



## **Comments on Stern Review Discussion Paper on the economics of climate change, 31 January 2006**

There is much in this paper which is welcome, in particular recognition by the Review that:

- climate change is a serious economic and social issue and is a matter of concern to finance ministries around the world
- there are potential irreversibilities in climate impacts, which justify caution now in containing climate emissions
- there are ethical issues around the causes and impacts of climate change which cannot be reduced to simple economic calculus, in particular that the severest impacts are likely to be felt by the developing countries
- the current pathway of emissions is unsustainable

However we would criticise the paper on the following grounds:

- There is an implicit assumption that conventional economic analysis, perhaps with a few tweaks, represents an adequate way of approaching the problem. In particular, discount rates are an entirely inappropriate tool for “planetary governance” as even enormous and detrimental impacts become affordable over many centuries, and directly conflict with ethical principles such as ‘polluter pays’ (key questions section 2.3). The need to tackle climate change will act as a major constraint upon the kinds of society available to our descendants, which is inadequately captured by a discount rate (for example, low-lying land which becomes unusable because of inundation represents a permanent loss of resources).
- The assumption that conventional approaches of economic growth and development must be adhered to, and are appropriate. There is as yet no blueprint for what a society in UK, EU and globally will look like if it is compatible with a stable climate. Thus a continued expectation of growth should not be assumed. The global economy is a sub-sector of a benign global environment - not the other way around.
- The potential scoping of adverse impacts (esp. para 61) underplays the possible impacts – one only has to look at the profound political, social, environmental and economic impacts of hurricane Katrina, even in the world’s most significant country, to recognise that a potential increase in severe weather events could lead to very significant societal re-shaping which cannot be attributed a simple cost. Arguably Katrina was to some extent caused by climate change. The melting of the Greenland ice shelf is now understood to be happening much more rapidly than expected, and as the discussion paper notes, over half the world’s cities with populations over 1 million are in coastal estuaries. The outcomes cannot be given

a straightforward cost as the inward migrations in any country, even spread over many decades, are likely to cause social and political tensions as well as infrastructure stresses.

- The discussion takes overall a technocratic/managerial approach rather than one recognising the important role of political leadership and vision. Studies of technological change recognise the importance of expectations of outcomes in addition to market incentives in shaping technological trajectories<sup>1</sup>. Whilst rightly acknowledging the international dimension of action on climate change, the paper could usefully develop an analysis of the particular role that the UK could play given its position in the global economy as a large developed economy, and in international politics (see below)
- The paper only tangentially acknowledges the explicit role of international trading arrangements like WTO, which play a significant part in the international difficulties in developing better climate protection arrangements. We believe it is now appropriate to raise the possibilities of penalties for non-compliance with international climate change treaties under international trading rules for those being ‘free-riders’ on global mitigation efforts. WTO should accept climate protection as a legitimate rationale for trade barriers.

#### Specific further comments

Para 61 outlines the channels through which climate change might impact on the macro economy. A specific example of bullet point 2 not mentioned is the ‘future proofing’ of infrastructure investment. Most economic or investment decisions need to take account of risk, and investors are generally risk-averse. Mention is made of the costs from premature obsolescence arising from change in physical environment. However, there are also political risks associated with new infrastructure arising from the need to become more “climate friendly” at a later date. One example might be investment in a centralised grid infrastructure for power when it has become clear that a climate friendly power system is best based on local renewable generation. A much more striking example would be the costs of buildings currently being constructed having to become “climate friendly” at some point in the future, owing to weak building standards currently operating. This could also operate at a macro-economy level – failure to put in place low-carbon/zero emission buildings now will represent a cost to the UK economy when political momentum for deep cuts on emissions strengthens, and means that UK Government needs to institute additional measures to meet international obligation.

Mention is made of the need for persuasion and education to change people’s preferences (key questions section 2.2). Clearly this is true to some degree, but the extent to which it is necessary depends on the regulatory context in which those preferences are being exercised. Appropriate infrastructure like zero-emissions developments<sup>2</sup>, where heating and electricity needs are met with very low carbon emissions owing to high quality insulation, solar gain and microgeneration, removes a great deal of the ‘transaction costs’ associated with education of householders – there is no need to educate householders to make low carbon choices, because those choices have been built into the quality of the structures in which they live. Similar points could be made about emissions from the transport sector if low carbon vehicle technology were driven into the market by regulatory and fiscal mechanisms. It seems

odd to focus on behaviour change when some basic instruments of Government policy have not been deployed. It is certainly possible that regulatory and fiscal tools deployed to support a reduction in climate change emissions will have an educational effect, as well as a direct effect, as people begin to understand why these fiscal/regulatory changes have taken place. There is also evidence that micro-generation, if properly supported, provides a good incentive for education and behaviour change<sup>3</sup>.

The use of land use change and forestry in mitigating climate change (key question section 2.2) should be limited or zero. We believe there are major uncertainties associated with the effectiveness of forestry as a carbon sink<sup>4</sup> buttressed by recent findings that trees may emit methane<sup>5</sup>. An outstanding question is the relationship between agricultural practice and greenhouse gas emissions such as N<sub>2</sub>O and methane, in a form that could be usefully used e.g. as condition of agricultural grant schemes.

Within the framework of international action, key questions section 3.4 asks what role the UK and EU can play. International action is undoubtedly essential. However the UK can play an important role in stimulating international action not through diplomacy but by demonstration. The UK has the best renewable marine and wind resources in the EU, and one of the best in the world. It also has an historic manufacturing base and offshore engineering experience and expertise. There is no better place in the world to act as a crucible for renewable technology development. Whilst huge amounts of money and political capital are spent nationally or internationally in technology promotion of biotechnology, nuclear fusion and nuclear fission, efforts on renewable energy funding has languished - the Renewables Obligation is funded by the energy consumer. Yet the UK has no unique strategic advantages in relation to any of these three technologies other than vocal interest groups based here. The UK could serve international climate change mitigation efforts well by making sure that the UK leads development and deployment efforts. However we are losing out rapidly to others – the first wave farm commercially built will be constructed in Portugal. From being the potential world leaders in offshore wind, development is stalling for the need for cash equivalent to approximately the **increase** in liabilities in February that the public sector will be responsible for arising from bailing out British Energy<sup>6</sup> (which is still just one fifth of the total liabilities cost).

The further leadership that the UK needs to demonstrate is that of leading developed countries to a low carbon economy. We believe it is clear that this is best achieved through decentralisation of the power grid, and treating power and heat systems as one – contrary to the current energy review which is in practice (although not formally) focuses on electricity. Because so much of the primary energy fed into the power system is wasted up cooling towers, decentralising the energy system will allow the UK to emit less carbon, use less gas and cost less<sup>7</sup> over than a business-as-usual approach with a new nuclear programme.

Numerous studies have demonstrated that most energy efficiency savings deliver a net negative cost to the economy – for example . Further cost-effective savings can be gained from other greenhouse gas controls for example on methane<sup>8</sup>. A challenge for the Treasury is to establish and tackle the regulatory and market failings which allow financially sub-optimal situations to be perpetuated. That being said, Global Action

Plan has conducted studies in schools, businesses and even households which largely looked at behavioural change through peer support and community building<sup>9</sup>. Savings on energy are around 20% (with wide variation) in schools and over 20% in households. Although this briefing does not attempt to quantify costs, it is noteworthy that roll-out of this programme in schools across the country is estimated to cost £4million over 3 years with estimated savings to the public purse of £50million per year<sup>10</sup>. Failing to develop this programme is, therefore, not only environmentally irresponsible, but financially absurd.

Greenpeace UK  
17 March 2006

---

<sup>1</sup> See for example Stirling A, 2005. Deliberate Futures: Precaution and Progress in Technology Choice, Sustainable Development Research Network/RICS lectures, 10 May 2005. [http://www.sd-research.org.uk/events/documents/policybrief\\_lecture2\\_delibfutures.pdf](http://www.sd-research.org.uk/events/documents/policybrief_lecture2_delibfutures.pdf)

<sup>2</sup> See for example the BedZed development, <http://www.bedzed.org.uk/main.html>, the zedstandards team <http://www.bestfootforward.com/downloads/Roadmap%20v12.0.pdf> or projects at <http://www.zedfactory.com/home.html>

<sup>3</sup> 'Seeing the Light: Microgeneration brings energy to life', (report for the SDC by The Hub Research Consultants), October 2005, [http://www.sd-commission.org.uk/news/index.php?page=get\\_article&article\\_id=FK7OVZ8-BV9MRDZ-HKMFYS8-5OZZIS2](http://www.sd-commission.org.uk/news/index.php?page=get_article&article_id=FK7OVZ8-BV9MRDZ-HKMFYS8-5OZZIS2)

<sup>4</sup> Royal Society, 2001. The role of land carbon sinks in mitigating global climate change. Policy Document 10/01. London. <http://www.royalsoc.ac.uk/document.asp?id=1421>

<sup>5</sup> Keppler et al, 2006. Methane emissions from terrestrial plants under aerobic conditions. *Nature* 439, p.187. 12 January 2006.

<sup>6</sup> Milner M. 2006. Bill to clean up nuclear sites rises by nearly £1bn. The Guardian, 25 February 2006. <http://business.guardian.co.uk/story/0,1717501,00.html>

<sup>7</sup> Greenpeace, 2006. Decentralising UK Energy: Cleaner, Cheaper, more secure energy for the 21<sup>st</sup> Century. Application of the WADE Economic Model to the UK. London. <http://www.greenpeace.org.uk/climate/climate.cfm?ucidparam=20060307182358&CFID=3941073&CFTOKEN=58750037>

<sup>8</sup> West, J.J. et al, Global health benefits of mitigating ozone pollution with methane emission controls, Proceedings of National Academy of Sciences, placed on web 6 March. <http://www.pnas.org/cgi/content/abstract/0600201103v1>

<sup>9</sup> Global Action Plan Programmes overview, August 2003

<sup>10</sup> Personal communication, Alexandra Hollingsworth, Global Action Plan.