *Building a low-carbon economy – the UK's contribution to tackling climate change*, *op cit*, page 110.

5 European Commission, *A Roadmap for moving to a competitive low carbon economy in 2050*, March 2011, page 3.

6 Committee on Climate Change, *The Fourth Carbon Budget – Reducing emissions through the 2020s*, December 2010, page 86.

7 *Building a low-carbon economy – the UK's contribution to tackling climate change*, *op cit*.

8 European Commission, *Europe 2020: A strategy for smart, sustainable and inclusive growth*, March 2010, page 9.

4. Reflecting the uncertainty as to when and if an international climate change agreement will be reached, the Committee on Climate Change has regularly proposed two sets of budgets – one reflecting the EU’s current 2020 target of a 20% cut in emissions in the absence of an international climate change agreement (“interim budgets”), and a target anticipating the EU increasing its target to a 30% cut in emissions after an international climate change agreement (their “intended budget”).⁹ This would suggest UK emission cuts of 42%.¹⁰ Successive Governments have set targets and carbon budgets consistent with the CCC ‘interim’ advice. The Government said that it will tighten the budgets currently set in legislation as part of collective EU action.¹¹

5. This report follows a previous inquiry on carbon budgets by our predecessor Committee. They recommended that the Government should move to a target of a 42% cut in emissions by 2020, and should implement more stretching carbon budgets, irrespective of whether or not the EU moves to a 30% target for cutting its emissions.¹²

6. There were reported disagreements between Ministers on whether the advice of the Committee on Climate Change should be followed or a less stringent fourth carbon budget set. These centred around the impact the budget could have on the economy, and in particular energy intensive industries. When the Government announced its decision to adopt the CCC’s suggested level for the fourth carbon budget, it announced that it would undertake a review in 2014 to ensure the budget was consistent with the EU emissions targets and the Emissions Trading System. It also announced that by the end of this year it would bring forward a package of measures to help energy intensive industries adjust to the low-carbon industrial transformation while remaining competitive. The Government’s proposal for the fourth carbon budget did not respond to each recommendation made by the Committee on Climate Change and was silent in a number of areas (Figure 2).

7. On 8 March 2011, DECC published a draft Carbon Plan, intended to set out its policies and proposals for meeting the carbon budgets, as required by the Climate Change Act. It intends to produce a final version this autumn, although a number of aspects of the emissions reduction regime will still need to be resolved, including how international shipping and aviation are accounted for. We will therefore monitor the subsequent development of the Carbon Plan to take account of these outstanding issues.

Our inquiry

8. Against this background, we decided to explore the level of ambition in the Government’s response to the recommendations of the Committee on Climate Change (Chapter 2), the proposed 2014 review of the fourth carbon budget (Chapter 3), whether the Carbon Plan provides a convincing plan of action for delivering the carbon budgets (Chapter 4), and the risks of carbon policies and budgets driving manufacturing out of the

9 *Building a low-carbon economy – the UK’s contribution to tackling climate change, op cit*, pages 94 and 95.

10 *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit*, page 86.

11 Letter from the Rt Hon Chris Huhne MP, Secretary of State for Energy and Climate Change, to Lord Turner, Chairman, Committee on Climate Change, dated 24 May 2011. (<http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/Carbon%20budgets/1703-chris-huhne-lord-turner-4thcarbonbudget.pdf>)

12 Environmental Audit Committee, Third Report of Session 2009-10, *Carbon budgets*, HC 228.

UK (Chapter 5). Our aim was to report in time to influence the production of the final Carbon Plan. We received submissions and took oral evidence from the Carbon Trust and energy intensive users, and the Secretary of State for Energy and Climate Change, the Rt Hon Chris Huhne MP. We also received an informal briefing from the NAO on Departmental Carbon Budgets. We are grateful to them all.

2 The Government's ambition

Fourth carbon budget

9. The Committee on Climate Change is the Government's independent adviser on climate change, and reports to Parliament on progress against targets for reducing greenhouse gas emissions. The Government is required to consider, but not necessarily follow, the CCC's advice. The CCC advised the Government in December 2010 to set the fourth carbon budget equivalent to a 50% reduction in emissions by 2025, relative to 1990 levels (Figure 1).¹³ In May 2011, the Government published a 'high-level response' to the CCC's advice.¹⁴ This accepted the CCC's recommended level for the fourth carbon budget, but did not accept many of its other recommendations (Figure 2), which we return to later in this Report. **We welcome the Government's decision to follow the Committee on Climate Change's advice to set a fourth carbon budget equivalent to a 50% reduction in emissions by 2025, consistent with the trajectory required by the Climate Change Act to cut emissions by 80% by 2050. However, we are concerned that the proposed review of the carbon budgets in 2014 risks negating the benefits of that commitment.**

10. It is our view that Parliament is not sufficiently engaged with the urgency surrounding climate change and the need for a step change in emissions reduction that the Committee on Climate Change have repeatedly called for. There should be greater engagement by Parliament with the work of the Committee on Climate Change. That is not helped by a lack of transparency in the way the Government responds to the Committee on Climate Change's recommendations. **To improve transparency, in future carbon budget-setting rounds the Government should systematically respond to each recommendation made by the Committee on Climate Change, including any which address other actions needed to deliver the budgets.**

Figure 2: The Government's response to the Committee on Climate Change's December 2010 recommendations

Committee on Climate Change's recommendation	Government's response to that recommendation	Source of Government's response	See
Set a fourth carbon budget equivalent to a 50% reduction in emissions relative to 1990 levels in 2025.	The Government agreed and set fourth carbon budget at 50% reduction. However this will be subject to a review in 2014 and may be revised.	fourth carbon budget proposal	Para 9
The fourth carbon budget should be met through domestic emissions reductions without relying on the use of international carbon offset credits.	The Government intends to meet the budget through domestic action alone, but will keep the option of using offsets to retain maximum flexibility.	fourth carbon budget proposal	Paras 24, 25, 26
Set an indicative 2030 target to	The Government will not set an	in a letter to	Para 16

¹³ *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit.*

¹⁴ HM Government, *Implementing the Climate Change Act 2008: The Government's proposal for setting the fourth carbon budget*, May 2011.

reduce emissions by 60% relative to 1990 levels.	indicative target as there is no requirement in the Climate Change Act to do so and it would pre-empt the decision on the fifth carbon budget.	the CCC on the fourth carbon budget advice	
Commit to a more ambitious budget if and when a global deal covering the 2020s is agreed.	The Government will tighten the budgets currently set in legislation as part of collective EU action.	fourth carbon budget proposal	Paras 16, 20, 21
The fourth carbon budget recommendations must be seen as the minimum reductions necessary if the 2050 target is to be attainable.	The Government did not specify whether it accepts this principle. It plans a review in 2014 and may revise the budget up to ensure consistency with the EU emissions targets and the Emissions Trading System.	n/a	Para 33
The second and third carbon budgets should be tightened to reflect the level of ambition in the intended budget for the non-traded sector, giving an economy-wide reduction of 37% in 2020 relative to 1990.	The Government will not adjust the second and third budgets until the EU moves towards tougher targets for the 2020s.	fourth carbon budget proposal	Paras 20, 21
The Government should commit not to bank over-performance of the first carbon budget to help meet the second budget.	The Government did not specify whether it accepts this principle.	n/a	Para 21

Carbon budgets and limiting global temperature rise

11. In 2008, the Committee on Climate Change recommended that the UK's climate change objective should be to keep the increase in average mean global temperature by 2100 'as close to 2°C above pre-industrial levels as possible', and the probability of the increase in global mean temperature exceeding 2–4°C as low as possible. The CCC noted at that time that 'it is no longer possible with certainty, or even with high probability, to avoid this danger zone' and that adaptation strategies should be adopted for temperature rises of above 2°C.¹⁵ It recently reconfirmed these objectives in its advice on the fourth carbon budget.¹⁶

12. The Climate Change Act targets, and their associated carbon budgets, were accordingly designed to reflect the UK's contribution to deliver emission reductions by 2050 so that this climate change objective can be met. But, increasingly, the 2°C figure is seen as a potentially unsafe temperature rise. The Intergovernmental Panel on Climate Change's Fourth Assessment Report found that 'even if global emissions fall by 50-85% (from 2000 levels) by 2050, then warming of 2.0-2.4°C is likely to result'.¹⁷ Our predecessor Committee recommend in 2010 that Government should prioritise reducing the likelihood that temperatures will exceed 2°C, down from a level that is 'as likely as not' to at least

15 *Building a low-carbon economy – the UK's contribution to tackling climate change, op cit*, page 16.

16 *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit*, page 16.

17 Ev w24

‘unlikely’.¹⁸ WWF were concerned that ‘significant risks’ exist even at warming of 2°C, and associated CO₂ concentrations threaten ‘severe damage’ to marine ecosystems.¹⁹ Dr Alice Bows of the Sustainable Consumption Institute, and her colleagues at Tyndall Manchester, considered that ‘the impacts associated with 2°C have been revised, sufficiently so that 2°C now more appropriately represents the threshold between dangerous and extremely dangerous climate change’.²⁰

13. Internationally, there is increasing pressure not just to agree targets to restrict temperature rise to 2°C, but to go further than that. The Accord signed at the 2009 UN climate change conference in Copenhagen set an objective of securing international agreement on limiting global temperature increases to below 2°C. Such an international agreement was reached a year later at the Cancun conference,²¹ along with an agreement to consider by 2015 strengthening the objective to limit global temperature increases to 1.5°C.²² Also, more recently the Executive Secretary of the UN Framework Convention on Climate Change has called for action on climate change to limit increases in global temperature to 1.5°C.²³ Some have expressed concerns that the approach to setting the carbon budgets and targets is ‘exceptionally risky’.²⁴ The carbon budgets and targets set are premised on a ‘greater than 50% chance of exceeding 2°C, when Governments have agreed the goal is to not exceed 2°C ... If the goal is to not exceed something, then a greater than 50:50 chance is not compatible with this goal’.²⁵ Dr Alice Bows of the Sustainable Consumption Institute, and her colleagues at Tyndall Manchester, were of the opinion that ‘a genuine commitment to a low likelihood, between 5 and 33% [chance of] avoiding a 2°C rise,’ would imply emissions reductions in the order of 70% by 2020 and near 100% by 2050, relative to a 1990 baseline.²⁶

14. The European Union committed itself in 2007 to reduce its overall greenhouse gas emissions by at least 20% below 1990 levels by 2020, and to increase this to 30% if the international conditions are right. It has also set targets to increase the share of renewables in energy use to 20% by 2020, and to save 20% on energy consumption by 2020 through increased energy efficiency (the so called 20:20:20 targets).²⁷ In March 2011, the European Commission published a *Roadmap for moving to a competitive low carbon economy by 2050*,²⁸ which set out a cost-efficient trajectory for reducing emissions by 2050, consistent with the EU’s long-term goal of reducing emissions by 80-95% in order to keep climate

18 Environmental Audit Committee, Third Report of Session 2009-10, *Carbon budgets*, HC 228.

19 Ev w24

20 Ev w34

21 UN Climate Change Conference, Cancun 2010.

22 Department of Energy and Climate Change, *Impact Assessment of Fourth Carbon Budget Level*, May 2011.

23 Article in Guardian, 1 June 2011, <http://www.guardian.co.uk/environment/2011/jun/01/christiana-figueres-climate-2c-rise/print>

24 Ev w37

25 Ev w34; Ev w37.

26 Ev w34

27 European Commission, *20 20 by 2020 – Europe’s climate change opportunity*, January 2008. Also, see http://ec.europa.eu/clima/policies/package/index_en.htm

28 The Roadmap takes the form of a Communication that is addressed to the Council, European Parliament and EU bodies. The Commission invites them, Member States and stakeholders to take the Roadmap into account in the further development of EU and national policies for achieving a low carbon economy by 2050.

change below 2°C. It envisaged a 25% reduction in EU domestic emissions in 2020, rising to 40% in 2030 and 60% in 2040.²⁹

15. The Government said that it aims to contribute fully to the review into a possible 1.5°C limit on temperature rise initiated at Cancun, but for the time being ‘the conclusions of the Committee on Climate Change that limiting global greenhouse gas emissions so that the expected temperature increase is below 2°C remains the right objective to manage the risks of the most serious impacts of climate change’.³⁰ In the meantime, the Government’s aim is to seek an increase in the current EU target to 30% by 2020,³¹ which is intended to provide further help to limit temperature rise to 2°C, and a higher carbon price within the EU ETS.³² On 4 July 2011, the European Parliament voted against calling on the European Commission to come forward with proposals to increase Europe’s climate ambition to a 30% emissions reduction for 2020,³³ although a motion to increase the target could be discussed again at a later date.

16. In providing advice to Government since 2008, the Committee on Climate Change has regularly proposed two possible budgets; one to apply for the period before a global deal is reached (the ‘interim’ budgets) and reflecting the existing EU target of 20% emission cuts by 2020, the other to follow a global deal on emissions reductions and reflecting a tightened EU target of 30% emission cuts by 2020 (the ‘intended’ budget).³⁴ In its advice on the fourth carbon budget, the CCC recommended aiming for an intended target for 2030 of 60% emissions reductions and warned that the Government should aim to deliver the intended rather than interim targets, or face significant risks and increased costs.³⁵ The Government has chosen to adopt the less ambitious interim targets, and not to adopt the CCC’s target for 2030 as ‘there is no requirement under the Climate Change Act to set a 2030 target and doing so would pre-empt the decision on the level of the fifth carbon budget, which we need to set in 2016’.³⁶ The Government’s assessment is that the fourth carbon budget, reflecting the CCC’s recommended ‘interim’ targets, ‘is consistent with what the UK needs to do to play its part in international efforts to keep global temperatures from rising more than 2°C.’³⁷ The Secretary of State for Energy and Climate Change told us that “if we altered or did not accept the CCC’s recommendation for the fourth carbon budget, then I think that will be a legitimate point, but we did accept that”.³⁸

29 European Commission, *A Roadmap for moving to a competitive low carbon economy in 2050*, March 2011.

30 *Impact Assessment of Fourth Carbon Budget Level*, *op cit*.

31 HM Government, *The Coalition: our programme for government*, May 2010, page 16.

32 Q 19

33 See: <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2011-0219&language=EN>

34 Committee on Climate Change, *Building a low-carbon economy – the UK’s contribution to tackling climate change*, December 2008, page 89.

35 Committee on Climate Change, *The Fourth Carbon Budget – Reducing emissions through the 2020s*, December 2010, page 100.

36 Letter from the Rt Hon Chris Huhne MP, Secretary of State for Energy and Climate Change, to Lord Turner, Chairman, Committee on Climate Change, dated 24 May 2011. (<http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/Carbon%20budgets/1703-chris-huhne-lord-turner-4thcarbonbudget.pdf>)

37 HM Government, *Implementing the Climate Change Act 2008: The Government’s proposal for setting the fourth Carbon Budget*, May 2011.

38 Q 11

17. As we discuss in part 3, **the Government's proposed review of the carbon budgets in 2014 may ease the carbon budgets if the EU Emissions Trading System puts too much pressure for emissions reductions on the 'non-traded sector'. In the meantime, the developing science and international dialogue is building the case for seeking more ambitious emissions reductions, not less.**

Tightening the first three carbon budgets

18. A 'carbon accounting system' is required under the Climate Change Act to determine compliance with the carbon budgets and the targets in the Act.³⁹ The rules determine that the carbon budgets are made up of emissions from the 'traded sector' (power generation and heavy industry sectors covered by the EU ETS) and the 'non-traded sector' (everything else such as agriculture, transport, buildings etc). The UK's share of the EU ETS cap represents the 'traded sector' component of the carbon budgets. Any over-performance of emissions reduction in the traded sector cannot be used to meet the carbon budgets, but any shortfall has to be made good by additional emissions reductions in the non-traded sector.⁴⁰

19. The Committee on Climate Change recommended that the Government should 'legislate to adjust the first three budgets to reflect non-traded sector emissions under the intended budgets'. Achieving the fourth carbon budget will only be feasible if the UK's non-traded sector emissions in the 2020s are in line with the tighter 'intended' budget rather than the legislated 'interim' third carbon budget.⁴¹ The Committee on Climate Change reports that emissions from the 'non-traded' sector are on course to be within the first carbon budget, largely due to the impact of the recession rather than the implementation of emissions reduction measures.⁴² Emissions in the non-traded sector increased in 2010 but stayed within budgetary levels. However 'continued performance at the underlying rate of progress achieved in 2010 would be insufficient to meet the [second and third] carbon budgets', because GDP growth had been 1% in 2010 compared to the trend growth of 2.5-3.0% envisaged when the economy recovers.⁴³ Therefore, there was still a need for a 'step change' in the pace of emissions reductions in the non-traded sector.⁴⁴

20. The CCC told us that the current legislated third carbon budget is 'inconsistent with the fourth budget, given the acceleration in the pace of emissions reductions required between these budgets'.⁴⁵ WWF warned that the first three carbon budgets represented 'business as usual' and were not ambitious enough.⁴⁶

39 The Carbon Accounting Rules can be found on the Department of Energy and Climate Change's website: http://www.decc.gov.uk/en/content/cms/emissions/carbon_budgets/carbon_budgets.aspx

40 *Implementing the Climate Change Act 2008: The Government's proposal for setting the fourth carbon budget, op cit*, p7

41 *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit*, page 37.

42 Committee on Climate Change, *Meeting Carbon Budgets – 3rd Progress Report to Parliament*, June 2011.

43 *Ibid*, page 13.

44 *Ibid*, page 14.

45 Ev w1

46 Ev w24

21. The Government has committed to ‘tighten the budgets currently set in legislation ... As part of collective EU action ... as a priority we continue to push for this increase in ambition with our EU partners’.⁴⁷ We asked the Secretary of State why the Government did not take the Committee on Climate Change’s advice to tighten the first three carbon budgets. He told us that the Government was “playing it safe” by keeping the first three carbon budgets as they are, as there was uncertainty about “how much emissions are likely to bounce back with the bounce-back of economic activity” and that the Government did not want to prejudice any negotiations there might be with other European States.⁴⁸ The Government has also not responded to the CCC’s recommendation that it should commit not to bank over-performance against the first carbon budget to meet the second budget.⁴⁹

22. The Government is ‘playing it safe’ by sticking to the previously-set emissions targets in the first three carbon budgets, despite the fact that the Committee on Climate Change has warned that achieving the fourth carbon budget will only be feasible if the UK’s non-traded sector emissions in the 2020s are in line with the tighter ‘intended’ budgets. Playing it safe is not consistent with the bold and ambitious action needed to tackle global climate change. Emissions reductions in the non-traded sector continuing their 2010 trajectory would not be sufficient, post-recession, to meet the second and third carbon budgets. A major change in the pace of emissions reductions is therefore required. The Government should reconsider whether to tighten the second and third carbon budgets when the CCC produces its next progress report, and in the meantime set out in its finalised Carbon Plan how the Government will deliver the required step change in non-traded sector emissions.

23. In responding to this Report, the Government should explicitly commit itself to not banking over-performance against the first carbon budget to help meet subsequent budgets, or else explain why it will carry over that recession-driven over-performance.

International carbon offset credits

24. The Climate Change Act requires the Government to set a limit on how many international carbon credits might be taken into account in order to meet the carbon budgets 18 months in advance of the start of each carbon budget.⁵⁰ EEF were of the opinion that the use of carbon credits to meet domestic targets should not be ruled out because ‘emissions should be reduced where it is most cost-effective to do so’. It noted, however, that the benefit of offsetting would only be achieved if ‘assurances exist that emission reductions associated with such credits are genuine, sustainable and fully verifiable to a standard comparable to that agreed by the [UN] Clean Development Mechanism executive board’.⁵¹ Our predecessor Committee was similarly concerned that any credits should only be purchased from countries that have implemented equivalent national emissions targets

47 Letter from the Rt Hon Chris Huhne MP, Secretary of State for Energy and Climate Change, to Lord Turner, Chairman, Committee on Climate Change, dated 24 May 2011.
<http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/Carbon%20budgets/1703-chris-huhne-lord-turner-4thcarbonbudget.pdf>

48 Qq 41, 42

49 *The Fourth Carbon Budget – Reducing emissions through the 2020s*, op cit.

50 Climate Change Act 2008, section 11.

51 Ev w1

and managed to cut emissions below them, to ensure the credits represented genuine reductions.⁵²

25. For the fourth carbon budget, as with previous budgets, the Committee on Climate Change advised the Government to aim to achieve the budgets purely through domestic action without recourse to offset credits, including through the EU ETS. It considered that ‘a minimum level of domestic action is required in developed nations in order to ensure sufficient progress towards delivering longer-term targets’. The CCC also noted that opportunities to buy such credits will reduce as a result of a strong downward emissions trend in the longer term, and that ‘developed nations should demonstrate that a low-carbon economy is possible and compatible with economic prosperity’.⁵³

26. Similarly, for the second budget period, the Committee on Climate Change recommended that secondary legislation in June 2011 allow no use of offset credits because ‘use of credits would substitute for appropriate domestic ambition’.⁵⁴ The Department of Energy and Climate Change estimates that the UK is on course to out-perform the first, second and third carbon budgets by 85 MtCO₂e, 114 MtCO₂e and 96 MtCO₂e respectively.⁵⁵ Nevertheless, the Government has set itself a 55 MtCO₂e limit on the purchase of international offset credits for the second carbon budget ‘as a contingency measure’.⁵⁶ The Secretary of State told us that this preserved a degree of flexibility when there were “enormous uncertainties”,⁵⁷ with gaps in the data on the impact on carbon emissions of the economic cycle.⁵⁸ He told the House that it was the Government’s intention to meet the carbon budget through emission reductions in the UK as far as is practical and affordable, but that the Government ‘also intended to keep our carbon trading options open, to maintain maximum flexibility and minimise costs in the medium to long term. Given the uncertainty involved in looking so far ahead, that is a pragmatic approach’.⁵⁹

27. The Government has not ruled out the use of international carbon offset credits to meet the carbon budget for 2013-17, against the advice from the Committee on Climate Change and despite Government projections that it will achieve that carbon budget through domestic action alone. Allowing the use of international offset credits in that second budget period would make achievement of subsequent carbon budgets more difficult because it could reduce pressure to secure domestic action. If and when international credits are used to meet carbon budgets, the Government should notify

52 Environmental Audit Committee, Third Report of Session 2009-10, *Carbon Budgets*, HC 228.

53 Committee on Climate Change, *The Fourth Carbon Budget – Reducing emissions through the 2020s*, December 2010, page 140; *Meeting Carbon Budgets – 3rd Progress Report to Parliament*, *op cit*.

54 Letter from Adair Turner, Chairman, Committee on Climate Change, to the Rt Hon Chris Huhne MP, Secretary of State for Energy and Climate Change, dated 22 March 2011.
http://hmccc.s3.amazonaws.com/Letter_Lord%20Turner_Chris%20Huhne%20MP_220311.pdf

55 Ev 26

56 Ev 26; In June 2011 the Government set a limit on offset credits for the Second Carbon Budget of 55MtCO₂e over the five year period; The Climate Change Act 2008 (Credit Limit) Order 2011 (SI 2011/1602).

57 Q 14

58 Q 16

59 HC Deb, 17 May 2011, col 176.

the House in advance and facilitate a debate on the possible consequences of this for meeting the Climate Change Act targets.

Accounting for carbon emissions

28. The UK's national greenhouse gas and carbon budgets reporting regime is based on the *production* of emissions in the UK. They do not take account of 'outsourced emissions' resulting from the *consumption* of goods and services imported into the UK.⁶⁰ The Public Interest Research Centre was concerned that outsourced emissions are a 'large and growing problem', where the UK's performance is 'particularly poor' – the UK's consumption emissions are 34% higher than our production emissions, a ratio higher than for Germany, Japan and the USA.⁶¹ Research by the Carnegie Institute of Washington found that UK demand for imported goods is responsible for more emissions abroad than any other European country, and the third highest worldwide.⁶² The UK is responsible for *producing* less than 2% of global emissions,⁶³ but if carbon emissions are calculated on the basis of *consumption*, the UK's emissions record between 1990 and 2005 is transformed from a 19% reduction to a 15% increase.⁶⁴ Only accounting for production emissions means that the UK and other developed nations are 'effectively depositing responsibility for cleaning up production processes onto developing countries'.⁶⁵

29. The Aldersgate Group called for greater transparency about the UK's total carbon footprint, including consumption of imported goods and services, to enable the carbon budgets more effectively to manage global climate change.⁶⁶ As part of its 'Sustainable Consumption and Production' programme, Defra has been working to identify the lifecycle carbon and other environmental impacts associated with UK consumption. Defra had developed an indicator, but the Government did not consider the estimates used to be sufficiently reliable for use in monitoring or setting targets.⁶⁷ It has nevertheless recently let a contract to update this indicator and to monitor the greenhouse gas emissions associated with UK consumption for the next five years.⁶⁸ At the same time, the Committee on Climate Change has signalled an interest in examining whether 'policy should focus solely on a production-based definition of emissions or also on the UK's consumption of carbon-intensive imports'.⁶⁹

30. We asked the Secretary of State about the case for using consumption emissions, and he told us that:

60 Ev w15

61 *ibid*

62 Carnegie Institute of Washington in California, 2008.

63 Q 11

64 Ev w9

65 Ev w15

66 Ev w9

67 HC Deb, 28 February 2011, col 236 – 37W.

68 See:
<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=17729&FromSearch=Y&Publisher=1&SearchText=embedded&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

69 *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit.*

The reality is that if you were to tell most members of the United Nations that their territorial sovereignty would henceforth be suspended because we intended to take account of our imported embedded emissions, I think there would be an absolute firefight. The reality is that the territorial principle is very well established. We are responsible for our own territory, and while that remains the case, that is the bit that we can take responsibility for.⁷⁰

He also favoured a focus on actions to tackle climate change rather than “unleashing a tremendous row” about who is responsible for particular emissions.⁷¹

31. We do not share the Secretary of State’s reluctance for monitoring *consumption* emissions. Monitoring UK emissions on a consumption basis would facilitate a more rigorous approach to controlling our contribution to climate change. The Government should request the Committee on Climate Change to review the scope for measuring emissions on such a basis and how that might be worked into the carbon budgets regime, if necessary to complement the continuing *production*-based reporting needed internationally.

70 Q 12

71 Q 21

3 Proposed review of the fourth carbon budget

32. The question of whether the advice of the Committee on Climate Change should have been followed or a less stringent fourth carbon budget set largely revolved around anxieties about the potential impact on the UK's relative international industrial competitiveness.⁷² The compromise reached within Government, it appears, was to accept the CCC's recommended figure for the fourth carbon budget, but also to undertake a review in 2014 of the carbon budgets.

33. The Government runs a number of downside risks from opening up the possibility of changing the already-set carbon budgets:

- As the Committee on Climate Change stated, the fourth carbon budget 'should be regarded as an absolute minimum' because 'a less ambitious budget, requiring further acceleration towards the end of the 2020s would ... put the 2050 target at risk'.⁷³
- Taking action to reduce emissions later will cost much more than taking action now. The Stern Review estimated that the negative impact of climate change could be equivalent to a fall in global GDP of 5-20% each year. This would be as a result of adaptation costs (such as increased heating and cooling bills, and flood defences) and impacts which cannot be adapted to (such as health impacts and increased flood damage).⁷⁴ However the estimated cost of meeting the fourth carbon budget is less than 1% of GDP in 2025 (the mid-point of the fourth carbon budget period).⁷⁵
- Setting stable carbon budgets provides a strong signal to investors in low-carbon technologies,⁷⁶ which would be undermined by the prospect of changes in 2014.⁷⁷ As the Secretary of State agreed, maintaining such a positive signal would help the UK establish itself as an early mover in low-carbon sectors before other countries do so.⁷⁸ The Grantham Institute was concerned that the prospect of the 2014 review cast 'doubt on the Government's claims that there are significant opportunities (in terms of jobs and international trade) in developing a competitive advantage in key low-carbon technologies'.⁷⁹

72 See online articles from Guardian and BBC: <http://www.guardian.co.uk/politics/2011/may/09/vince-cable-chris-huhne-carbon-emissions/print>; <http://www.bbc.co.uk/news/uk-politics-13409404?print=true>; Oral evidence taken before the Liaison Committee on 17 May 2011, HC 608-ii, Qq 32-34

73 Committee on Climate Change, *The Fourth Carbon Budget – Reducing emissions through the 2020s*, December 2010, page 12.

74 HM Treasury, *The Stern Review: The Economics of Climate Change*, October 2006.

75 *The Fourth Carbon Budget – Reducing emissions through the 2020s*, *op cit*, page 12.

76 HM Government, *Implementing the Climate Change Act 2008: The Government's proposal for setting the fourth carbon budget*, May 2011, page 17.

77 Ev w7, Ev w24, Ev w31

78 Q 10

79 Ev w31

Also, the timing of the 2014 review is difficult as international negotiations to limit global temperature rises to 1.5 degrees Celsius may be ongoing at that time (paragraphs 11 to 13). The Government should be prepared to ensure that any international agreement reached before 2015 is factored into its review of the fourth carbon budget.

34. The carbon budgets already set should be regarded as the absolute minimum for emissions reductions, and any loosening of them may put achievement of the UK's 2050 target in jeopardy. A review of the carbon budgets threatens to undermine the benefit of the Climate Change Act, producing uncertainty about the trajectory for emissions reductions upon which key Government policies will be formulated and technologies developed. The Government should therefore set out as soon as possible the scope of the 2014 review, including the range of actions and the limits on policy change that might plausibly flow from the review.

The rationale for the 2014 review

35. The carbon budgets are made up of emissions from the 'traded sector' (sectors covered by the EU ETS) and the 'non-traded sector', with the UK's share of the EU ETS cap representing the 'traded sector' component of the carbon budgets (paragraph 18). WWF's view was that the carbon accounting rules hamper the Government putting in place meaningful carbon budgets:

...The cap for the traded sector is now set at EU level, meaning that the carbon budget for the UK traded sector is essentially based on a formula for sharing out auctioning revenues, rather than on the UK's actual emissions. This will become increasingly disconnected from the UK's real emissions, and also makes it difficult for the UK to increase ambition for the traded sector unilaterally.⁸⁰

36. In accepting the CCC's recommended fourth carbon budget, the Government regarded it as 'very ambitious but technically feasible'.⁸¹ The budget was 'conditional on EU progress towards the EU emissions goal' and if in 2014 'our domestic commitments place us on a different emissions trajectory than the EU ETS trajectory agreed by the EU, we will, as appropriate, revise up our budget to align it with the actual EU trajectory'.⁸² The review was, as the Secretary of State told us, to make sure that "we are not just keeping our eyes on the horizon but we are looking behind us to see whether everybody else is still there [so that] we are not so far out in front that there are serious penalties".⁸³

37. The Government states that the level of the fourth carbon budget is consistent with emissions reductions set out by the European Commission in its *Roadmap* (paragraph 14).⁸⁴ However, the development of the EU ETS is uncertain beyond 2020. The European directive setting out the rules for Phase III of the ETS (2012 onwards) tightens the

80 Ev w24

81 HM Government, *Implementing the Climate Change Act 2008: The Government's proposal for setting the fourth carbon budget*, May 2011, para 17.

82 *ibid*

83 Q 8

84 *Implementing the Climate Change Act 2008: The Government's proposal for setting the fourth Carbon Budget*, *op cit*, para 16.

emissions cap each year by 1.74% of the average annual Phase II cap.⁸⁵ The Emissions Trading System directive allows for a review of this rate of reduction to be undertaken between 2020 and 2025. Should the EU move to a 30% reduction target for 2020 (paragraph 3), the Government expects the EU ETS cap to be tightened further.⁸⁶ The level of the traded sector emissions required during the fourth carbon budget period will be determined by the EU ETS cap then in force, and the Government's working assumption in its Impact Assessment is that 'carbon budgets will be amended once this [cap] is known'.⁸⁷ **The fourth carbon budget period, covering 2023-27, as well as these potential changes and reviews, come later than the Government's proposed 2014 review, at which point it will be little better placed to reflect likely EU ETS developments than now. There is, more fundamentally, an inconsistency in the Government's position of trumpeting its acceptance of a recommended carbon budget for 20 or so years hence while at the same time envisaging the possibility of overturning that commitment just three years from now, and risks undermining the Climate Change Act which aims to set a long term trajectory of emissions reductions based on independent scientific advice.**

38. The Climate Change Act allows the carbon budgets to be changed providing there have been 'significant changes' affecting the basis on which the previous decision was made. The risk for the UK in seeking to meet challenging carbon budgets is that the EU ETS cap will not be sufficiently tough to drive significant traded sector emissions reductions, because that would require additional cuts in non-traded emissions to make up the remainder of the carbon budget. The Secretary of State told us, however, that changes to the EU ETS emissions cap would not count as a significant change, with the EU ETS cap changing the traded sector cap in the UK automatically.⁸⁸ That leaves some uncertainty about what 'significant changes' would allow a change in the budgets. **If it decides in 2014 to amend the carbon budgets, to comply with the Climate Change Act the Government will need to demonstrate clearly that there had been significant changes affecting the basis on which the budgets were set. In its response to this Report, the Government should outline what sort of 'changes' could sustain a lawfully compliant change in the budgets. Before any changes are made following the 2014 review, either to the level of the budgets or perhaps to bolster traded sector emissions reductions outside the Emissions Trading System (e.g. by accelerating the rise in the UK carbon floor price), a full impact assessment should be carried out.**

85 Directive 2009/29/EC of the European Parliament and of the Council of the European Union, 23 April 2009.

86 Department of Energy and Climate Change, *Impact Assessment of Fourth Carbon Budget Level*, May 2011, page 60.

87 *ibid*, page 62.

88 Q 9

4 The Carbon Plan

39. The Carbon Plan was published initially as a draft in March 2011, taking into account the first three carbon budgets. The Government will publish an updated ‘final’ Carbon Plan in November to fulfil its commitment under the Climate Change Act to set out its policies and proposals for meeting the carbon budgets.⁸⁹ This will take into account the fourth carbon budget and include details of quantitative indicators against which progress will be monitored.⁹⁰ The Carbon Plan replaces the previous Government’s *UK Low Carbon Transition Plan*, published in 2009, which set out measures to meet the first three carbon budgets.⁹¹ The Committee on Climate Change plans to assess whether the Carbon Plan provides adequate policies to meet the fourth carbon budget and we have not sought to duplicate that work.⁹²

The Plan as an aid to managing emissions reductions

40. It is difficult to assess whether the policies in the draft Carbon Plan are likely to deliver the carbon budgets. The Plan pulls together existing policies in Departmental Business Plans, including on electricity market reform, a carbon floor price, funding and policies to support development of technologies and new markets, together with a number of new initiatives (e.g. a commitment to publish a strategy for electric car infrastructure). The Committee on Climate Change’s *Third Progress Report*, published after the draft Carbon Plan was published, continues to call for a ‘step change’ in the pace of emissions reduction. The CCC explained that that would require new policies, including ‘approaches to energy efficiency improvement in residential and non-residential buildings, consumer behaviour change in transport, and more widespread use of carbon-efficient practices on farms’.⁹³ In a similar vein, the Government noted that ‘meeting the fourth carbon budget will mean developing current and new policies and measures to ensure a greener and more energy efficient economy with better insulated homes, more power from low carbon sources, and more of us driving electric and low carbon vehicles’.⁹⁴ However, the Government has concluded that ‘meeting the fourth carbon budget requires no new policies *this Parliament*’.⁹⁵ We questioned the Secretary of State on how the Carbon Plan will be updated. He told us: “I hope it is not going to be very different from the draft Carbon Plan that is out there, but the objectives will be agreed and signed up to with the deadlines for each of the departments”.⁹⁶

89 Climate Change Act 2008, sections 13 and 14; HC Deb, 17 May 2011, col 176; Department of Energy and Climate Change, *Business Plan 2011-15*.

90 Ev 26

91 HM Government, *The UK Low Carbon Transition Plan – National strategy for climate and energy*, July 2009.

92 Committee on Climate Change, *Meeting Carbon Budgets – 3rd Progress Report to Parliament*, June 2011, page 32.

93 Committee on Climate Change, *The Fourth Carbon Budget – Reducing emissions through the 2020s*, December 2010, page 146.

94 Ev 26

95 HM Government, *Implementing the Climate Change Act 2008: The Government’s proposal for setting the fourth carbon budget*, May 2011.

96 Q 27

41. The Carbon Plan aims to ‘enable the Government to transparently and effectively manage the transformation of the economy and our way of life’ by setting out ‘specific practical actions across government, month by month, department by department’.⁹⁷ Some witnesses questioned whether enough information was provided in the draft Carbon Plan to enable this. WWF believed that the previous *Low Carbon Transition Plan* offered a more robust basis for monitoring and evaluating progress than the draft Carbon Plan, providing ‘considerably more data and analysis’ than the draft Carbon Plan, including expected carbon savings each year and from each broad sector of the economy and for the main policies and measures involved.⁹⁸ EEF questioned whether the Carbon Plan should be called a ‘Plan’ at all:

If we accept that the definition of a ‘Plan’ is a detailed scheme for reaching an objective, then the Carbon “Plan” fails to achieve this. It makes no effort to quantify what amount of [greenhouse gases] each scheme, policy and regulation is predicated to reduce. Neither does it set out whether Government has looked at alternatives to achieve the [the UK’s Climate Change targets].⁹⁹

42. Departments must consider the change in greenhouse gas emissions from new policies as part of the Impact Assessment process.¹⁰⁰ The Committee on Climate Change has developed a set of indicators and milestones against which it monitors progress on particular initiatives for reducing emissions; for example on cavity wall insulation, renewable power generation, electricity market reform and residential energy efficiency.¹⁰¹ The CCC’s *Third Progress Report* in June 2011 noted that performance so far against its indicators and policy milestones had been mixed. The CCC plans to review the Government’s strategy for delivering the fourth carbon budget against its indicator framework in June 2012.¹⁰² When we questioned the Secretary of State as to whether the final Carbon Plan would include quantified impacts, he was very cautious:

The fourth carbon budget is meant to be a credible response, so that will involve making stabs at numbers. Again, I would caution ... about thinking that these things are more precise or more accurate than they are, and when you are dealing particularly with a period as far away as 2023 or 2027, when there can be all sorts of major changes in technology, which we do not know about as yet, these are the best guess we have at the time, and I would certainly not want to put a lot of weight on them. If you think back to 20 or 30 years ago and the enormous technological changes that have taken place, the internet and so forth, I think that makes sense.¹⁰³

43. As well as a lack of quantitative emissions data in the Plan, the ambition underpinning the policies and expected outcomes is not specified. For example, the Committee on

97 HM Government, *Carbon Plan*, March 2011, pages 10 and 11.

98 Ev w24

99 Ev w1

100 http://www.hm-treasury.gov.uk/data_greenbook_impact_assessments.htm; <http://www.berr.gov.uk/policies/better-regulation/policy/scrutinising-new-regulations/preparing-impact-assessments/specific-impact-tests/greenhouse-gas-impact-assessment>

101 Committee on Climate Change, *Meeting Carbon Budgets – the need for a step change*, October 2009.

102 *Meeting Carbon Budgets – 3rd Progress Report to Parliament*, op cit, page 32.

103 Q 23

Climate Change recommended a ‘radical’ decarbonisation of the energy sector by 2030 in order to put the UK on the path to meeting the 2050 target, with carbon intensity cut from today’s level of around 500 gCO₂/kWh to around 50 gCO₂/kWh in 2030.¹⁰⁴ The Government’s plans to deliver this decarbonisation, however, models a carbon intensity of 100 gCO₂/kWh.¹⁰⁵ The Energy and Climate Change Committee made recommendations that the *Electricity Market Reform White Paper* set out an indicative carbon intensity pathway for the power sector to 2030, to deliver a 40–60gCO₂/kWh carbon intensity in electricity generation by 2030.¹⁰⁶ The draft Carbon Plan has provided no data on carbon intensity, and no mention of the Government’s ambition in this area.

44. There are uncertainties about the exact future level of global warming and its consequences are inherently uncertain.¹⁰⁷ Coupled with uncertainties over future technological developments, costs, the strength of the economy and the availability of capital for investment in new low carbon technologies, it is impossible to set out the precise mix of different technologies that will deliver a particular carbon budget.¹⁰⁸ The Government acknowledged this uncertainty in its Impact Assessment on the fourth carbon budget, stating that ‘if the underlying assumptions turn out to be significantly different from those forecasted, emissions projections, abatement potential and costs could be higher or lower than anticipated’.¹⁰⁹ The Grantham Institute were concerned that the draft Carbon Plan did not reflect this acknowledged uncertainty by setting out a risk management strategy to achieve the carbon budgets and called for this to be addressed in the final Carbon Plan.¹¹⁰

45. It is difficult to assess whether the policies in the draft Carbon Plan are likely to deliver the carbon budgets. Some policies in the Plan are yet to begin to be implemented. The final Plan should clearly identify where new policies, not currently listed in the Plan, will need to be added to deliver the carbon budgets.

46. Without a baseline quantification of the emissions reductions expected from each policy in the Carbon Plan, it is not possible to conclude whether the Plan will deliver the necessary emissions reductions. We accept that there are uncertainties associated with such quantifications, but the Carbon Plan could be amended to include indicative emissions reductions for each policy as impact assessments are undertaken. The final Plan should include indicators, perhaps reflecting those developed by the Committee on Climate Change, through which progress in delivering the Plan, but also more importantly the scale of emissions reduction required, can be monitored.

47. In the final Carbon Plan the Government should set out its risk management approach for ensuring policies deliver the overall emissions reduction required to meet the carbon budgets. This should include how it plans to monitor changing estimates of

104 *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit*, page 33.

105 Electricity Market Reform White Paper 2011.

106 Energy and Climate Change Committee, Fourth Report of Session 2010-12, *Electricity Market Reform*, HC 742.

107 *The Fourth Carbon Budget – Reducing emissions through the 2020s, op cit*, page 60.

108 *ibid*, page 22; Ev w31

109 Ev 26

110 Ev w31

emissions reductions, utilising the Committee on Climate Change’s annual *Progress Reviews* to focus its own review of those policies that are not delivering the emissions reductions forecast.

Departmental incentives and accountability

48. Under the 2009 *Low Carbon Transition Plan*, departments were each assigned a share of the carbon budgets based on the economic sectors within their sphere of influence. These Departmental Carbon Budgets were approximate, but were intended to ‘give departments a stake in reducing emissions from a given sector’ and encourage ‘departments to recognise the range of economic sectors their policies influence and encourage collaborative work within the eight sectors [of the economy] to reduce emissions’.¹¹¹ Departments were to be required to produce a Departmental Carbon Reduction Plan setting out the actions they planned to take to reduce emissions in their sectors, as well as from their own estate and use of transport.

49. In reviewing these arrangements after the election in 2010, the Government found that departments were held accountable for ‘things that were not precisely measurable and that they could not control’.¹¹² When we questioned the Secretary of State about why Department Carbon Budgets were abandoned, he told us:

... we have a view that getting excessively involved in quantitative planning is really not very sensible given the flexibility and uncertainty around technological solutions. ... the idea that we literally divvy up the overall carbon budget between Departments and local authorities, and say, “We want you to meet this.” A lot of the instruments are simply not at that level because the uncertainties are very great ... I think it is just not very sensible and the last time I came across a system that was going to be that interventionist and pernicky was when I visited the Soviet Union ...¹¹³

DECC considered that Departmental Carbon Budgets created a ‘perverse incentive’ that ‘did not create the right incentive for departments to come forward with policies and measures aimed at reducing emissions, as doing so would increase a department’s level of accountability for emissions reductions’.¹¹⁴

50. **We find the Government’s reasons for abandoning the pilot Departmental Carbon Budgets regime unconvincing, not least because the Government has agreed an emissions monitoring role for local authorities which appears to closely resemble the ‘spheres of influence’ approach of the previous Departmental Budgets (paragraph 54). Any ‘perverse incentives’ found by DECC, it seems to us, might be eliminated by explicitly making departments responsible for emissions reduction *outcomes* rather than delivering initiatives, and leaving it to them to find the means to deliver those outcomes. Departmental Carbon Budgets could provide a useful way of understanding the quantum of effort required by each department and provide a way focusing**

111 HM Government, *The UK Low Carbon Transition Plan – National strategy for climate and energy*, July 2009; HM Government, *Climate Change: taking action*, March 2010.

112 Ev 26

113 Q 26

114 Ev 26

departments' policies in their sphere of influence on their emissions reduction impacts. The risk of the approach taken in the draft Carbon Plan is that there is no real incentive to seek out further initiatives if those listed in the Plan do not deliver all that is expected of them. The Government should consider how incentives for departmental action could be built into the final Carbon Plan.

51. The draft Carbon Plan envisages departments being held accountable for delivery of carbon budgets 'through a framework of regular monitoring and reporting against their actions and indicators of progress'.¹¹⁵ The Government will publish quarterly online updates on progress against the Carbon Plan which will show whether it has met the milestones set, and if not what corrective action it will take.¹¹⁶ The Government will also set out more detailed updates by sector in its response to annual progress reports by the Committee on Climate Change.¹¹⁷ The Aldersgate Group suggested that an independent body, such as the CCC, monitoring progress against the Plan and linking the achievement of targets to annual performance reviews of senior civil servants would improve delivery.¹¹⁸ We questioned the Secretary of State about the levers he had available if departments were not delivering on the Carbon Plan. He told us that:

There is no power to enforce. The whole system is remarkably, surprisingly consensual ... Inevitably, when you get disagreements, as you inevitably do, they tend to be resolved by the centre, by the Cabinet Office, and the Prime Minister ultimately has to get involved if it is important to get a resolution ... I think the fact that the Prime Minister is committed, and the Deputy Prime Minister is committed, is a really important guarantee that we are going to deliver on this.¹¹⁹

52. We welcome the support for the Carbon Plan at the highest levels of the Government. Nevertheless, given the importance of delivering the carbon budgets, the final Carbon Plan should make it clear exactly how departments will be accountable for their performance against the Plan.

Role of local authorities and businesses

53. The 2006 Local Government White Paper introduced a new performance framework for local government, with National Indicators supporting Local Area Agreements. Local authorities were required to report their performance to Government annually against 35 indicators selected locally (from the 196 available). The two climate change National Indicators were selected by two-thirds of local authorities.¹²⁰ In October 2010, DECC published data on emissions by local authority area, assigned to them on an 'end-user basis',¹²¹ to help track progress against the NIs.¹²² Since 2007, emissions have decreased in

115 HM Government, *Carbon Plan*, March 2011.

116 *ibid*

117 Ev 26

118 Ev w9

119 Q 29

120 See: <http://www.idea.gov.uk/idk/core/page.do?pagelid=9422191>

121 End user basis: emissions from energy production are allocated according to where energy is actually consumed by householders and businesses, rather than where the source of the energy produced is located. The remaining

333 local authorities (77%) and increased in 101 (23%). The Government has now abolished Local Area Agreements and National Indicators in line with its localism agenda. From April 2011, local authorities will provide Government with a more 'streamlined' set of data.¹²³

54. The Minister for Climate Change told the House in March 2011 that the Government had no plans to introduce carbon budgets for local authorities; instead a voluntary approach would be adopted.¹²⁴ Later that month, a voluntary and non-legally binding memorandum of understanding (MOU) was signed by the Secretary of State for Energy and Climate Change and the Local Government Association on how they will work together to reduce carbon emissions at a local level, including to meet climate change, fuel poverty and renewable energy targets.¹²⁵ Progress against this MOU was to be reviewed annually and a report produced jointly by DECC and the Local Government Group by the end of May each year. In addition, the MOU will be reviewed at the end of each national five-year carbon budget period – starting in 2013 (for 2008-12) – to 'evaluate the success of the MOU in making progress in meeting climate change mitigation and related objectives'. Emissions from local authorities' own estate and operations and local homes, businesses and transport within local authority control and influence will be covered by the MOU. This appears to contradict somewhat the approach now being followed in Central Government where Departmental Carbon Budgets encompassing departments' wider sphere of influence have been abandoned (paragraph 49).

55. Friends of the Earth believed that a voluntary approach to local action on climate change had not delivered the action needed, noting that less than a third of councils had voluntarily set any kind of medium-term target to cut emissions in their local area.¹²⁶ It recommended that the Committee on Climate Change should advise local authorities on what they need to do 'to play their full role in national carbon budgets' and councils should be required to produce a local climate change strategy.¹²⁷ The CCC has stated that it could advise local authorities on developing local carbon budgets, if formally tasked by the Government to do so, at a cost of £100,000.¹²⁸ The Government was against a top-down approach, however, favouring local decision-making and accountability.¹²⁹ The Communities and Local Government Committee has concluded that with the demise of the Audit Commission there will be a lack of comprehensive and consistent data on which authorities can be compared,¹³⁰ and that localism will require a strengthening of local

emissions are assigned to local areas on the basis of other local information such as traffic, population, employment and data on household fuel types.

122 See: http://www.decc.gov.uk/assets/decc/Statistics/climate_change/localAuthorityCO2/464-stat-release-2008-uk-co2-emissions.pdf

123 HC Deb, 13 October 2010, col 21WS.

124 HC Deb, 8 March 2011, col 970W.

125 Memorandum of Understanding between the Local Government Group and the Department of Energy and Climate Change, 9 March 2011, see <http://www.lga.gov.uk/lga/aio/17310345>; LGA website, see: <http://www.lga.gov.uk/lga/core/page.do?pagelId=17307318>

126 Ev w37

127 *ibid*

128 Unpublished correspondence between Lord Turner and Chair.

129 HC Deb, 17 May 2011, col 187; Q 30.

130 Communities and Local Government Committee, Fourth Report of Session 2010-12, *Audit and inspection of local authorities*, HC 763.

democratic accountability.¹³¹ The Secretary of State highlighted a need for local authorities to be able to influence emissions in their areas and be accountable for their actions.¹³² DECC officials told us that:

You have to align power with responsibility, and if you take the key behaviour changes we want—we want car manufacturers to build different types of cars, builders to build zero-carbon homes, energy companies to save energy and build low-carbon plants—we should force the behaviour changes on those particular actors, and that is what we are doing through EU vehicle emissions standards or the EU ETS or electricity market reform. What we want local authorities to do is play a facilitative role to enable, to convene, but I don't think we should hold them to account for things they cannot deliver.¹³³

56. We welcome the commitment to set out an approach for monitoring emissions reductions at a local level, reflecting local circumstances and potential for emission reductions. A voluntary approach will not be enough, however, to ensure that all local authorities make a full contribution to emissions reduction. Local authorities should be required to set emission reductions targets. The Government should task the Committee on Climate Change with supporting local authorities in setting such targets, and the Committee should be charged with monitoring progress against those targets.

57. An annual review of performance by local authorities should be submitted to Parliament by Ministers, to present as full a picture as possible of emissions reduction performance.

58. Measuring and reporting emissions can enable businesses to manage better the risks to their business and can act as a tool for embedding sustainability in a company. Although not enough to drive emissions reductions in itself, measuring emissions is an important first step, providing an understanding of the sources of emissions and then identifying where and what to tackle.¹³⁴ At present, measuring and reporting emissions is not done consistently by businesses. Some Government schemes already require some large businesses to measure and submit details of their emissions.¹³⁵ Separately, some businesses report their emissions as part of the environmental information in the directors' report in their Annual Accounts. There are also voluntary initiatives that aim to capture information on emissions from businesses, such as the Carbon Disclosure Project. The Government has produced guidance for businesses wishing to report their emissions.¹³⁶

59. The Climate Change Act requires the Government to consider strengthening the reporting of emissions by businesses. The Government must make regulations by 6 April

131 Communities and Local Government Committee, Third Report of Session 2010-12, *Localism*, HC 547; Q 30.

132 Qq 26, 50, 56

133 Q 50

134 Department for Environment, Food and Rural Affairs, *The contribution that reporting of greenhouse gas emissions makes to the UK meeting its climate change objectives: A review of the current evidence*, November 2010.

135 EU Emissions Trading System, CRC Energy Efficiency Scheme, Climate Change Levy agreements.

136 As required by section 83 of the Climate Change Act; Department for Environment, Food and Rural Affairs, *Guidance on how to measure and report your greenhouse gas emissions*, September 2009.

2012, under the Companies Act 2006, requiring the directors' report of a company to include information about greenhouse gas emissions, or else to lay a report before Parliament explaining why no such regulations have been made.¹³⁷ The Government consulted earlier this year on options to promote more widespread and consistent emissions reporting.¹³⁸ The Government is considering its response and will make an announcement in the Autumn.¹³⁹ **In order to aid transparency and illustrate the contributions that businesses are making, and need to make, to help tackle climate change, we recommend that the Government should introduce mandatory reporting by businesses at the earliest opportunity.**

137 Climate Change Act 2008, section 85.

138 Department for Environment, Food and Rural Affairs, *Measuring and reporting of greenhouse gas emissions by UK companies: a consultation on options*, May 2011.

139 HC Deb, 6 September 2011, col 374W.

5 Carbon leakage

60. ‘Carbon leakage’ occurs when there is an increase in emissions in one country as a result of industries relocating there from a second country with a stricter climate policy. Concerns have been raised that, without protection, industries in the UK could be at risk from carbon leakage due to European and UK policies and taxes being more stringent than those elsewhere. The Government consider that this could actually lead to an increase in emissions overall,¹⁴⁰ and impact disproportionately on certain areas of the UK.¹⁴¹ When announcing the Government’s decision to accept the CCC’s recommended fourth carbon budget, the Secretary of State also announced that a package of measures would be decided by the end of the year, to ‘help energy intensive industries adjust to the low-carbon industrial transformation while remaining competitive’.¹⁴² The Secretary of State told us:

It is not in our interest as a Department dealing with climate change to introduce rules that merely relocate carbon-emitting industries from the UK to somewhere else, because the amount of carbon emitted into the atmosphere would be exactly the same, and frankly the impact on global warming would be exactly the same, whether the carbon is coming from Calcutta or from the UK.¹⁴³

The extent of the carbon leakage risk

61. The risk of carbon leakage, and its extent, varies across industries and businesses. The EU adopted a list of 164 sectors it deemed to be ‘at risk of significant carbon leakage’¹⁴⁴ which member States might seek to protect under the EU Emissions Trading System (e.g. by free allocation of emissions allowances).¹⁴⁵ Research by the Carbon Trust in 2010 concluded that the EU’s list included many sectors that the Trust’s work has shown are unlikely to suffer significant leakage. It concluded that the ‘scale of any leakage will actually be small, but concentrated in a few sectors’, illustrating that:

... implementing the current EU ETS Phase III targets to 2020 without any free allocation of allowances or protection would drive less than 2% of emissions abroad, but this average disguises that, for instance, 5-10% of cement or steel emissions (and production) might leak, and leakage from coastal areas may be greater than those that are landlocked.¹⁴⁶

62. The Secretary of State told us that he knew of “no economic work that had suggested the reason for a substantial shift of manufacturing production from Europe and the United

140 *HM Government, Implementing the Climate Change Act 2008: The Government’s proposal for setting the fourth carbon budget*, May 2011.

141 Carbon Trust, *Tackling carbon leakage: Sector-specific solutions for a world of unequal carbon prices*, March 2010.

142 HC Deb, 17 May 2011, col 176 -178.

143 Q 4

144 Industries were listed as ‘vulnerable’ if the EU Emissions Trading System would increase their costs by more than 5% and if they faced a defined high level of imports, and therefore competition, from rival industries outside the EU. This is referred to as the sector’s ‘trade intensity’.

145 Commission Decision c(2009) 10251.

146 *Tackling carbon leakage: Sector-specific solutions for a world of unequal carbon prices*, *op cit*.

States to China was energy costs, or anything to do with the climate change agenda”, and that “we must not concede the point that somehow carbon leakage is the massive driver of what has been an enormous globalising trend towards relocating production”.¹⁴⁷ In a similar vein, some witnesses were concerned that the risks to energy intensive industries were overplayed. The Aldersgate Group said that the Government ‘must take into account that claims of carbon leakage are often exaggerated and are only a genuine threat in a very limited number of sectors’.¹⁴⁸ Friends of the Earth were of the opinion that ‘energy intensive users already receive substantial help ... which [has] led to multi-million pound windfall profits for some companies’.¹⁴⁹ Research by Sandbag indicated that a number of companies had accrued 240 million surplus EU ETS allowances, worth around €4.1bn, which meant that ‘only the weakest pressure [is exerted] on participants to invest in a low carbon future’.¹⁵⁰

63. We questioned the Energy Intensive Users’ Group and the British Ceramic Confederation as to whether the risks of carbon leakage had been overplayed. Jeremy Nicholson from the Energy Intensive Users’ Group told us: “I very much agree that the problem is concentrated in a relatively small number of sectors”,¹⁵¹ and that:

... the Emissions Trading Scheme has been working exactly as intended ... nobody expected was that we would go through one of the most savage industrial recessions in recent decades, which has necessarily meant that the emissions ... are considerably less than anyone could reasonably have foreseen when the allowances were set out for phase II.¹⁵²

Laura Cohen from the British Ceramic Confederation stressed that the impact in the UK was from the “cumulative range of taxes, some of which are unilateral in the UK ... and the predictability and consistency of regulatory measures”.¹⁵³ Jeremy Nicholson told us that a proper assessment of the impact of policies on energy intensive users is needed to tackle concerns that the risk is being overplayed.¹⁵⁴ The lack of a robust impact assessment was a source of frustration.¹⁵⁵

Potential impact of carbon leakage

64. In 2008, before a number of UK climate policies were introduced, the Committee on Climate Change estimated that less than 1% of UK GDP could be lost as a result of carbon leakage, but noted that the impacts could be pronounced in certain areas with significant impacts for the local economy (e.g. iron and steel in Wales).¹⁵⁶ Jeremy Nicholson told us

147 Q 22

148 Ev w9

149 Ev w37

150 Sandbag, *Carbon Fat Cats 2011: The Companies profiting from the EU Emissions Trading Scheme*, June 2011.

151 Q 60

152 Q 69

153 Q 59

154 Qq 61, 63

155 Qq 63, 64; Ev 23, Ev w14.

156 Committee on Climate Change, *Building a low-carbon economy – the UK’s contribution to tackling climate change*, December 2008.

that up to 225,000 direct jobs in energy intensive industries such as steel, aluminium, ceramics, glass, paper, cement chemical and other mineral products industries could be affected and “probably about another two or three times that in terms of co-dependent, less intensive industries”.¹⁵⁷ (In comparison, low carbon industries in the UK are estimated to employ 910,000 people.¹⁵⁸)

65. Laura Cohen told us that unilateral taxes in the UK and regulatory uncertainty was holding back investment in the UK¹⁵⁹:

... our members are finding it quite difficult to ... get investment from overseas parents, because there isn't a track record of consistent regulatory measures. Within 18 months, there was the possibility of a Fossil Fuel Levy to fund the Renewable Heat Incentive. That was dropped, and a few months later there was a Carbon Price Floor. There was no impact assessment for energy intensive industries. These are very substantial taxes indeed, that affect fuel choice and manufacturing strategy. Parent companies are not seeing this level of policy volatility and complete lack of [impact assessment] costing for energy intensive industries in other European countries.¹⁶⁰

She cited an example of a ceramics company where the parent company will not invest to grow in the UK.¹⁶¹ It was difficult, however, to untangle the risk of carbon leakage as a result of UK climate policy from other factors.¹⁶² The Carbon Trust suggested that product quality and long-term customer relations make some recovery of carbon costs possible without losing market share, and that sunk costs in existing facilities ‘may be a further important factor in delaying leakage’.¹⁶³

66. Laura Cohen told us that when ceramic factories close or companies ‘off-shore’ production it is difficult to pin-point one particular reason and companies are often “not willing to make their reasons for closure or off-shoring public as it can be very share price sensitive”. However, as an energy intensive industry, energy costs can make up a major cost of production.¹⁶⁴

67. We requested evidence of investment being withheld from the UK or going overseas, or any examples of factories closing in the UK and relocating overseas as a specific result of UK climate policies. Four ceramic companies provided written submissions to us explaining that a combination of increasing regulatory burden and carbon taxation (compared to other countries in the EU) is pushing up the price of energy, making the UK an unattractive place to invest.

157 Q 60

158 HC Deb, 17 May 2011, col 180.

159 Q 62

160 Q 59

161 Q 63

162 Qq 66, 67

163 *Tackling carbon leakage: Sector-specific solutions for a world of unequal carbon prices, op cit.*

164 Q 65

68. **When setting carbon budgets the Government needs to be mindful that strong action on climate change may result in some production and jobs moving abroad to countries with less stringent policies or carbon-related taxes. Without care, this could harm UK industry and could increase global emissions.** However the Government has given little priority to generating hard evidence of this ‘carbon leakage’, including the cumulative impact of climate policies and environmental taxes on energy intensive industries. **A lack of transparency and hard information on the risks to energy intensive industries, and how these should be tackled, need to be resolved to allay fears of lobbying dictating policy. We recognise the importance of policy measures to help energy intensive industries, but before any are introduced a comprehensive and robust assessment of the actual risk to each sector affected, on a case by case basis, should be made.**

Reducing the risk of carbon leakage

69. Any measures to tackle carbon leakage should reflect the need to keep a strong incentive to reduce emissions. The Carbon Trust concluded that the available approaches to tackling carbon leakage carried ‘serious drawbacks’. It preferred an approach where the price of imports is adjusted to reflect embedded carbon (‘border levelling’). This was ‘both more effective and more efficient than free allocation of [EU ETS] allowances’.¹⁶⁵

70. An Energy Intensive Working Group has been set up by DECC and BIS and is leading the development of a prospective package of measures. At the time we took evidence for our inquiry, the working group had met once.¹⁶⁶ Laura Cohen would have liked to have seen “broader representation across a range of industries affected ... to ensure that the ideas are being taken on board, and that they are sufficiently comprehensive and being evaluated”.¹⁶⁷ The Secretary of State indicated that a broad range of factors will be considered in developing the package of measures, including macro-economic factors such as the changes in competitiveness from changes in the exchange rate.¹⁶⁸

71. Jeremy Nicholson considered that assistance to industry to help them decarbonise was a gap in Government policy:

At the moment there is no strategy for that from Government, there is no funding for it; there is merely the stick of higher energy prices. There is no carrot, or support, to kick-start those technologies in industry in the same way as there is in the power sector.¹⁶⁹

72. The Carbon Trust had previously provided interest-free loans to some smaller companies for energy efficiency measures. It also had a programme exploring future technologies for decarbonising industrial processes called the *Industrial Energy Efficiency Accelerator*, but funding had been cut in the 2010 Spending Review.¹⁷⁰ Some suggested to

165 Carbon Trust, *Tackling carbon leakage: Sector-specific solutions for a world of unequal carbon prices*, March 2010.

166 Qq 74, 75

167 Q 78

168 HC Deb, 17 May 2011, col 189.

169 Q 71

170 Qq 70, 81-83

us that the Green Investment Bank could have a role here.¹⁷¹ **Any measures the Government introduce to help energy intensive industries should be fair and tailored to each sector affected, on a case by case basis, reflecting hard evidence on the scale and likelihood of the risk of carbon leakage. Measures should focus on providing incentives to invest in lower carbon infrastructure and should keep a strong incentive to reduce emissions.**

¹⁷¹ Ev 23; Ev w1.

6 Conclusion

73. We would expect a ‘greenest Government ever’ to accept all the recommendations made by the Committee on Climate Change, but it has not done so. The Government can be commended for setting the fourth carbon budget at a level recommended by the Committee on Climate Change, but it has rejected other recommendations that could help maintain downward pressure on emissions. However, we are concerned about the lack of transparency on how the Government’s response to each of the Committee on Climate Change’s recommendations was arrived at, and communicated.

74. The fourth carbon budget represents the minimum emissions reductions needed to ensure the 2050 target is met, and any loosening of the budget following the review in 2014 would put achieving that target in jeopardy. The Government should set out as soon as possible the scope of the review because the prospect of the review, in itself, undermines the benefit of having a degree of longer-term certainty about Government policy that investors in low-carbon need. There is, more fundamentally, an inconsistency in the Government’s position of trumpeting its acceptance of a recommended carbon budget for 20 or so years hence while at the same time envisaging the possibility of overturning that commitment just three years from now.

75. In the meantime the draft Carbon Plan, which presents Government departments’ policies to reduce emissions, needs to be improved in a number of ways. In particular:

- It is difficult to assess whether the policies listed in the Government’s draft Carbon Plan are likely to deliver the carbon budgets as there is no baseline quantification of the emissions reductions expected from each policy and no risk management approach for ensuring, overall, that the policies deliver the emissions reduction required.
- The draft Carbon Plan abandons the departmental carbon budgets regime which could have provided a useful way of understanding the quantum of effort required by each department, and focus departments’ policies in their sector on the resultant emissions impacts.
- The draft Carbon Plan does not monitor emissions reductions at a local authority level.

76. The finalised Carbon Plan, to be published later this year, should address these weaknesses. The Government should also explore the scope for measuring emissions on a consumption basis to reflect the emissions embedded in goods imported from abroad. Regulations to ensure more widespread and consistent measuring and reporting of emissions by businesses should also be introduced to help aid transparency and illustrate the contributions businesses are making, and need to make, to help tackle climate change.

77. When setting carbon budgets the Government needs to be mindful that strong action on climate change may result in some production and jobs moving abroad to countries with less stringent policies or carbon-related taxes. Without care, this could harm UK industry and could increase global emissions. Some energy intensive industries have expressed particular concerns about the carbon budget driving production abroad, but Government has given little priority to generating the hard evidence on the risk of this

‘carbon leakage’. We recognise the importance of policy measures to help energy intensive industries, but before these are introduced a comprehensive and robust assessment of the actual risk to each sector affected, on a case by case basis, should be made by Departments working in concert. Measures to help energy intensive industries must be fair and tailored to each sector affected, and should keep a strong incentive to reduce emissions.

Conclusions and recommendations

Fourth Carbon Budget

1. We welcome the Government's decision to follow the Committee on Climate Change's advice to set a fourth carbon budget equivalent to a 50% reduction in emissions by 2025, consistent with the trajectory required by the Climate Change Act to cut emissions by 80% by 2050. However, we are concerned that the proposed review of the carbon budgets in 2014 risks negating the benefits of that commitment. (Paragraph 9)
2. To improve transparency, in future carbon budget-setting rounds the Government should systematically respond to each recommendation made by the Committee on Climate Change, including any which address other actions needed to deliver the budgets. (Paragraph 10)

The first three carbon budgets

3. The Government is 'playing it safe' by sticking to the previously-set emissions targets in the first three carbon budgets, despite the fact that the Committee on Climate Change has warned that achieving the fourth carbon budget will only be feasible if the UK's non-traded sector emissions in the 2020s are in line with the tighter 'intended' budgets. Playing it safe is not consistent with the bold and ambitious action needed to tackle global climate change. Emissions reductions in the non-traded sector continuing their 2010 trajectory would not be sufficient, post-recession, to meet the second and third carbon budgets. A major change in the pace of emissions reductions is therefore required. The Government should reconsider whether to tighten the second and third carbon budgets when the CCC produces its next progress report, and in the meantime set out in its finalised Carbon Plan how the Government will deliver the required step change in non-traded sector emissions. (Paragraph 22)
4. In responding to this Report, the Government should explicitly commit itself to not banking over-performance against the first carbon budget to help meet subsequent budgets, or else explain why it will carry over that recession-driven over-performance. (Paragraph 23)
5. The Government has not ruled out the use of international carbon offset credits to meet the carbon budget for 2013-17, against the advice from the Committee on Climate Change and despite Government projections that it will achieve that carbon budget through domestic action alone. Allowing the use of international offset credits in that second budget period would make achievement of subsequent carbon budgets more difficult because it could reduce pressure to secure domestic action. If and when international credits are used to meet carbon budgets, the Government should notify the House in advance and facilitate a debate on the possible consequences of this for meeting the Climate Change Act targets. (Paragraph 27)

Accounting for carbon emissions

6. We do not share the Secretary of State's reluctance for monitoring consumption emissions. Monitoring UK emissions on a consumption basis would facilitate a more rigorous approach to controlling our contribution to climate change. The Government should request the Committee on Climate Change to review the scope for measuring emissions on such a basis and how that might be worked into the carbon budgets regime, if necessary to complement the continuing production-based reporting needed internationally. (Paragraph 31)
7. The carbon budgets already set should be regarded as the absolute minimum for emissions reductions, and any loosening of them may put achievement of the UK's 2050 target in jeopardy. A review of the carbon budgets threatens to undermine the benefit of the Climate Change Act, producing uncertainty about the trajectory for emissions reductions upon which key Government policies will be formulated and technologies developed. The Government should therefore set out as soon as possible the scope of the 2014 review, including the range of actions and the limits on policy change that might plausibly flow from the review. (Paragraph 34)

The 2014 review

8. The Government's proposed review of the carbon budgets in 2014 may ease the carbon budgets if the EU Emissions Trading System puts too much pressure for emissions reductions on the 'non-traded sector'. In the meantime, the developing science and international dialogue is building the case for seeking more ambitious emissions reductions, not less. (Paragraph 17)
9. The fourth carbon budget period, covering 2023-27, as well as [a review of the EU Emissions Trading System and a possible international climate change deal to limit global temperature rise to 1.5°C], come later than the Government's proposed 2014 review, at which point it will be little better placed to reflect likely EU ETS developments than now. There is, more fundamentally, an inconsistency in the Government's position of trumpeting its acceptance of a recommended carbon budget for 20 or so years hence while at the same time envisaging the possibility of overturning that commitment just three years from now, and risks undermining the Climate Change Act which aims to set a long term trajectory of emissions reductions based on independent scientific advice. (Paragraph 37)
10. If it decides in 2014 to amend the carbon budgets, to comply with the Climate Change Act the Government will need to demonstrate clearly that there had been significant changes affecting the basis on which the budgets were set. In its response to this Report, the Government should outline what sort of 'changes' could sustain a lawfully compliant change in the budgets. Before any changes are made following the 2014 review, either to the level of the budgets or perhaps to bolster traded sector emissions reductions outside the Emissions Trading System (e.g. by accelerating the rise in the UK carbon floor price), a full impact assessment should be carried out. (Paragraph 38)

The Carbon Plan as an aid to managing emissions reductions

11. It is difficult to assess whether the policies in the draft Carbon Plan are likely to deliver the carbon budgets. Some policies in the Plan are yet to begin to be implemented. The final Plan should clearly identify where new policies, not currently listed in the Plan, will need to be added to deliver the carbon budgets. (Paragraph 45)
12. Without a baseline quantification of the emissions reductions expected from each policy in the Carbon Plan, it is not possible to conclude whether the Plan will deliver the necessary emissions reductions. We accept that there are uncertainties associated with such quantifications, but the Carbon Plan could be amended to include indicative emissions reductions for each policy as impact assessments are undertaken. The final Plan should include indicators, perhaps reflecting those developed by the Committee on Climate Change, through which progress in delivering the Plan, but also more importantly the scale of emissions reduction required, can be monitored. (Paragraph 46)
13. In the final Carbon Plan the Government should set out its risk management approach for ensuring policies deliver the overall emissions reduction required to meet the carbon budgets. This should include how it plans to monitor changing estimates of emissions reductions, utilising the Committee on Climate Change's annual Progress Reviews to focus its own review of those policies that are not delivering the emissions reductions forecast. (Paragraph 47)

Departmental incentives and accountability

14. We find the Government's reasons for abandoning the pilot Departmental Carbon Budgets regime unconvincing, not least because the Government has agreed an emissions monitoring role for local authorities which appears to closely resemble the 'spheres of influence' approach of the previous Departmental Budgets. Any 'perverse incentives' found by DECC, it seems to us, might be eliminated by explicitly making departments responsible for emissions reduction outcomes rather than delivering initiatives, and leaving it to them to find the means to deliver those outcomes. Departmental Carbon Budgets could provide a useful way of understanding the quantum of effort required by each department and provide a way focusing departments' policies in their sphere of influence on their emissions reduction impacts. The risk of the approach taken in the draft Carbon Plan is that there is no real incentive to seek out further initiatives if those listed in the Plan do not deliver all that is expected of them. The Government should consider how incentives for departmental action could be built into the final Carbon Plan. (Paragraph 50)
15. We welcome the support for the Carbon Plan at the highest levels of the Government. Nevertheless, given the importance of delivering the carbon budgets, the final Carbon Plan should make it clear exactly how departments will be accountable for their performance against the Plan. (Paragraph 52)

Role of local authorities and businesses

16. We welcome the commitment to set out an approach for monitoring emissions reductions at a local level, reflecting local circumstances and potential for emission reductions. A voluntary approach will not be enough, however, to ensure that all local authorities make a full contribution to emissions reduction. Local authorities should be required to set emission reductions targets. The Government should task the Committee on Climate Change with supporting local authorities in setting such targets, and the Committee should be charged with monitoring progress against those targets. (Paragraph 56)
17. An annual review of performance by local authorities should be submitted to Parliament by Ministers, to present as full a picture as possible of emissions reduction performance. (Paragraph 57)
18. In order to aid transparency and illustrate the contributions that businesses are making, and need to make, to help tackle climate change, we recommend that the Government should introduce mandatory reporting [of emissions] by businesses at the earliest opportunity. (Paragraph 59)

Carbon leakage

19. When setting carbon budgets the Government needs to be mindful that strong action on climate change may result in some production and jobs moving abroad to countries with less stringent policies or carbon-related taxes. Without care, this could harm UK industry and could increase global emissions. A lack of transparency and hard information on the risks to energy intensive industries, and how these should be tackled, need to be resolved to allay fears of lobbying dictating policy. We recognise the importance of policy measures to help energy intensive industries, but before any are introduced a comprehensive and robust assessment of the actual risk to each sector affected, on a case by case basis, should be made. (Paragraph 68)
20. Any measures the Government introduce to help energy intensive industries should be fair and tailored to each sector affected, on a case by case basis, reflecting hard evidence on the scale and likelihood of the risk of carbon leakage. Measures should focus on providing incentives to invest in lower carbon infrastructure and should keep a strong incentive to reduce emissions. (Paragraph 72)

Formal Minutes

Wednesday 14 September 2011

Members present

Joan Walley, in the Chair

Peter Aldous
Mr Mark Spencer

Dr Alan Whitehead
Simon Wright

Draft Report (*Carbon budgets*), proposed by the Chair, brought up and read.

Ordered, That the Draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 77 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Seventh Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for printing with the Report, in addition to that ordered to be reported for publishing on 8 and 15 June and 13 July 2011.

* * * * *

[Adjourned till today at 2.00 pm

Witnesses

Wednesday 15 June 2001

Page

Chris Huhne MP, Secretary of State for Energy and Climate Change, **Ravi Gurumurthy**, Director of Strategy, **Dagmar Droogsma**, Head of Carbon Budgets and **Steph Ockenden**, Economist, Department of Energy and Climate Change

Ev 1

Wednesday 13 July 2001

Dr James Wilde, Director, Carbon Trust, **Dr Laura Cohen**, Chief Executive, British Ceramics Confederation, and **Jeremy Nicholson**, Director, Energy Intensive Users Group

Ev 13

List of printed written evidence

1	British Ceramic Confederation	Ev 23
2	Department of Energy and Climate Change	Ev 26

List of additional written evidence

(published in Volume II on the Committee's website www.parliament.uk/treascom)

1	David Kennedy, Chief Executive, Committee on Climate Change	Ev w1
2	EEF, The Manufacturer's Organisation	Ev w1
3	The Crown Estate	Ev w4
4	The Department for Education	Ev w6
5	Chartered Institute of Building	Ev w7
6	Aldersgate Group	Ev w9
7	UKLPG	Ev w12
8	INEOS Chlor Vinyls	Ev w14
9	Public Interest Research Centre	Ev w15
10	National Physical Laboratory	Ev w20
11	WWF UK	Ev w24
12	Grantham Institute for Climate Change, Imperial College London	Ev w31
13	Dr Alice Bows, Sustainable Consumption Institute, Dr John Broderick, and Professor Kevin Anderson, Tyndall Manchester, University of Manchester	Ev w34
14	Friends of the Earth	Ev w37
15	EDF Energy	Ev w41
16	Global Commons Institute	Ev w44
17	The Met Office	Ev w47

List of Reports from the Committee during the current Parliament

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2010–12

First Report	Embedding sustainable development across Government, after the Secretary of State's announcement on the future of the Sustainable Development Commission	HC 504
Second Report	The Green Investment Bank	HC 505, (HC 1437)
Third Report	Sustainable Development in the Localism Bill	HC 799, (HC 1481)
Fourth Report	Embedding sustainable development: the Government's response	HC 877
Fifth Report	The impact of UK overseas aid on environmental protection and climate change adaptation and mitigation	HC 710 (HC 1500)
Sixth Report	Budget 2011 and environmental taxes	HC 878

Oral evidence

Taken before the Environmental Audit Committee

on Wednesday 15 June 2011

Members present:

Joan Walley (Chair)

Neil Carmichael
Katy Clark
Zac Goldsmith
Simon Kirby
Mark Lazarowicz
Caroline Lucas

Sheryll Murray
Caroline Nokes
Mr Mark Spencer
Dr Alan Whitehead
Simon Wright

Examination of Witnesses

Witnesses: **Chris Huhne MP**, Secretary of State for Energy and Climate Change, **Ravi Gurumurthy**, Director of Strategy, Department of Energy and Climate Change, **Dagmar Droogsma**, Head of Carbon Budgets, Department of Energy and Climate Change, **Steph Ockenden**, Economist, Department of Energy and Climate Change gave evidence.

Q1 Chair: On the assumption that the Division was perfectly timed and has not delayed our proceedings too much, what I would like to do is to welcome you very much to our Committee inquiry this afternoon. Interestingly we have just had a private session with the UN in preparation for the run up to Rio Plus 20, and we are trying to look at ways of bringing all of the different environmental agendas together, so we have quite a lengthy series of questions for you this afternoon, Secretary of State. Thank you for coming along.

Chris Huhne: It is a pleasure.

Chair: If I may, I would just like to start off with perhaps a question as to how everything can be integrated. We are very conscious of the fact that air quality, for example, was of great concern around the country and here in London. One of the points that was made to us at a recent session is how to integrate, for example, air quality improvements with a wider agenda of climate change, and how to tie up all these different environmental strands. We thought it might be helpful to kick off on the way in which everything can be integrated in that way, and if you have any views on that.

Chris Huhne: We obviously take account of the wider issues around air quality when we look at climate change and common questions. I have constituency experience of this, because I have a number of roads with quite serious air quality problems, particularly in the summer. I know it can be a real problem, particularly for people with asthma and people who have other medical conditions. I think it is absolutely crucial.

One of the advantages of dealing with air quality in a general sense, particularly if it is traffic related, is that it is rather more visible than carbon emissions. Sometimes I wish that carbon emissions were bright pink, because it would make it a lot easier politically to motivate people to deal with the issue. Generally, when there is an environmental issue, which people can see and appreciate, whether it was the hole in the ozone layer or whether it is very obvious pollution

from diesel particulates or whatever, it is rather easier to mobilise a consensus around tackling it, than it is with something that is genuinely invisible, like CO₂, regrettably.

Q2 Chair: It is sometimes the case that it cannot be perceived that easily, but there are many issues which need to be brought into the whole climate change agenda. I think the real question is how you and your responsibilities at your Department feed into that cross-cutting agenda and how that feeds into what happens at DEFRA. One of the examples that I wish to raise is that there were perceived press reports in the run up to the fourth carbon budget, that there was an obstacle, for want of a better word, with BIS, and I think we on this Committee understand that there would be serious concerns, for example, if British manufacturers were to be harmed irrevocably by climate change. At the same time we understand that that needs to be brought to the table and the issues resolved. We just wondered if you can perhaps share with us some of the discussions that went on prior to getting the agreement and the sign-off for the fourth carbon budget.

Chris Huhne: Let me just go back to your first point about integration. The integration in the wider environmental agenda, is obviously led by Caroline Spelman in DEFRA, and there is the whole question around sustainability and embedding sustainability in the way the Government operates, and indeed the very important role of your Committee in ensuring that we continue to do that. We have a particular issue of integration, which is of course a slightly different one on the climate change agenda, because we have nine Government Departments which have a significant role in delivering on the climate change agenda, and that is absolutely inevitable. The Department for Transport has gone to Europe to argue about emissions standards in the EU; the MOD is responsible for the Meteorological Office; DECC obviously for mitigation; and DEFRA for adaptation. That is why we have the draft carbon plan, and we

would very much value your input in looking at the draft carbon plan. It is meant to go final in the autumn, and that is our attempt to integrate Government on the climate change agenda. I think that that is key.

Chair: Just before we move on, I would like to bring Caroline Lucas in, if I may.

Q3 Caroline Lucas: There were two questions in Joan's opening one and I just wanted to press you on that issue of integration. Just to give one concrete example with the launch of the RHI, as I understand it, there were discussions in advance about whether or not there would be air quality limits for wood-burning equipment. If the RHI is, in a sense, subsidising wood-burning equipment that is not very efficient and is polluting, then that could have been an example where there could have been real integration to make sure that it was not subsidising the wrong kind of wood burning, and yet, as I understand it, that was not properly considered before it went ahead.

Chris Huhne: I do not recall the details of that particular case, because the way this tends to work in Government is that the Department that has tended to lead on something will write around to everyone, either on a particular Cabinet Committee or the Department of a particular Cabinet Committee—it might be Economic Affairs, it might be Home affairs—setting out what it wants to do, and then there will be responses back from the other Departments saying, “Hang on a minute, we have issues with that which we would like to resolve” and then there is a discussion between the officials and, if necessary, between Ministers to try and get a balance.

I shall give you an example: one of the things I am quite keen to try and make sure we do is to introduce permitted development rights for air source heat pumps. I think air source heat pumps are going to be a very important technology for the UK in terms of providing our domestic heat, both hot water and heating, but there are issues around, for example, noise, because they make a similar amount of noise to an air conditioning unit. How close to another property should they be—so DCLG have an interest, so does DEFRA, and getting the balance between what is a climate change objective in terms of decarbonising our domestic heat and the other environmental objective, which is not creating a nuisance through noise for near-neighbours, is something that we have to strike. Government is very used to dealing with that, and those procedures for writing around or dealing with it in Cabinet Committee are the ones that are used, and over and over again we have to strike that balance. That is indeed exactly what we were doing in the fourth carbon budget, to come back to your question, Chair.

Q4 Chair: It was exactly that that I wanted to press you on—it would help us to have a better understanding of what discussions took place with BIS were over that particular issue, because I think that would help clarify how we get people on board for the wider objectives we need to meet.

Chris Huhne: BIS is very supportive generally on this agenda. They are responsible for one of the nine Departments, in that they are responsible for

sponsoring the low carbon economy, which is an increasingly big and important part of the economy as a whole, employing about 9,000 to 10,000 people. Many BIS interests are absolutely aligned with us. They also, of course, sponsor high energy users—the energy intensive industries—and there are a number of sectors, steel being an obvious one, ceramics and others.

Chair: One in my own constituency.

Chris Huhne: Right—where there are clear potential problems. We need to get a balance. It is not in our interest as a Department dealing with climate change to introduce rules that merely relocate carbon emitting industries from the UK to somewhere else, because the amount of carbon emitted into the atmosphere would be exactly the same, and frankly the impact on global warming would be exactly the same, whether the carbon is coming from Calcutta or from the UK. This is an absolutely legitimate concern, and it is very important. We should address it, which is why we are committed to bringing forward a package of measures to deal with the energy intensive industries' problems by the end of the year, and we are working intensively on that.

Q5 Chair: I think it would be very useful to this Committee in this inquiry to have an understanding of the detailed cross-cutting pathways between DECC and other Departments in order to resolve and be able to move forward, because we all acutely understand the issues in all our constituencies, but it is how we make that transition from here to there. I think it would be very useful to have that.

Chris Huhne: There isn't a single document that would give you an overall view of all this, because sometimes it is unexpected.

Q6 Chair: But there might be initiatives underway.

Chris Huhne: Sorry, you mean, particularly on the energy intensive industries? Yes, I am sure we can describe what is going on there. There is a lot of joint work between us and BIS, which was going on before the fourth carbon budget announcement. We took the opportunity to announce the package for energy intensive industries at that time, and it has focused on understanding very clearly what the extent of the problem is in particular sectors, and there is a debate there. So, for example, I have had an interesting paper from the European Climate Foundation recently, which suggested that the degree that energy intensive industries are able to pass through their costs on to their consumers is greater than they would say. A lot of these industries are basically saying, “Look we are price-takers in the market. We essentially have to sell at the price that we can get, you load on costs, that squeezes our margins, that is what drives us overseas”. If they can pass on their costs, that is one set of analysis. The other set of analysis is, having established the exact extent of the problem, what are the mitigating measures that we can introduce. There is a wide range: free allocation of EU ETS allocations through to things like tax and spend, and indeed on the electricity front, some other countries exclude high energy intensive industries from some of the payments that were made by the generality of electricity

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consumers for energy-saving policies, renewables and so forth. There are a whole range of things that we have to look at. We have to establish a common view of the analysis of the problem first and then look at exactly what is appropriate.

Q7 Chair: I am going to have to move on because we have a lot of questions, but I think that is very helpful. Just finally from me now, has the Office for Budget Responsibility been asked to give a view on whether the economy will make the carbon budget affordable?

Chris Huhne: No, I do not believe it has, and I am not sure, to be honest, that it would be an appropriate body for that. The Office for Budget Responsibility is about keeping us on the straight and narrow when it comes to short-term forecasts over a comprehensive spending review period, whereas a lot of what we are looking at in terms of the proposals of the Committee on Climate Change is obviously much more long term for the carbon budget 2023 to 2027. The timeframe that the OBR is accustomed to deal with will be much, much shorter, and that is probably a good thing because economic forecasting tends to get very, very inaccurate the further away you are from the date that is being forecast.

Chair: Okay, we must move on.

Q8 Dr Whitehead: When you made the statement about signing up with the fourth carbon budget, I asked you about the status of the 2014 review and how that related to the legal status of what we were signing up to as far as the core budget was concerned. Section 21 I think, of the Climate Change Act 2008 enables a budget to be altered after the date that it is required to be set, providing that there are significant changes affecting the basis on which the previous decision was made. What would significant changes look like in the context of a 2014 review?

Chris Huhne: Another key condition of that is that the CCC would have to be consulted, so clearly their view of what significant changes are would be important. The intention is to make sure that although we accept that the UK accepts and rejoices in the fact that the UK has a leadership role on the climate change issue, if we are so far out in front that we are losing stragglers in energy intensive industries or others to other countries, we have to be careful. The 2014 review is about looking and seeing, if you like, making sure that we are not just keeping our eyes on the horizon but we are looking behind us to see whether everybody else is still there.

My own view is that they will be. When you talk to Climate Change Ministers from other countries, one of the things they tend to say is that everybody in their own country thinks they are the only people doing anything and everybody else is doing nothing. I had a very interesting conversation on this with Greg Combet, the Australian Minister, who was saying everybody in Australia thinks we are doing nothing and they were absolutely delighted when we announced the fourth carbon budget because it played big. The Australians suddenly discovered there was another country doing something. But the truth is an awful lot is going on on climate change, including in

some very unlikely places. A few years ago, China, in terms of its level of ambition, was quite astonishing. I think it is a process of assurance and a process to make sure that people feel that we are, certainly out in front, but we are not so far out in front that there are serious penalties.

Q9 Dr Whitehead: Would a very lax EU ETS cap put pressure on the non-trading sector, being the sort of significant change that you might envisage triggering a 2014 review?

Chris Huhne: I do not think so. We have to accept the EU ETS cap, which is just built into the system. So, in effect, if there is a change in the EU ETS cap or there is not a change in the EU ETS cap, effectively that is what will determine what the tradable sector cap is in the UK, and that will change automatically. This is an additional reassurance to those industries who perhaps were worried that that process would not work, but I very much hope there will be a tightening of the EU ETS cap; we are working very hard on that. We have a lot of support, including increasing amounts of support from other EU Member States who I would regard as in the progressive camp. Not all of them prepared to go as far as us on 30% for 2020, for example, but a number of them are prepared to go to 25%, look at the energy efficiency side and so forth. I think things are moving, not as fast as I would like, but they are moving.

Q10 Dr Whitehead: Would there be a converse consideration? By setting tough carbon budgets we therefore benefit in increased green jobs and investment, and there is a clear line ahead in terms of what those investments might look like. Would that be a substantial consideration in terms of perhaps saying, "Well, actually, we do not need a review in 2014"?

Chris Huhne: I think it is absolutely crucial to point out that accepting the CCC's recommendation on the fourth carbon budget sets a very clear trajectory for what we intend to happen, which in turn sends signals to investors that they can make those investments and be confident they are going to be able to get good returns. I agree entirely with Nick Stern on this, and other economists who have argued that there is a very strong motivation for us sending clear signals on climate change because of the positive impacts on a number of sectors that need to invest, and because we can take advantage of the fact that we have a leadership role as an early mover in establishing ourselves in various sectors before other countries do so. Those things definitely lead to advantages for the UK.

That has to be weighed in the balance with worries about energy intensive industries. The CBI, by the standards of most European business organisations, is very enlightened on the climate change issue and has its own group that deals with climate change issues. One of the points I make to it is who is representing the businesses that nobody has yet thought of, that are going to be there in 10 years' time? If you look at some of the biggest businesses in the world today they were not around 20 years ago—the internet was not around. Some of the most enormous businesses that are going to be associated with green growth do not

have a seat at the table in the business organisations of the world, whereas the businesses that are big because they are associated with past growth, and with past patterns of production, have a very strong seat at the table. It is very important for Governments to factor that in to their response. We have to remember that it is the new jobs, the new businesses, which we need to take account of, as well as those that have established interests and the voice that can be heard not just, by the way, in the business organisations but also in the trade unions.

Chair: Okay, I am going to move this on.

Q11 Caroline Lucas: I have two questions, one about carbon trading, which I will come to in a second, but I just wanted to start with a bigger question, which is about levels of risk. I was struck by the evidence of the Tyndall Centre, who gave written evidence to this Committee, which says, “As it stands, even following the intended pathway, the fourth report proposals fall short of the previous Government’s commitment to two degrees”. It goes on to say that the budgets adopted are premised on a 56% to 63% chance of staying below two degrees. In other words, not that high a chance of staying below two degrees. I appreciate there is always a tension between what appears to be politically possible and what is scientifically necessary, but it seems to me—and Tyndall bears this out—that the whole architecture of the fourth carbon budget is built on shifting sand, because who would get on an aeroplane if you were told you only had a 56% to 63% chance of not falling out of the air?

Chris Huhne: The key point about the Climate Change Act is that it does set out a legislative framework with an independent Committee on Climate Change, which can make its best assessment of the science, and that is very clearly in the legislative framework. They obviously have to make a judgement about all of the different scientific views, including the Tyndall Centre, on this. Am I worried globally that we are not doing enough? Clearly, yes. After all, the UK produces less than 2% of global emissions, and we have a very, very strong framework compared with other countries, for dealing with these issues, which is very independent, and is not political because the CCC is not political. In its statutory remit, it is asked to look at the science and so forth. We have to accept that or not. If we altered or did not accept the CCC’s recommendation for the fourth carbon budget, then I think that will be a legitimate point, but we did accept that.

Globally, however, I entirely agree with you. I think that we have a very limited time to get global emissions down. We have to get them coming down very firmly by 2020, which effectively means that we have to get a global deal within the next few years. I am not one of those people who thinks it all has to be done at Durban, any more than it all had to be done at Cancun. The Montreal Protocol on CFCs took time to deliver, but the clock is ticking.

Q12 Caroline Lucas: The clock is ticking, and I am not going to be allowed to get back in if I don’t hurry up. Just two points—one is just a quick challenge.

Every single Minister always says the UK is only responsible for 2% of global emissions, which is such a misleading figure, in a sense, because if you looked at what we are responsible for, such as all the imports that we now consume from China, for example, all the production costs for those high carbon imports are happily on the Chinese balance of accounts, not ours. So I do think it is a little bit misleading to say we are only responsible for 2% of global emissions. But the key question I have, before Joan gets cross, is about carbon trading.

Chris Huhne: Can I answer that point? The reality is that if you were to tell most members of the United Nations that their territorial sovereignty would henceforth be suspended because we intended to take account of our imported embedded emissions, I think there would be an absolute firestorm. The reality is that the territorial principle is very well established. We are responsible for our own territory, and while that remains the case, that is the bit that we can take responsibility for.

Q13 Caroline Lucas: We can have a lovely argument about this, because I think that is right at the heart of what is wrong with the way in which we tackle cross-border problems. You cannot just draw a neat little line and say, “We are not responsible for this or for that”.

Chris Huhne: You and I might like to have global government, but until we have it we are not going to have that solution. We have a solution where we have national sovereignty and we have to be determined to take responsibility for what occurs within our borders, and that is what we are doing.

Q14 Caroline Lucas: Let me ask you the question about carbon trading. You have said that you would like to keep international carbon trading options open, which was against the advice of the CCC. How much consultation did you have about that decision, and if you are still going to go ahead in doing it, if you have to count emission credits in order to meet the carbon budgets, would you at least limit those to allowances brought from elsewhere in the EU? In other words, would they be underneath the ETS cap rather than buying them from other places?

Chris Huhne: I do not want to do it. If we can meet this all from domestic efforts, that is exactly what I want to do, but I come at this as a former—and reformed—economic forecaster, and I just remember the words of the distinguished former chief economic advisor to the Treasury, Sir Alec Cairncross, who said, “If you give them a forecast, do not give them a date”, and that was essentially because there are enormous uncertainties about this. We did consult. We consulted widely on the tradable issue, but we think that it makes sense to preserve that element of flexibility because there are enormous uncertainties.

So far, the uncertainties have resolved themselves in the other direction. We have outperformed what we have done—and quite substantially—and that is all to the good, but preserving a little bit of flexibility, which the system allows for, I think is reasonable.

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Q15 Caroline Lucas: Given that we are undershooting the second carbon budget, why won't you therefore completely rule out use of carbon credits for that particular period?

Chris Huhne: Because one of the things we do not know—

Q16 Caroline Lucas: You cannot always keep saying, "We do not know, unknown, unknown", it is a get out of jail free card.

Chris Huhne: It is not a get out of jail free card. One of the things that we do in economics, as an absolutely bog standard procedure, is attempt to make allowances for the business cycle. We do that, for example, with a budget deficit, where we set, as a Government, a structural budget deficit as our target, and we have a fairly good amount of economic literature trying to assess what the impact will be of the business cycle. We do not have anything like the same level of research in trying to strip out the impact of the reduction in carbon emissions so far as a result of the cycle and as a result of long-term trends. I hope it is long-term trends, but there are real uncertainties here, and I think it would be very risky not to take those into account when we are ruling in or out something like trading allocations.

Q17 Mr Spencer: Just a quick comment. Will you recognise the unfairness of a country like Germany, for example, that chooses not to generate its power within its own borders and import French nuclear electricity or Czech coal-fired electricity and whether they are ducking under the radar and avoiding those carbon outputs?

Chris Huhne: You can make an allowance for that, but I think that the sensible thing is to do this on a territorial basis, because that is what ultimately we have control of. With the best will in the world, we have no control in this legislature over what goes on in Shanghai. We do have control over what goes on in Newcastle. In general policy terms, it makes sense to take responsibility for the things you have control over, and not to try to pretend that you can take responsibility of the things you have no control over. I come back to that.

On the tradable part, on trading energy, I would say that the more energy we can trade within the EU, the better it will be for climate change objectives because one of the things that we do is massively over-invest in backup plant, for example, precisely because there is so little trading between different EU Member States. Because the peaks and the troughs of demand are different, if we had more ability to trade, if there was more interconnection, we could invest a lot less in plant, save a lot of economic cost and have the same result. So trading within the EU as a whole, to my mind, is an unalloyed benefit.

One of the most surprising things that I found out in the job that I am doing is the amount of trading for energy is so low compared with the average of the whole economy. I can't remember the figure off the top of my head—I can give it to you—but I would say it is under 5%. The whole economy is about a third. This ought to be a sector where there are enormous gains from trade.

Q18 Mr Spencer: Am I allowed to come back?

Chair: You are.

Mr Spencer: I am digressing a little, Chair. I just wondered if you would recognise the security implications of that. I wonder if you would recognise that if there were an energy crisis, the French taxpayer would want the French Government to protect its taxpayers before it worried about English electricity consumption in the southeast.

Chris Huhne: I think that there is a big issue around energy security. I think it is an important subject, but I am not sure I would define it in quite that way. I think if we have good long-term supply relationships in the electricity sector with a very clear framework of EU law, where if an EU Member State were to, in some way, put itself at an advantage over others, that would be clearly contrary to EU law. For example, we rely increasingly on imports of LNG from Qatar, and that is a good long-term relationship. Those things I am relatively relaxed about, but remember this country has been a net food importer for decades, since the end of the 19th century, and food is even more crucial than energy.

Before going down that track, I think you have to be very careful. I think free trade has stood this country in very good stead over a very long period, and providing the relationships are secure, providing they are within the law, providing you are dealing with countries that, in general, you have a good trading relationship with, that can be a secure relationship. Energy security I would define in other ways more broadly, in saying that one of the key things that we have to do is to make sure we move off the fossil fuel hook, wherever the fossil fuel is coming from, the North Sea or the Middle East, because it is so volatile. It is not an accident, for example, that Scottish Power is putting up its prices by 10%, but EDF in France has announced a 1.7% increase. Why are they able to do only 1.7% and we have had to do 10%? Because we are much more reliant on gas, and gas prices have risen.

There is a wider issue of energy security, which is getting off our excessive reliance on fossil fuels, at a time when fossil fuels could become more volatile and substantially more expensive.

Chair: I think we could talk all afternoon. I think we are going to have to make progress.

Q19 Caroline Nokes: I am very conscious that the Chairman is going to put us under a bit of pressure to hurry up.

Chris Huhne: I am afraid I tend to give rather long answers, but I am very happy to stay longer, if need be.

Caroline Nokes: I wanted to focus on the leadership role that the Government was taking internationally and how strong that was, so I have just three very quick points. What is the Government doing at the EU level to strengthen EU targets and the Emissions Trading System?

Chris Huhne: We have been, since we got in, attempting to persuade our fellow Member States that we should tighten up the existing 20% commitment to a cut in emissions by 2020 to 30%. The Commission proposed that, and we backed them. We have worked

very closely with Connie Hedegaard. We have been attempting to assemble, as I said, a group of progressive Member States who want to go beyond 20%. I wrote a piece in the *Financial Times* with my French and German counterparts arguing for 30% as a way of kicking off that group. We have since been joined, for example, by Spain, Portugal, Denmark, Sweden, Hungary, and a number of other Member States who are in a position where they want to be more ambitious to tighten up the carbon price within the EU ETS.

As an economist, in an ideal world what we would have is a tight enough EU ETS that delivered a very clear market price signal, which would mean that we were decarbonising the whole of the EU economy without any worries about competition issues, and we could all go home and not worry about our electricity market reform and everything else. Sadly, that is not the case, but we would like to get there and we think it is very important to put governmental effort into making that happen. It is also, by the way, very important to make sure that we deliver on our wider international commitment, and as part of that if we can get Europe into the right place I think it will make it easier to deliver internationally. There are a number of countries in Europe that have genuine problems with 30%. I would mention Poland. I have had discussions with the Polish Energy Minister about their reliance on lignite in their electricity generation, which is a real difficulty.

People are putting a lot of work into this and I think we are going to be putting a lot more work into this, precisely because we think it is crucial that the EU moves on and that the EU takes the sort of leadership role internationally that it took, for example, in the Kyoto negotiation.

Q20 Caroline Nokes: The Commission's low carbon economy road map states that a 25% reduction in domestic emissions in 2020 is required to meet the EU's own goals. Given the challenge of meeting the UK carbon budgets, will you still be pushing for EU targets greater than that?

Chris Huhne: What the Commission says is that 25% is attainable just through what we all ought to be doing on energy efficiency. In other words, that is the no regrets, no cost amount that could be delivered. The issue is whether if we go from 25% to 30% it would involve additional costs, and whether those costs are worth paying, given the other advantages that I believe would flow from having early mover advantage in a number of low carbon industries.

Q21 Caroline Nokes: Is the Government doing any international work to help move the system to take into account emissions that are embedded in our imports?

Chris Huhne: We are doing some international work, not on that particular issue, because there is quite a lot out there and either you buy that as a framework for thinking about this problem or you do not and, as you have probably gathered, I do not—not that it is not interesting and an important point, but I just think while we have Governments based on territory and national sovereignty, that is what we have to deliver.

What we are doing is trying to bring home to a number of the key actors at Durban, particularly the G20, the individual consequences of climate change for them. I am aware at international level climate change tends to be rather like road safety—people are killed on the roads every year but it never happens to you and it never happens to anybody you know, and therefore you ignore it. If we can hone in on climate change to see what the real impacts are on each of the G20, I think that can bring home to people that this is a problem we must not go on ignoring.

So we are sponsoring, through the Meteorological Office, work, which is under way at the moment and that has a lot of co-operation with other members of the G20, looking at the impact on individual countries of what are likely pathways for climate change. I think that is a more potentially fruitful way of unleashing a tremendous row about whether we are responsible for those carbon emissions or you are responsible for those carbon emissions or nobody is responsible for those carbon emissions.

Q22 Chair: Just before we leave that point, which was referred to earlier by Caroline Lucas and is about businesses here, yes, it is the case that you cannot tell other countries what to do in that respect, but certainly we have no influence over the investment decisions that companies in the UK are making if they choose to go and outsource or produce elsewhere, and import. I do think that is something that needs to be part of the wider agenda.

Chris Huhne: The carbon leakage issue is exactly what we are taking into account with the energy intensive industries, but when people talk about carbon leakage in great alarmist terms and cite the vast numbers of our imports from China and so on, let's be clear analytically about what has been going on. I know of no economic work that has suggested that the reason why there has been a substantial shift of manufacturing production from Europe and the United States to China is energy costs, or anything to do with the climate change agenda. It has been overwhelmingly driven by labour costs, rising labour productivity in China and the fact that the Chinese have completely changed their economic regime, so they are now open to investment in a way that they were not before. That was the basis of Chinese economic reforms.

When all those factors existed at the time of the cultural revolution we did not find many British companies wanting to source or invest in China, so these are the factors that are important in shifting production. I think that we must not concede the point that somehow carbon leakage is the massive driver of what has been an enormous globalising trend towards relocating production in what, by the way, in terms of economic history, for all but only the last 200 or 300 years, has been the richest part of the world. China has historically through human history been the richest part of the world and it is only literally since the industrial revolution in Europe that that has not been the case.

Chair: I suspect there is not a great deal of difference between us on carbon leakage. I think the issue is how

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it is defined and how it is defined fairly. Neil, do you want to come in on that?

Q23 Neil Carmichael: Yes, I was going to make a point that carbon leakage is going to be solved, isn't it, by more international co-operation. That must be the obvious way forward, because the Secretary of State is absolutely right to note that we can't interfere with what is going on in other people's territory. What we can do is encourage Governments of those territories to pull their socks up.

Chris Huhne: Absolutely.

Neil Carmichael: That has to be our thrust

Chair: If we could just move on to a few quick questions. Will the final version of the plan in respect of the carbon budget include quantified impacts, as the low carbon transition plan did?

Chris Huhne: Yes. The fourth carbon budget is meant to be a credible response, so that will involve making stabs at numbers. Again, I would caution the Committee about thinking that these things are more precise or more accurate than they are, and when you are dealing particularly with a period as far away as 2023 or 2027, when there can be all sorts of major changes in technology, which we do not know about as yet, these are the best guess we have at the time, and I would certainly not want to put a lot of weight on them. If you think back to 20 or 30 years ago and the enormous technological changes that have taken place, the internet and so forth, I think that makes sense.

Q24 Chair: Two more quick questions: will that calculation include a risk margin?

Chris Huhne: I am very keen on highlighting the risks involved, I can assure you, because I think they are very substantial when you are dealing with something that far away. But whether the risk margins can be any more precise than the—Ravi, did you want to say anything on that?

Ravi Gurumurthy: One of the things we are trying to do is look at different scenarios for meeting the carbon budget. For example, imagine there is a high deployment of heat pumps or of electric vehicles, because there are different ways of meeting this, and we need to make decisions later on as we become clearer about technological development. One of the things we want to be clear about are the different scenarios and the decision points for choosing those scenarios.

Q25 Chair: Just finally, on this, will DECC be involved in checking the adequacy of business plans in addressing carbon budgets?

Chris Huhne: Do you mean departmental business plans?

Chair: Yes, because obviously Defra and the Cabinet Office have the lead role, as we referred to at the outset.

Chris Huhne: Absolutely. The carbon plan is our lead. The actual carbon plan, judging by the discussions that we have had with some Departments is, I am delighted to say, being taken very seriously. So, what we have in it I very much hope that we are going to stick to, and we have been quite successful I

believe, so far. We have not had the final numbers yet for May, but we made a commitment that we were going to cut emissions of central Government by 10%, and I hope and trust that we are on course. Ravi, do you want to add anything?

Ravi Gurumurthy: We did the carbon plan, but the Cabinet Office plays a role in enforcing it, so they insisted that every action in the carbon plan gets stuck into every single departmental business plan. So, I think we will try and use them to corral other Departments.

Chris Huhne: The Prime Minister, when he visited DECC right after the election did announce—rather scarily from my point of view—that he intended to be the fourth Minister in the Department. So, the backup is we can deploy the Prime Minister, and certainly in getting Departments to deliver on the 10% reduction, that has been very significant. But most Departments are very happy to get onside on this agenda.

Q26 Neil Carmichael: It is exactly those sorts of themes I want to pick up and develop because what other Departments do is very important to this whole project and, as you say, with the fourth Minister in your Department, that is absolutely excellent. I bet they all wish they had that. What I want to first of all ask is why did you abandon the previous Government's departmental carbon budgets?

Chris Huhne: Well, we have a view that getting excessively involved in quantitative planning is really not very sensible given the flexibility and uncertainty around technological solutions. I have the fairly root and branch prejudice frankly that, as I said, in an ideal world I would work myself out of a job immediately and we would have a good, credible, carbon price set at a new level that was high enough to make sure that the market signals were going to drive us forward to decarbonisation, and we would not need to do very much at all. That unfortunately is not the case, so we are dealing with second best, but what we must not deal with is—I think this is rather the same attitude we have taken on local authorities—the idea that we literally divvy up the overall carbon budget between Departments and local authorities, and say, "We want you to meet this." A lot of the instruments are simply not at that level because the uncertainties are very great. A new business will set up in a local authority area and the emissions will suddenly shoot up, but they may have relocated from another area where they have gone down. I think it is just not very sensible and the last time I came across a system that was going to be that interventionist and pernickety was when I visited the Soviet Union, and had the pleasure of interviewing the Chief Economist at Gosplan. I have to say prior to 1989 it wasn't the world's greatest economic system.

Q27 Neil Carmichael: Thank you, because those are perfectly good reasons. That is a very good answer. We know where we are going; it is just how we get there. In your Department's memorandum to this Committee you mentioned the carbon plan and said it would be updated and approved. How will that look?

Chris Huhne: I hope it is not going to be very different from the draft carbon plan that is out there,

but the objectives will be agreed and signed up to with the deadlines for each of the Departments. The idea is essentially to ensure, as a Government, that we are joined up. It is astonishing, and impossible, for one Department to take responsibility for literally the nine Departments that have a significant role to deliver on this and there is no other overarching set of governmental objectives that I can think of that have involved so many Departments, other than in wartime. This is probably the biggest exercise in joined-up government. We are not always very good at joined-up government, but this is our attempt to make sure that we are as good as we possibly can be and, as Ravi says, we have the Cabinet Office, we have the Prime Minister, we have a number of things we can deploy, but the game plan is meant to be set out in the carbon plan.

Q28 Neil Carmichael: Ted Heath's reason for not having a Department for Europe when he first became Prime Minister was because he thought all Departments should be thinking about Europe, and Geoffrey Howe famously said he handed out the rations every time Ministers met.

Chris Huhne: This Department thinks really hard and long and passionately about the climate change agenda. Other Departments all have other core roles, but one of the key things that the carbon plan is designed to do is to make sure they do not forget that they have subsidiary objectives on carbon.

Q29 Neil Carmichael: We have explored this question as a Committee in a slightly different context. We came up with the idea that the Cabinet Office should have the teeth. You have said you are working with the nine Departments and you are quite right—it is difficult for any one Department to impose their will on the other nine.

Chris Huhne: It is nine in total, and we are one of them, so the other eight.

Neil Carmichael: Yes, the other eight. So what sort of powers do you have to enforce, certainly if they were not delivering?

Chris Huhne: There is no power to enforce. The whole system is remarkably, surprisingly consensual. The whole system of Cabinet committees and write-arounds and so forth is all about trying to take on board what genuine concerns other Departments have. Whether it is, as we discussed, with BIS on energy intensive industries, or DEFRA with noise and so forth. That is the way the process works. Inevitably, when you get disagreements, as you inevitably do, they tend to be resolved by the centre, by the Cabinet Office, and the Prime Minister ultimately has to get involved if it is important to get a resolution and for some reason we are being difficult about doing it; we collectively as a Government are being difficult about doing it. That is the way the process works, and it does work. I think the fact that the Prime Minister is committed, and the Deputy Prime Minister is committed, is a really important guarantee that we are going to deliver on this.

Q30 Neil Carmichael: Yes, that leadership is absolutely critical. But of course there is another

element to Government policy, which we all welcome and celebrate, which is localism. How do we make sure that local government and other agencies of the eight or nine Departments also salute the need to deal with carbon?

Chris Huhne: You are absolutely right. The role of local government can be very significant indeed on a lot of things that need to be done on carbon emissions. If you look at the Green Deal energy saving measures that are in the Energy Bill going through the House, that will be driven by enlightened local authorities. Those local authorities already have the power, for example, to provide their residents with a council tax rebate that can be funded by council tax payments that are higher on those who don't go ahead with the Green Deal. I expect that a lot of the forward-looking councils will run very hard with this.

I hope that as local authorities develop experience of getting new jobs into their area, achieving energy savings and more spending power for their residents locally, precisely because they are having to spend less on their energy bills, that experience will gradually spread. But I am very, very much against a top-down approach. We need to make sure they have the data. We need to certainly make sure that voters understand when they are doing well and when they are doing badly. We need to give them—all of us as competing political parties—the ability to go out and say, "Such and such an authority is not doing a good job because of X on climate change and should be doing more". The process will lead, I believe, to good outcomes.

We obviously have, taking that particular example, some fallback, so we announced in the Second Reading of the Energy Bill that we will prohibit private landlords from letting their property from 2018 if they have not gone through a Green Deal if they have an F and G rated property. There are backups that we can use, but I think enlightened local authorities can do an awful lot, and I think they will.

Q31 Caroline Lucas: I wanted to come back to the wonderfully collegiate and sensual-sounding process of decision making—

Chris Huhne: It is not always like that at all.

Caroline Lucas: Surely it would be the case that you might have felt a twinge of disappointment that your Department did not have more powers, for example, when CLG decided to drop the commitment to a zero-carbon home standard.

Chris Huhne: I do not agree that CLG has dropped the commitment to a zero-carbon home standard.

Q32 Caroline Lucas: Well, we have lost it.

Chris Huhne: I think that we have a sensible balance. I think that the compromise that has been reached is attainable, it is going to lead to really substantial reductions in carbon emissions from the housing stock when they are built to those 2016 standards, and what we are not trying to do, as you will probably gather from my paean of praise to free trade, is to set up an autarchic society. Nor are we trying to set up autarchic households, where essentially there is no relationship with the rest of society. We envisage going on producing many things that we need at a British level,

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including our electricity, and we go on envisaging households being able to buy from the grid. Some of the more extreme versions of zero-carbon homes where you have to completely generate the electricity from the home that you are going to use seems to me to be far too extreme, given that we have a commitment to still being social animals. At least I do. I do not know about—

Q33 Caroline Lucas: I am not suggesting I am in favour of autarchy, but I am in favour of having a bit more rigour when it comes to meeting targets. Each time we talk about a target, there always seems to be an escape route because we need flexibility, we do not know what might happen in the future, and so on and so forth. Of course we need flexibility, but there comes a point where it becomes—

Chris Huhne: The target that really matters is the overall carbon budget, and our carbon emissions target. Frankly, the more intermediate targets we set—intermediate targets appeal massively to all sorts of people in politics, because they allow us to run around looking as if we are taking firm decisions and intervening on this, intervening on that, but they often dictate seriously costly ways of dealing with things that would be better dealt with through technological discovery, the free play of market forces, within that overall carbon budget.

Q34 Caroline Lucas: But the risk of back-ending all of that is that if there isn't a wonderful technological fix that comes down off a tree at the end of that period, you are in big trouble to get those very fast reductions.

Chris Huhne: That is logically an entirely distinctive point, and the CCC's recommendations on the fourth carbon budget I entirely took on board precisely because they were saying we must not defer things so that we are all dealing with the problem at the back end. We do have to have a credible trajectory and that was why it was ambitious, but you do not get any more ambitious by setting up a load of micro targets that just load in extra costs, because you and I do not know what the best way of delivering it is.

Q35 Caroline Lucas: But you did not take opportunity to increase the second carbon budget and the third carbon budget in line with the fourth one, which the CCC recommended that you did. So it is not the case that you are adjusting—

Chris Huhne: We have not changed any of the carbon budgets.

Chair: I think Neil Carmichael, to be fair, wanted to cover some of the specifics of those.

Q36 Neil Carmichael: Yes, this is a very interesting discourse, there is no doubt about that, but I think much more important is my question, which is: which Department is going to consider the whole economy in all its different facets? For example, energy or manufacturing or whatever? All eight or nine Departments have some interest in some part of the economy, and some parts of the economy clearly do need to be at least monitored.

Chris Huhne: We are an economic department. It is very clear that I would say that, wouldn't I, as an

economist, but I think that there is a certain advantage in having some economics in doing the things that we are trying to do. The Treasury is obviously the lead economic department. It has the overall responsibility for the economy. BIS has an absolutely crucial role in things like the productivity agenda, training and also sponsoring individual sectors, including the low-carbon sector. All of us are involved very frequently in discussions that are not, contrary to what Ms Lucas said, always consensual I have to admit, but we do get there. We come at these things from different perspectives and all Departments have different views and interests. But we come to a joined-up view, and I think the proof of the pudding is that we come to a sensible view on the fourth carbon budget.

Q37 Neil Carmichael: In the making of that pudding, which device is most effective at bringing together Departments? Cabinet Committees or inter-departmental work?

Chris Huhne: It depends a lot, in my experience, on how complex the issues are. If the issues are very complex, you need to do quite a lot of spadework with individual colleagues and at official level before you get to a Cabinet Committee. Some things are very non-controversial and you will write around and everybody says, "Great" and that is fine.

Q38 Neil Carmichael: Excellent, that sounds good. One last question. What about sectors like agriculture? How are you going to monitor those? Because there are a lot of different aspects to agriculture in terms of carbon.

Chris Huhne: Agriculture, as the CCC I think has said—and it is doing more work on this—is one of the sectors where there are quite substantial emissions that still need to be dealt with. The tabloid newspapers get excited about methane emissions from livestock and all the rest of it. Everybody always smiles at that point, but these are quite serious issues and the amounts of emissions from agriculture are quite substantial. So, Caroline Spelman has been, I think, absolutely right in trying to put decarbonisation on the agenda at the European level—that is the best possible level at which it can be dealt with—and we need to push European agriculture and our own agriculture in the direction of low-carbon solutions as fast as we can.

Q39 Neil Carmichael: One last question. When dealing with your European colleagues it is presumably usually you, as Secretary of State, who will be talking about climate change in the European framework.

Chris Huhne: Well, it is either me or it is Greg Barker as the Climate Change Minister on climate change issues. It is either me or Charles Hendry on the energy side.

Q40 Neil Carmichael: If you are heading off to Brussels, you would gather the thoughts of the other eight Departments as appropriate, depending what was on the agenda?

Chris Huhne: If we are taking a new line on, say, a commission proposal for a directive or whatever, and

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we are the lead Department, we would write around proposing that it would go probably in the first instance to the Europe Committee of the Cabinet, of which I am Deputy Chair—William Hague chairs—and we would come to a collective view. If it was controversial it might be dealt with through a write around. Obviously, speed can be of the essence.

Chair: Okay, I think speed is of the essence now because you might have all afternoon, Secretary of State, but I know some of my members are going to want to leave.

Q41 Simon Wright: I have a couple of questions that relate to a point that Caroline Lucas made a few minutes ago. Indeed, your Department's memo to the Committee states: "Latest emission projections taken from the fourth carbon budget impact assessment indicate that the net UK carbon account is expected to be within the first carbon budget by 85 million tons of carbon dioxide equivalent emissions. On central emissions projections, the UK is on track to meet and indeed undershoot the second and third carbon budgets" by even larger amounts.

I wonder, therefore, why the Government did not take the advice of the Climate Change Committee and revise the second and third carbon budgets to reflect the level of ambition in the fourth carbon budget, given what you have written in your memorandum.

Chris Huhne: I think the most important factor is uncertainty about cyclical versus trend effects. We just do not have an adequate understanding as yet of how much emissions are likely to bounce back with the bounce-back of economic activity. We have had a rise in emissions in the latest year, we had a very sharp fall, but we do not know how much of that was recession-related. Those things are quite crucial to understand. We will see.

The other aspect is that we are attempting further out to steer the need to be more ambitious on the overall totals, but we do not want to prejudice any negotiations that there might be with other Member States shorter term.

Q42 Simon Wright: In David Kennedy's letter to the Committee, he wrote: "The currently legislated third budget is inconsistent with the fourth budget, given the acceleration in the pace of emissions reductions required between these budgets. Therefore any credible approach by the Government will have to aim to outperform the currently legislated third budget." I wonder what your response is to that and how you feel the Government will plan to do that.

Chris Huhne: Well, it may be right. As I say, I think we will know much more as the economy recovers over the next few years. We will be able to estimate better the cyclical impacts and the trend impacts and reach a more settled judgement of what the appropriate response would be. But I think it would be a bit of a stab in the dark at the moment so we were playing safe in keeping the first three carbon budgets as they were, although accepting the recommendation for the fourth carbon budget.

Q43 Simon Wright: Leaving the second and third budgets unchanged does therefore imply a radical emissions cut in the fourth budget period.

Chris Huhne: It only does if you have gone up to the limit on the first, second and third carbon budgets, so clearly we are underperforming at the moment, or undershooting rather than underperforming.

Q44 Simon Wright: You did mention key technologies earlier that could come into effect in the 2023–27 period. Could you perhaps elaborate a bit more on what sort of initiatives or technologies you anticipate?

Chris Huhne: We have a big innovation programme. Certainly there is an enormous amount of global research going into battery technology. There is an enormous amount of global research effort going into ways of getting renewable energy costs down below fossil fuel costs. Steve Chu, the US Energy Secretary, is very fond of showing people a graph with the trend decline in solar photovoltaic costs, which are about 6% a year, and looks as impressive in terms of its regularity as the old graph showing a reduction in computer costs. If that continues then there is going to be a clear crossover point with fossil fuels, and in places like Spain and Arizona it may be coming sooner rather than later. Sadly, we don't have quite the same sunshine resource and a solar panel installed in East Anglia, sadly, will generate only about half as much electricity as it would if it was installed in Arizona. But nevertheless that will defer the point at which it becomes seriously economic for us. A lot of these things are quite hard to predict. Solar PV is one of the most interesting of the alternative low-carbon technologies, precisely because it is one of the very few where there is a very clear trend reduction in costs. A lot of the others are bouncing around. Offshore wind could go up because of supply bottlenecks, and nuclear similarly.

Chair: I think we are going to have to move on.

Q45 Mr Spencer: Just to go back a little bit, we talked about carbon leakage and we talked about energy security. I just wondered what is your assessment of the impact that is having today on the economy? It is my understanding that towards the end of the year we are going to publish measures that we are going to introduce to support those energy intensive industries. What is your interpretation of the impact of that on those companies at the moment? Are they were investing or are they looking to go overseas?

Chris Huhne: Well, there has been a good amount of investment. Tata, for example, has made substantial investments in the steel sector, and I very much hope that we are going to be able—partly because of the package that we are working on—to go on attracting substantial investment in the energy intensive industries. We are certainly going to be attracting it in a lot of the new low-carbon technologies, some of which are very, very big users of, for example, steel. The offshore wind sector is going to be a big customer for the steel industry. We have a lot of interest in serious domestic manufacturing, not just assembly plants but right the way through. Siemens are talking

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about 2,000 jobs in Hull. There is GE, Gamesa, and Mitsubishi in Scotland. So I think that with the deployment of offshore wind, we could see a genuine industrial renaissance in this sector that could be quite significant for British industry.

Q46 Mr Spencer: Can I ask you about medium-term energy security as well? In the longer term, I can see the solutions that are coming into play, but with the introduction of a floor price for carbon, some of our coal-fired power stations are producing as much as they possibly can before that floor price is introduced. I just wonder if you recognise that there may be an issue medium-term when they reach the end of their lifespan and we do not have measures in place to keep us energy secure?

Chris Huhne: We will have measures in place. That is a definition of energy security that is about making sure we keep the lights on. That is one of the absolutely central objectives of electricity market reform. You are absolutely right—we are talking about the retirement of a quarter of the UK's current capacity to generate electricity, which needs to be replaced. Electricity market reform is explicitly designed to make sure it is replaced in a timely fashion and it is replaced with low-carbon electricity generation.

Q47 Mr Spencer: Just finally, it is all about delivery at the end of the day, isn't it? I suppose right at the bottom level, it is local authorities that are charged with the responsibility of delivering some of these schemes that we come up with. I just wondered how do we measure what local authorities are doing and what influence they can have?

Chris Huhne: The big area on our agenda where local authorities can have an enormous impact is in pushing the Green Deal on energy saving in their areas. We have signed a memorandum of understanding with the Local Government Association. We have had a good relationship with them, and we want to encourage go-ahead local authorities that want to move in this area and then spread the word to those who have been less good that they are missing a trick and the good guys have a lot to show for it. We will be as supportive as we can in spreading the word about the successes and encouraging them to do as much as we can.

Q48 Mr Spencer: That is the carrot. Will there be any stick for those local authorities that do not come on board?

Chris Huhne: We do not envisage a stick for local authorities at the moment. We have, as I said I think in answer to Ms Lucas, sticks on, for example, particular areas like F and G-rated private rental going for Green Deal, but for local authorities, no, we don't.

Q49 Chair: But isn't this one of the areas where there is genuine concern? I know that organisations like Friends of the Earth, for example, have been very much in discussions following the concessions that were made on the Energy Bill in Second Reading, and would very much like to see something stronger than a memorandum of understanding between local authorities with the Local Government Association, to

make sure that we do not have a patchy approach across the board, and to make sure that we have local authorities signed up to all of this. It seems to me that if local authorities do not sign up, and will not make that contribution, it is going to have to come out of somebody else's budget. Isn't it in DECC's interest to perhaps go further than a voluntary approach and to look at how there could be signing up by local authorities? Because you are always going to get the local authorities that want to do it. In that list, there are about 40? What about the others?

Chris Huhne: It is not an entirely voluntary approach, because there are a lot of big incentives for local authorities. If they want to create jobs in their local area, one of the easiest ways of doing that is to push the Green Deal, because that is going to be a big job-creation programme. Nationally, we are expecting the energy insulation industry to go from employing 27,000 people currently to 100,000 by 2015—250,000 at its peak. This is everywhere, there is no regional bias, because our homes are everywhere, so the stock has to be retrofitted wherever it is. I think local authorities are going to run with this, I think social housing is going to run with it, and let's see. If we find that there are real problems emerging we can look at it again.

Q50 Chair: How will you keep that under review and how will you respond to the representations from the NGOs on this?

Chris Huhne: As you will gather, Chair, are not sympathetic to setting a load of detailed targets and being as interventionist as Friends of the Earth are suggesting. I think that that approach is not a sensible one, and we ought to provide information so that the parties can compete at local level and say, "Look, the people who are running the council at the moment are not doing a good job, they ought to do better. The people down the road are doing twice as well" or whatever.

Q51 Chair: Can I check, your Department does keep that information, doesn't it, about emissions?

Chris Huhne: There is data available at local—

Q52 Chair: What happens to it?

Chris Huhne: It is published.

Q53 Chair: How do you use it?

Chris Huhne: We don't at the moment have a—

Q54 Chair: Shouldn't someone?

Chris Huhne: We will, with the Green Deal, be making a big effort with—I am not sure whether we have already written to them or whether we are about to—with the chief executives of local councils to make them aware of the potential advantages for their area of leading on the Green Deal. That is absolutely legit. Where I think I am hesitant is about setting down very clear guidelines, "You've got to do this. You've got to do that." They are an elected body. We do not like it—a number of colleagues from all sides of the House—when people set guidelines for us, when it comes to the European Union.

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Q55 Chair: But the United Nations are setting targets for us at the international level, hopefully coming out of the international negotiations; isn't it the same? Doesn't it have to follow through at the local level?

Chris Huhne: I do not think it is the same, because I think so many of the policy tools to deliver are at national level, and some of them are at international level. For example, does it make sense to hold Solihull responsible for carbon emissions from the Land Rover plant when they are going to be determined overwhelmingly by the European Union's emissions objectives for the car industry? It doesn't seem to stack up to me. I think it is too—I do not know whether any of my colleagues want to say anything about this. Ravi?

Ravi Gurumurthy: You have to align power with responsibility, and if you take the key behaviour changes we want—we want car manufacturers to build different types of cars, builders to build zero-carbon homes, energy companies to save energy and build low-carbon plants—we should force the behaviour changes on those particular actors, and that is what we are doing through EU vehicle emissions standards or the EU ETS or electricity market reform. What we want local authorities to do is play a facilitative role to enable, to convene, but I don't think we should hold them to account for things they cannot deliver.

Q56 Chair: Two very final quick questions. Is anyone in government providing targeted support to those authorities with the highest emissions? Which I guess gets us back to where we started.

Chris Huhne: Not that I am aware of and I think that is the point that Ravi has just made. It really does not make any sense to say that a local authority that happens to have a steel plant in it, and therefore has very, very high emissions, that somehow—what sort of targeted support are we going to do? We will have clear measures dealing with the steel plant at national level or at EU level, or with a big coal-fired power station. I do not know what the local authority is

where Drax is, our biggest coal-fired power station, but what would be the point in giving them targeted support when they do not have any of the policy instruments on moving to co-firing or on the large combustion plant directive that could affect Drax. It just seems to me to be a bit nonsensical to be honest.

Q57 Chair: Just finally, in terms of the integration with other Departments, you mentioned just now the importance of looking at the way in which the economy becomes greener, and that will perhaps help or not help how we progress along the road in meeting the fourth carbon budget targets. But on the strategic decisions that are being taken at the moment, like for example the consideration of local enterprise zones, how is this planning factor linked with what your Department is doing to look to how the green economy might take off in future?

Chris Huhne: I think you have to set a framework for the economy that uses as many price signals as possible and provides clear, overarching incentives. But again, I wouldn't want to get down to trying to do micro planning because all our experience is micro planning has never worked. It was a total disaster in central and eastern Europe as an economic policy, and it has not been successful elsewhere where it has been tried in terms of indicative planning. The reality is that the market economy is unbelievably dynamic in terms of how quickly things change, with new jobs coming in and old jobs going every month. We just have to accept that we are dealing with something that is very dynamic. We have to accept the framework to make sure that we are meeting the overall carbon emission goals and hopefully use the policy instruments that will credibly meet those goals, and let the market economy get on with it.

Chair: Thank you very much indeed, both to you, Secretary of State, and your three colleagues, who I know were ready to contribute to the debate, and indeed to our colleagues, the same. Thank you very much indeed.

Chris Huhne: Thank you, a pleasure.

Wednesday 13 July 2011

Members present:

Joan Walley (Chair)

Peter Aldous
Neil Carmichael
Martin Caton
Zac Goldsmith
Simon Kirby
Mark Lazarowicz

Caroline Lucas
Ian Murray
Caroline Nokes
Mr Mark Spencer
Simon Wright

Examination of Witnesses

Witnesses: **Dr James Wilde**, Director, Carbon Trust, **Dr Laura Cohen**, Chief Executive, British Ceramics Confederation, and **Jeremy Nicholson**, Director, Energy Intensive Users Group, gave evidence

Q58 Chair: I welcome all three of you to our session this afternoon. This whole agenda, as to how you square the circle in terms of environment, carbon footprint, manufacturing and intensive users of industry, is a big issue for all of us. We are very grateful that you have come here this afternoon.

I am very conscious that we have just an hour and that we are expecting votes in the middle, so rather than doing the courtesy of asking each of you to introduce yourselves, I will go straight to the point, if that is all right. I think we will try and bring each of you in, if there is something for you to add to what has been said. We recognise that from the Carbon Trust to the BCC and the intensive use of energy, we have a wide spectrum. So with no more ado, we want to try to concentrate on the risk of carbon leakage for energy intensive industries. Perhaps if you could comment on the extent to which you think the Government has a full understanding of that risk, and perhaps set out whether or not it is the case that all energy intensive users are similarly affected, or whether it is a question of horses for courses, and trying to be very precise about where there might be particular issues that need to be addressed consistent with reducing the carbon footprint. If I may, I will start with the Carbon Trust.

Dr James Wilde: Thank you. In 2008 we did a systematic review of 159 manufacturing sectors, looking at the EU ETS and whether or not there would be competitiveness effects, and we found it was very much what you were saying around “horses for courses”. We found that there were seven or eight sectors that were fairly majorly exposed to competitiveness issues. There was another set taking the full number at potential risk up to about 20 or 25, but in the remaining group of sectors, the level of exposure they have to the scheme was rather marginal. This was looking purely at the EU ETS. That meant that it really was an environmental as well as a competitiveness issue, because the 20-plus sectors that were potentially at risk were responsible for about 50% of UK manufacturing emissions and a seventh of UK-wide emissions. In terms of economics, they were responsible for about 1% of the value add of the UK economy and 0.5% of employment, so a very focused set of sectors where this issue is very significant.

In the context of the EU ETS, it means that we can set robust targets and use it as a way of driving investment and energy efficiency, but we do need to

be quite focused in the solutions that we put in place, because for those that were exposed, leakage could be quite significant. We did analysis at carbon price at €20 a tonne of CO₂. Cement and steel are examples of sectors that were exposed, and we found that up to 5% to 10% of steel and cement emissions could leak outside the EU as a consequence of the scheme being introduced.

Q59 Chair: I know, Dr Cohen, that you are one of the industries—certainly from my own constituency understanding—that believes that there should be a special focus on the BCC and its members.

Dr Laura Cohen: I think certainly ceramics, and a number of other energy intensive sectors, are affected by this. The Carbon Trust have just talked about their analysis relating to ETS. I stress that in the UK, it is the cumulative range of taxes, some of which are unilateral in the UK. So it is the Emissions Trading Scheme and what carbon price that is at.

It is also things like the carbon price floor, which is a unilateral measure in the UK; the Climate Change Agreements and levies, and what those will look like in the future; how EU ETS will be transposed, and the predictability and consistency of regulatory measures. For example, our members are finding it quite difficult to prove that they can get investment from overseas parents, because there isn't a track record of consistent regulatory measures.

Within 18 months, there was the possibility of a Fossil Fuel Levy to fund the Renewable Heat Incentive. That was dropped, and a few months later there was a Carbon Price Floor. There was no impact assessment for energy intensive industries. These are very substantial taxes indeed, that affect fuel choice and manufacturing strategy. Parent companies are not seeing this level of policy volatility and complete lack of costing for energy intensive industries in other European countries.

We would say that, yes, from our analysis, ceramics is affected. We have looked at cumulative costs in some of our members. We have looked at specific costs for some of the policies as well, and we are not seeing that level of analysis on the cumulative European and UK measures by UK Government.

Q60 Chair: Mr Nicholson, perhaps it would be helpful to know what your estimate is of the number

of companies or jobs that could be affected if there were a possible relocation of jobs outside of the UK, and also how easy it is to collect that information, given that presumably much of it relates to business confidentiality.

Jeremy Nicholson: Some of it does indeed, Chair. Just by way of introduction, I very much agree that the problem is concentrated in a relatively small number of sectors, and some of those sectors themselves consist of a relatively small number of companies. That is not equally true for all sectors. For example, there is a larger number of companies in the ceramics sector than there is in fertiliser production or chlorine production—to take obvious examples—which are concentrated pretty much in single companies in this country. The risk is allied to the degree of energy intensity. Some of our members in steel and paper might be spending 25% or so of their production costs on energy. In some processes, like industrial gases and chlorine production, it could be as high as 70%, so they have a strong commercial interest in energy efficiency anyway, and their ability to improve that is relatively limited compared to the rest of the economy, because the big gains have already been made.

Where I think we may differ from some of the analysis we have seen from the Carbon Trust—less so perhaps than the Committee on Climate Change—is that we think that the risk is higher for a larger number of this relatively small number of sectors than has been publicly acknowledged. It is certainly true to say that the effect of a £20 a tonne carbon price will not finish off every electro-intensive or CO₂ productive industry in the country, far from it, but the combined effect, which Laura Cohen has referred to, of tax, of emissions trading, of the unilateral carbon floor price and the renewables subsidies, which are considerable, are very significant for electro-intensive users, such as the aluminium sector, electric arc furnaces and steel. Briefly on employment, I don't wish to exaggerate the scale of the threat because I don't think that is helpful to any of us. Our analysis shows that in the sectors that we are talking about here: steel, aluminium, ceramics, glass, paper, cement and other mineral products, and so on—and chemicals, of course, which is the largest of the lot—in employment terms, we are talking around about 225,000 jobs directly employed and, depending on how you define indirect employment, probably about another two or three times that in terms of co-dependent, less intensive industries. It would be an exaggeration to say that the threat is equal to all of those at the moment, but the threat is certainly material to the most energy intensive, and there is an issue of, for example, if we ever lost primary chlorine production in this country or primary steel-making, how many of those downstream industries could reasonably be expected to remain here over the longer run.

Q61 Chair: Okay. Before we move on, given what Dr Wilde said earlier and given what you have just said—I think you were indicating that there could be certain sectors, in certain circumstances, that would need this higher focus—is there any process, or mechanism, by which there could be some kind of

negotiation of agreement about a way forward between the Carbon Trust and yourselves?

Jeremy Nicholson: Briefly, yes, and before handing over to my colleague, I think some of the facts can be established relatively easily, even if some of them are commercially confidential. A number of our members have been sharing commercially confidential information about their energy and carbon exposure with various Government Departments, BIS and DECC principally, and also the Treasury.

Chair: Who is taking the lead on trying to get that information together?

Jeremy Nicholson: Much of it has come from ourselves, although I have to say I would give credit to BIS for the fact that they have been proactively asking for some of it too. I think it is also fair to say, and not unduly critical of DECC, that the carbon leakage issue has not been their top concern. Maybe it should not be, maybe some other Government Department should be taking the lead, but some of that information has been shared. The trade exposure figures are there. The broad figures for energy intensity are not in doubt.

The one thing that is in doubt—I would imagine that you as a Committee might be concerned about this too—is the lack of an impact assessment for what current EU and UK policies will mean, particularly for electricity, but for all energy prices, by 2020 and 2030 and beyond, and the extent to which the fourth Carbon Budget and other environmental commitments are driving those to potentially uncompetitive levels. That analysis has been carried out but has not been published.

Chair: Dr Wilde, we do not have much time on this, but if you want to chip in.

Dr James Wilde: We did the work on competitiveness effects. In fact, we did a whole series starting in 2004, prior to the introduction of the scheme, just to try and create a fact base around this, because we felt it was an important issue if we are going to introduce the EU ETS. Bear in mind competitiveness effects because, as much as it is environmental issue, you don't want offshoring of emissions to places where there are no constraints. We did those pieces of work off our own bat to try and inform the debate. At the time, it was all about the EU ETS, so we did not extend the analysis to look at electricity and the broader cumulative effect of domestic policies. It is something one could do, and I know that in the launch of the Electricity Market Reform, DECC said that they will do that full analysis, looking at the cumulative effect on policy. It is not something we have done since that analysis in 2008.

Dr Laura Cohen: It is really important that we have a sensible and consistent carbon price in these assessments because I think some of the earlier work by Carbon Trust and others perhaps used a lower price, like €20 a tonne, whereas now, for the unilateral carbon price floor in the UK, €70 a tonne in 2030 is being used. The Committee for Climate Change is looking at €70 in 2030 in real 2009 prices, which of course is quite a lot higher.

You asked earlier about which sectors are at risk. Certainly the UK Government has previously recognised this point by awarding Climate Change

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Agreements for certain energy intensive sectors, so that has recognised the point. Also the European Commission is giving some allowances—benchmarked, of course—based on the best 10% of installations in Europe in the EU ETS to recognise this very point. I think it has been very helpful recently that in a question in the House of Commons from Tristram Hunt, the MP for Stoke-on-Trent Central, to Charles Hendry about carbon leakage, particularly in the ceramics industry, he said, “Without any doubt, we are profoundly concerned about the risk of carbon leakage. It would be absolutely absurd for British companies to move overseas.”

Chair: Okay. I think we can get the Hansard. We don't really need to hear it. We are just very short of time.

Dr Laura Cohen: Yes.

Q62 Caroline Lucas: To follow up something that Dr Cohen said, you were talking about the difficulties caused by the fact that you have European level legislation and then the UK extra on top.

Dr Laura Cohen: Yes.

Caroline Lucas: Does that mean that, if you simply had the European legislation, you would be happy with that, because I remember, as a Member of the European Parliament, there was an awful lot of attacking even that, whereas it seems to me that if you have something where you have a common carbon price as widely as possible across as many countries as possible, it means that the possibility of passing costs on to customers and so forth is that much easier.

Dr Laura Cohen: Certainly if you have an international agreement inside Europe and outside Europe and there is a level playing field, that is all we want. We are not asking for special treatment. We just do not want UK manufacturers to be disadvantaged compared with manufacturers in other countries that do not have carbon taxes to the same extent. Indeed, some of our members report that energy prices are quite a bit lower in some countries, and there can even be subsidised prices too.

Q63 Ian Murray: I think Dr Wilde said at the very start that in the Carbon Trust's opinion, there was significant leakage in terms of carbon. Mr Nicholson said there was concern that the impact assessments had been inadequate, and we have just heard from Dr Cohen that there should be international agreement and a level playing field. You have touched on this in your initial answers, but I wonder if you could just unpack a little for us what UK climate policies are having the biggest impact on energy intensive industries, given your initial introduction to the Committee?

Jeremy Nicholson: A couple of years ago, Government analysis suggested that the combined effect of the climate change levy, the renewables obligation at the level it was then set—it escalates annually, as you know—and the EU ETS carbon price pass-through in the power market at the time had already added around 21% to the large industrial users' electricity bills. I am sure that the Committee is familiar with this, but for the very large electro-intensive industries we are much more sensitive to the

wholesale price of electricity than consumers generally, so a percentage increase of X in the wholesale price will pretty much translate through to something very close to an X% increase in our supply prices in industry. It is slightly different for the domestic sector. Therefore, policies that have the effect of raising the wholesale price feed through very directly to our members' costs. This is why the percentage impact is so much higher for industry than it is for domestic consumers. That analysis also suggested that, by 2020, the combination of those policies would raise industrial supply prices for electricity by approximately 60% to 70%.

The Government is reviewing a number of these policies and made some announcements yesterday, as you know. Unfortunately, the one thing they did not publish alongside that was their revised impact assessment and this has been a source of frustration. We may be guilty of exaggerating the risk; we are here to represent industry, our own self-interest. Well, let us have the facts that the Government is working on. If Government feels that we are exaggerating the risk and it is not as large as that—as their previous analysis has suggested—then why haven't we seen that impact assessment published? Why have we not even had a date from Government by which it will be published? Why are we hearing from officials at BIS and DECC that it might be published on 22 July, coincidentally after Parliament has gone into recess? You do not have to be unduly cynical when you hear things like that to think that if there was good news for the consumer, the Government would have already published it.

Dr Laura Cohen: You asked what policies have the biggest risk. It really does depend which company you are looking at. Some work the Energy Intensive Users' Group did with the TUC last year, with an independent consultant, showed that each company has its own special features, so some of our members can be 100% electro-intensive. Others can have very high process emissions, because they are on high-carbonate clay and therefore they pay very high costs through EU ETS, but it is a combination of the policies and the fact that the UK has some unilateral ones as well.

Some of our members are finding that they just cannot predict—building on Jeremy's point about the inadequate cumulative impact assessment—and they have to secure investment from overseas parents. They have to show that they can make adequate returns in the UK. This complexity and uncertainty around the regulatory climate means that they cannot show the returns with the certainty that they need in order to be able to prove the investment.

One of our members in the construction sector has said—obviously, for competitive reasons, I cannot reveal which company—the parent will not invest to grow in the UK. At best, they will invest to preserve the current position to keep plants viable and energy efficient. In the worst scenario, they will just run it for the cash and progressively exit and then products will come in from elsewhere in Europe initially, then perhaps outside Europe. It really does see better returns elsewhere in Europe, and I think it is really

sad because we have some of the most energy-efficient plants in Europe. We need to ensure that we can rebalance the economy and make these essential materials to aid a low-carbon transition.

Q64 Chair: I am going to bring Zac in but, Mr Nicholson, you said that impact assessment was not published alongside the statement. Would you normally have expected it to be?

Jeremy Nicholson: Yes. DECC would argue the marginal impact assessment, which they produced solely for the change in costs to consumers arising from the new policies that they have confirmed in the *White Paper*, has been published. But this is only telling us that our prices, I think from memory, for industrial consumers might be £2 or £3 a MWh, slightly less expensive in 2030—assuming we are still in business—than they otherwise would be, neglecting to mention the 60% or 70% uplift in prices that will occur between now and then. This is a major omission and we had been led to believe that the Government would publish it. They are committed to publishing an annual energy statement. They published a rather good one on every sector apart from the energy intensive sector last year, and they have been promising us this, just as the Secretary of State promised us an energy intensive industry strategy, which we have yet to see.

Chair: Okay, thank you.

Q65 Zac Goldsmith: I just wanted to clarify the quote that you have just provided from one of your members. There are lots of reasons why a company might not want to invest in this country, and I just wondered if you could clarify whether or not that quote was in response directly to carbon-related policy or whether it was a reflection on the general investment climate here?

Dr Laura Cohen: No, you are right. In that particular case, they have said that that is the main reason. There are obviously other reasons too. In this particular case, there have been wildly fluctuating energy prices in the UK compared with other countries; that is partly down to the lack of gas storage in this country and compulsion to use it. The construction market is depressed in the UK at the moment, but they can manage that through temporary closure of factories and so on. That is part of it, but I think you make a good point. When factories close or companies offshore production, it is often for a variety of reasons and it is often difficult to pinpoint one particular reason. As energy intensive businesses, energy is often one of the major costs, and companies are often not willing to make their reasons for closure or offshoring public as it can be very share price sensitive. In this case, this particular company—they are not the only company who have shared similar information with us—are finding they cannot predict that they will have a profitable business going forward, because they don't know what their costs are going to be for one of their major costs in production. Up to 30% or 35% of total costs are energy and energy-related taxes.

Zac Goldsmith: Can I just follow that up? It is around the carbon policies, but if you had to take a view how

much of it is it about the uncertainty and how much of it is the current levels of carbon taxation?

Dr Laura Cohen: It is both. We clearly need the clarity. As I have said, moves, great big swings on policies—like the fossil levy, then dropping that and moving to a carbon price floor—make it quite difficult to work out your manufacturing strategy. Also, historically, there is this complexity of the level of the taxes to the level of management time required—that is not happening in other European countries—to manage this, and also, on specific taxes, ways in which they are being treated that are not happening elsewhere in other countries.

Chair: Because I think that the evidence is really important to any Select Committee undertaking an inquiry—obviously, we completely appreciate issues of commercial confidentiality, but we also want transparency to make an informed conclusion or recommendation about how these things are proceeding—I just wonder if it might be possible for the company concerned to perhaps, in confidence, set out how this is affecting investment patterns, so that we had a greater understanding? Obviously that would be on a strict commercial confidentiality basis.

Dr Laura Cohen: I will speak to the company concerned and see what they are willing to do for you.

Chair: Thank you very much.

Q66 Martin Caton: Mr Nicholson, you said DECC do not give great priority to carbon leakage, and that is really because they do not see carbon leakage as significant in the relocation of industry, even energy intensive industry. For an example, the Secretary of State told this Committee, “When people talk about carbon leakage in great alarmist terms and cite the vast numbers of our imports from China and so on, let's be clear analytically about what has been going on. I know of no economic work that has suggested that the reason why there has been a substantial shift of manufacturing production from Europe and the United States to China is energy cost, or anything to do with the climate change agenda”. He says it is labour costs and better use of labour in China rather than energy. How do you respond to that? Have you been able to identify any either economic research or other evidence to say that this is a factor?

Jeremy Nicholson: That view, by the way, is not one that you would get from the Department for Business, so even within Government there is a variety of views, and I would suggest that the particular view put forward by the Secretary of State might not even be entirely in accordance with some of his ministerial colleagues in that Department. They were surprising words for him to choose to say to your Committee.

The leakage that has occurred has not all been the result of climate policy to date. It has happened for a variety of reasons. Our concern is that it will increasingly be climate policy, if we drive energy prices to uncompetitive levels, which will be the dominant factor going forward. We have seen that the sensitivity is different for different industries. Plainly, a labour intensive industry will be much more sensitive to differences in labour costs than they will be to energy costs; but for energy intensive industries, by definition—particularly the ones with very high

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percentages of their production costs being energy related—and given that energy prices are regional, inevitably that concern about their competitiveness, whether for market-related reasons or climate policy-related reasons, will be a major driver. There is no doubt about this, and I think we can see some empirical evidence, as a result of what happened with the price spike in gas from a few years ago—which was unrelated to climate policy, I would add—that there were some permanent closures and transfer of production outside the UK, and we can give the Committee evidence on that, because the gas sensitive industries did indeed respond to the very substantial price signals at the time.

Our concern, partly in response to Zac Goldsmith's question earlier on, is not so much that our electricity prices are uncompetitive now—I am sure they could be more competitive, and there have been problems about that in the past—but where we are going, where we are going to be in five or ten years' time and the effect that that has on investment. Although it is the high-profile cases—I am sure the Secretary of State would say if he was sitting here, "Well, where is the blood on the carpet? Where are the factories that have closed?"—and there have been some high-profile closures, whether it is the Anglesey Aluminium smelter at Wylfa or the Tata Steel announcements earlier this year, which have had an energy-related component to them. But the real concern is what investment is going elsewhere because investors see higher risk in our markets. That is a much more difficult thing to point to—the thing that has not happened that otherwise would have done.

Chair: Do you want to come in?

Dr Laura Cohen: As Joan will know from her own constituency, there has been substantial offshoring to China and other Asian producers. A lot of this happened at the beginning of the last decade.

Chair: I think the specific question was in relation to carbon leakage.

Dr Laura Cohen: Yes. Some of this is undoubtedly due to labour prices but the companies that are left are energy efficient, so why is this outsourcing still going on, because labour prices are rising much faster in China than they are in the UK? Our members are saying that energy prices and energy taxes are lower in other countries.

Martin Caton: You are arguing that the Government's climate change agenda—at least in part—is responsible for some of this relocation.

Dr Laura Cohen: Yes, and it certainly will be going forward, whether it is relocation or lack of attracting investment funds here.

Q67 Caroline Lucas: I am still unclear where the research is. You have said it is difficult to identify which bits are which, but I want to see something where a company will say, "90% of the reason for this relocation was as a result of carbon prices" because, as Zac said earlier, and others have said, there are a range of reasons for people to relocate. For us to make an assessment, it would be useful to see some real evidence of the role of the carbon price in particular.

Jeremy Nicholson: It may be that some of our members can give evidence in confidence to the

Committee. I know a number of them, on an individual company basis, have already done so to BIS, DECC and the Treasury for precisely the reasons you outline.

Chair: Anything to add?

Dr James Wilde: I do not have any information on the historic, because it is quite difficult to disaggregate the relative effects.

Chair: Do you just not happen to have it or has it not been done?

Dr James Wilde: I have not analysed it. I haven't seen it done either, to be fair.

Q68 Zac Goldsmith: I think this is a really central point for the Committee. If you are lobbying against a particular policy, it is very easy to blame previous problems on that policy or the fear of that policy. With Tata, for example, I do not remember them having cited any of these issues as a reason why they were relocating. It may be that it was part of it, but it is not something that appeared in the reports that were printed. I do not think it is possible for us to make a decision as a Committee without that information. I do not know where it comes from, but if you were able to persuade your members to provide us with even an anonymised analysis of some sort, from their own point of view, it would make the difference between a proper conclusion and not, I would have thought.

Chair: This issue of research is really important.

Q69 Caroline Lucas: In a recent report by Sandbag, the institute that looks at emissions trading in particular, they made the case that some energy intensive companies have been accumulating fee allowances under the EU emissions trading system, which are worth billions of pounds overall, which in turn produces obviously only very weak pressure to invest in low carbon, and I wondered what your response is and your view of that?

Jeremy Nicholson: Our response is that the Emissions Trading Scheme has been working exactly as intended. The thing nobody expected was that we would go through one of the most savage industrial recessions in recent decades, which has necessarily meant that the emissions, not just from the power sector, but from CO₂ production from cement and steel, are considerably less than anyone could reasonably have foreseen when the allowances were set out for phase II. There are a number of weaknesses in the Sandbag report on the steel industry, and I could give you chapter and verse on that. We point out that the savagery of the recession that construction and particular related industries went through was such that 7,000 workers lost their jobs and steel output, which was at a peak before the recession, was down around about 50% on normal levels. So there was an exceptional difference. The steel industry and others also point out that they don't believe they will have the analysis they need for the next phase of the Emissions Trading Scheme, although we need that bit finalised. I think perhaps more critical is the question of the costs pass-through and higher emission price in the EU ETS; it is a necessary part of how it operates. It does pass the cost flows emissions analysis of them,

whether they have been freely allocated or otherwise, and that has been reflected in the inflated prices, so not all of the pound profit seems to be there, and it is reflected in the Sandbag report.

Caroline Lucas: Can I just see what Dr Wilde would say?

Dr James Wilde: On the whole actually it is an absolute fact—that there is a recession that the companies will gain. If there is a rebound, they will have increased pressure to invest in low-carbon technologies, and there are alternatives. There was a lot of lobbying around the scheme that one could have a specific basis for allocation, so allocation for unit of output, but that dampens the incentive to invest in low-carbon technologies, and I don't think would be a better way to go. So it is a consequence of having an absolute cap and trade scheme, and I think one thing it says is that we can move to more aggressive targets in the next phase.

Q70 Caroline Lucas: Obviously one of the aims of the ETS is to drive more efficient investment. The point is not simply to have a price on carbon, but to use it to hopefully make energy intensive industry more efficient and, indeed, all industry more efficient. Are there any real examples of where the ETS has successfully driven that?

Dr Laura Cohen: In terms of ETS, none comes to mind just at the moment. Certainly in the UK, through the Carbon Trust, some of our smaller members have been able to get some interest-free loans. Sadly, that amount is being reduced quite drastically, but they have been able to make some changes and the Carbon Trust has done some really good work with our sector, and indeed, other energy intensive sectors, on the Industry Efficiency Accelerator Scheme, looking at the technologies of the future that might make a real difference in emissions reduction. The funding for that was cut in December, but schemes like that, where perhaps there can be some recycling of Government funds to energy intensive industries, will help start to move us a bit further along the energy efficiency and emissions reduction scale.

Under the discipline of the Climate Change Agreements in the UK, there have already been some fantastic improvements in energy efficiency. The Chairman knows of some examples in the ceramic sector. For example, one tableware company has halved their carbon footprint, their specific energy consumption, in the last ten years. Another company in your constituency has developed a material with 18% of the carbon footprint of competitor materials made overseas. There has been some good innovation, but the low-hanging fruit has been taken and there are some quite radical changes in technology that are needed and we are not really seeing the recycling of funds that we desperately need.

Chair: Thank you. As you can hear, we do have a Division in the Commons, so we shall adjourn the meeting.

The Committee suspended for a Division in the House.

Q71 Chair: Thank you very much for your patience. We will continue where we left off, which was with Caroline Lucas' question.

Caroline Lucas: Thank you. I did have one last point to raise. In terms of what you are looking for in order to help support you, is it in a sense that the energy intensive industries are looking for transitional help and, if so, what does that look like, or are they looking for permanent support? In other words, do you want transitional help while you decarbonise or are you looking for something more permanent? That would be helpful to know.

Jeremy Nicholson: Ultimately I think it is an element of both. The transitional help I think is essential for electro-intensive industries as we go through this process of decarbonising, when some of the low-carbon options, as you are well aware, are not necessarily cost competitive with fossil fuel-based power. The expectation is that the cost difference will narrow over the decades ahead. Therefore, one can foresee at some stage a time when compensation may not be required, either because of the convergence in the costs of technologies or because of a wider adoption of carbon constraints by competitor economies.

I think the really big gap in Government policy is the assistance to industry in decarbonising. We have seen very generous assistance to the power industry, excessively generous some might say in the case of the floor price for carbon, which is going to gift windfall profits to an existing nuclear operator for 10 years before any new nuclear can come on stream. I am not saying we should argue for that level of compensation or over-compensation in industry, but where is the support for research and development and demonstration projects of carbon capture and storage in cement and steel, for example, or equivalent carbon lowering technologies, which are not cost free but which we need to bring down the cost curve? At the moment there is no strategy for that from Government, there is no funding for it; there is merely the stick of higher energy prices. There is no carrot, or support, to kick-start those technologies in industry in the same way as there is in the power sector.

Q72 Caroline Lucas: Would it be more that kind of measure that you would be looking for rather than direct financial support?

Jeremy Nicholson: It would have to be an element of both, at least for the electro-intensive industries in particular, because the pass-through costs of renewable subsidies, EU ETS and the carbon floor price—quite apart from tax—are going to be quite considerable. But for dealing with emissions from industrial processes, I think there could be a number of ways of tackling it.

Q73 Caroline Lucas: Can I ask the next bit and then you can answer it as well. Given the difficulty that we have already been discussing about identifying within a sector which companies are particularly at risk from carbon leakage, to the extent that you are looking for direct financial support, how would you then draw up the list of those who are sufficiently at risk? How would you do that?

Dr Laura Cohen: If a sector has a Climate Change Agreement, that is a useful first indication that the Government has recognised previously in the UK that

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there is an issue, but different energy intensive companies have different issues. As Jeremy and I have said, some are 100% electro-intensive; some are very gas-intensive and perhaps need secure sources of synthetic gas, biogas, and the technology to make that work. Others have very high levels of process emissions. For example, some of our members are on high carbonate clay; they cannot relocate the factory and carbon capture and storage is not going to work for them because the process stream is too dilute and there are too many installations. We need a broad package of measures to help the UK achieve its aims. There is a broader policy issue at stake here: are we measuring the right thing in the UK? We are not measuring consumed carbon; we are just measuring carbon generated here. We are not looking at imported carbon at all. There is a real danger that we end up exporting jobs and production and importing carbon. There is also the issue of life cycle carbon. I am not seeing anything in the fourth Carbon Budget around moving to more durable products, those with a lower life cycle carbon footprint. Surely, as a society, we have to start making changes, and some of the energy intensive products have a critical role to play—particularly if they are long life—in helping us as a country make this low carbon transition.

Dr James Wilde: I would definitely agree that there is a role for innovation in helping industries decarbonise. I can talk about that in more detail if you want.

In the context of the EU ETS and differential carbon prices globally, there is a case for thinking through the potential solutions there as well. At the moment it is free allocation; is that the right solution? Could one move to border tax adjustments or consumption-based emissions trading schemes as well?

On the consumption question, we have done an awful lot of work on that at the Carbon Trust. We have just launched a big publication online about it. The UK is a net importer as a whole—34% of our emissions compared to our production; but it is even more interesting if you start looking at the energy intensive industries, or as interesting. For steel, it is fascinating across Europe. Our consumption emissions in Europe are 44% higher than our production emissions—the emissions in the EU ETS. Of those 144% emissions, 70% come in from outside Europe, so actually they are not exposed to the carbon price. We are a net importer of about 30% of embodied products and about 15% in the actual raw commodity.

The migration of carbon is quite critical when you look at the global cost curve. We were talking earlier about historic evidence around leakage, and it is as interesting to look at the next investment. If you look at the global cost curve for steel or aluminium, western Europe is at the most expensive end of the market. Even if you allow for transport costs pre-allowing for carbon, it is 20% cheaper to locate a new plant in Latin America and 40% cheaper in aluminium as well. One of the big questions is how do we deal with consumption going forward? On EU-wide non-electricity emissions going out to 2020, emissions at the moment are about 1.4 gigatonnes from a consumption perspective. With the decrease due to the EU ETS cap, when you allow for the influx of imports

on a consumption basis, the emissions would be exactly the same: 1.4 gigatonnes in 2020.

Q74 Mark Lazarowicz: This question can be dealt with fairly briefly. I think it is probably for Mr Nicholson. I understand that DECC and BIS have set up an energy intensive working group to help industries like your own. Can you tell me a bit about your understanding of how the group will operate? Who is on it? What are its terms of reference? Is it just the industry or is there a wider set of stakeholders involved?

Jeremy Nicholson: I hope it will not disappoint you to learn that that group has only met once.

Q75 Mark Lazarowicz: When was it established?

Jeremy Nicholson: Two or three months ago.

Dr Laura Cohen: Yes. The first and only meeting was on 13 May.

Jeremy Nicholson: There are a small number of energy intensive industries represented in the energy intensive working group. We had a constructive discussion with BIS and DECC officials about the nature of the problems, as we saw them, and some areas that might be fruitful in terms of solutions to discuss further. We are frustrated that we do not even have a date for when it is next going to meet. This suggests something of a lack of priority. I do not wish to blame BIS or DECC singly for this. I do not know why it has not been arranged yet.

Time is running out. We have been promised that there will be a package of measures to ensure that energy intensive industries are not significantly disadvantaged as a result of the climate policy that we are expecting to see by the end of the year. I have mentioned that we do not yet have the impact assessment for it, but there is a limited amount of time between then and now to have adequate conversations about the detail of this, involving sufficient industries. I think it is fair to say that some individual companies and sectors have been more proactive about this. One thinks of steel and aluminium and chlorine producers—very energy and electro-intensive—who have naturally been in deep conversation with Government Departments about this on an individual basis, in any case. The problems are wider than that, and our group represents other energy intensive industries that are not necessarily directly represented on this working group, some big gas users but also some other combined heat and power operators in the paper sector, for example. How are their interests going to be taken into consideration?

Q76 Mark Lazarowicz: Are these sectors engaging with Government in other ways? Obviously they are having discussions, but in terms of a more systematic engagement with Government is there anything happening?

Jeremy Nicholson: Yes and my colleague will say a bit more about that.

Mark Lazarowicz: More to the point, is it enough?

Jeremy Nicholson: No, but we are getting there. It was unfortunate that the current Government abolished a number of forums where business energy users, and indeed some energy stakeholders, were in

regular dialogue with Government, with BIS and DECC and occasionally Ofgem.

Q77 Mark Lazarowicz: What were these?

Jeremy Nicholson: There was a business energy forum that met periodically with the Secretary of State, which was co-chaired with the CBI, and there was a business climate change and energy group, which met with Whitehall officials and representatives from some of the energy intensive sectors and from the energy industry. While it is true to say there was an element of duplication going on there and it could have been done more efficiently, I think the loss of those groups is noticeable in some of the mistakes and gaps that we have seen in Government policy.

Q78 Mark Lazarowicz: Were they chucked on the bonfire of quangos, or was there another reason?

Jeremy Nicholson: Laura may wish to say more, because you have also been involved in this debate.

Dr Laura Cohen: We have encouraged DECC to have a regular dialogue between the users and the producers of electricity and energy. There is a new group set up, a Business and Energy Group chaired by the UK Business Council for Sustainable Energy. We had our first meeting a couple of weeks ago to discuss Electricity Market Reform, at which Charles Hendry and DECC officials were present. There are some vehicles that we are slowly getting off the ground to have some discussion, but they do not include all the energy intensive sectors.

As a trade association, we do have discussions with BIS and DECC officials from time to time. I would have liked to have seen more discussion on the areas around the package as well, and to have more follow-up since the meeting in May. But we need to see broader representation across a range of industries affected by all of this and to ensure that the ideas are being taken on board, and that they are sufficiently comprehensive and being evaluated.

Q79 Martin Caton: The European Commission has listed 164 sectors they say are exposed to a significant risk of carbon leakage because of the EU ETS. Here the Government has said that the package of measures will help those most affected by energy and climate policy. How should the Government determine those most affected?

Jeremy Nicholson: I would start by saying that nobody in the UK expects all 164 sectors to receive 100% compensation for the pass-through costs of climate policies on energy, even if there was the means of financing it. Plainly not all of those sectors are equally at risk of carbon leakage. However, we are fearful that the Government position—certainly the DECC position—will be to draw the net too tightly in the other direction and leave out a number of significantly trade exposed and intensive sectors that are not necessarily the most exposed.

You asked how this should be done. In our view, the critical thing is energy and carbon exposure as a proportion of production costs rather than trade intensity because, for various reasons, the amount of traded products might be relatively low at the moment but the sector could conceivably be subject to very

high import penetration, if production costs rise sufficiently in this country relative to production costs outside. We do not think that trade exposure is necessarily the same thing as trade penetration, but the real critical factor is the proportion of production costs related to energy and climate costs. That can easily be ranked, and there will always be an argument about where you draw the cut-off level. Doubtless, environmental campaigners and industrialists will disagree about that but I think ranking that is of high priority.

Chair: Dr Cohen, I think you want to carry on with that point.

Dr Laura Cohen: Thank you, Chairman. Trade exposure and penetration is important as well. If your products compete internationally, clearly unilateral extra taxes and costs in the UK are going to affect whether you can pass those prices through or not. It is not just extra-European trade, it is intra-European trade as well. I think what we are seeing is products that, as Jeremy said, have perhaps had relatively low historical trade. We are seeing sanction for plants going up round the rim of Europe, and also seeing plants, outside the UK but elsewhere in Europe, starting to feed into the UK much more, and this can happen quite quickly.

Q80 Martin Caton: I guess quite a lot of businesses will have a range of products, and the range of products will not all have the same level of energy requirement, so how should the Government approach tackling carbon leakage? Should it be at the product level or at the business level?

Jeremy Nicholson: Primarily at the product or, at least, process level. That might be less of a problem than we might think for certain sectors. It might be more of a problem for others. Plainly the purpose of the exercise is not to overcompensate for parts of a business that happen to be owned by one company that are not equally trade exposed and sensitive to energy and carbon price risk. I think the starting point ought to be the processes that are relevant. Indeed, that was the approach taken when considering climate change agreements for intensive sectors here in the UK, and the sectors that are able to continue having access to free allowances up to a certain level in the third phase of the EU Emissions Trading Scheme.

Q81 Simon Wright: In relation to technologies, which we have had some discussion about, to what extent are new technologies needed to help decarbonise energy intensive industries, and which technologies will make the most impact, accepting that there will be a degree of variance across the sector?

Dr James Wilde: I think it is absolutely critical because, when you look at all the CCC's projections and DECC's *2050 Pathway Analyses*, industry is one of the persistent sectors hard to reduce when you move out to 2050. Steel again is a fascinating example. Global consumption of steel is set to double out to 2050. We need to halve emissions. That means you need a 75% improvement in the carbon intensity of steel. EU ETS and energy efficiency is not going to get you there so you start to need things like CCS,

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bio-coke, electrolysis of steel—fundamentally new ways of producing steel.

We have been working a lot with industry; it was mentioned earlier. It came out of one of your previous reviews in 2007, which I gave evidence to, on the CCAs. One of the recommendations was that industry needs a lot more specific support to unlock their process emissions. As a consequence, we set up a programme called Industrial Energy Efficiency Acceleration, working with 15 sectors—quite a diverse range of sectors, anything from bakeries to asphalt production—to work out what all their opportunities are, and to start to trial that and then disseminate it across the industry. The whole programme would be able to save hundreds of millions of pounds worth of energy, at about 1 million to 2 million tonnes of CO₂. We have RGF—Regional Growth Funding—from BIS to do the first four sectors.

Q82 Chair: The original funding that you had, is that adequate?

Dr James Wilde: No, because we did have funding from DECC to run that programme. That has now gone away so now we are looking to—

Chair: Sorry. It has gone away?

Dr James Wilde: Yes. We do not have funding now. It is a £15 million programme that we scoped out thoroughly in the first phase. We do not have that funding now, so what we are now trying to do is get funding for it through the Regional Growth Fund, through the competitions that exist there. In the first phase of the Regional Growth Fund we received funding for four sectors and in the next phase we are going to try and get funding for the full programme, which should be able to save a lot of money for UK industry.

Dr Laura Cohen: That is something, as I have explained, that the brick sector has contributed to as well. We really hope that you are successful in that because some of those technologies are quite generic across the ceramic sector and may indeed help other sectors. What we are really concerned about is, since the funding was cut in December—

Q83 Chair: Can I just check, was it cut as a result of the comprehensive spending review?

Dr James Wilde: It was.

Chair: Thank you.

Dr Laura Cohen: Some of the technologies that perhaps could have been developed in the UK, we now may lose to foreign competitors because they have seen that list and they think, “What a good idea, let’s go with that.” They can get funding elsewhere that perhaps we cannot in the UK.

Jeremy Nicholson: The Energy Intensive Users Group has been working on a report with the TUC, trying to identify some of the carbon abatement opportunities in heavy manufacturing industries, and hopefully that will be published very shortly. Obviously for the electro-intensive industries, their carbon footprint is largely determined by the nature of their electricity supply. In the long run, the technological solutions are within the energy industry primarily, or possibly through certain auto-generation

options. It is clear that some sectors could roll out current technologies to a degree—marginal improvement in energy efficiency and so on—but others are going to need step changes in their emissions if we are going to get anywhere near the targets, other than just by offshoring the industries, which of course is not solving the problems, merely moving them.

Carbon capture and storage is critical but not the only one. If you look at the steel sector, cement and others, it is difficult to see that that will not be part of the solution, and yet there are no demonstration projects in the offing and no support for them. That is a concern. On breakthrough technologies, electrolytic production of steel, for example, is a wonderful idea, a bit like fusion power in the electricity sector, which I suspect may remain an amazing idea for some decades to come before it becomes practical. I guess there is an element of product substitution that can go on as well within intensive sectors, but realistically one does have to question some of the suggestions that are being made. Are we really going to go back to using charcoal in the steel industry on a worldwide scale? Are we really going to be substituting timber for steel in construction, or maybe in certain aspects of construction, on a meaningful scale to have an impact on global emissions? That does not seem likely to me. There are not easily substitutable alternatives for steel and cement in construction and we are going to have to find a cleaner and less CO₂-intensive way of producing it.

Q84 Simon Wright: Following the loss of that £15 million of DECC funding that was referred to, what support is the Government currently providing to develop these technologies?

Jeremy Nicholson: We hope we might hear something more about that later in the year. Just over a year ago, the Secretary of State for Energy and Climate Change announced that the Government was going to have an energy intensive industry strategy. We thought that one aspect of that might be some position in Government, in terms of support for decarbonising industry and retaining it here as part of the necessary supply chain for the green infrastructure we all want to see in the long run. We have yet to see anything emerge from that process. It might be logical to expect that the Government would say something about support for trialling decarbonisation options, but we haven’t seen it yet.

Dr James Wilde: One related piece of work we have been doing with DECC and the innovation chain—BIS, TSB and ETI—is a review of technology innovation needs assessments in different sectors. We have been doing the one for industrial energy efficiency as well, looking at cement, steel, aluminium and chemicals; trying to look at the full range of possible breakthrough technologies and work out what funding might make sense in the UK, in the context of what is being done elsewhere globally. I guess that is trying to inform how DECC uses its £165 million of remaining innovation spend, but also the broader innovation chain, trying to co-ordinate how we all work in this space.

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Dr Laura Cohen: I think it is quite important too that a range of technologies and industries is considered and that companies or sectors—not just “winners” are picked—because we have internationally competitive manufacturers in a number of energy intensive sectors that are energy efficient. We want to keep it that way and help to rebalance the economy.

Chair: I am very conscious of time and that we have a further inquiry. I think we must leave it there, but we are very grateful indeed to all three of you for coming in this afternoon. If there is anything arising out of our session this afternoon that you think you want to give us further clarification on, we will be very happy to receive it. Thank you very much indeed.

Written evidence

Written evidence submitted by the British Ceramic Confederation

EXECUTIVE SUMMARY

- As part of the transition to a low carbon economy, we need to ensure that energy intensive industries such as ceramics remain competitive and that we send a clear message that the UK is open for business. Before the end of the year the Government plans to announce a package of measures for energy intensive businesses whose international competitiveness is most affected by our energy and climate change policies. It will be important to ensure that this “package of measures” is adequate to mitigate the threat to international competitiveness for the ceramics industry. This principle has already been recognised by the Government with their support for the ceramics sector in the EU ETS “carbon leakage” debate, which is crucial for the sector in “reducing operational costs and supporting the sector to stay internationally competitive”. It is essential that there is no delay in this action as ceramic factories continue to close, and further investment is still being withheld in the face of unilateral action by the UK.
- We strongly disagree that without an international accord, only a limited number of sectors is affected by carbon leakage. Ceramics certainly is affected, as recently acknowledged by DECC.¹ Ceramics companies operate in an international market, so there is no ability to pass on energy price and tax increases resulting from unilateral UK climate change policies. This fact has already been acknowledged by the government for energy intensive sectors, such as ceramics, covered by Climate Change Agreements, and at the European level for trade exposed sectors covered by the EU Emissions Trading Scheme, so it should not be necessary to debate this matter yet again.
- As an energy intensive industry we are concerned that the impact assessment is inadequate. It should include the cumulative costs of all UK policies on these industries, costs of abatement, feasibility of abatement, and value of the energy intensive sectors (direct and indirect employment) to the UK economy. There are consequences for global emissions for these essential products, which will be produced and imported from less regulated countries if these industries are lost from the UK.
- We are concerned that the budget continues to be based on domestically produced emissions and NOT domestic consumption. There needs to be an amendment of the Climate Change Act to include imported carbon in the UK’s consumption to ensure that global emissions are indeed reducing and the UK is not just “exporting jobs and importing carbon”. Imported carbon has in fact increased over recent years.² Loss of UK ceramic manufacturing capacity is already happening. This is not a medium-term effect. We require urgent action now.
- To achieve challenging emissions reductions, lifecycle carbon needs to be reduced and measured in the carbon budget. A fundamental change in consumer behaviour is needed. Durable products such as ceramics are therefore essential in the low carbon transition.
- The UK ceramic industry has a very good track record in energy efficiency improvements. The industry is keen to do more—where technologically and financially feasible. Ceramics are essential materials for the low carbon transition.

BRIEF INTRODUCTION TO THE BRITISH CERAMIC CONFEDERATION

1. The British Ceramic Confederation (BCC) is the trade association for the UK Ceramic Manufacturing Industry, representing the common and collective interests of all sectors of the Industry. Its 100 member companies cover the full spectrum of products and materials in the supply chain and comprise over 90% of the Industry’s manufacturing capacity.

2. Membership of the Confederation includes manufacturers from the following industry sectors:

- | | | |
|----------------------|------------------------|----------------------|
| — Gift and Tableware | — Floor and Wall Tiles | — Sanitaryware |
| — Bricks | — Clay Roof Tiles | — Clay Pipes |
| — Refractories | — Industrial Ceramics | — Material Suppliers |

3. The industry is energy-intensive (but not energy inefficient): energy bills / taxes can be up to 30–35% of total production costs. 85% of the energy used is natural gas. BCC is a member of the Energy Intensive Users Group, which supports cost-effective action to reduce global greenhouse gas emissions.

FACTUAL INFORMATION

4. **Uncertainty of business viability—costs and taxes from UK policies.** DECC’s 17 May 2011 press statement³ quotes Chris Huhne saying that the carbon budget provides certainty, which will drive investment in green energy. Until the “package of measures” for energy intensive industry is published, there is no certainty

¹ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110524/text/110524w0001.htm#11052477000010>

² Examples as reported in: <http://www.bbc.co.uk/news/science-environment-13187156>

³ http://www.decc.gov.uk/en/content/cms/news/pn11_41/pn11_41.aspx

for investment within our industry other than the certainty that the UK is uneconomic compared with other countries.

5. **Mitigating the negative effects of UK climate policy.** In the House of Commons Hansard Debates for 17 May 2011⁴ (col. 181), Chris Huhne suggests free allocation under EU ETS as a mitigating factor for the effects of climate change policy on energy intensive industry. Even with carbon leakage status, an average brick manufacturer would still need to purchase 30–35% of their carbon emissions, and this only mitigates against European not domestic policies. More is needed here.

6. **Costs and Incentives.** The Committee on Climate Change recommends a rising carbon price,⁵ suggesting £70 / tonne CO₂ by 2030. Energy intensive industry has little or no ability to pass through unilateral UK costs of this sort to customers, and this is balanced against the price of imported goods which may not be subject to such a tax. Whilst some sectors might require £70 / tonne to drive behavioural change, energy intensive industry by definition already has such an incentive, and a £70 / tonne carbon price would make a significant proportion of our members unprofitable.

7. **Efficiency incentives—carbon price.** The Committee on Climate Change describes the “*low, volatile carbon price generated in the EU ETS*” as an insufficient incentive to behavioural change in industry, and is therefore grounds for an underpinning mechanism for a higher carbon price.⁵ Energy intensive industrial users find the current price of carbon more than sufficient to change their behaviour and further increases, in the absence of international agreements, undermine UK manufacturing competitiveness.

8. **Impact assessment.** The Committee on Climate Change’s publication, “The fourth carbon budget. Reducing emissions through the 2020s”⁵ fails to provide an impact assessment on energy intensive industries (see summary), or consider their role in facilitating emission reductions. We know from the Waters Wye report and March 2011 update, commissioned by EIUG and TUC,⁶ in which two of our members included data, that the effects of current UK environmental taxes and policies is significant and damaging to energy intensive industries, and that these industries are required for the transition to a low carbon economy.

9. **Emissions export.** The Committee on Climate Change’s publication⁵ clearly states that UK emission reductions should come from domestic reductions, rather than export elsewhere, but only considers the purchase of international (eg EU ETS) allowances when discussing “export elsewhere”. The export of emissions arising from the export of manufacturing (“carbon leakage”) is not sufficiently mentioned, and would be likely to increase overall UK and global greenhouse-gas emissions as well as damage the economy, despite what would initially look like a “reduction” in UK emissions.

10. **Increase in transport emissions.** If imports are required to meet UK demand for products that were once made domestically, global transport emissions will rise, and the UK balance of payments will be affected.

11. **Energy intensive industry as part of the solution.** There will be real opportunities for energy intensive industries to supply products (eg heat reflective glass, insulation, turbine blades), that will be necessary for any low carbon future. Ceramic refractory materials will also be required by all high temperature manufacturing processes.

12. **Imported emissions.** In the House of Commons Hansard Debates for 17 May 2011⁴ (cols. 188–189), Chris Huhne acknowledges that emissions should be measured on a “consumption basis” (eg embedded emissions in imported products), but expresses concerns over its practicality. We recognise that some companies in some countries are reducing emissions. However, in the absence of a legally binding international agreement, ignoring “consumption emissions” unfairly disadvantages domestically-produced goods, and can give an incomplete view. This damages the economy, and runs counter to the Government’s economic growth policy, and the section on business competitiveness in the Government’s 4th carbon budget policy statement.⁷

13. **Lifecycle carbon footprints.** Many energy intensive products including ceramics are durable, having a low lifecycle carbon footprint in comparison with many other materials, despite their initial manufacturing-emissions. Bricks and roof tiles have a life span in excess of a hundred years. Vitriified tableware and specialist refractories have the durability to outlive more conventional ceramic materials, saving the emissions of re-manufacture several times over their life span.

14. **Downstream emissions savings.** Many energy intensive products such as ceramics facilitate significant energy and emission savings “downstream”. Besides enabling the low carbon transition (see paragraph 11), clay bricks have good thermal properties, and specialised refractory products made in the UK by some of our members have a low thermal conductivity, which reduces the energy consumption of glass furnaces enough to save the energy required for their manufacture several times over.

⁴ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110517/debtext/110517-0002.htm>

⁵ <http://www.theccc.org.uk/reports/fourth-carbon-budget>

⁶ <http://www.eiug.org.uk/publics/WWA%20Impact%20of%20Climate%20Change%20Policies%20EIUG%20TUC%202010723.pdf> (updated analysis at <http://www.eiug.org.uk/publics/r1403w1.pdf>)

⁷ http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/carbon_budgets/carbon_budgets.aspx

15. **The 2050 target.** The Committee for Climate Change recommends emissions reductions of the order of 90% by 2050 in non shipping, aviation and agricultural sectors.⁸ These 90% reductions are not currently feasible for our sector:

- (a) A proportion of emissions arise from the process (eg breakdown of carbonates in clay when firing ceramics).
- (b) Due to fuel or feedstock availability, or fuel quality/purity, consistency, and calorific value, there is currently a lack of viable alternatives to fossil fuels such as natural gas. Ceramics has already achieved the benefits from fuel switching.
- (c) There is an absolute minimum heat input required to heat up a mass and subsequently drive chemical changes within it. Therefore without a current viable alternative to natural gas, this will incur a minimum quantity of carbon emissions.

However, a much more complete picture of reductions will emerge if the analysis includes product lifecycle emissions and imported emissions (as detailed in paragraphs 11, 12, 13 and 14).

16. **The trajectory and 4th carbon budget new 2023–27 targets.** Based on the Committee on Climate Change report,⁸ the 4th Carbon budget recommends a 50% emissions reduction in 2023–27 compared with 1990 levels. Even more radical changes in technology and technology development would be necessary for this tighter 4th carbon budget target. Manufacturing plants have a long investment cycle, making it more difficult or impossible to achieve the changes in the timescale indicated with current state of the art technology and no funding for new technology demonstrator projects.

17. **Markal model—insufficient sectoral detail.** The Markal model used to inform the 4th carbon budget is over-simplistic in its treatment of “industry”. This is admitted in the opening comments of the “key results” document.⁸ In particular, the ability to switch fuel types, adopt bio-fuels, and use CCS is overestimated based on our own industry.

18. **Technological feasibility.** Many energy intensive manufacturers have made numerous efficiency improvements in the last few years, and most remaining options are now prohibitively expensive and/or have payback times of the order of decades, which without further assistance deters investment.

19. **CCS.** CCS is a technology in its infancy and is unlikely to be viable for industry other than the largest emitters. Ceramic and some other energy intensive installations are too small, geographically spread, and process emissions too dilute for CCS to be a viable option.

20. **Technology demonstrator projects.** The ceramic industry produced a list of viable emission reduction and energy efficiency projects as part of the Carbon Trust’s Industrial Energy Efficiency Accelerator project, prior to its sudden removal of funding in December 2010. These projects are essential to prove technological and financial feasibility. Seeking alternative funding has been time-consuming and risks losing valuable technologies from the UK.

21. **Funding and assistance for proven technologies.** Green Investment Bank funds for proven industrial energy efficiency and emission reduction projects are necessary as conventional funding sources are not often available.

22. **Efficiency incentives—energy price.** By definition, energy is a significant proportion of costs in energy intensive industries. This provides an existing incentive for energy efficiency improvements.

23. **Investment required.** The Committee on Climate Change estimates that £1 billion of investment would be required per annum for reducing emissions in industry.⁸ They do not indicate how this would occur, and given that one of our members recently spent over £50 million rebuilding one of their factories (producing a state of the art energy efficient installation), this seems an underestimation for “industry” as a whole.

24. **Impact assessment—abatement cost.** The impact assessment for the 4th carbon budget provides extremely sparse detail on industry, treating it as a single entity.⁸ Costs of carbon abatement are offset by avoided EU ETS allowance purchases, but this assumes

- (a) A certain, possible, minimum level of abatement;
- (b) A certain degree of availability of EU ETS allowances and no adjustments to the EU ETS cap.

25. **Impact assessment—abatement cost-effectiveness.** The 4th carbon budget impact assessment identifies around 90 MT CO₂ (80 of which is cost-effective) abatement potential in “industry” covered by EU ETS, and 22–33 MT CO₂ not covered by EU ETS.⁸ Adequate evidence for this assumption is neither presented nor discussed and it is unclear how these abatements will arise or where from. The cost of the “cost-effective” abatements is estimated at £100–170/tonne. This is an order of magnitude higher than energy intensive industry could afford without assistance, and in any case is significantly higher than the social cost of carbon identified in the Stern Review and the long term shadow price of carbon subsequently accepted by the government for policy analysis purposes.

⁸ <http://www.theccc.org.uk/reports/fourth-carbon-budget>

RECOMMENDATIONS

26. **Principle.** Government must balance the emissions targets against the need for economic growth. UK emission targets should be set at realistic levels that keep energy-efficient manufacturing (even if energy intensive) in the UK, and do not offshore emissions. (See reference 4, col. 181.)⁹ Thorough cumulative impact assessments on energy intensive industries need to be performed for all current and future “green taxes” that affect these industries. New policies to reduce emissions should only be adopted that minimise the costs on the UK economy as a whole and do not increase global emissions or carbon leakage.

27. **Growth and balance.** The drive towards low-carbon electricity must be balanced with the need to maintain the existence of the base of customers who would be using it.

28. **Ensuring UK ceramics and EIs remain competitive.** To this end, the “package of measures to ensure that energy intensive industries remain competitive”, announced in the 17 May 2011 House of Commons Hansard Debates (col. 177),⁹ needs to be adequate to mitigate unilateral UK costs (such as, but not limited to, a carbon floor price) and put forward without delay. The package needs to apply to ALL energy intensive sectors including ceramics.

29. **Impact assessments- need to consider extra costs to non aviation/shipping and agricultural sectors.** The CCC considers that aviation/shipping and agriculture may not be able to achieve 80% emissions reductions by 2050. Other sectors will therefore have to achieve reductions of 85–90% by 2050. This places a much more challenging target on all other sectors including ceramics. A fuller impact assessment needs to address this even more challenging sectoral target. See also paragraphs 30 and 31 regarding emission reduction potential and emission measurement, and 15 (especially 15(a)), regarding the scale of the reduction.

30. **Lifecycle carbon footprinting.** Lifecycle carbon footprints, rather than the “immediate” emissions arising from initial manufacture, should be accounted for when considering UK emissions. This should include consideration of “downstream” energy and emissions savings arising from products or processes, so that UK and global emissions may decrease without damaging the industries that will facilitate the improvements.

31. **Feasibility of 4th carbon budget targets.** A 50% reduction on 1990 emission levels by 2023–27 is unrealistic with current technology and funding, if the reduction is solely based upon the initial emissions arising from manufacture, and the recommendations in paragraph 30 are ignored.

32. **Funding for new technologies.** To meet the challenging emissions targets, there has to be real Government financial support to develop alternative technologies. This includes technology demonstrator projects to reduce emissions, such as under the curtailed Carbon Trust Industry Efficiency Accelerator scheme. This will help allow energy intensive industries to remain competitive and to provide some of the solutions.

33. **Availability of money for investment in proven emissions reduction technologies.** As in our earlier response to the EASC inquiry,¹⁰ it is important that Green Investment Bank funds are available for industrial energy efficiency and emissions reduction projects as these can offer very cost-effective means of reduction in the UK’s emissions, with relatively short payback times compared to other investments. The Green Investment Bank should have the autonomy and discretion to allocate sufficient funds to industries that need them.

34. **CCS applicability.** Process emissions abatement using CCS should only be targeted for industries where there are sufficient localised levels of emissions to make CCS viable, eg power stations, iron and steel, and some chemical plants. For sectors where this is not possible, such as ceramics, targets should be relaxed.

35. **Biogas and alternative fuels.** Waste infrastructure needs to operate at scale in new ways, recognising that what was waste should now be seen as a strategic resource around which value chains can be created. An example relevant to ceramics and several other energy-intensive sectors is waste as a feedstock for biogas generation, yet current tax arrangements incentivise the production of electricity from waste instead.

7 June 2011

Written evidence submitted by the Department of Energy and Climate Change

SUMMARY

- The Government has proposed to Parliament that it accepts the Committee on Climate Change’s advice to set a fourth carbon budget, covering the period 2023–27, at 1950 million tonnes of carbon dioxide equivalent. This represents a 50% reduction from 1990 levels.
- Meeting the fourth carbon budget will mean developing current and new policies and measures to ensure a greener and more energy efficient economy with better insulated homes, more power from low carbon sources, and more of us driving electric and low carbon vehicles.
- As required by the Climate Change Act, the Government will publish a report setting out the policies and proposals to meet the fourth budget later this year.

⁹ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110517/debtext/110517-0002.htm>

¹⁰ <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmenvaud/memo/greeninvest/wrev27.htm>

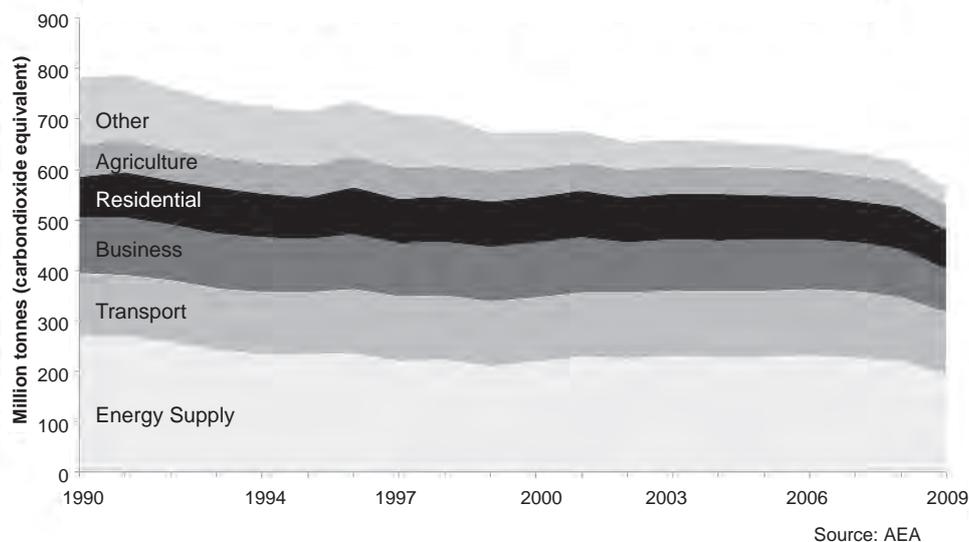
Written evidence submitted by British Ceramic Confederation (GIB 27). Green Investment Bank—Environmental Audit Select Committee Session 2010–11

- On carbon budget management, the Government has amended its approach and replaced the pilot departmental carbon budget system. The new framework focuses on ensuring that, collectively, the sum of the policies and enabling actions to reduce emissions are sufficient to meet the carbon budgets and that they are successfully implemented by holding departments to account for their actions and policy delivery.

PROGRESS ON MEETING CARBON BUDGETS 1–3 (2008–22)

1. The 2009 National Statistics Release¹¹ (the last year for which we have complete emissions data) shows that in this year emissions were 28.3% below 1990 levels.

UK GREENHOUSE GAS EMISSIONS 1990–2009



2. Based on the latest provisional emissions figures,¹² the total net UK carbon account for 2008 to 2010 was 1,758 MtCO₂e. This is 1,260 MtCO₂e below the level of the first budget (3,018 MtCO₂e). The provisional figures show that the total net UK carbon account increased by 1.85% to 586 MtCO₂e in 2010 from 575.3 MtCO₂e in 2009. This is not, however, likely to detract from our ability to meet the first carbon budget.

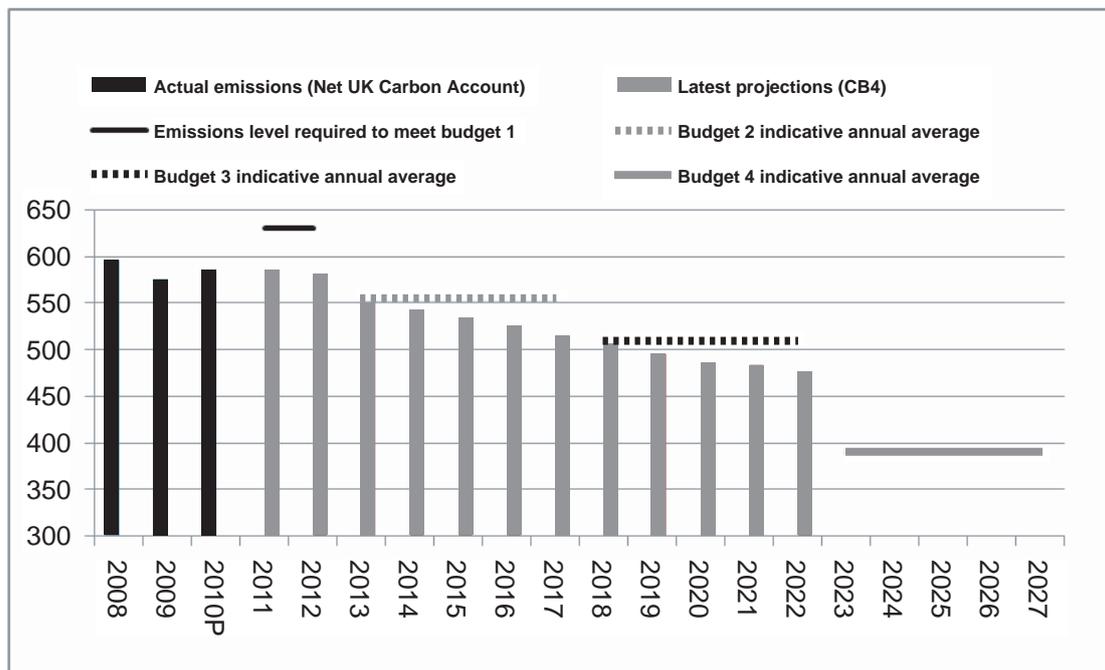
3. Latest emissions projections¹³ taken from the fourth carbon budget impact assessment indicate that the net UK carbon account is expected to be within the first carbon budget by 85 MtCO₂e. On central emissions projections, the UK is on track to meet and indeed undershoot the second and third carbon budgets by 114 MtCO₂e and 96 MtCO₂e respectively.

¹¹ http://www.decc.gov.uk/assets/decc/Statistics/climate_change/1214-stat-rel-uk-ghg-emissions-2009-final.pdf

¹² The net UK carbon account for 2010 is based on provisional figures so will be subject to change. http://www.decc.gov.uk/assets/decc/Statistics/climate_change/1515-statrelease-ghg-emissions-31032011.pdf

¹³ <http://www.decc.gov.uk/en/content/cms/statistics/projections/projections.aspx>

NET UK CARBON ACCOUNT (MTCO₂E)



4. Despite challenging economic times, the Coalition Government is firmly committed to its pledge to be the greenest Government ever. We are committed to the statutory obligation to cut the UK’s greenhouse gas emissions by at least 80% by 2050 lower than the 1990 baseline, and to a series of measurable, consecutive, five yearly carbon budgets as a means of ensuring we have a clear, step by step pathway to get there.

5. The Coalition Government is determined to drive the transition to a secure, safe, low carbon, affordable energy system and is already taking action. For example:

- we have announced plans for a major reform of the Electricity Market that will help encourage future investment in low carbon power generation;
- we have launched the Renewable Heat Incentive to revolutionise the way heat is generated and used in buildings and homes;
- we have extended and re-focused the Carbon Emissions Reduction Target (CERT) around insulation measures so that there is a further saving of over 100 million lifetime tonnes of CO₂ with over 3.5 million households set to benefit. 15% of the CERT target is to be met in lower income pensioner, family and disabled households; and
- the forthcoming Energy Act 2011, which introduces the Green Deal for properties of all types and sets out a new Energy Company Obligation to work alongside Green Deal, has specifically been designed to provide for a step change in the provision of energy efficiency measures by tackling barriers to investment in energy efficiency.

6. The Green Deal, beginning in October 2012, will provide a new and radical way of enabling householders and business to benefit from the installation of energy efficiency measures with no up-front cost. Businesses will provide the capital, and a “charge” on the energy meter will be repaid through the consumer’s energy bill. The Green Deal aims to ensure that millions of Britain’s properties will become more energy efficient and be cheaper to run.

7. The Government has considered whether the UK should, as proposed by the Committee on Climate Change (CCC), tighten the second and third carbon budgets in the non-traded sector ahead of agreement on a more ambitious EU 2020 target. The Government does not consider it is the right time to tighten the budgets currently set in legislation, but would do so as part of collective EU action. We continue to push hard for this increase in ambition with our EU partners and our proposal on the UK’s fourth carbon budget sends a clear and strong signal. Indeed it has been publically welcomed by EU Climate Action Commissioner, Connie Hedegaard.

8. The Government has noted the CCC’s recommendation that we should set a zero limit on use of international carbon offset credits (outside of the EU Emissions Trading System) in the second carbon budget period (2013–17). We propose to set a limit of 55MtCO₂e over the five year period as this reflects our obligations under the EU framework in the non-traded sector. This is a contingency measure and we wish to emphasise that our clear intention remains to meet the second carbon budget through domestic action alone.

PROPOSED LEVEL FOR THE FOURTH CARBON BUDGET (2023–27)

9. The decision to set an ambitious fourth carbon budget now, on the basis of the best available evidence, is a critical one for the UK climate and energy policy framework. It will help drive the innovation, technological development and entrepreneurship and will help deliver a dynamic, low carbon economy that is internationally competitive.

10. The Government announced on 17 May 2011, that it proposes setting the fourth carbon budget at 1950 MtCO_{2e}. The Government agrees with the CCC that this would be consistent with the most cost effective pathway to our long term 2050 target to reduce emissions by at least 80% below the 1990 baseline.

11. As with our existing carbon budgets, the fourth budget will cover greenhouse gas emissions from all sectors of the UK economy. Emissions reductions in the UK industrial and power sectors will be determined by the UK's share of the EU Emissions Trading System cap. If the EU ETS cap is insufficiently ambitious, this could mean placing disproportionate strain on other sectors outside the EU ETS such as transport.

12. To overcome this and to provide clearer signals for businesses and investors, the Government will review progress on the EU 2020 emissions goal, and any change in our share of the EU ETS, in early 2014. If at that point our domestic commitments place us on a different emissions trajectory than the Emissions Trading System trajectory agreed by the EU, we will, as appropriate, revise up our budget to align it with the actual EU trajectory.

EVIDENCE AND ANALYSIS ON THE LEVEL AND IMPACT OF THE FOURTH CARBON BUDGET

13. Analysis by the CCC and the European Commission, supported by further work by DECC, suggests that early-action to reduce emissions in the 2020s would place the UK on a more cost-effective pathway to our 2050 objective, relative to making dramatic reductions in emissions in the 2030s and 2040s. Greater reductions in emissions in earlier years is more cost effective as it would reduce the risk of lock-in to carbon-intensive technologies, reduce the pressure on supply chains and would send an ambitious signal to help attract investment and innovation in low-carbon industry and services. Meeting the proposed 1950 MtCO_{2e} target will be challenging but achievable and will result in no additional costs to consumers during this Parliament.

14. The proposed fourth carbon budget level is consistent with what the UK needs to do to play its part in international efforts to tackle climate change. Our analysis confirms that it is also consistent with the proposed trajectory set out by the European Commission in its March 2011 2050 Roadmap.¹⁴

15. The Government's proposal on the fourth carbon budget level is based on wide ranging economic analysis. In considering this body of evidence the Government placed emphasis on the efficiency principle to ensure we minimise the cost to society. The analysis provides three perspectives:

- **A long-term UK pathway perspective**—considering what a least-cost pathway to 2050 would be given considerations of the energy system and mix of technologies, balancing costs of action now with long-term costs to 2050 and ensuring the UK is on track over the 2020s to meet the 2050 target;
- **A global perspective**—considering what the efficient level of UK territorial emissions would be as part of a global effort to reduce emissions and consistent with meeting the objective of limiting the expected increase in global temperatures above pre-industrial levels to two degree Celsius; and
- **A “static” perspective**—considering how much the UK can feasibly and cost-effectively reduce emissions by over the 2020s.

16. The evidence and our analysis is described in the fourth carbon budget Impact Assessment¹⁵ and accompanying documents published alongside the draft Statutory Instrument, laid before Parliament on 24 May 2011.

17. Our fourth carbon budget evidence base represents an informed estimate of what baseline emissions and abatement opportunities will be in the 2020s. However, the fourth carbon budget period is some time away and inevitably there are challenges in projecting forwards to this point. Emissions projections, abatement potential and costs are subject to uncertainty in a number of underlying factors, including; temperatures, fossil fuel prices, economic growth and technology development. The evidence base presented in the Impact Assessment is based on central uncertainty assumptions around exogenous factors. If the underlying assumptions turn out to be significantly different from those forecasted, emissions projections, abatement potential and costs could be higher or lower than anticipated.

IMPLICATIONS OF THE FOURTH CARBON BUDGET LEVEL

18. The Government has considered carefully the CCC's advice that the recommended fourth budget level of 1950 MtCO_{2e} should be met through domestic emissions reductions without relying on the use of international carbon credits to offset emissions. The Government aims to meet the budget through domestic action, as far as is practical and affordable, but intends to keep open the option of trading to retain maximum

¹⁴ http://ec.europa.eu/clima/policies/roadmap/index_en.htm

¹⁵ http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/carbon_budgets/carbon_budgets.aspx

flexibility. Carbon trading can help ensure that the overall cost of tackling climate change is minimised. This is a pragmatic approach when considering the uncertainty involved in looking so far ahead.

19. Many of the domestic policies that are necessary for meeting the proposed fourth carbon budget level are already in place or are being put into place. These policies include reforming the electricity market, making homes and businesses energy efficient through the Green Deal, ensuring new homes are built to a high energy efficiency standard, encouraging the uptake of ultra-low carbon cars, and setting up a Green Investment Bank. The Government is also developing a package of measures to be announced by the end of the year to help energy intensive industries adjust to the low-carbon industrial transformation while remaining competitive.

20. There are many ways of cutting emissions to meet the fourth carbon budget options including:
- (a) Low carbon homes and buildings: a major increase in loft and cavity wall insulation; solid wall insulation; and using renewable heat in place of gas boilers.
 - (b) Low carbon transport: a mass market in ultra-low carbon vehicles and radical reductions in emissions from conventional cars.
 - (c) Low-carbon power: large increase in the UK's supply of onshore and offshore wind power; more nuclear power and Carbon Capture and Storage plants demonstrated and retrofitted.

We may opt to take more or less action in different sectors and will set out further detail on this in our report later this year.

21. The CCC recommended emissions outside of the EU ETS (non-traded sector) should be 1260 MtCO₂e and emissions covered by the EU ETS (traded sector) should be 690 MtCO₂e over the fourth carbon budget period. The Government's assessment confirms that the recommended level of emissions in the non-traded sector is very ambitious but technically feasible. We will be carrying out further analysis on how best to deliver this abatement leading up to the report on policies and proposals for meeting the fourth budget, to be published later this year.

22. For the traded sector, a more stringent EU ETS cap could deliver the level of emissions reductions required. If the EU ETS is not tightened sufficiently we would automatically see fewer emissions reductions in these sectors. Hence the Government has agreed that the level of 1950 MtCO₂e is conditional on EU progress towards the EU emission goal and will review this by early 2014.

MANAGEMENT AND MONITORING

23. Reducing UK emissions and meeting carbon budgets is a cross-Government responsibility. The Climate Change Act 2008 sets out our statutory reporting obligations: the Annual Statement of Emissions (March) and the Government Response to the annual progress report by the Committee on Climate Change (October).

24. To further improve transparency and accountability, the Government has published a draft Carbon Plan¹⁶ setting out, department by department, actions and deadlines for the next five years. The Carbon Plan was initially published in March 2011 as a "draft" in recognition that once the fourth carbon budget has been set in law we would need to publish an updated "live" Carbon Plan later in the year. This document replaces departmental carbon reduction delivery plans (CRDPs) and draws together the actions set out by departments in their own business plans. The Carbon Plan will be updated and improved later this year, in particular to include details of quantitative indicators against which progress will be monitored. Quarterly updates on progress against actions within the Carbon Plan are published on the No.10 website.

DEPARTMENTAL CARBON BUDGETS

25. The March Carbon Plan announced the replacement of the pilot system of departmental carbon budgets.

26. In the UK Low Carbon Transition Plan (LCTP, July 2009) shares of carbon budgets were provisionally assigned to Departments on the basis of their carbon reduction policies, emissions from their own estates and operations, and their relative influence on sectors of the economy and hence emissions from these sectors. Government committed to review this pilot approach before the start of the second carbon budget period in 2013.

27. The review, conducted earlier this year, considered whether departmental carbon budgets (DCBs) across Whitehall served the intended purpose of both encouraging collaborative working between departments and appropriately holding departments to account for their responsibilities for reducing emissions.

28. The review identified a number of reasons why departmental carbon budgets are not an appropriate approach to managing UK wide carbon emission reductions. One of the key arguments against DCBs was that they held departments accountable for things that were not precisely measurable and that they could not control. In so doing DCBs did not create the right incentive for departments to come forward with policies and measures aimed at reducing emissions as doing so would increase a department's level of accountability for emissions reductions. This perverse incentive worked against an environment of collaborative working and importantly discouraged the identification of cost effective emissions reduction across all sectors. Further, there is no

¹⁶ http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/carbon_plan/carbon_plan.aspx

accurate means of attributing departmental influence over actual emissions which was part of the rationale behind the introduction of DCBs.

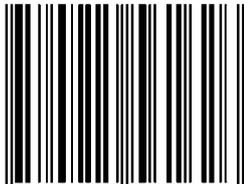
29. The revised carbon budget management framework ensures that the sum of the policies and enabling actions to reduce emissions are sufficiently ambitious and successfully implemented, and holds departments to account for their actions. To achieve this the new Government approach comprises the following stages:

- Through collaborative discussion and analysis, the preferred policies and measures to meet carbon budgets are agreed across government. The resulting information on emissions savings estimates by each policy provide a tool for assisting in tracking progress and risks to delivery and act as a benchmark for what we expect policies to deliver.
- Departments are held accountable for delivery through a framework of regular monitoring and reporting against their actions and indicators of progress.
- The Government will report publicly on progress against the actions in the Carbon Plan on a quarterly basis and will provide more detailed updates by sector through its response to annual progress reports by the Committee on Climate Change.

30. This approach to carbon budget management applies to departments, which lead or have an impact on the majority of policies which affect emissions (BIS, DCLG, Defra, DECC, DfT and HMT). The wider actions of all departments are constantly kept under review with particular attention to new government initiatives that may have a knock-on effect on emissions, including those that may lead to an increase in emissions.

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