



THE NATIONAL TRUST

STERN REVIEW ON THE ECONOMICS OF CLIMATE CHANGE

A response by the National Trust to HM Treasury/Cabinet Office

December 2005

Summary

The National Trust welcomes the opportunity to contribute to the Stern Review on the Economics of Climate Change.

The National Trust owns and manages a wide range of properties and sites across England, Wales and Northern Ireland, from coastline and countryside to houses and gardens, and is also a major business and tourism provider. This scale and diversity allows us to highlight early signs of the impacts of climate change all around us. Already, we are incurring extra costs in dealing with the effects of climate change and making the difficult management and investment choices that also face wider society.

This submission is based on our experience of current and predicted impacts of climate change on the National Trust and our adaptation and mitigation responses. It focuses on the domestic impacts of climate change. These need to be addressed in their own right and also have the potential to build support and understanding for advancing international responses. The Trust believes strongly that acting now to adapt and mitigate is the most economically, socially and environmentally preferable option. The Prime Minister and the Chancellor have a crucial leadership and catalyst role in ensuring society as a whole makes urgent progress.

Climate change poses some unique and difficult philosophical and practical challenges to policy makers that require a different approach. We welcome the long term and open nature of this Review. This should help overcome some of the obstacles that have prevented coherent climate policy to date and left such a gap between political aspiration and action on the ground. The obstacles include: short term policy and spending targets; conflicting policies and priorities across Government; weak on risk-based approaches; climate change being considered an 'environmental' issue; policy development remote from citizens and consumers; and a policy default to implementing macro solutions.

In order to meet the challenges of climate change, the National Trust identifies the following priorities for this Review:

- Securing greater political commitment, leadership and prioritisation to enable the UK to adapt cost effectively and equitably.
- Providing incentives to adapt and manage risk through innovation in financial products and mechanisms.

- Facilitating long term planning and climate proofing of decisions to minimise risk and accommodate change.
- Establishing a new integrated spatial approach to the planning and management of natural resources at local, regional and national levels.
- Using mandatory targets as a vital part of the Government's strategy to reduce greenhouse gas emissions domestically and internationally, including the targets for 2010 and 2020 as important milestones rather than ends in their own right.
- Prioritising energy demand reduction and micro-renewable energy generation as a cost-effective means of contributing to meeting the longer term goal of cutting greenhouse gas emissions by 60% by 2050.
- Investing in innovative approaches to public engagement and communication that raise awareness and understanding of the impacts of climate change in the UK and the risks that people face, ensuring this extends to employees of businesses and government at all levels.
- Enabling people at home, work, and in their leisure time, to take positive steps to reduce their contribution to climate change as well as adapt to the impacts.
- Securing a step change in action to reduce greenhouse gas emissions from the transport sector and new buildings.
- Reducing greenhouse gas emissions from all sectors, not just fossil fuels, particularly carbon dioxide from badly managed soils, wetlands and peatlands; and methane from agriculture.

1 Introduction to the National Trust

1.1 The seriousness of the risk posed by current and future impacts of climate change on the National Trust's business and reputation has been recognised over the past decade at all levels of our organisation. Our response to the Stern Review is based on the following:

- The Trust is a major **public communicator** at national, regional and local levels, indirectly through the media and directly through interpretation and events at our sites. With 3.3 million members, 15 million paying visits, and over 50 million visits to our coast and countryside each year, we have the potential to reach millions of people and promote greater understanding of the risks we all face from climate change.
- The Trust's statutory and charitable purpose is to conserve and promote access to the nation's natural and cultural heritage in perpetuity. This requires us to assess the **long term risks to conservation and people** at each site - from both incremental trends and one-off events - and take management decisions that minimise the detrimental impacts or take advantage of any opportunities offered. A range of practical constraints need to be factored into all our decisions, not least cost and legal restrictions.
- The Trust is an authority on **land and resource management**. We are the UK's largest non-governmental landowner with 252,000 ha of land – both open access countryside and tenanted farm land – and over 700 miles of coastline in England, Wales and Northern Ireland. We are Europe's largest conservation charity, with 10% of the UK's Sites of Special Scientific Interest and 10% of its museums. We are also responsible for 300 mansion homes and gardens. This gives us considerable experience and expertise in understanding and managing risks and undertaking our conservation work through the 'management of change'.
- The Trust is a major business, from tourism to catering, with an annual turnover of £295m – we have **significant economic assets actually or potentially at risk** from climate change, but also benefits to be derived from a proactive and integrated approach to adaptation and mitigation.

1.2 The Trust faces many similar challenges to the Government and UK society as a whole - from our business dependency on car-based travel (in the wider context of a carbon intensive economy), to reducing our energy use (encouraging cultural and behavioural change amongst staff and volunteers) and overcoming barriers to increasing investment in measures to reduce energy demand and renewable energy. We have been working to meet these challenges in partnership with Defra, the UK Climate Impacts Programme (UKCIP), government agencies and other NGOs.

1.3 The Trust's written submission is focussed deliberately on core areas of interest to the Review – climate change and energy in the UK. We have further evidence in important related policy areas such as transport, tourism, buildings and development which we would be happy to share. We would also be keen to demonstrate the issues raised in this response through a site visit, if that would help the Review process.

2 Impacts and costs of climate change on the National Trust

2.1 The Trust is experiencing the impacts of climate change in many different areas of its business. Most notable so far have been:

- Sea level rise and increased wave height causing coastal flooding, accelerated erosion and damage to land and structures;
- More extreme rainfall and storm events causing water incursion into buildings or flooding of land/buildings;
- More extreme drought and water shortages in all areas of the country, threatening our private water supplies, tourism businesses, habitats and landscapes – and increasing the risk of damage caused by fires;
- Longer growing season adding to maintenance costs of gardens and the countryside;
- New pests and diseases in gardens and countryside requiring greater management intervention.

2.2 Whilst we can illustrate the type of costs incurred (Annex 1), it is extremely difficult at this stage to put together authoritative figures of the net financial impact of climate change on the Trust. This is due to a combination of factors, which include:

- There is no system for monitoring and collecting centrally the additional expenditure other than insurance claims;
- Although the majority of one-off repair costs from storm damage are met currently by insurance claims, this does not cover staff time in dealing with the immediate aftermath and the ramifications of events for long term management costs. Though this can be very considerable, it is extremely hard to track e.g. providing bottled water to remote cottages and holiday lets when the private water supply dries up.
- It is not always clear what can reasonably and fairly be attributed to climate change as opposed to other causes

2.3 To assess the long term risks the Trust faces from climate change, we have commissioned, either independently or jointly, risk assessments of various aspects of our business looking ahead 100 years. Over the last few years, we have published the results to share our experience of climate change impacts on our 200 gardens¹ and 700 miles of coast². We are currently undertaking research on the impacts on our water resources, due to be published next year, and we also contributed to a recent report on the impacts on the historic environment³.

2.4 The costs of climate change and future energy supplies are also underpinning the Trust's strategic planning processes. It has emerged as the primary issue in a recent review of external trends lead by our trustees and executive board and is recognised as a key business risk in the short and long term. We are also considering how to adopt carbon budgeting and management, alongside our financial performance measures, and how to encourage other businesses with whom we have significant relationships (e.g. through sponsorship, investment or procurement) to do the same e.g. by joining the Carbon Disclosure Project as a first step.

¹ *Gardening in the Global Greenhouse* 2002: National Trust, Royal Horticultural Society, UKCIP [copy included]

² *Shifting Shores* 2005: National Trust [copy included]

³ *Climate Change and the Historic Environment Report* 2005: University College London

3 Priorities for climate change adaptation

3.1 To date, international and domestic debate and activity on climate change has rightly focused on mitigation. However, as the Government's own data show⁴, the impacts of climate change on society will be profound, even if emissions of greenhouse gases are stabilised. We need urgently to encourage and facilitate society to start *adapting* to climate change. The scale of the task and the priorities for 'UK plc' have perhaps been illustrated best by the Government's work on flooding and coastal erosion^{5,6}.

3.2 The Government's early proposals for a National Adaptation Policy Framework⁷ are a welcome start, but the approach is not strategic or urgent enough to identify and make progress towards meeting the UK's top adaptation needs. We hope this Review helps to focus on the cross-cutting priorities for strategic leadership and co-ordination from Government. We believe these are already apparent:

- Raising public awareness and understanding of climate change impacts and risks through improved communication and engagement
- Long term planning and climate proofing of decisions to minimise risk and accommodate change
- A new integrated spatial approach to the planning and management of natural resources at local, regional and national levels
- Innovation in financial mechanisms that enable households, businesses and wider society to manage risks and share costs equitably.

Raising public awareness and understanding of climate change impacts and risks

3.3 It is essential that people learn how to live with the implications of climate change in order to help them make the choices that will reduce the risks to life and property. Awareness and understanding of climate change as an immediate and local issue is also important to encourage behavioural change to reduce our greenhouse gas emissions. Clearly the public are concerned about climate change, but it is an issue that is generally communicated in headline statistics and illustrated using global stories e.g. flooding in Bangladesh, melting of polar ice caps, hurricanes in the US. We urgently need to build people's understanding that the impacts of climate change are being and will be felt at home, in their daily lives.

3.4 We therefore welcome Defra's recent Climate Change Communications Initiative as an innovative response to public engagement in the issue. This important first step will build a platform for the future, but needs much greater funding, scope, and visible cross-government commitment and delivery to ensure its success. It also needs to be taken up and championed by others, particularly local and more trusted sources. Climate change must be understood as a cross-cutting rather than simply an environmental issue in order for it to be central to public and political consciousness.

3.5 The National Trust has focussed its communications efforts in 2005 on raising awareness and understanding amongst trustees, staff and volunteers of the impacts of climate change on our properties and activities⁸. We are committed to sharing this experience and evidence with our

⁴ UK Climate Impacts Programme www.ukcip.org.uk

⁵ *Future Flooding* 2004: Foresight, Office of Science and Technology

⁶ *Making Space for Water* 2005: DEFRA

⁷ Consultation on the National Adaptation Policy Framework www.defra.gov.uk/corporate/consult/cc-nap-framework

⁸ *Forecast? Changeable!* 2005: National Trust. Internal publication for staff and volunteers [copy included]

millions of members and visitors in 2006 as part of our climate change campaign. This is important both to build public support for what might otherwise be unwelcome or unexpected decisions by the Trust in managing change, and because the Trust is able to show that climate change is relevant now to people's everyday lives.

Long term planning and climate-proofing decisions to minimise risk and accommodate change

3.6 Adapting to climate change requires forward planning at least 50-100 years ahead which presents an unprecedented challenge to our current systems of politics, policy and practice. Preparing now for continual adaptation to change and management of risk will be a more cost effective and publicly accountable response than reactive (and potentially catastrophic) adjustments and end of pipe solutions. This complements approaches to pollution, health and pensions as three related areas where policy is increasingly moving towards prevention rather than cure; securing significant long term cost savings and avoiding damaging impacts and effects.

3.7 There are many opportunities to integrate and create incentives for longer term planning into the current policy and spending processes within Government. Already, climate change impacts have to be considered in Regulatory Impact Assessments. A practical next step would be to climate-proof the next Spending Round, ensuring that wherever possible each unit of public investment is being used to help society adapt and to mitigate climate change. A truly leading innovation would be for the Government to run a carbon budget alongside its financial 3-year Spending Rounds and annual budgets.

3.8 The National Trust recognises that adapting to the impacts of climate change has to be proactively factored into our internal strategic decision making and spending at all levels. This includes:

- Undertaking long term risk assessments of climate change impacts on key sectors of our business (see 3.3);
- Taking account of projected climate impacts (using UKCIP data) on all potential acquisitions and major projects relevant to the area;
- Building in climate resilience and flexibility to the management and development of our land and buildings, to deal with the inherent unpredictability of climate change;
- Producing guidance on adaptation for the Trust's decision makers; and
- Developing an appropriate performance management framework

Integrated spatial planning and management of natural resources

3.9 In many cases, the most cost-effective and sustainable adaptation option will be to relocate people, buildings and wildlife habitats from risk areas, which requires a spatially planned and delivered approach that covers the whole land mass and coast. Yet, given the limited focus of the land use planning system on 'development', this is a major gap in the toolkit for adapting to climate change.

3.10 Planning this future land and resource use to accommodate change requires a shift towards more geographically sensitive scales such as river catchments and coastal cells that work with natural processes. There are some current innovations in policy that could form the basis for a new spatial planning framework for natural resources, principally the River Basin Management Plans⁹ required under the Water Framework Directive which offer significant potential beyond

⁹ The other planning processes are Shoreline Management Plans (at coastal cell scale) and Catchment Flood Risk Plans which both fit within the proposed River Basin Management Plan framework.

bureaucratic EU compliance. The Trust will be publishing a thinkpiece report early next year, commissioned from leading planning experts, to shape this debate.

3.11 The Trust has needed this new spatial planning framework most visibly and recently in managing our 700 miles of coastline. Our risk assessment, published in *Shifting Shores*, shows that over the next 100 years, 60% of National Trust coastline could be affected by erosion and over 6,600ha¹⁰ by flooding. Our experience demonstrates that ‘do nothing’ is not an option. We have started to plan for the inevitable and potentially extensive coastal change, which at some sites includes the relocation of homes, businesses and wildlife habitats. We are aiming for solutions that deliver the greatest social and environmental benefits at the least cost over the long term. However, our choices are constrained currently by the wider public policy and funding context.

Innovation in financial products and mechanisms that manage risk and facilitate adaptation

3.12 The impacts of climate change will increase the risks of flooding, coastal erosion, subsidence and drought faced by many hundreds of thousands of households and businesses across the UK. There are already people in risk areas who cannot afford conventional private insurance products or are unable to secure a mortgage. Over the next twenty to fifty years this problem will grow significantly, particularly as the pressure mounts to relocate people and businesses from risk zones. Current public funding arrangements, fiscal incentives and private financial mechanisms for climate change adaptation are sparse and weak and wholly inadequate to meet these future needs.

3.13 If we do not provide transitional support, enabling people to relocate from risk zones, we risk creating pockets of deprivation and potentially ghetto communities. This is because those who can afford to manage risk will do so, either by moving away or privately investing to protect themselves in the short term. Poorer households and businesses are less able to adapt, leaving them highly vulnerable to loss of assets and in the worst cases to loss of life. The private actions from individuals to avoid adaptation – such as through hard coastal or flood defences - can also increase the burden of risk to neighbours and others, including the Trust.

3.14 Managing climate change risks and doing so in a way that shares the costs of adaptation more equitably, will require a broader and more imaginative approach. Financial innovation in both the public and private sectors is critical to finding solutions, e.g. new products and mechanisms in insurance, compensation and long term land/resource management. There is relevant international experience that could be drawn upon, such as how Japan and New Zealand deal with earthquake risk. It is also important that any future funding and risk mechanisms are capable of valuing the full social and environmental benefits of land in order to maximise the multiple benefits from public investment and finding win-win solutions. The lack of a sophisticated approach to valuing assets is currently a barrier to implementing a risk based approach that provides public value for money.

3.15 As part of the Trust’s own climate change programme, are looking to use our experience of practical constraints on adaptation to inform a debate on new financial mechanisms amongst key thinkers in the City, insurance industry, financial thinktanks and leading economists. We would be interested in exploring whether we could facilitate this debate to feed into the Review.

¹⁰ The latest UKCIP and Environment Agency projections for sea-level rise mean a greater risk of flooding of National Trust coastline than we published in *Shifting Shores*, an increase from 4,040ha to 6,600ha

4 Mitigation

4.1 We have focused our submission on the need for a strong and focused adaptation strategy for the UK, as this is where we believe we add the most practical value to the Review. However, we consider action to mitigate climate change is an imperative and are committed to playing our part to reduce greenhouse emissions. The Trust's believes the Review should help focus Government action on mitigation on the following:

- top priority to energy demand reduction
- greater priority to micro renewable energy generation
- higher standards for the construction of new buildings
- reducing greenhouse gas emissions from the transport sector

Top priority to energy demand reduction

4.2 With demand for energy growing annually at 1.5-1.8%, the Trust believes the top priority should be to tackle energy consumption. As the Energy White Paper identified, tackling waste and inefficiency is also by far the most cost-effective way of reducing overall carbon emissions and meeting our long term targets. It is very disappointing that the Government has made little headway on facilitating and creating incentives for energy management solutions for householders and businesses and tackling the problem area of growth in transport emissions, particularly from aviation. This Review is an excellent opportunity to focus on some key areas to secure a step change in the UK's energy efficiency and decouple our economic growth from greenhouse gas emissions.

4.3 The Trust faces similar energy issues as any other household or business. Until recently, we have not really been aware of how much energy we use, what it costs, where we are being profligate and what practical measures we should be taking to reduce consumption and costs. Our current strategic plan committed the whole organisation to start an energy management programme, with a performance target to reduce our electricity consumption by 10% by February 2007 (Annex 2). Our big incentive is to reduce our £2.5m annual energy bill and insulate ourselves from likely further oil, gas and electricity price rises. We plan to share our 'carbon diet' with our members and visitors, to help them take the small steps to reduce their energy bills and make a contribution to reducing climate change.

Greater priority to micro-renewable energy generation

4.4 We support the Government's shift towards renewable energy generation set out in the Energy White Paper. However, the delivery of this policy has, by default, favoured large, industrial-scale developments. This has missed the opportunities to exploit a huge, untapped potential for micro-generation of renewable energy (for electricity and heat) in communities across the UK. The benefits of micro-renewables extend far beyond just their energy generation outputs, they have the potential to transform society's energy culture and behaviour¹¹. Bringing technological solutions within people's grasp not only stimulates consumer interest and spending power, but also it raises awareness of the need to reduce use and makes energy and climate change a personal responsibility and opportunity rather than a remote and overwhelming threat. Micro-generation also has the potential economic benefits of increasing security and stability of supply and creating market opportunities for UK business.

¹¹ *Seeing the light: the impact of microgeneration on the way we use energy* 2005: Sustainable Consumption Roundtable

4.5 We would like the Government's energy strategy to give far greater priority to delivering the multiple benefits from micro-renewable energy generation. Urgent action is needed to reduce the cost of the technology and create incentives to encourage its uptake. The Trust supported the Micro-generation manifesto published by Green Alliance in September 2004, which highlights the need to:

- Integrate micro-generation into new build (for both heat and electricity generation)
- Encourage local authorities to plan for community-scale grid network
- Introduce incentives for energy suppliers to develop energy service contracts that enable householders to retrofit schemes
- Reform the fiscal framework – e.g. through stamp duty rebates for low carbon homes
- Develop simple procedures for householders and small businesses in applying for grants and grid connection.

4.6 The Trust's energy policy commits us to investing in micro- and small-scale renewable energy generation at our properties. Over the last 15 years, we have experimented with a wide range of locally sensitive renewable energy investments in some of our properties to provide reliable, secure and carbon neutral energy. As the price of fossil fuels increases and becomes less stable such investments are, with the help of grants, becoming more economically viable. However, even with the Trust's ability to accept a long term return on investments, the cost of investing in renewable energy continues to be prohibitively expensive in many cases. We will be publishing the policy lessons from our practical experience with micro-renewables in early 2006. We are currently looking for energy partners to help us expand our energy generation from micro-renewables and are also investigating the business case for an internal renewables investment fund, using some of our own investment capital.

Higher standards for the construction of new buildings

4.7 One of the UK's most significant uses of energy is to heat buildings. There is huge potential to increase the energy efficiency of new buildings, but one of the main obstacles to progress is the common perception in the building sector that it is not possible to reconcile costs with sustainability goals. The Trust has been working with major housebuilders in developing a 710 house scheme at Stamford Brook near Altrincham, Cheshire. This demonstrates the scope not only for higher building standards to be incorporated into larger scale development but also that the costs of introducing such measures can be significantly overestimated. We believe the Review should recommend how the UK can achieve a step change towards low carbon construction, including increases in the regulatory floor that govern new developments.

4.8 Stamford Brook shows how we are achieving significant cost reductions on energy efficiency measures over time and how environmental measures, which were thought not to be affordable by the developers of the project at the beginning, became so further down the line. In one case the extra cost for a specific element of construction in a dwelling reduced by 80% and in another by 40% in less than a year. A note on the project is provided in Annex 3. Stamford Brook is a *Partners in Innovation*¹² project to develop a new Building Regulations Part L energy performance standard that is easily transferable to the house building sector as a whole. We wish to emphasise that this housing project is based on building fabric and in-built service energy efficiency measures, that are durable and more likely to achieve reductions in energy use.

¹² The *Partners in Innovation* project is jointly funded by DTI/ODPM, led by Leeds Metropolitan University who are working on behalf of the National Trust and the developers.

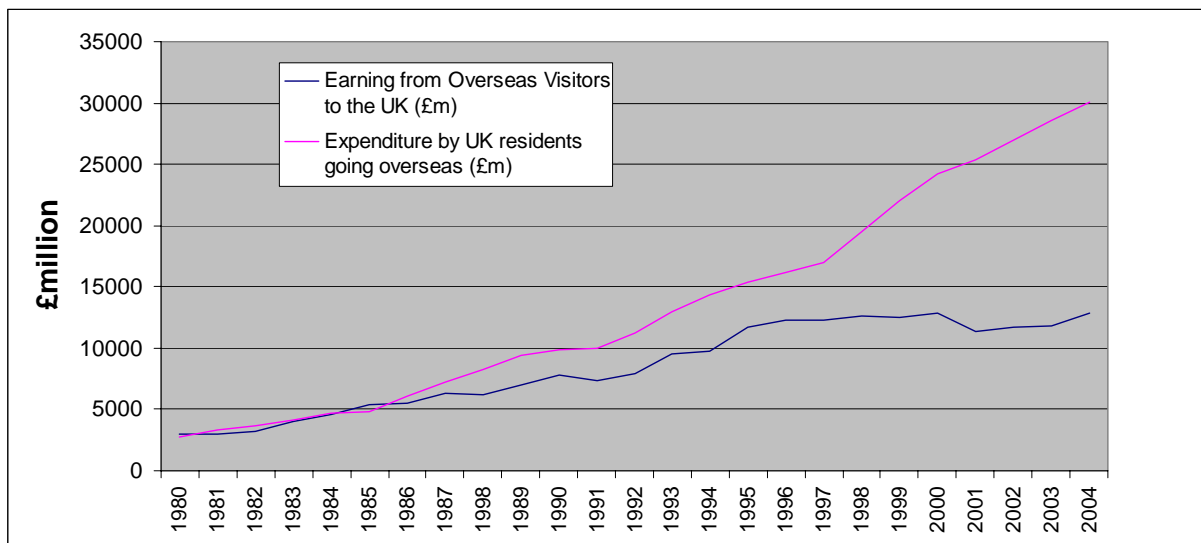
Reducing greenhouse gas emissions from the transport sector

4.9 One of the most serious challenges in tackling the causes of climate change is the growing contribution to greenhouse gas emissions from the transport sector. It is the only sector which is projected to increase total greenhouse gas and carbon dioxide emissions by both source and end user between 1990 and 2020 and the increases are projected to be as much as 23%. We do not believe that measures to develop and promote new technologies will meet the challenge of reversing these trends.

4.10 Drawing on our own experience as a major leisure and tourism operator we should highlight the particular opportunities to introduce practical measures to mitigate future growth in leisure travel by both car and plane:

- *Visitor Travel Plans* – Leisure is the fastest growing driver of increases in car use and lacks a coherent policy framework for addressing its environmental and other impacts. As a starting point we urge the extension of the approach to workplace and school travel plans to address visitors to major leisure and tourist facilities and the integration of visitor travel plans into the land use planning system for these developments. This needs to be supported by more effective long term funding of alternatives to the car for leisure journeys.
- *Aviation and domestic tourism* – The impact of the growth in aviation emissions is well documented. 76% of flights are for leisure and this is the fastest growing sector. This is not only driving the growth in emissions but also contributing to a growing and large tourism balance of payments deficit – which has reached £17bn (see graph based on ONS data). The economic as well as environmental case for promoting a much stronger domestic tourism sector is overwhelming.

4.11 We would like the Review to address how the UK can adopt an approach to transport based on accessibility and full recognition of the wider social and environmental costs of mobility and identify milestones to close the UK's tourism balance of payments deficit.



Reducing carbon emissions from land

4.12 There are huge stores of carbon in our soils, particularly peatlands, yet these have been neglected in the UK's strategy to mitigate greenhouse gas emissions. We therefore welcome the Review's remit to assess the contribution of land use changes to climate change. As there has been so little action to date and the land-based sector is undergoing the most radical changes for 50 years, there is huge and exciting potential for progress.

4.13 An extract from a recent DEFRA scientific report¹³ provides a compelling context. *Northern Hemisphere peatlands, of which blanket peat is a part, contain 50% of the total global soil carbon - 1,400 billion tones. The UK as a whole holds 15% of the total global area of peatlands and blanket peat contains the bulk of the nation's soil carbon. The condition of the UK's blanket peat landscapes therefore has a significant bearing on global atmospheric carbon dynamics...Blanket peat areas in England are some of our most actively eroding landscapes.* Much of this is due to poor land management practices, both historically and currently. These degraded sites are likely to be significant carbon exporters.

4.14 We would recommend the Review considers the early work of the DEFRA Rural Climate Change Forum, chaired by John Gilliland, (of which the Trust is a member). The Forum has identified initially a range of issues for Government action in tackling emissions from the land-based sector:

- Raising awareness and understanding of land managers
- Climate-proofing major investment programmes in the land-based sector (mostly related to £3bn EU Common Agricultural Policy spend in the UK)
- The need for a 'big idea' to facilitate behavioural change amongst land managers e.g. an emissions trading scheme(s) covering not only carbon dioxide, but also methane and nitrous oxide - the much more significant greenhouse gases emitted by this sector.

4.15 The Trust owns a significant stake of the UK's land-based carbon store. From our own experience, we are concerned that the poor management of soils, particularly peatlands, presents a major climate risk and requires urgent action. We have recently calculated that the blanket peat of our High Peak property in the Peak District is emitting carbon annually equivalent to 1-2% of the UK transport fleet. We will send shortly further evidence and ideas to the Review on reducing greenhouse gas emissions from land.

Annexes:

Annex 1 – Illustrative costs of climate change to the Trust

Annex 2 – The Trust's energy policy and energy management programme

Annex 3 – The Stamford Brook housing scheme

National Trust publications enclosed:

Shifting Shores

Forecast? Changeable!

Gardening in the Global Greenhouse

¹³ Defra Review of the Heather and Grass Burning Regulations and Code: Science Panel Assessment of the Effects of Burning on Biodiversity, Soils and Hydrology 2005: David J Glaves & Nicholas E Haycock (eds.)