

Friends of the Earth response to CCC call for evidence on the 4th Carbon Budget Review

August 2013

Friends of the Earth welcomes the opportunity to respond to the CCC's call for evidence. Our response is divided into two sections:

- A. Why arguments for weakening the 4th carbon budget don't stack up
- B. The case for strengthening the 4th carbon budget

A. Why arguments for weakening the 4th carbon budget don't stack up

Political reasons for the review

- 1) **The main reason for the review of the fourth carbon budget is political, not scientific.** In part this stems from inadequate modelling of the costs and benefits of the fourth carbon budget. It also follows directly from the political positioning of the Chancellor, George Osborne, and is best understood in the light of the push from him and his department for a 'dash for gas' that would breach the 4th carbon budget at the level at which it currently stands. It is important to flag up the political motivations for having a 2014 review – and the biased assumptions already circulating about the outcome of this review – before delving into the actual evidence that can properly inform a decision.
- 2) **Holding a 2014 review was never part of the CCC's original advice on the level of the 4th carbon budget** (December 2010). The review was in fact a political concession won by the Chancellor in the 'quad' debates over the adoption of the budget in Spring 2011. What became infamously called "dark forces" at the Treasury were known to have been opposed to the level of the fourth carbon budget.
- 3) **The Treasury has always appeared to assume that the Review would lead inevitably towards a weakening of the Budget.** This is evidence in a host of policy moves since 2011: the move to grandfather a lax EPS level to gas plants all the way out to 2045; concerted opposition from the Chancellor to setting a 2030 power sector decarbonisation target; and most tellingly of all, repeated discussion of a 'dash-for-gas' 200g carbon intensity scenario for the power sector, in the Gas Strategy (Dec 2012) and Infrastructure Plan (May 2013). This 200g scenario would see power sector emissions breach the 4th carbon budget as it currently stands and hence require a weakening of the targets for it to be legal. The Environmental Audit Committee has stated that any weakening of the first four carbon budgets would jeopardise delivery on the legally binding 2050 target¹.

Economics of the 4th carbon budget

- 4) **DECC and the CCC agree that the cost of meeting the fourth carbon budget would be relatively insignificant.** DECC's Carbon Plan (Dec 2011) states that "the fourth carbon budget could be met at an average cost of around 0.6% of GDP over the period 2023-27". We note that the CCC agrees with this figure (Dec 2010) and has advised this represents "sacrificing around half a year's growth out of twenty". Of course, the costs of not tackling climate would be considerably higher – estimated by the Stern Review at 5-20% of global GDP, forever.

- 5) **The appraisal of the costs and benefits of the fourth carbon budget has been flawed in several key ways.** Several key benefits of stronger action on climate change are not monetised or downplayed in favour of a misrepresentation of the 'costs' of action. Treasury objections to the initial adoption of the 4th carbon budget, Friends of the Earth understands, were based on a highly selective and misplaced reading of the economic modelling underpinning it.
- 6) The modelling was carried out using HMRC's Computable General Equilibrium (CGE) model, according to the Carbon Plan. The GCE model is used for policy development, in particular looking at the impact of large changes to tax policy on GDP. Its full results and assumptions are not public, but through researching occasional mentions, Freedom of Information requests and discussions with officials, FOE has been able to piece together a picture. It is a model limited in scope, primarily designed to model corporate and personal taxation. It assumes markets begin unconstrained and in equilibrium, and then tests what particular 'constraints' do to that equilibrium. It leaves out a great deal of very relevant 'benefits' of action on climate change.
- 7) **HMRC's CGE model assumes that the UK will act unilaterally to cut (more) carbon, and that the EU and rest of world will not only move more slowly than the UK but will do nothing at all to decarbonise.** It is assumed that global climate change will continue unabated, not in sync with UK actions. This is a highly pessimistic, highly biased model to use to appraise carbon mitigation which almost inevitably tilts the economics against it.
- 8) **The HMRC model also fails to factor in the following:**
- a. The benefits of avoided climate change impacts (see below).
 - b. A carbon price applied across all sectors. HMRC have stated to Friends of the Earth that "*the price of allowances in the EU ETS and the Carbon Floor Price are captured for the traded sectors only*".² This means that the externality costs of the carbon emitted by the non-traded sectors is not priced in as it should be.
 - c. Air quality and health benefits of decarbonising.³ Policies to cut carbon will have a concomitant impact on particulate and ozone pollution with a beneficial impact on respiratory and other health problems (see below).
 - d. Innovation and first mover advantage. HMRC have stated to FOE that in their model "the direct investment effects of the innovation are captured, but any associated externalities (for example, first mover advantage) are not included."⁴
- 9) **In reality, a strong 4th carbon budget would:**
- a. Be an appropriate response to the urgent global need for action to prevent dangerous climate change. This would protect lives and livelihoods and save the UK billions of pounds in avoided damages from climate change-induced extreme weather, such as flooding and heat waves.
 - b. Have huge health co-benefits due to improving air quality. In a 2008 report, AEA estimated the air quality co-benefits of decarbonisation policies could lead to billions of pounds of reductions in damages, ramping up to £3bn of undiscounted benefits annually by 2050.⁵
 - c. Reap rewards from increased exports by the UK being an early mover in the creation of low-carbon industries, supply chains, skills and services – well positioned as the world transitions away from unabated fossil fuels. The CBI state that in 2014-15, green business is "expected to roughly halve the UK's trade deficit",⁶ whilst Green

Alliance calculate that the UK exported low carbon and environmental goods and services to 52 countries in 2010-11, totalling £11.8bn.⁷

- 10) **Even DECC have failed to communicate these benefits properly.** In their Impact Assessment for the 4th carbon budget, they consistently list only the costs of taking action. Elsewhere, the IA admits: *"This IA does not value the avoided damages from reducing GHG emissions over the period 2023-27."* The Carbon Plan (2011), in section B4 assessing the impact of policies on UK growth, notes: *"it should be noted that this modelling does not reflect all the potential benefits and costs. On the benefits side it does not reflect social externalities such as health benefits from, for example, improved air quality and lower congestion, innovation benefits are not fully captured, and the modelling largely assumes that the UK acts unilaterally, rather than reflecting action to reduce emissions by other countries. Importantly the modelling results also do not account for the benefit of avoiding significant risks to future UK growth (particularly in the long term) from global climate change."*
- 11) **The fourth carbon budget review is a chance to make the modelling of costs and benefits more robust.** The present HMRC modelling – and hence the HM Treasury interpretation and DECC Impact Assessment – overplays the costs while greatly underplaying the benefits of taking rapid action to tackle climate change. A cost-benefit analysis that measures only the costs would not seem to be a proper analysis at all, and has risked serious misinterpretation by Whitehall officials and Ministers.

The EU picture

- 12) **The outcome of on-going EU negotiations on the climate package beyond 2020 is a critical factor in what level of fourth carbon budget is right for the UK.** The EU has not yet agreed a package beyond 2020, but the European Commission is consulting on a range of issues relating to development of climate and energy targets for 2030. In its 2011 Roadmap for moving to a competitive low-carbon economy, the Commission suggested a reduction in emissions of 40% on 1990 levels by 2030, as being on the cost-effective path to an 80-95% reduction by 2050. The UK Government has signalled its support for a 40% reduction by 2030, and for an increase to 50% in the context of a global deal. The CCC has suggested an ambition of 55% reduction and we note thus "strongly supports" the UK's position. The Energy Secretary Ed Davey has noted that the Government is "working on the assumption that the EU will improve on its climate change agreement"⁸.
- 13) **It appears that DECC assumes that the EU will put in place 2030 greenhouse gas reduction targets that firmly justify the existing level of the fourth carbon budget** if not indeed actually adding to the reasons why it should be strengthened (see below). It would be very bizarre to say the least if other parts of Government such as the Treasury were not working to the same conclusion and were pushing for a weaker Budget ahead of the conclusion of the EU process. Divisions such as these within the UK Government will of course only increase the chances of an unsatisfactory outcome from EU negotiations.

B. The case for strengthening the 4th carbon budget

- 14) **There is strong evidence that the 4th carbon budget should be strengthened, by tightening it.** Broadly, the question of the appropriate level for UK carbon budgets falls into three parts:
- a. What does the science say about the dangers of climate change and its links to anthropogenic factors?

- b. What level of risk of dangerous climate change is humanity prepared to accept?
- c. What is the appropriate contribution of the UK to any global response?

We leave the first question on climate science to the IPCC and their forthcoming reports. On the second and third questions, we believe that the CCC should revise their assessment of appropriate UK carbon budgets. **The 2008 and 2010 reports from the CCC take in our view an unacceptably risky approach, which leads to the setting of too high global carbon budgets, and then appropriates too high a share of that global budget to the UK.** A reassessment which was less risky and more reasonable towards developing countries would imply a substantial tightening of the UK carbon budget.

Climate science and risk

15) The UK's carbon budgets are based on a global carbon budget which has a greater than 50% chance of exceeding two degrees, and also a 10% chance of exceeding three degrees:

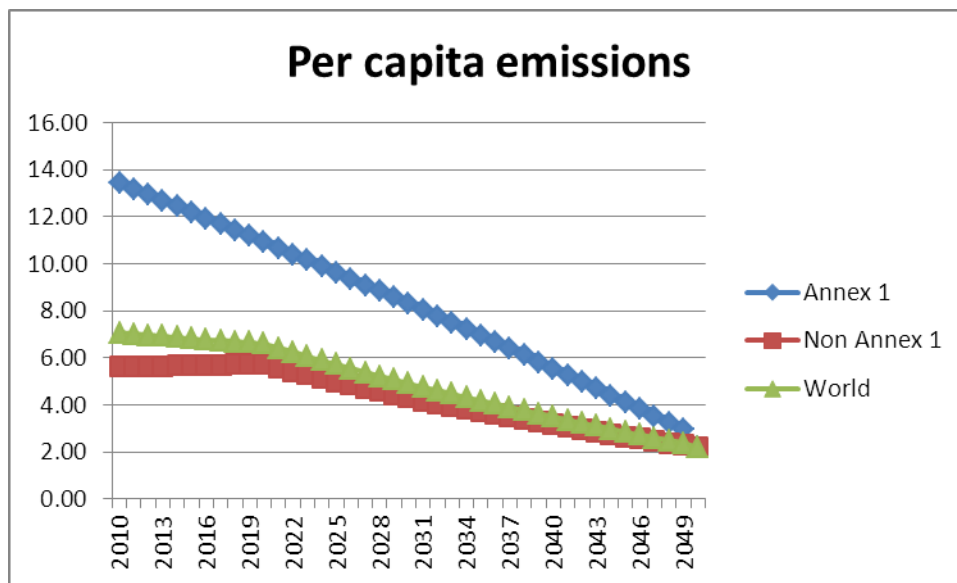
- 50% is very high risk for a temperature rise we "*must...not exceed*"⁹. Reducing the risk to 33% (the IPCC definition of "unlikely") would reduce the carbon budget considerably.
- 2 degrees is in any case already very risky – James Hansen in May 2013, giving evidence to the Environmental Audit Committee, describes it as "an upper bound" of what is acceptable; Tyndall Centre describe 2 degrees as "*the boundary between dangerous and extremely dangerous*"¹⁰. Many countries advocate a 1.5 degree target.
- Above 2 degrees increases risks of irreversible tipping points, as well as worse droughts, floods and other impacts.
- The CCC's budget has a greater than 50% chance of exceeding 2 degrees; a 10% chance of exceeding 3 degrees; and a less than 1% chance of exceeding 4 degrees. We believe that mainstream climate science shows that 3 degrees would have exceptionally severe implications for humanity: a 10% chance of exceeding three degrees seems an extremely risky course to accept.
- The CCC should assess whether a less than 1% chance of 3 degrees is a more appropriate target.

Carbon budgets and apportionment

16) The CCC's first report in 2008 discusses different countries' responsibilities, and advocate that only by 2050, there should be equal per capita emissions:

- This is an extremely pro-developed country position to take, appropriating far more than an equal share of the remaining global carbon budget to developed countries.
- Developed countries no longer have the excuse that they need time to adjust – discussions on equitable approaches to climate change have been on-going for two decades.
- Other apportionment methods would give lower shares to developed countries, allowing developing countries greater "emissions space" to develop and make the transition to low-carbon economies.
- The CCC state that "*it is not part of the Committee's remit to propose a specific methodology for the purposes of international negotiations*", and "*nor do we make a judgement about which methodology is ethically preferable to another.*"¹¹

- However, they have had to make such a choice, in setting the UK budget, and have explicitly chosen one which benefits the UK greatly at other countries' expense. **Developed countries would get a far greater than per capita share of the world's remaining carbon budget under the CCC's methodology; this does not appear to be consistent with the UNFCCC's principles on differentiated responsibilities.**
- Our assessment is that only requiring per capita emission equality by 2050 means that developing country per capita emissions would not be able to increase more than marginally in the period to 2020, and would have to fall rapidly after that. An indicative graph is shown below, based on global peaking in 2020, and developed country linear trajectory to equal per capita emissions by 2050.



Conclusion: the need to strengthen carbon budgets

- 17) **These two assumptions on risk and apportionment mean the UK's carbon budgets are in our view far too lax at present.** An equal per capita share of the remaining carbon budget for a likely chance of avoiding two degrees would mean UK cuts of 80% in greenhouse gas emissions by 2030, on 1990 levels¹². This focus solely on remaining carbon budgets also ignores all historical responsibility for climate change, so is still very generous to the UK. The CCC's budget analysis is also based on assumptions around dates for global peaking of emissions (2016) which now look unlikely to occur. If this is the case, this means greater global emissions cuts will be required in future. This suggests there may be further reasons for tightening the UK's carbon budget.
- 18) **At the very least, the UK should be moving to an early and proactive adoption of the CCC's proposed 'global offer' budgets as we head towards COP-21 in 2015.** There is a very clear climate science and equity basis for doing so, very clear economic benefits from rapid and early decarbonisation, and a very clear leadership role that the UK should be playing in encouraging a new global climate deal by the end of 2015.

Contact

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- ¹ Environmental Audit Committee, 2011, Carbon Budgets, 7th Report Session 2010-12, HC 1080
- ² HMRC response to FOI request by Friends of the Earth, 22nd July 2013.
- ³ DECC Carbon Plan, Dec 2011, Annex B4, p.181.
- ⁴ HMRC response to FOI request by Friends of the Earth, 22nd July 2013.
- ⁵ AEA, Optimising deliver of carbon reduction targets: integrating air quality benefits using the UK MARKAL model, 2008. <http://archive.defra.gov.uk/evidence/economics/igcb/documents/markal2.pdf>
- ⁶ CBI, The colour of growth: maximising the potential of green business, 2012
- ⁷ Green Alliance, Green Economy: A UK success story, 2012.
- ⁸ Carbon Brief, Dec 2012, 'Review of carbon budgets nothing new, Ed Davey tells committee'
<http://www.carbonbrief.org/blog/2012/12/ed-davey-tells-ecc-committee-policy-hasnt-changed>
- ⁹ Eg, EU Council, 2007. [Limiting Global Climate Change to 2 degrees Celsius The way ahead for 2020 and beyond](#). *"The EU must adopt the necessary domestic measures and take the lead internationally to ensure that global average temperature increases do not exceed pre-industrial levels by more than 2°C."*
- ¹⁰ Tyndall Centre, 2011. [Written evidence to Environmental Audit Committee on Carbon Budgets](#). 27th June
- ¹¹ Committee on Climate Change, 2008. [Building a low-carbon economy](#). Page 30.
- ¹² Friends of the Earth, 2010. [Reckless Gamblers](#).