

Climate Change

What we know and what we need to know

Wellcome Trust Lecture Hall, Royal Society, London on 12 and 13 December 2001

The publication of the Third Assessment Report of the Intergovernmental Panel on Climate Change this year represents a substantial advance in our understanding of climate change, but many uncertainties remain. This meeting will provide a forum for key representatives from academia, government, business and NGOs to examine the conclusions of the report in the context of the information their sectors require in order to respond to the challenges presented by climate change. Speakers will present the latest advances in our understanding of the science of climate change and its potential economic, social and environmental impacts; recent technological developments; and possible national and international responses to climate change. An important part of the meeting will be a discussion of strategies for addressing the remaining gaps in our understanding of climate change.

Organising committee: Sir John Houghton FRS (Co-chair, IPCC Working Group 1) Chair, Dr Terry Barker (Department of Applied Economics, University of Cambridge), Dr Thomas Downing (Environmental Change Institute, University of Oxford), Dr David Griggs (Hadley Centre for Climate Prediction and Research, Met Office), Prof Michael Grubb (Imperial College & University of Cambridge), Prof Brian Hoskins FRS (Department of Meteorology, University of Reading), Dr Mike Hulme (Tyndall Centre for Climate Change Research), Lord Hunt of Chesterton FRS (Department of Space and Climate Physics, University College London), Prof Martin Parry (Jackson Environment Institute, UEA), Miss Marisa Goulden (Royal Society) and Dr Rachel Quinn (Royal Society).

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Wednesday 12 December 2001

Day 1

Introduction and welcome

09.00 - 9.15

Sir John Houghton FRS (Co-chair, IPCC Working Group 1)

Session 1. Has the climate changed and why?

09.15 – 10.45

Chair: *Prof Brian Hoskins FRS (University of Reading)*

Radiative forcing of climate

Prof Joanna Haigh (Imperial College, London)

Discussant: Prof John Grace (University of Edinburgh)

Climate of the 20th Century

Dr Myles Allen (Department of Physics, Oxford University)

Discussant: Prof Paul Valdes (University of Reading)

Patterns of climate change

Dr Tim Palmer (European Centre for Medium-Range Weather Forecasts, Reading)

Discussant: Prof Brian Hoskins FRS (University of Reading)

- Coffee (Dining Room) -

Session 2. How will climate change this century?

11.15 – 12.45

Chair: *Dr David Griggs (Hadley Centre, Met Office)*

Emission scenarios

Dr Laurie Michaelis (OCEES, Mansfield College, Oxford)

Discussant: Dr Frans Berkhout (SPRU, University of Sussex)

Projections of climate change

Ms Catherine Senior (Hadley Centre, Met Office)

Discussant: Dr Rowan Sutton (University of Reading)

How reliable are global climate models?

Dr John Mitchell (Hadley Centre, Met Office)

Discussant: Prof Julia Slingo (University of Reading)

- Lunch (Dining Room) -

Session 3. Impacts and adaptation

13.45 – 15.00

Chair: Dr Thomas Downing (Environmental Change Institute, University of Oxford)

What are the key impacts at the global scale?

Prof Martin Parry (Jackson Environment Institute, University of East Anglia)

Discussant: Prof Nigel Arnell (University of Southampton)

Key areas of vulnerability

Dr Saleemul Huq (International Institute for Environment and Development, London)

Discussant: Dr Thomas Downing (Environmental Change Institute)

- Coffee (Dining Room) -

Session 4. Mitigation and stabilisation

15.30 – 17.05

Chair: Sir Eric Ash (Vice-President and Treasurer, Royal Society)

Mitigating climate change: an overview of the potential for technologies and policies

Prof Michael Grubb (Imperial College Centre for Environmental Technology)

Costs of emission limitations - a macroeconomic view

Dr Terry Barker (Cambridge University)

Discussant: Mr Tom Burke (Visiting Professor, Imperial College)

Cutting edge technologies:

Renewable energy and energy efficiency technologies

Prof Dr Frans Saris (Energy Research Centre, The Netherlands: ECN)

CO₂ storage technologies

Dr Sam Holloway (British Geological Survey)

Close of Day 1

17.05 - 17.15

Thursday 13 December 2001

Day 2

Session 5. The Intergovernmental Panel on Climate Change

09.00 – 10.00

Chair: Sir John Houghton FRS (Co-chair, IPCC Working Group 1)

Overview of the IPCC Process

Sir John Houghton FRS (Co-chair, IPCC Working Group 1)

Summary of IPCC Synthesis Report

Dr Robert T Watson (Chair IPCC, Chief Scientist & Director, ESSD The World Bank)

Update on the UNFCCC process

Ms Claire Parker (Secretariat of the UNFCCC)

- Coffee (Dining Room) -

Session 6. Sustainable climate change: challenges at the international level 10.30 – 12.30

Chair: Prof Michael Grubb (Imperial College Centre for Environmental Technology)

What is a sustainable level of climate change?

Prof Dr Hans-Joachim Schellnhuber (Tyndall Centre & Potsdam Institute for Climate Impact Research)

How might global efforts be distributed?

Dr Bert Metz (National Institute of Public Health and the Environment, The Netherlands)

The corporate contribution to sustainable climate change

Sir Mark Moody-Stuart (former Chairman of the Royal Dutch/Shell Group)

The international framework

Mr Henry Derwent (Department for Environment, Food & Rural Affairs)

Discussants: Mr Andrew Bennett (Department for International Development)

Ms Ute Collier (WWF UK)

- Lunch (Dining Room) -

Session 7. Challenges for the UK

13.30 – 15.15

Chair: Mr Philip Wright (Scottish Executive)

Reducing emissions

Mr Tom Delay (The Carbon Trust)

Discussants: Mr Daniel Waller (Association for the Conservation of Energy)

Mr Adrian Ham (British Nuclear Industry Forum)

Managing the dangers

Mr Chris Newton (Environment Agency)

Discussants: Dr Paul Jefferiss (Royal Society for the Protection of Birds)

Dr Peter Baxter (Dept of Community Medicine, University of Cambridge)

Communicating climate change science

Mr Roger Harrabin (Environment Correspondent, BBC Today Programme)

Discussants: Mr Steve Waller (Improvement and Development Agency)

Mr Steve Sawyer (Greenpeace International)

- Coffee (Dining Room) -

Session 8. Discussion: What do we still need to know?

15.45 – 17.00

- What are the gaps in our understanding of climate change?
- Do they prevent us from identifying and achieving a sustainable level of climate change?
- What strategies will best address these gaps in our knowledge?
- How can these strategies be implemented?

Panel Chair: Prof David King FRS (Chief Scientific Adviser & Head of OST)

Panel members: Prof Michael Grubb (Imperial College Centre for Environmental Technology), Sir John Houghton FRS (Chair IPCC WG 1), Dr Mike Hulme (Tyndall Centre for Climate Change Research), Dr Bert Metz (National Institute of Public Health and the Environment, The Netherlands), Sir Mark Moody-Stuart (former Chairman of the Royal Dutch/Shell Group).

Closing Remarks

17.00 - 17.10

Lord May of Oxford (President of the Royal Society)