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Stern Review
2nd floor, Room 35/36
HM Treasury
1 Horse Guards Road
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9 November 2005

Dear Sir or Madam

Stern Review on the Economics of Climate Change: Call for Evidence

The London Climate Change Partnership welcomes the Stern Review. Climate change is the most important challenge facing humanity this century. This was demonstrated clearly by the conference in Exeter in February on Dangerous Climate Change, and will have been demonstrated again by the recent COP11 meeting in Montreal.

However, we still do not know enough about the likely costs of climate change, and this is major impediment to rational decision making. Making decisions about the long-term future is always difficult because the future is always uncertain. We can make forecasts and projections of the future, but the only certainty is that they will be wrong – just hopefully not too wrong. This applies in the area of climate change just as it does in other areas, and in considering the future we need to consider not just climate change, but also demographic, technological, economic and other changes as well.

There is a need for a good model of the costs and benefits of both reducing our contributions to, and of adapting to climate change. This will be a complex model to put together because, amongst other things:

- It must also deal with the costs and benefits of “business as usual” i.e. not adapting or mitigating
- There are both direct and indirect costs and benefits
- The costs and benefits accrue over a long period of time and have different (net present) value depending on **when** actions are taken
- Different people will have very different views on the overall period which should be considered and the rate at which future values should be discounted

- Mitigation needs to take place globally to be effective, while adaptation takes place locally, or at least in the case of river flooding and water resources, at the level of river systems.

The London Climate Change Partnership was formed in 2001, supported by the Greater London Authority, comprising a number of key stakeholders in London. We have since published three reports:

- London's Warming: the impacts of climate change on London (2002)
- The impacts of climate change on London's transport systems (2005)
- Adapting to climate change: a checklist for development (with the South East Climate Change Partnership and East of England Sustainable Development Round Table, 2005)

The main impacts of climate change on London were identified in the following table.

<i>Higher temperatures</i>	There is likely to be an increase in the demand for cooling and thus for electricity in summer. Against this, there will be a reduction in demand for winter heating providing a financial advantage for bill payers and reducing incidences of fuel poverty.
<i>Flooding</i>	Increased risk of flooding is expected for many parts of London. More frequent intense winter rainfalls are expected to increase the likelihood of flooding by rivers and flash flooding when urban drainage systems become overwhelmed. Rising sea levels and possible increased winter storminess would require more closures of the Thames Barrier.
<i>Water Resources</i>	Water demand will be heightened during hot, dry summers. Longer summers with higher temperatures and lower rainfall will reduce soil moisture and the chance to replenish groundwater supplies. River flows are likely to be lower in summer and higher in winter. Lower river flows in summer will raise water temperatures and aggravate water quality problems in the Thames and its tributaries, especially following heavy summer storms.
<i>Health</i>	Poorer air quality poses health problems for asthmatics as well as causing damage to plants and buildings. Higher levels of mortality related to summer heat stress are expected. Higher winter temperatures would be likely to lead to a reduction in winter cold spell related mortality.
<i>Biodiversity</i>	Warmer weather would favour conditions for increased competition from exotic species as well as the spread of disease and pests, affecting both fauna and flora. Rising sea levels will threaten rare saltmarsh habitats. Increased summer drought will cause stress to wetlands and beech woodland. Earlier springs, longer frost-free seasons and reduced snowfall could affect dates of bird egg-laying, as well as the emergence, first flowering and health of leafing or flowering plants.
<i>Built Environment</i>	The building industry will be likely to benefit from an increased number of available construction days. Subsidence will worsen as clay soils dry out in summer and autumn. Alternate wetting of clays in winter and drying of clays in summer may cause increased ground movement resulting in increased potential for damage to underground pipes and cables. Increased temperatures will reduce comfort of occupants in domestic, commercial and public buildings, and could lead to business disruption.
<i>Transport</i>	London's transport system and ancillary services are vulnerable to disruption from flooding and other extreme weather events that are expected to increase in frequency and intensity. Increased temperatures on the London Underground, exacerbated by the urban heat island effect, will lead to passenger discomfort. Hotter summers may damage elements of transport infrastructure, causing buckled rails and rutted roads, with their attendant disruption and repair costs. Higher temperatures will lead to a reduction in cold weather-related disruption.
<i>Business and Finance</i>	The London insurance industry could be exposed to an increased volume of claims from wind storms and flood events. Lower income households may find it more difficult to access adequate insurance cover in the face of increased flood risk. The risk management of potential climate change impacts may provide significant opportunities for London businesses.
<i>Tourism</i>	Increased temperatures could attract more visitors to London, benefiting the tourist sector. Leisure and recreational facilities and tourist attractions will need to be able to cope with climate change by providing a pleasant environment for visitors. High temperatures could lead to residents leaving London in search of a more comfortable environment on holidays or breaks.
<i>Lifestyle</i>	Outdoor living may be more favoured, although some members of society may be less able to take advantage of this due to lack of facilities locally, fear of crime or other forms of social exclusion.

Green and open spaces will be used more intensively.

Our report on transport in London identifies where adaptation to climate change can be incorporated most cost-effectively. It is particularly urgent to include consideration of climate change in the design of infrastructure which has the longest life, such as bridges, tunnels and earthworks. The marginal cost of designing in climate-proofing is usually much lower than subsequent modification. Existing infrastructure should be reviewed in terms of vulnerability to climate change.

The Partnership has, in collaboration with equivalent partnerships in the South East and East of England, produced guidance on adapting new development to climate change. This Checklist has been endorsed by equivalent partnerships in all the English regions, together with a foreword from Elliot Morley, Minister of State at Defra. The Partnership is also supporting research led by Defra into how adapting to climate change can be brought about through land use planning.

A much more intractable problem is to adapt the existing built environment, an issue the planning system cannot effectively deal with, where a different approach will be needed. Water metering is a means by which consumers could receive market messages about the value of potable water, and be incentivised to reduce demand. But how can more wide-spread water metering be brought about? With work on development, it will be important to work with ODPM as well as Defra, and to establish the right level playing field on which developers can compete.

The financial services sector is vital for London's economy and parts of it are vulnerable to climate change. London is a world centre for re-insurance. There are both threats and opportunities from climate change globally. Domestic and commercial insurance can also give market messages which incentivise adaptation. The Partnership is now embarking on work on this sector.

The Partnership will be glad to provide whatever support we practicably can during the course of your Review. All LCCP reports are available on our Web site www.london.gov.uk/climatechangepartnership

We welcome the involvement of the Cabinet Office and the Treasury in investigating the impacts of climate change, and hope that all areas of government activity will consider climate change as an integral part of all their decision-making about the future. Climate change will have major economic and social costs and benefits as well as environmental ones.

Yours sincerely

Matthew Chell
Co-ordinator

(copy by post with reports)