

**DINNER/DISCUSSION SUMMARY**

**SCIENCE, TECHNOLOGY AND SUSTAINABILITY**

Held at The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG  
Wednesday 22<sup>nd</sup> May 2002

Sponsored by  
**EMTA**

**Department for Environment, Food and Rural Affairs  
Department for Transport, Local Government and the Regions**

**In the Chair: The Rt Hon the Lord Jenkin of Roding**  
Chairman, The Foundation for Science and Technology

**Speakers: Professor David King ScD FRS**  
Chief Scientific Adviser to the UK Government and  
Head, Office of Science and Technology, DTI

**Professor Sir Brian Heap CBE ScD FRS**  
Master, St Edmund's College, Cambridge

**Sarah Roberts**  
Manager, Global Environment and Risk, Arthur D Little

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The invited speakers talked about science and technology in relation to energy policy and climate change, sustainable consumption, and decision-making processes.

In discussion some surprise was expressed that they did not say more about the forthcoming World Summit on Sustainable Development. This was expected to look at science and technology that could be transferred to the third world - from north to south, as one speaker put it - to deal with such immediate concerns as food, water, security and health. Science and technology were seen as having much to offer here, one example being the work in India on the use of IT and satellite communications to help farmers. The right orientation and implementation were essential, with transfer of skills and knowledge and a focus on near-term problems. Pharmaceutical companies, for example, were not seen as addressing the diseases of poverty.

There was some pessimism about the likely

outcome of the Summit, because it was feared that it would not look at the right questions. Sustainable consumption seemed unlikely to be discussed. On one view the Summit as planned was not perfect, but it was better than not having it.

A speaker drew attention to the military consumption of the affluent countries. In the Second World War half of the world's scientists had been in military research, and the same might well be true now. The preoccupation with security had got worse following 11 September, with the new recognition that chemical, biological and nuclear terrorist attacks were a real possibility. There was now a serious risk of nuclear war between India and Pakistan: the media seemed not to recognise that that dispute was on a par with the Cuba crisis. A sustainable, peaceful world was needed.

The final rejection of the Kyoto Protocol by the American Government was seen as creating problems for the rest of world. The question

was how to persuade the US to take carbon dioxide emissions seriously. One response was that the signatories of the agreement had to play a classic poker game. Another participant saw little prospect of a change of heart in the short term, because Americans believed that their economy was currently the top priority and were not prepared to consider alternative fuels. Over the next few years, however, climate change was likely to move up in importance as, for example, the Everglades and the rest of Florida were threatened by flooding. Opinion within the US was in any case not uniform: the National Academy of Sciences had eventually aligned itself with 17 other national academies on this issue, and one influential scientist had even spoken of the US moving to “zero carbon emissions” by the end of the century. One speaker thought that the US should not be demonised, since other developed countries had almost as bad a record.

Buildings accounted for a major proportion of energy consumption. One speaker thought that most people would favour sustainable building, but not necessarily to the extent of paying for it. The consumer needed to be re-educated, and then the market would follow. Another speaker questioned the need for energy-saving buildings to be expensive. The technology used by the Beddington zero energy development was not rocket science, apart from solar panels: the use of solar energy and superinsulation made central heating unnecessary. New buildings, however, only accounted for a small part of the housing stock, and the question was what to do with the rest. One answer was that existing buildings should be retained, with intelligent refurbishment, because brick-built houses in particular represented a major energy investment.

Water supply, which had been mentioned as one of the priorities for the Johannesburg Summit, represented a growing energy demand, with increasing reliance on desalination of sea water.

One participant was surprised to have heard

nothing about the biological sciences, given that sustainability ultimately concerned life and diversity of species. According to a recent report people did not know how many species there were, or where, or how to keep them, or how to use land sustainably. Another speaker observed that subsidies, which could be very useful policy instruments, could operate perversely, especially in relation to the fishing industry. Fish sold for a lot less than they cost to catch, and there was overconsumption of species such as tuna. Ironically, lobster were now thriving on the Newfoundland Grand Banks because the cod which used to eat them had been fished to exhaustion.

It was argued that consumption was unlikely to be reduced until population growth came down. In Italy people cried disaster when families became smaller, when in fact reductions in population ought to be applauded. Another speaker, however, thought that much could be done to reduce consumption without cutting population.

In conclusion it was observed that it was not enough to talk about what science could do to promote sustainability: the question was what real populations would accept. Scientists should not just carry out research but should set examples as members of institutions and communities. Institutions could adopt sustainability as a policy object. Within the UK Government this was a key priority for DTI and DEFRA, the Research Councils were committed, and business was doing much more than was generally recognised.

Jeff Gill

The discussion was held under the Foundation's Rule that the speakers may be named but those who contribute in the discussion are not. None of the opinions stated are those of the Foundation which maintains a strictly neutral position.