



House of Commons
Treasury Committee

**Climate Change and the
Stern Review: the
implications for Treasury
policy: Government
Response to the
Committee's Fourth Report
of Session 2007–08**

Eighth Special Report of Session 2007–08

*Ordered by the House of Commons
to be printed 22 April 2008*

HC 495
Published on 30 April 2008
by authority of the House of Commons
London: The Stationery Office Limited
£0.00

The Treasury Committee

The Treasury Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of HM Treasury, HM Revenue & Customs and associated public bodies.

Current membership

Rt Hon John McFall MP (*Labour, West Dunbartonshire*) (Chairman)
Nick Ainger MP (*Labour, Carmarthen West & South Pembrokeshire*)
Mr Graham Brady MP (*Conservative, Altrincham and Sale West*)
Mr Colin Breed MP (*Liberal Democrat, South East Cornwall*)
Jim Cousins MP (*Labour, Newcastle upon Tyne Central*)
Mr Philip Dunne MP (*Conservative, Ludlow*)
Mr Michael Fallon MP (*Conservative, Sevenoaks*) (Chairman, Sub-Committee)
Ms Sally Keeble MP (*Labour, Northampton North*)
Mr Andrew Love MP (*Labour, Edmonton*)
Mr George Mudie MP (*Labour, Leeds East*)
Mr Siôn Simon MP, (*Labour, Birmingham, Erdington*)
John Thurso MP (*Liberal Democrat, Caithness, Sutherland and Easter Ross*)
Mr Mark Todd MP (*Labour, South Derbyshire*)
Peter Viggers MP (*Conservative, Gosport*).

Powers

The Committee is one of the departmental select committees, the powers of which are set out in House of Commons Standing Orders, principally in SO No. 152. These are available on the Internet via www.parliament.uk.

Publications

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the Internet at www.parliament.uk/treascom.

A list of Reports of the Committee in the current Parliament is at the back of this volume.

Committee staff

The current staff of the Committee are Colin Lee (Clerk), Sïan Jones (Second Clerk and Clerk of the Sub-Committee), Adam Wales, Jon Young and Jay Sheth (Committee Specialists), Phil Jones (Committee Assistant), Caroline McElwee (Secretary), Tes Stranger (Senior Office Clerk) and Laura Humble (Media Officer).

Contacts

All correspondence should be addressed to the Clerks of the Treasury Committee, House of Commons, 7 Millbank, London SW1P 3JA. The telephone number for general enquiries is 020 7219 5769; the Committee's email address is treascom@parliament.uk.

Eighth Special Report

The Treasury Committee published its Fourth Report of Session 2007–08, *Climate Change and the Stern Review: the implications for Treasury policy*, on 5 February 2008, as House of Commons Paper No. 231. The Government response to this Report was received on 3 April 2008, and is appended below:

Appendix: Government response

The economics of the Stern Review

1. We welcome the Stern Review as an impressive document that contributes much to public discussion of climate change. Sir Nicholas Stern deserves credit for bringing into stark relief the problem of risk and uncertainty concerning potentially ruinous environmental catastrophes. We also support Sir Nicholas' attempts to frame the climate change debate in terms of economic choices, which should serve to assist policymakers in taking the difficult decisions necessary to combat climate change. (Paragraph 12)
2. The Stern Review is a serious contribution to the climate change literature. Although Lord Lawson was concerned that Sir Nicholas was insufficiently independent of Government, we believe that the Review has to be judged by the quality of its evidence and the arguments it puts forward, rather than the issue of its authorship. (Paragraph 21)
3. The choice of discount rate used in the Stern Review is critical to its strong policy conclusions, because that choice is an important factor in the calculation of the costs (as valued today) arising from future climate change. We regret that there was not greater discussion of discount rates in the original Stern Review, including explanation and potential justification of alternative rates. We welcome the eventual publication of discount rate sensitivity tables in the Stern Review's Postscript, but note that the attention that these alternative rates received was substantially lower than might have been the case if acknowledgement of, and arguments for, other discount rates had been provided in the original Review. (Paragraph 31)
4. Lord Lawson's argument that adaptation was cheaper, easier and more flexible than attempting to mitigate emissions has its attractions. However, as Sir Nicholas Stern pointed out in his Review and in evidence to us, relying on monitoring and adaptation alone could prove to be too little, too late. The fact that adaptation will be required in the short to medium term, regardless of mitigation efforts, does not absolve the UK from its responsibility to reduce its carbon emissions. We support Sir Nicholas' recommendation that the Government pursue a twin-track approach: working to reduce emissions to a sustainable level, while at the same time committing sufficient resources to the monitoring of climate trends and adaptation, both in the UK and abroad. (Paragraph 36)

The Government is grateful for the Committee's support for the Stern Review. The work done by Sir Nicholas, now Lord Stern's independent review put beyond doubt that climate change is not only an environmental challenge, but an economic challenge. The Review concluded that the costs of stabilising the climate are significant but manageable, whereas delay will be costly and dangerous. It found that climate change would affect the basic elements of life for people around the world—access to water, food production, health and the environment. Using formal economic models, the Review estimated that temperature increases associated with current business as usual emissions could lead to damages equivalent to as much as 5-20 per cent of global GDP. But if the world takes action now, and with the right policies in place, stabilisation of greenhouse gas concentrations at a level that avoids the most dangerous impacts of climate change could cost around 1 per cent of global GDP. This is significant but is clearly less than the costs of not taking action.

The Stern Review's Postscript offered reflections in the light of reactions and comments received in the first weeks after publication. The Postscript noted that the sensitivity tables it contained did not change the Review's overall conclusion, that climate change is likely to cause damages which are very severe and of much greater consequence than the costs of greatly reducing risks by strong reduction in emissions.

The Government agrees that its approach should combine emissions reductions with adaptation. The Government is committed to reducing greenhouse gas emissions, both through securing effective and robust global commitments for the period post-2012, consistent with a trajectory to stabilise atmospheric greenhouse gas concentrations; and through adopting and promoting policies to ensure that the new UK carbon dioxide (CO₂) account, as defined in the draft Climate Change Bill, for the year 2050 is at least 60 per cent lower than the 1990 baseline.

In the global context, the UK is playing a leading role in taking forward the momentum for international action in the EU, at the UN, through the G7 and bilaterally. The UK was instrumental in the agreement of ambitious EU objectives on climate change and energy, and the Government is actively supporting work to expand and develop carbon markets. The recent Budget announced that the UK will use its £800m international Environmental Transformation Fund (ETF) with international partners to invest in clean technologies, help developing countries adapt to the impacts of climate change and act on deforestation; and that the Government will work with the state of California to collaborate on investment in new energy technologies and to build links between emissions trading schemes.

In the domestic context, the recent Budget announced a raft of measures to support domestic mitigation. These included, among several others, a restructuring of car vehicle excise duty to increase the financial difference between the most and least polluting cars; funding for the Green Homes Service; strengthening the environmental incentives for taxation of business cars; and action to incentivise only the most sustainable biofuels. The Budget also announced the Government's intention to set out the first three five-year carbon budgets, and its plans to meet them, alongside Budget 2009.

As a complement to our mitigation efforts, the UK will also develop a robust approach to domestic adaptation to climate change, shared across government, and encourage adaptation to climate change internationally. Recent Government action on domestic adaptation included the announcement in the Comprehensive Spending Review of an increase in flood defence spending across Government on flood and coastal erosion risk management from £600m in 2007-08 to £800m in 2010–11.

The Government's approach to reducing emissions

Coordinating climate change policy

5. Climate change requires a wide range of responses from departments across Government. The effective coordination of these efforts, and the presentation of a consistent, clear strategy by all departments will be vital if the UK is to show the way in combating climate change, setting a good example for other countries, as well as to individuals. To this end, we welcome the establishment of the Office of Climate Change (OCC). However, we think it is important that there should be a Government minister directly accountable for the cross-governmental work of the OCC, most likely within the Cabinet Office, in order to create an effective champion for climate change issues across Government. (Paragraph 40)

The Government will continue to show leadership on climate change—both domestically and internationally—and welcomes the Committee's continued scrutiny of the Government's record in this area. Climate change is one of the highest priorities for Government Ministers. The Public Service Agreement on leading the global effort to avoid dangerous climate change clearly shows that the Government fully recognises that this is an issue which requires the contribution of many departments, and this has been formally recognised in departmental strategic objectives.

The Government has reinforced official-level governance of the climate change and energy programme, building on arrangements put in place following the 2003 Energy White Paper, to ensure even greater joined-up delivery. The Climate Change and Energy Strategy Board provides a cross-government focus on delivery and implementation of the climate change and energy programme, domestically and internationally. The Board and secretariat are working to continue to make improvements which will ensure that attention is focused on priorities and risks. The Cabinet Office has specific secretariat resource covering climate change and energy issues and, including No 10 and alongside HM Treasury, is represented on the senior strategy board for climate change and energy.

Ministerial responsibilities are a matter for the Prime Minister. At Ministerial level, the Economic Development (Energy and Environment) Cabinet sub-Committee ensures collective ministerial decision making. Defra is the lead Department for the Climate Change Public Service Agreement, which defines the Government's goals in this area.

The Office of Climate Change is an independent resource that provides analytical support to all departments, including the Cabinet Office, and is jointly managed by BERR, Defra, FCO, CLG, DfID, DfT, Cabinet Office and HMT. It is not owned or directed by any one department or Minister, and this is one of the factors in its success. The Government will continue to keep these arrangements under review however, and the Committee's contribution to the debate is welcomed.

Seven tests for better regulation

6. We welcome the suggestions made by the Better Regulation Commission towards ensuring cohesion in climate change regulations, including the proposed ‘seven tests’. We are pleased to note that the Government has accepted the recommendations of the Better Regulation Commission and has pledged to monitor the overall regulatory burden imposed under the climate change banner. (Paragraph 43)

The Government is committed to ensuring that climate change policies are cost-effective and consistent with better regulation principles, and set out its approach in its response to the Better Regulation Commission’s report. It is taking this forward in a number of ways, and for example consultation recently concluded on a report looking at DEFRA’s three major climate change instruments—EU Emissions Trading Scheme (EU ETS), Climate Change Agreements (CCAs), and the proposed Carbon Reduction Commitment (CRC)—with a view to eliminating avoidable overlap, simplifying existing regulations, and ensuring that the regulatory burden on the economy is kept to a minimum.

HM Treasury’s role and the regulatory mix

7. A variety of policies and tools will be necessary to counter climate change emissions and public policy cannot afford to rely solely on emissions trading schemes, or environmental tax, or regulation. In general, however, we are persuaded that use of a price mechanism, rather than regulation, is an extremely effective way to change people’s behaviour and, as much as is possible, the Government should give primary consideration to the use of economic tools in combating climate change. (Paragraph 47)

To minimise the cost of moving to a low-carbon economy, Stern highlighted that policy must have three key elements: establishing a carbon price; development of new technology; removing barriers to behavioural change. Stern does not require that any particular instrument is used for any particular mitigation policy; rather, Stern suggests that each country should use the appropriate mix of taxes, trading, spending and regulation as befits its national circumstances. Government has a strategy for tackling climate change and the other environmental challenges we face that is consistent with Stern.

As set out in the Treasury’s 2002 publication, *Tax and the Environment*, the development of the Government’s environment policy takes place within a principled framework. This framework sets out the criteria for deciding whether intervention through the tax system is the right action to take, with one of these criteria being the need to take account of the impact of action on wider economic and social objectives. Economic instruments have a role to play in achieving environmental goals but their impacts on wider Government objectives, such as reducing fuel poverty and maintaining sound public finances also need to be considered.

Using this framework, the EU Emissions Trading Scheme (EU ETS) is the centrepiece of the UK’s climate change strategy as it ensures that climate change is tackled effectively and at least cost. This is a key instrument for pricing carbon into decision-making. Alongside this, the Government has introduced an innovative range of other measures to tackle the environmental challenges we face. These include: reducing emissions in the business sector through the introduction of the Climate Change Levy, associated Climate Change

Agreements and enhanced capital allowances for energy-saving technologies; and reducing emissions in the household sector through changes to building regulations, the Carbon Emissions Reduction Target and extension of the reduced VAT rate for energy-saving materials.

Budget 2008 announced the Government's intention to strengthen EU ETS further as a pricing signal by confirming that the UK intended to auction 100% of allowances to the generators' sector, if the future EU framework permits. Budget 2008 also announced a range of other new measures to tackle climate change, including significant reform of VED and taxation of business travel; the setting of future rates of fuel duty; increase in climate change levy rates for 2009; and funding for the Green Homes Service.

European Union Emissions Trading Scheme

Successes of the EU ETS

8. Phase I of the European Union Emission Trading Scheme was hamstrung by its initial over-allocation of emissions permits, resulting in a carbon price that was too low to have sufficient influence in changing its participants' behaviour. The scheme has been successful in showing that the architecture of the trading system works, and provides a foundation from which to develop an effective scheme with a meaningful overall cap, but it is absolutely essential that Phase II features a more rigorous allocation of permits. We recommend that the UK Government work with the Commission and other Member States to ensure that Phase II involves tough, but achievable, caps across Europe. (Paragraph 63)

The Government agrees that the EU ETS needs integrity and effectiveness in order to deliver cost-effective emission reductions, and welcomed the Commission's decisions on Phase II caps. The market is showing a forward price for 2008 of over €20 at the time of writing, suggesting that it believes that Phase II will provide higher incentives for reductions in emissions.

Moving to a global emissions trading scheme

9. Whilst the EU moves ahead with Phase II of its Emissions Trading Scheme, we note that other countries and states are developing their own, different schemes. The existence of different schemes offers policymakers the chance to see what works and what does not, but there is a real danger that the international community will be unable to join up this patchwork of schemes, if so desired, at a point in the future. Without establishing common principles between schemes, we are not confident that the Government's ambition of connecting up the European Union Emission Trading Scheme with other schemes can be achieved. We recommend that the Government strengthen relationships with policymakers in other countries and other organisations beyond the EU to discuss the development of trading schemes. (Paragraph 67)

The Government believes that building a broader and deeper carbon market is at the core of a global solution to climate change and welcomes the Committee's recognition of the importance of doing so. In that light, the Government has welcomed the European Commission's proposal that the EU ETS should be able to link with regional, national or sub-federal systems.

The Government already has relationships with policymakers in countries outside the EU who are developing trading schemes and is seeking to strengthen these further. For example, the UK is a founder member of the International Carbon Action Partnership, a partnership of 23 states and provinces in Europe, North America and Australasia established in October 2007 committed to sharing experience and best practice in order to develop scaleable and linkable trading schemes.

Inclusion of airlines in the EU ETS

Eco-labelling

10. The UK Government has signalled its desire to see aviation included in the European Union Emission Trading Scheme in 2011. If that aim is achieved, the Scheme should be able to ensure that the aviation industry will be offered real incentives to improve the efficiency of its fleet of aircraft, develop cleaner technology and continue to grow in an environmentally-sustainable way. (Paragraph 76)

11. We are concerned that, in the interval before aviation's inclusion in the European Union Emission Trading Scheme, the aviation industry appears to be dragging its feet in cooperating on environmental schemes. We see the airlines' failure to write to the Committee, as promised, with details of how the industry would cooperate in future, as symptomatic of this approach. Instead of cooperation, a hotchpotch of company-specific initiatives are developing, with a huge variety of responses from different airlines, preventing consumers from comparing the environmental performance of one airline with another. One information improvement to the market for passenger flights would be an industry-wide system of eco-labelling, where each flight's environmental impact would be independently rated and then publicised to customers at the point of purchase. We urge the Government, the airlines and aviation's representative bodies to work together to devise and introduce such a scheme at the earliest opportunity. (Paragraph 77)

Ensuring the inclusion of aviation within EU ETS as soon as possible remains a priority for the Government. However, this is just one part of Government action to tackle aviation's climate change impacts. Other actions include promoting operational improvements, investing in research and development, encouraging behavioural change and raising awareness of the carbon impacts of everyday actions.

The Government recognises that there is a need for clear and consistent information being available to the public and has begun undertaking action to facilitate this. Last year, the Government launched the Act on CO₂ campaign which aims to build awareness of the different actions people can take in their everyday lives to help tackle climate change. This was launched alongside a web-based carbon calculator which enables people to reliably calculate their carbon footprint from home, appliances and transport (including flying) and makes personalised recommendations on reducing that footprint. Since the tool's launch in June 2007 over 250,000 footprints have been calculated and around 200,000 action plans generated. We believe that this tool provides a good representation of an individual's overall impact although we are keen to receive feedback about how the calculator can be improved.

A different, but related, tool is for passengers to offset the average carbon emissions for their flight. The DfT is currently supporting work lead by DEFRA to further develop its 'Act on CO₂' carbon calculator. We are being very proactive helping the UN develop a similar tool for offsetting their internal travel. But they also propose making the offsetting methodology freely available for other organisations to estimate carbon emissions for the purpose of offsetting. Both tools should be available later this year.

On offsetting, in order to provide consistency in the fast growing offsetting industry, as well as clarity for those choosing to offset their carbon emissions, the Government intends to publish a voluntary Code of Best Practice for Carbon Offsetting later this spring. The proposal to establish such a Code is backed by strong support from the offsetting industry, business, environment NGOs and others. Offsetting products meeting the standard set out in the code will be able to receive accreditation and will be awarded a quality mark so that individual or business consumers can easily recognise that they comply.

The Government has welcomed such voluntary initiatives by the industry to promote good environmental practices, and a scheme such as environmental labelling has the benefit of increasing public awareness of the importance of such practices.

Environmental Taxes

Problems with environmental taxes

12. There are several problems with the application of environmental taxes to real-world scenarios, not least determining the level at which the tax should be set in the first place, and designing a system that is flexible enough to cope with changing circumstances. In the case of climate change, these problems are magnified because the costs (and benefits, if any) of current emissions are uncertain, and will be felt over extremely long time horizons. The Government must take great care in designing environmental taxes, but nevertheless we are firmly of the view that environmental taxes are a useful and valuable tool to combat carbon emissions. (Paragraph 80)

The Government agrees and uses a range of innovative instruments to tackle climate change and recognises the role that environmental taxes can play as part of this mix. The Government agrees with the Committee's statement that environmental taxes must be designed with great care, to ensure that intervention through the tax system is the most efficient and effective way to take action.

The Treasury's 2002 publication, *Tax and the Environment*, set out the strategic approach used by the Government to develop its environment policy—including use of environmental taxes. This principled approach was distilled into a set of key criteria in PBR 2005, which provide the framework for determining the right form of government intervention: any intervention must take place at the right level; environmental action must take account of wider economic and social objectives; environmental action must be part of a long-term strategy; the right instrument must be chosen to meet particular objectives; where tax is used, it will aim to shift the burden of tax. This principled framework built on the commitment made by the Government in its 1997 *Statement of Intent on Environmental Taxation* where the Government committed to consider the use of tax instruments to support environment objectives. It stated that the Government would aim

to shift the burden of taxation from ‘goods’ to ‘bads’ but also that environmental taxation must meet the tests of good taxation.

Since 1997, the Government has introduced a number of fiscal measures as part of a wider range of measures and has contributed strongly to the progress the UK has made in protecting the environment and tackling climate change. For example, independent analysis by Cambridge Econometrics estimated that the climate change levy will deliver cumulative savings of 60.5 MtCO₂ to 2005. The CCL package was introduced alongside a 0.3 percentage point cut in employers’ National Insurance Contributions (NICs).

Budget 2008 demonstrated the Government’s continuing use of fiscal measures to protect the environment, including: significant reform of Vehicle Excise Duty; pre-announcing fuel duty rates for 2010-11 and revalorization of the climate change levy in 2009.

The Government’s Statement of Intent on Environmental Taxation

Defining environmental taxes

13. The different definitions of environmental taxes used by the Treasury and the Office of National Statistics are a source of confusion. We prefer the Office for National Statistics definition, which, in line with that of the Organisation for Economic Cooperation and Development, is based on examining the effects of a particular tax, to the Treasury’s definition, which examines the intent of a particular tax. The most important measure of the success of an environmental tax is the change in behaviour it achieves, so it would seem appropriate that the Treasury definition should capture all taxes that have a significant impact on behaviour. We therefore recommend that the Treasury bring its definition of environmental taxation in line with that of the Office for National Statistics. (Paragraph 87)

The Treasury considers ‘environmental taxes’ to be taxes that were designed primarily to have an environmental impact. The climate change levy, aggregates levy and landfill tax fall into this category. There are other taxes that have a positive environmental impact and can be used to achieve environmental aims (eg fuel duty; VED) but these are not classed as environmental tax by the Treasury.

ONS define an environmental tax as: “as a tax whose base is a physical unit such as a litre of petrol, or a proxy for it, for instance a passenger flight, that has a proven specific negative impact on the environment”. As such, ONS see that—in addition to pollution related taxes—all energy and transport taxes as being classified as environmental taxes. This definition is designed to enable analysis to be based on the effects of taxes rather than the aims behind their introduction.

The two definitions have different purposes. In both cases, the interpretation and use of measures of environmental taxes need care. As the ONS point out, the levels of revenues from environmental taxes do not necessarily indicate the relative importance or the success of environmental policy. High environmental tax revenues can result either from high rates of taxes or from high levels of environmental problems (e.g. pollution) leading to a large tax base. The broad measure of revenues can also fail to capture the effect of the differential

rates that encourage a shift away from higher impact behaviour (such as the use of leaded petrol).

Conclusions

14. Using the ONS definition of environmental taxation, it is clear that the ratio of environmental tax to total tax has been falling in recent years. In our view, the principal reason for this ratio diminishing is falling real tax rates (particularly on fuel), rather than the tax base shrinking as a result of changing behaviour. The fall in the ratio of environmental tax to total tax, using the Office for National Statistics measure, is disappointing, and shows that the Government has failed to maintain its commitment to the 1997 Statement of Intent. We recommend that the Government reverse this reduction in commitment and, in response to this Report, indicate the measures it will deploy to reflect that renewed commitment. (Paragraph 96)

The Government has committed to consider the use of fiscal measures to support environment policy, but it is essential that the right instrument is used by the Government in each particular circumstance so that the pursuit of environmental objectives takes account of wider economic and social objectives. The Stern Review reiterates this point, and does not require that any particular instrument is used for any particular mitigation policy; rather, Stern suggests that each country should use the appropriate mix of taxes, trading, spending and regulation as befits its national circumstances. As such, the UK Government has looked to introduce an innovative range of measures to tackle environmental challenges—including, where appropriate, tax measures. Environmental taxes have a role to play as part of a wider range of measures, but other measures are often a more effective form of intervention. Tax is not the only lever, and merely looking at environmental taxes as a proportion of GDP is not an effective assessment of the impact of the Government's environment policy.

Since 1997, the Government has put this commitment into practice through the introduction of the climate change levy, the aggregates levy and the landfill tax escalator. The climate change levy and climate change agreements (which offer opportunities for business to reduce their liability to the levy) are together estimated to deliver carbon emissions savings of over 22MtCO₂ a year by 2010. The aggregates levy has reduced the use of virgin aggregate by 8% between 2001 and 2005 and landfill tax has contributed to a drop of active waste disposed of at landfill by 19% between 1997-98 and 2006-07.

These measures were introduced in a way that has shifted the burden of taxation from goods to bads. The introduction of the climate change levy was accompanied by a 0.3 percentage point cut in employers' National Insurance contributions; and the introduction of the aggregates levy and the landfill tax were accompanied by a 0.1 percentage point and 0.2 percentage point reductions in employers' NIC respectively.

The Government's principled approach to using environmental tax was also reflected in recent Budget and Pre-Budget announcements which included: the replacement of air passenger duty with a per plane tax; significant reform of vehicle excise duty; the pre-announcement of fuel duty rates for 2010-11 and the revalorization of the climate change levy in 2009.

Overall, this approach to using environment taxes as part of an innovative range of measures has put the UK on track to meet its Kyoto commitments, whilst also ensuring that progress towards wider economic and social objectives—in particular, strong and stable economic growth—is supported.

Hypothecation of tax revenues

15. We have considered the desirability of an extension of hypothecation in relation to environmental taxes, but do not think that such an approach would be appropriate. Setting taxes is one decision facing a government; spending this revenue is another, separate decision. Any widespread linking of environmental tax receipts to environmental expenditure would become complex, and create a risk of certain worthwhile expenditure failing to find a source of funding, if that expenditure were to lack an obviously related revenue source. (Paragraph 99)

The Government welcomes the Committee's comments on hypothecation of taxes. The Government's spending priorities are not, except in limited circumstances outlined in the Treasury's budgeting guidance, determined by the way in which the money is raised.

Hypothecating taxes to particular spending programmes causes inflexibility in spending decisions and can lead to a misallocation of resources, with reduced value for money for taxpayers. The Spending Review process ensures that resources are allocated efficiently to deliver Government objectives and ensures priorities, such as education and health, receive the increased levels of funding, as set out in the CSR. In addition, any form of hypothecation would create obstacles for achieving the Government's aim of using environmental taxes to shift the burden of tax from 'goods' (like employment) to 'bads' (like pollution).

Aviation taxation

16. When the European Union Emission Trading System (EU ETS) is extended to include aviation, that scheme could be a suitable framework for ensuring that airlines pay the environmental costs of their emissions, at least in Europe. Until that point, however, the Government must ensure that an effective tax structure is in place to ensure that aviation at least covers the cost of its environmental damage. As the Minister told us, Aviation Passenger Duty (APD) is far from ideal, and it offers neither sufficient incentive for airlines to invest in cleaner technologies, nor empowers passengers to take action themselves. APD does not distinguish full flights from half-empty ones, nor does it distinguish between a flight to Morocco and a flight to Australia. We are pleased that the Government is now considering a Per Plane Duty, but strongly regret that it has taken till now to introduce a replacement for APD. We urge the Government to ensure that Per Plane Duty includes cargo flights and private planes, and that it will offer clear incentives for the industry to invest in cleaner fleets, through providing tax differentials for cleaner technologies. (Paragraph 115)

17. The necessity of ensuring aviation pays the full cost of its environmental impact will not cease upon its inclusion in the EU ETS in 2011. We recommend that the Government, in its response to this Report, clarify whether aviation will continue to pay Per Plane Duty (or another form of aviation tax) once aviation is included in the EU ETS. (Paragraph 116)

The Government welcomes the Committee's support for a new per plane duty, which the Chancellor has announced will replace air passenger duty on 1 November 2009. This reform will take place with the objectives of providing a better environmental incentive for efficient flying, and will ensure that aviation makes a greater contribution to covering its environmental costs, while ensuring that a fair level of revenue continues to be raised from the sector in order to support public services.

The public consultation on this issue was launched on 31 January, and the formal document, *Aviation duty: a consultation*, is available on the HM Treasury website. The consultation will close on 24 April, and HM Treasury welcomes responses before this date. The consultation document sets out a number of lead design options for the new duty and asks a number of questions of stakeholders. The lead design options in the document include:

- basing the duty upon an aircraft's Maximum Take-Off Weight, which is shown to be correlated to aircraft emissions;
- the creation of three distance bands, in place of the existing two for air passenger duty, to better reflect distance flown;
- that all aircraft above 5.7 tonnes will be included within the scope of the duty—this will include private jets—and that those below that weight will be subject to fuel duty;
- that the Government will consider the case for exemptions, including for the highlands and islands;
- that freight aircraft, and transit/transfer passengers will be included within the scope of the duty, although the Government welcomes further evidence on the economic impact surrounding these issues; and
- that the duty could be collected by airports on behalf of HMRC.

As set out above, the Government continues to see the inclusion of aviation within EU ETS as a priority. Once aviation is included within EU ETS, the interaction between ETS and the new per plane duty will be closely monitored. However, the Government has always stated that there remains a role for fiscal incentives alongside ETS—not least as the environmental impacts of aviation are broader than carbon dioxide emissions alone, and because the aviation industry should continue to make a fair contribution towards the public services.

Adaptation

Coordination of adaptation efforts across government

18. The Stern Review outlines a need for climate-proofing measures that will cost 0.05-0.5% of GDP each year. At present, it is very difficult to make an estimate of the amount currently spent by the Government on such adaptation, let alone by UK businesses and individuals. We recommend that the Treasury track and publish spending on adaptation in order to raise public awareness of the impact of climate change and enable enhanced scrutiny of Government's progress under PSA 27. (Paragraph 122)

The Government agrees with the Committee about the need to raise awareness for all sectors in the UK to assess and take account of climate impacts on their business and investment decisions. The Government does of course support the Hadley Centre and UKCIP in providing evidence and support to organisations in the UK on climate change, and will be publishing the Adaptation Policy Framework in Summer 2008 as part of a wider programme on adaptation.

The Climate Change Bill also commits the Government to undertake a national risk assessment on the impacts of climate change, and develop a programme of action following this. As part of this process, the Government is looking at undertaking a cost benefit analysis of the risks of climate change, and the benefits of adaptive action. This will begin to provide the evidence base Government and other organisations need to make sensible decisions about climate risk. The Government will aim to ensure that the costs of adapting to climate change are minimised, by choosing the most cost-effective interventions.

Whilst the Government is committed to transparency in its expenditure, which is reported through Departments' resource accounts, the nature of expenditure that contributes to adaptation to climate change will occur in a large range of spending areas across the public sector. As the report notes, successful adaptation will also depend on investment decisions and behaviour across the entire economy. In many cases these are based on existing climate-related risks, as well as a developing understanding of climate change and other factors. It would be artificial to identify specific costs for adaptation separated from other considerations.

For these reasons, the Government does not currently consider that monitoring identifiable expenditure is an appropriate means of measuring the degree of adaptation to climate change. An appropriate measure is the adaptation programme that the Government is developing.

In addition, in the 2007 Comprehensive Spending Review period, DEFRA's departmental strategic objectives will include measures of adaptation to the key impacts of climate change, including flood risk and sustainable water abstraction. In this way, the Government is seeking to measure the outcomes of its interventions, rather than just the resource inputs.

Government expenditure on flood defence

19. Investment in flood defences is extremely cost-effective, if targeted carefully. The announcement of additional funding in the 2007 Comprehensive Spending Review is therefore welcome. We also believe that effective flood risk planning involves long-term investment, so requires long-term financing and advance warning of the funding that will be provided. We therefore recommend that the Government make a public commitment to the level of flood defence spending beyond 2010–11 in advance of the next spending review. (Paragraph 129)

The Government agrees that investment in flood defences is a crucial part of adaptation to the impacts of climate change as concluded in the Stern Review and reflected in the announced increase in expenditure on flood and coastal erosion risk management from £600 million in 2007-08 to £800 million in 2010-11 (in the 2007 Comprehensive Spending

Review). The Department for Environment, Food and Rural Affairs, the Environment Agency and others are working effectively together to ensure sound, long-term, strategic flood risk management and to address urgent actions required by Sir Michael Pitt's interim report *Learning Lessons from the 2007 floods*.

The Environment Agency is currently analysing the costs and benefits of a longer term investment strategy for flood and coastal erosion management, but this work is still at a very early stage. In flood policy—as with other policy areas—it is essential that spending decisions are taken together to ensure appropriate prioritisation. Spending reviews set firm and fixed three-year departmental expenditure limits. This does not prevent the formation of long-term, strategic plans, but maintains enough flexibility to ensure spending plans are consistent with what is affordable.

Adaptation in developing countries

20. In Chapter 2 we noted the Government's work in assisting rapidly developing countries, such as China and India, move to low-carbon economies, but the impact of climate change will hit some of the least-developed countries hardest. We recommend that, in response to this Report, the Treasury outlines its policy towards assisting the least-developed countries with their climate change adaptation needs, and the extent and nature of work that has been carried out so far in respect of this policy. We further recommend that, in order to highlight the importance of such assistance, the Treasury specify and ring-fence that part of the Department for International Development's budget which is given to funding overseas climate change adaptation. (Paragraph 135)

Adaptation and development are inseparably linked. As the Stern Review outlined, climate change will hit the poorest countries earliest and hardest. Successful adaptation to the inevitable impacts of climate change is now critical to achieving development goals. And development itself is key to building the essential capacities and institutions that allow countries to adapt successfully to a changing climate.

Adaptation is just development under the conditions of a changing climate. That's why dealing with the impacts of climate change in developing countries is now a core part of the Department for International Development's mission to reduce global poverty. This is reflected in our approach to international development institutions. The UK has been at the forefront of global efforts to mainstream the consideration of climate change throughout the Development Banks, for example through the Clean Energy Investment Frameworks, and DFID and DEFRA's recent work with partner countries to establish the Strategic Climate Fund at the World Bank, which includes adaptation pilots, using the £800m Environmental Transformation Fund.