

EUROSCIENCE OPEN FORUM STOCKHOLM 25 – 28 AUGUST 2004

Research Councils UK organised an event at the first EuroScience Open Forum (ESOF) as we were keen to demonstrate support for this initiative.

Three of the councils that are part of Research Councils UK, Natural Environment Research Council, Engineering and Physical Sciences Research Council and Economic and Social Research Council, jointly agreed to organise a proposal through the Tyndall Centre within one of the main conference themes of climate change. We note below brief summaries of the presentations and the main points made during discussion.

Date: Saturday 28 August 2004, 0930 -1230hrs

Title: Can Europe adapt to climate change?

Chair: Ambassador Bo Kjellen

Commentator: Professor Frank Burnet

Speakers: Dr David Stainforth, *Climateprediction.net, University of Oxford*
Dr Jonathan Koehler, *Cambridge University*
Dr Franziska Matthies, *Tyndall Centre*
Dr Richard Klein, *Potsdam Institute for Climate Impact Research*

Short summaries of presentations

David Stainforth Climate forecasts for Europe

Predicting climate change through a variety of possible scenarios takes a massive amount of computing power. A very small number of climate models exist, so comparisons between them are limited. Climateprediction.net has solved the problem by harnessing the computers of 60,000 people and running simulations in the computer down-time. This gives the equivalent of about three (?) supercomputers and produces many different models to compare. The outcome will be much more reliable predictions of change.

Jonathan Koehler Shifting our economies for climate change

Mitigation of climate change is a global activity, adaptation to climate change is local. If European climate change is slow and progressive, conventional economics show that the costs of adapting to climate change are likely to be about 2% of GDP. If climate change is abrupt and dramatic, costs would be much higher. The Greenland ice sheet is melting and may disappear within 100 years, causing a sea level rise of 5m.

Dr Franziska Matthies Climate change and European health

The predicted changes in climate such as winters warmer by 4 – 8 % will have an effect on the spread of various infectious diseases, either directly via temperature or because of

changes in the distribution of vectors. An example of a disease that may spread further north is tick-borne encephalitis. Malaria may return to northern Europe and salmonella infections may increase as bacteria thrive in a warmer environment.

Richard Klein

Adapting to climate change in Europe

We are used to adapting to changes in weather – it happens all the time, droughts, floods, ice storms. In general we have the technology and the resources to fix most things. So why are people dying as a result of floods and extreme heat? Some countries have greater adaptive abilities than others, as measured by a diverse set of indicators. So some countries may adapt quite easily, while others may experience more serious impacts.

Discussion

Q *Why did we not invite the climate change sceptics to take part in our debate?*

They were welcome to attend as this is an open meeting. We did not ask them to join the speakers because the science community now has a consensus that human induced climate change is a reality and we did not wish to re-visit that debate. We wanted to discuss how are we going to cope when climate change bites hard. However, it was agreed that sceptics play a very important role in clarifying the debate.

Q *Why are we committed to economic growth?*

Economic growth and climate change can be de-coupled with one exception. Most of the impacts of, eg, land transport, domestic energy consumption, can be minimized or fixed. Air travel/aviation is the big problem – that cannot be mitigated and is growing rapidly. A serious issue is that China, Brazil, India and others are repeating the economic development pattern of the developed countries. We need to share existing knowledge and technologies to help de-couple economic growth and climate change.

Q *Should we adapt or mitigate?*

We could adapt to benign, slow climate change without too much difficulty. But is this enough? Adaptation is hard to measure because it means you have coped. We probably have to do both.

Q *How much land will be covered and how many people would be affected by a 5m rise in sea level?*

Some uncertainty about statistics here, but one figure quoted was that 100m people live within one metre of current sea level.

Q *What are the relative costs of adaptation v mitigation?*

No choice – we have to adapt!

Comments by Frank Burnet (Director, Cheltenham Science Festival)

- He valued the real dialogue and involvement of people in the climate prediction project at Oxford University. By using people's computers, the scientists were getting individuals to participate directly, and not just telling them about climate change.
- He noted that in communicating risks associated with climate change, we had to be aware that people had individual risk models. We cannot explain risk without knowledge of people's models.
- Solutions had to be reached by politicians, but what will people let them do? For example, wind farms are being resisted everywhere.
- Agreed it is good to have sceptics around – it draws out views.
- Adaptation v mitigation – it is useful to separate these two.
- He claims not to be a fan of gaia, and recalled the doomsday scenario of the plague which wiped out 50% of the population. He felt concern that the world was going to move outside the limits of return as far as climate change was concerned.

Comment from a Stockholm student (Matilde Walters)

She was concerned that many people of her age were not engaged in climate change – they viewed it as something in the future. She felt we needed to communicate the likely scenarios to her generation. And we needed to offer practical advice on what they could do to make a difference, such as don't drive, take a bus or bike.

Organisers' comment:

The audience for the debate was rather disappointingly small, probably because of the scheduling on the last morning when there had already been two major sessions on climate change in the previous few days. However, the quality of the debate was high, perhaps because the atmosphere was quite informal.

Sheila Anderson
1 September 2004

Organisers: EPSRC - Filomena de Laporta; ESRC – Saskia Walcot; NERC – Sheila Anderson; Tyndall Centre – Asher Minns.