



British Ecological Society

## **Response to the Department for Environment Food and Rural Affairs Consultation on the Draft Climate Change Bill**

### **British Ecological Society**

June 2007

#### **Introduction**

1. The British Ecological Society is the learned society for ecology in the UK. Founded in 1913 its mission is to promote the science of ecology worldwide. The BES has established a Climate Change Policy Advisory Group to provide expert advice on the development of the Climate Change Bill and related issues.

#### **Q1. Is the Government right to set unilaterally a long-term legal target for reducing CO<sub>2</sub> emissions through domestic and international action by 60% by 2050 and a further interim legal target for 2020 of 26-32%?**

2. The BES commends the Government's leadership in bringing forward the world's first national legally binding targets aimed to mitigate climate change.
3. Targets for the reduction of carbon emissions must be based on sound scientific evidence. The IPCC fourth assessment report states that a 50-85% cut in global CO<sub>2</sub> emissions by 2050 would have a reasonable chance of keeping the global average temperature increase to 2-2.4°C. Therefore, the BES suggests that the proposed statutory target for reducing CO<sub>2</sub> emissions in the UK should be increased to at least 70% for 2050.<sup>1</sup>
4. The IPCC's recent report for policy makers on impacts, states that approximately 20-30% of plant and animal species assessed so far are likely to be at increased risk of extinction if increases in global average temperature exceed 1.5-2.5°C. For increases in global average temperature exceeding 1.5-2.5°C, there are projected to be major changes in ecosystem structure and function, with predominantly negative consequences for biodiversity and ecosystem services (e.g. water and food supply). The progressive acidification of oceans due to increasing atmospheric carbon dioxide is expected to have negative impacts on marine life, including fish stocks, upon which much of the world's population depends for their primary source of nutrients. The carbon uptake by terrestrial ecosystems is likely to peak before mid-century and then weaken or even reverse, thus amplifying climate change.<sup>2</sup>

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<sup>1</sup> IPCC Fourth Assessment Report, Working Group III Summary for Policy Makers, May 2007

<sup>2</sup> IPCC Fourth Assessment Report, Working Group II Summary for Policymakers, April 2007

5. In view of the severity of potential impacts on ecosystems and thus on society, it is imperative that emissions reduction targets should include emissions from all major sectors of the economy, including international aviation and shipping.

**Q2. Is the Government right to keep under review the question of moving to a broader system of greenhouse gas targets and budgets, and to maintain the focus at this stage on CO<sub>2</sub>?**

6. The Government is correct to focus its attention on CO<sub>2</sub>, as it is the most significant GHG. However, by excluding other GHGs from emissions reductions targets, the Bill will not address all of the UK's GHGs emissions. The BES supports a move towards a broader system of GHG targets. This will mean a more a comprehensive climate change strategy and include a wider range of GHG emitters. Taking a multi-gas approach would be consistent with the Kyoto Protocol.

**Q3. Should the UK move to a system of carbon management based upon statutory five-year carbon budgets set in secondary legislation?**

7. The BES supports a five year system for monitoring and measuring GHG emissions. Long-term targets will only be effective if they are underpinned by cumulative emissions reductions achieved at shorter intervals. It is therefore important that UK works towards meeting its 2050 target as soon as possible, because the timing of emissions reductions is critical to the concentration of CO<sub>2</sub> in the atmosphere.

**Q4. Do you agree there should be at least three budget periods in statute at any one time?**

8. Yes.

**Q5. Do you agree there should be a power to review targets through secondary legislation, to ensure there is sufficient flexibility in the system?**

9. Yes.

**Q6. Are there any factors in addition to, or instead of, those already set out that should enable a review of targets and budgets?**

10. The BES supports the inclusion of a power to amend the targets in the event of significant scientific developments.
11. In addition, the BES supports the Committee reviewing targets in the light of new technological advances that allow for increased reductions of GHGs.

**Q7. Do you agree that, in line with the analysis in the Stern Review and with the operation of the Kyoto Protocol and EU ETS, effort purchased by the UK from other countries should be eligible in contributing towards UK emissions reductions, within the limits set under international law?**

12. The BES supports the principle that purchasing credits abroad should be “supplemental to domestic action” so that this facility does not undermine domestic investment into a low-carbon infrastructure.

**Q9. Do you agree that limited borrowing between budget periods should be allowed?**

13. Borrowing should be restricted to extreme circumstances. The example given of an extremely cold weather should not qualify, unless it was outside the experience of the last fifty years. There is a sufficiently good understanding of the variability of weather and its relationship with energy consumption. Therefore this contingency should be planned and budgeted for. A five year budget period should be enough to buffer against weather variation, without requiring borrowing between budget periods. In addition, early reduction in CO<sub>2</sub> will be of far greater benefit to society and therefore borrowing should be restricted to extreme circumstances only.

**Q10. Is it right that the Government should have a legal duty to stay within the limits of its carbon budgets?**

14. Yes.

**Q11. Do you agree that establishing an independent body will improve the institutional framework for managing carbon in the economy?**

15. Yes. The Committee on Climate Change should provide independent and authoritative advice that will help policymakers across government address climate change.

**Q12. Do you agree that the Committee on Climate Change should have an advisory function regarding the pathway to 2050?**

16. Yes.

**Q13. Do you agree with the proposal that the Committee on Climate Change should have a strongly analytical role?**

17. Yes. The Committee on Climate Change needs to have the resources to fulfil its functions and to be fully independent from Government, including the ability to seek independent resources and data, beyond Government provisions. For the Committee to fulfil this role it will need a larger budget than is planned (£2.25m). The statutes should give the Committee the power to commission research. It will need an independent secretariat to support its work.

**Q14. Are these the right factors for the Committee on Climate Change to take into account in assessing the emissions reduction pathway? Do you consider there are further factors that the Committee should take into account?**

18. The Committee should focus on reducing greenhouse gas emissions from industrial sources. However, the Committee also needs to consider the role of natural carbon sinks/sources and how human activity affects them, including increased levels of GHGs.
19. Terrestrial vegetation and soils currently absorb approximately 40% of global CO<sub>2</sub> emissions from human activities, however scientific understanding of the causes, magnitude and permanence of the land carbon sink is uncertain. Investment in scientific research will be needed to help us to make optimum use of natural carbon sinks, and to monitor their efficiency, with consequences for setting carbon budgets and CO<sub>2</sub> reduction targets. Agricultural, forestry and other land-use practices affect the ability of terrestrial ecosystem to sequester CO<sub>2</sub> and should therefore be considered by the Committee.
20. In the past 200 years the oceans have absorbed approximately half of the CO<sub>2</sub> produced by as a result of human activity. In addition, the absorption of CO<sub>2</sub> from the atmosphere is changing the chemical composition of our oceans, leading to its acidification. More scientific research is needed on how this will affect marine ecosystems services, including carbon sequestration. Current monitoring of the oceans ability to absorb CO<sub>2</sub> shows that it is decreasing and therefore must be considered in setting future emissions reductions targets and budgets.

**Q15. Do you agree the Committee on Climate Change should be comprised of technical experts rather than representatives of stakeholder groups?**

21. The Committee should be comprised of scientific and technical experts. The BES believes that the Committee should follow the Office of Science and Innovation's Guidelines for Scientific Advisory Committees. This would include, regular turnover of membership on the Committee, the ability for it to commission research, co-opt members and set up sub-committees as well as an obligation to make public all reports.

**Q16. Are these the appropriate areas of expertise which should be considered? Do you consider there are further areas that should be considered or any areas that are less important?**

22. The Committee should be comprised of experts in relevant natural sciences, as well as technical and economic expertise. The key area of expertise missing from the Committee is with regards to land use change and forestry. The projections for the land use change and forestry sector indicate that a peak for removals has now been reached in the UK and the net flux will be of increasing emissions over the next 15 years.<sup>3</sup>

**Q19. Do you agree that the Committee on Climate Change should be responsible for an independent annual report on the UK's progress towards its targets which would incorporate reporting on a completed budget period every five years?**

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<sup>3</sup> UK Emissions by Sources and Removals by Sinks due to Land Use, Land Use Change and Forestry Activities, Report, April 2006. *Centre for Ecology & Hydrology, Aberdeen University, Rothamsted Research, Forest Research Alice Holt, Centre for Terrestrial Carbon Dynamics*

23. Yes. However, the Committee should have appropriate support and expertise to audit the UK's progress. This may require support from the National Audit Office.

**Q20. Is statutory reporting the best way to drive forward progress on adaptation while at the same time ensuring Government is able to develop flexible and appropriate measures reflecting developments in key policy areas?**

24. The BES supports the obligation on Government to report on adaptation. However, for the reasons set out below we recommend that there is a general duty for the Secretary of State to lay before parliament a five yearly report and an annual update on the risks and impacts of climate change, and the proposals for adapting to climate change which would include reporting on the progress made towards the previous reports proposals for adaptation.

25. The Stern Review states that adaptation is the only response available for the impacts that will occur over the next several decades before mitigation measures can have an effect. Many adaptation options will provide benefits in excess of cost, but at higher temperatures the costs of adaptation will rise sharply and the residual damages remain large. Early adaptation is therefore economically preferable and should be integrated into development policy and planning at every level.

26. Monitoring adaptation to climate change will be crucial if we are to ensure the continuation of ecosystem services, upon which society depends. More research is needed to resolve uncertainties regarding adaptation strategies for ecosystems and biodiversity conservation.

27. Although some types of adaptation will occur autonomously, many aspects of adaptation, such as major infrastructure decisions, relating to flood risk, emergency preparedness and the protection and enhancement of natural environments, will require greater foresight and planning. In addition, the delivery of global benefits such as improved information on the climate science and more resilient crops and natural environments will be necessary. The BES, therefore, strongly believe that adaptation strategy needs to be given greater precedence.

28. In addition, the relationship between mitigation and adaptation policy needs to be addressed by climate change policy. For example, planting short rotation forestry using native trees, for biomass production, instead of elephant grass, can enhance biodiversity and promote adaptation. This is an example of how joined up policy making can address both mitigation and adaptation, and illustrates that both policy priorities need to be addressed together.

**Openness**

29. The British Ecological Society is pleased for this response to be made publicly available and will be publishing it on our website: [www.britishecologicalsociety.org](http://www.britishecologicalsociety.org). Should Defra have any questions regarding this submission, please contact Jessica Sherlock, Policy Officer, British Ecological Society, 26 Blades Court Deodar Road, London SW15 2NU; E-mail: [jessica@BritishEcologicalSociety.org](mailto:jessica@BritishEcologicalSociety.org); Telephone: 020 8871 9797.