

DINNER/DISCUSSION SUMMARY

Developing adaptation policy and action for the UK in response to climate change

Held at The Royal Society on 19th October, 2011

The Foundation is grateful for the support for this meeting from the Department for Environment, Food and Rural Affairs, HR Wallingford and Lloyd's of London.

Chair:	The Earl of Selborne GBE FRS Chairman, The Foundation for Science and Technology
Speakers:	Neil Thornton (represented by Dr Rupert Lewis) Director for Climate, Waste and Atmosphere, Department for Environment, Food and Rural Affairs Sir Graham Wynne CBF
	Deputy Chair, Sub-Committee on Adaptation, Committee on Climate Change Tom Bolt Director, Performance Management, Lloyd's of London

DR LEWIS outlined the approach the Department was taking towards developing policies for mitigation and adaptation in relation to climate change. Climate change from existing CO2 concentrations was already present. Mitigation and adaptation were essential to deal with the past and the future. It was not possible to form policies on the basis of a sceptical scientific approach - do nothing until there is certainty. The alternative was a risk based policy - assess the information and predictions already in existence; consider low cost or economically rewarding actions which will hedge against the worst possible scenarios; gather further information and reassess; consider further action in the light of greater certainty, effective outcomes and further possible action. Cost benefit analysis on its own would not help as it could not deal with uncontrollable, unasssessable disasters. The government's job was to manage its own assets, gather and assess information and seek to deal with market failures; but it was only one player amongst many. Businesses, communities and individuals must all work together to deal with impacts of climate change that will affect economic, social and environmental concerns. Differential impacts may only become apparent over long periods and in different Flooding and water security were major risks areas. unexpectedly the first in the SE and the second in the NW of England. The Environment Agency were working to assess the concerns that mattered most to people and what actions on the ground they would accept. The Department hoped to issue a National Adaptation Programme White Paper in 2012 based on this research. The aim was to open the debate, and engage all stakeholders, so that adaptation can be "co-Moreover the impact of global disasters created". windstorm, tsunamis, floods etc, cannot be ignored. They may well cause environmental or economic problems, such as changing migration patterns (of species as well as humans) which will affect the UK.

SIR GRAHAM WYNNE said that adaptation meant reducing the possible costs of the effects of climate change, by seizing opportunities now for taking action. The Committee on Climate Change Sub-Committee's report was aimed at reviewing the progress that was being made in meeting the challenge of climate change and outlining the priority areas which were most vulnerable in the light of probable effects. This should provide an essential tool for decision making and effective action. Vulnerability to higher temperatures and flooding were key. This inevitably varies amongst different sectors of the population - the old, the unhealthy and deprived would be likely to be more vulnerable. So, of course, would be those at risk from land use planning which did not take

account of increased risks from flooding or high temperatures in transport or housing. Adaptation should be a key factor in seeking to reduce vulnerability by restricting development in flood plains, improving the flood protection of existing homes, the ability of land in urban areas to absorb or drain surface water, and building community flood protection, such as sea walls or river defences. It was much cheaper to consider adaptation pre-disaster rather than post-disaster - e.g. an existing house could be improved to minimize damage from flood for £500/£1000 per house. The cost of repairing flood damage would be much greater. The study had found that building on flood plains was continuing and impermeable surfaces in urban areas increasing. Standards in new buildings were better, but little had been done retrofit the existing stock. There had been increased expenditure on community defences but at cost to the environment. While security of water supplies had increased, there was an environmental cost, and little attempt to check demand through efficiency measures. Overall their conclusion was that vulnerability had increased, and that adaptability to deal with it required further action. The gap between vulnerability and adaptation to cope with it was still too wide, and it would not be filled unless there was an explicit recognition of the effects of climate change. Decision makers had yet to assess the size of the gap, the cost of filling it, and crucially - who should meet the cost - the individual, the taxpayer, businesses or insurers?

MR BOLT outlined the role of the insurance industry - essentially it was to support economic activity by enabling people to take decisions about risk which gave some certainty about their lives. It worked through pooling premiums and losses and paying out a post-loss calculation. Lloyds was an important player - 2% of global non-life insurance was placed in the Lloyd's market; much based on property insurance. This gave Lloyds a deep interest in climate change, as it could impact future property claims. Claims were getting greater, partly because of more people living in coastal areas, and because of rising litigation costs. Lloyds was an active member of ClimateWise - a group of 40 insurers who studied possible impacts of climate change. ClimateWise had, for example, commissioned hydrology studies of the Australian floods to understand what had been the key drivers. The trend for losses from natural catastrophes to increase was marked. There has been a significant increase between 1970 and 2011 - in losses due to floods, wildfires, droughts, and heat waves. 2011 had the highest economic loss from such disasters. Although the insurance industry has a vital role in protecting society it was important to recognize that it could not deal with all eventualities - there were disasters, such as the Christchurch earthquake, for which many losses such as those from economic interruption could not be insured. Its most important function with regard to adaptability was through the proper pricing of risk. The more insurance cost because of the vulnerability of property to the effects of climate change, the more incentive the owner had to adapt his house or lifestyle to reduce the price. The danger was government interference - trying to protect individuals or communities from the risk they had incurred. But properly priced insurance, with a good record on sustainable claims management meant the industry could be a major player in increasing the resilience of society to the effects of climate change.

The underlying theme in the following discussion were the tensions between a need for an integrated, holistic, approach to the possible effects of climate change and an understanding that concern about these effects will be variable and local. Effective action can be taken only with the involvement of all stakeholders, who will have different priorities and interests. Individual government policies, such as the proposed guidance on land use planning, while its laudable aim was to increase the authority of local communities and focus development on economic benefit, had not had as an important feature the need to increase adaptability. So the drivers to stop building on flood plains, or reduce the growth of impermeable land in urban areas had been downgraded. It was certainly desirable that the Environment Agency was engaged in finding out what people said was important to them and this should form the background to government policies. But individuals often failed to understand that the benefit to the individual could be to the detriment of society.

There was a danger that governments might be dissuaded from taking actions because of fears that these actions would be resented on an individual basis, even where this was unreasonable. A good example was metering of water although this would in most cases reduce the cost of water to individuals, and reduce water demand, compulsory metering had not been introduced; nor had other suggestions which would reduce demand. The Government had a natural reluctance to impose regulations and controls; but the alternative, if adaptability were to be achieved, would otherwise be through sharp price increases, as in the energy field or through behavioural change. The relation of risk to price, as practiced by insurance companies was understood, but it was difficult to see how it could apply more widely, given the great divergence between the circumstance of different families, some of which would be severely affected by temperature increase, while others would not (or might even benefit). Behavioural change was difficult to achieve except in the long term, and it would not come about without much governmental pressure. The conclusion was, therefore, that more regulation, as well as pricing signals and a campaign to educate and enlighten people about the possible effects of global warming must go together. But, any collection of policies must have great flexibility built into it, both to cope with new knowledge and political pressures.

A further example of failure to make adaptability or mitigation a central feature of policy was transport. The Government propose to raise the speed limit on motorways to 80mph. But this means more fuel use, greater wear of the road surface and very doubtful economic benefit. Where was the incentive to move more freight by rail, which would yield both economic and environmental benefit?

Speakers also questioned some of the underlying assumptions about likely temperature increases and their consequences.

Although it might be true that over a long period temperatures had increased, had they not, over the last ten years, shown much smaller increases? But the danger of relying on short term analyses rather than longer term ones was illustrated. The scientific consensus was that increased carbon dioxide and other greenhouse gases in the atmosphere were likely to change climate. But, in any case, the important point was that policy should be flexible to take account of new information. The risk based approach of the Sub-Committee was to evolve a framework against which actions could be judged in the light of changing information

A recurrent thread through the discussion was a feeling that the government lacked a sense of urgency in dealing with climate change. We should now be looking at all policies in the light of a disaster on a scale that happens once in previously happened one in every 100 years, which may now happen once in 30 years. This is what climate change forecasts suggest. This is the message that must be got over to the public now. We need also to simplify the language we use - mitigation and adaptation mean little to most people; talk instead about taking decisions now and actions that will cost much more if we wait. We also need to ensure that children in schools are educated about the problems - much was already being done, and many children were more aware of the potential effects of climate change than their parents and grandparents.

In summary, the sense of the discussion was the need for an integrated policy covering all government activities. The policy must be sensitive to local needs and problems, and varying family circumstances. It should be based on the gap between the increased vulnerability of different services and populations. But, the need for decisions and action was urgent.

Sir Geoffrey Chipperfield KCB

Useful web links:

Climatic Research Unit, University of East Anglia www.cru.uea.ac.uk ClimateWise www.climatewise.org.uk Committee on Climate Change www.theccc.org.uk Department for Environment, Food and Rural Affairs www.defra.gov.uk The Foundation for Science and Technology www.foundation.org.uk Greenpeace UK www.greenpeace.org.uk HR Wallingford www.hrwallingford.com Lloyd's of London www.lloyds.com Met Office Hadley Centre www.metoffice.gov.uk/climate-change/resources/hadley Natural Environment Research Council www.nerc.ac.uk The Royal Society www.royalsociety.org WWF UK www.wwf.org.uk

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