



**Environment at the crossroads.
Aiming for a sustainable future.**
Gulbenkian Conference 2009
27 and 28 October

Climate Change as a Global Shifting force

Sir David King

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Unprecedented improvements in human wellbeing over the nineteenth and twentieth centuries have been driven largely by developments flowing from advances in engineering, medicine, agriculture and technology, and by political and economic developments coupled to consumerism. But a necessary consequence of these successes has been an equally unprecedented growth in the global population. The twenty first century will be dominated by the challenges posed by a mid-century population of around 9 billion people, all seeking a high standard of living. Ecosystem services, an essential element of our continued wellbeing as a species, are already under threat as our need for food production, fresh water, energy sources, minerals etc. grows exponentially to meet unfettered demand. Climate change, driven by fossil fuel usage and by deforestation, provides the biggest challenge of all, since it requires a collective response of the global population, to mitigate the effect and to manage the growing impacts upon our societies.

Well designed technological solutions are desirable and can be compatible with the continued growth of human wellbeing. The socio-political challenges in directing such a collective response are beyond anything previously managed. This may well lead to a mid-century slide into conflict caused by environmental and resource-driven challenges on a scale not previously experienced. The thesis presented here is that meeting these challenges will require a global cultural and technological transformation on much the same scale as the European Renaissance or the Industrial Revolution itself, and a clear understanding by all societies of the need to adapt and strengthen global governance procedures. Decision making at all levels will require significantly enhanced knowledge and understanding.



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Sir David King is the Director of the Smith School of Enterprise and Environment at the University of Oxford. He was the UK Government's Chief Scientific Adviser and Head of the Government Office of Science from October 2000 to 31 December 2007. In that time, he raised the profile of the need for governments to act on climate change and was instrumental in creating the new £1 billion Energy Technologies Institute. In 2008 he co-authored *The Hot Topic* (Bloomsbury) on this subject. As Director of the Government's Foresight Programme, he created an in-depth horizon scanning process which advised government on a wide range of long term issues, from flooding to obesity. He also chaired the government's Global Science and Innovation Forum from its inception. He advised government on issues including the foot-and-mouth disease epidemic of 2001; post 9/11 risks to the UK; GM foods; energy provision; and innovation and wealth creation. He was also heavily involved in the Government's Science and Innovation Strategy 2004-2014.

Sir David was born in South Africa in 1939, and after an early career at the University of Witwatersrand, Imperial College and the University of East Anglia, he became the Brunner Professor of Physical Chemistry at the University of Liverpool in 1974. In 1988 he was appointed 1920 Professor of Physical Chemistry at the University of Cambridge and subsequently became Master of Downing College (1995-2000) and Head of the University Chemistry Department (1993-2000). He has published over 450 papers on his research in chemical physics and on science and policy, and has received numerous prizes, fellowships, and honorary degrees. He continues as Director of Research in the Department of Chemistry at the University of Cambridge, and is currently President of the British Science Association. He is President of the Collegio Carlo Alberto in Turin. He is Senior Science Adviser to UBS, Science Adviser to President Kagame of Rwanda, and Adviser to EU Commissioners on science capacity building in Africa.