

Mike Hulme's speech – Tyndall Centre launch, 9 November 2000

Iconic and rhetorical it maybe, but the essence of this future vision we have just shown is choice—choice about lifestyle, choice about energy systems, choice about transportation strategy. Our studies of climate change have taught us over these last two decades not only that we are already altering global and regional climates through our energy, industrial and land use regimes, but that there are choices to be made about how these regimes develop ... and that these choices will shape the climate future for the next one, two, or more generations.

But there are always good choices or bad choices to be made. To make good choices we need two things: a) a wide range of options from which to choose, and b) a clear understanding of the consequences of each option. It is here that I believe the Tyndall Centre, now officially opened, will make its main contribution to facing the challenge of climate change. Over the longer-term we should be judged on whether the Tyndall Centre has helped develop a more sustainable relationship between climate and society through offering a wider range of response options and through evaluating the consequences of each option for this and future generations.

The Tyndall Centre is first and foremost concerned with research. Through our nine partner institutions—UEA, University of Manchester Science & technology (UMIST), the universities of Southampton, Cambridge, Sussex, Cranfield and Leeds, the Rutherford Appleton Laboratory, and NERC's Centre for Ecology and Hydrology—we harness a wide range of UK expertise across the environmental, economic and engineering disciplines and deploy this expertise to tackle some of the barriers to understanding and action related to climate change. I will say more about Tyndall Centre research in a minute.

But the Tyndall Centre is more than just a research centre. We are committed – as our Vision Statement says – to help train the next generation of young scientists and international decision-makers; to enter into public dialogue about what choices society can make to safely manage climate change; and to work with stakeholder and business organisations to advance practical and sustainable responses to climate change. That is why, for example, we are showcasing today the new petrol/electric hybrid car from Toyota just launched on the UK market and which more than halves carbon emissions compared to conventional vehicles (the car is available outside our Centre for people to view and test drive at lunchtime). And in setting these objectives we follow the lead of John Tyndall, the 19th century Victorian inventor, scientist and public educator after whom we have named the Centre, and who was the first to prove the energy absorbing properties of carbon dioxide and other greenhouse gases.

In conducting these various outreach activities, the Tyndall Centre will work alongside and in partnership with many of the organisations in both public and private sectors that you represent here today. We look forward in the months to come to strengthening our existing collaborations and to developing new ones. Furthermore, this agenda is not just for the UK, but worldwide – through collaboration with some of the leading science and policy

initiatives in Europe, in North America, and in the developing world. The Tyndall Centre, for example, will play a key role in the newly emerging European Climate Forum – a partnership between senior science, business and government bodies in Europe that will facilitate the open exchange of ideas and the pooling of knowledge on how best to respond to climate change.

Let me say a few further words about the big research questions we face and how the Tyndall Centre will advance our understanding in these areas. I believe that there are three key questions that lie at the heart of how we should respond to our changing climate.

First: how can we determine what rate of climate change poses appreciable dangers to human health and to the environment? Danger implies unacceptable risk. And to assess risk we need to know both the probabilities of particular outcomes and the consequences of those outcomes. The reality is that at the moment we don't know what these risks are. For example, is the collapse of the West Antarctic Ice Sheet (a low-probability, high-impact event) a greater risk to society than a 1°C global warming (a high-probability, low-impact event)? The Tyndall Centre can help quantify these risks and assist society evaluate what level of risk it is willing to accept. This will require input from social scientists, as well as from climate scientists, engineers, and biologists engaging with society at large.

The second question is: can we control climate sufficiently to prevent warming reaching this “dangerous” level? It is the question that lies at the heart of the debate regarding the emissions targets set at Kyoto. But can the Kyoto target, or indeed any other target such as a 60% reduction proposed by the Royal Commission on Environmental Pollution, be reached? Although we know that people will have to change the way they live and businesses change the way they make money, we don't know how easy this will be to achieve. We need to be able to answer such questions as why are Western societies so reluctant to consider nuclear power as an alternative to fossil fuels? Or why are we so opposed to taxes on fuel, even when we know that some of the money will be spent on energy efficiency improvements? We need more evidence-based policy and, again, the Tyndall Centre will make an important contribution to the debate.

Climate research is also critical for the third question: what happens if we cannot reduce the rate of climate change enough to avoid unacceptable risk? Can we adapt our institutions, our regulations, our behaviour to accommodate the unavoidable dimensions of climate change? I believe identifying “insurance policies” that we may need to cope with climate change is an entirely rational response to the problem. Here again, the broad range of scientific expertise offered by the Tyndall Centre can help put the necessary debate on a sound footing. As the current floods in this country have shown, adapting to climate change is not so much an issue of technical ability, but rather a question of identifying socially and economically acceptable precautionary policies, and implementing them.

My responses to these three questions shows that to shape a global or a UK community that can evolve with a changing climate, we need to strengthen links between knowledge producers and the policy process, between research and action. I argue that the real

challenge for climate change science in the end is not simply to predict future climate; rather, it is to give society the options to choose its own climate future. And to choose well.

And finally, let me announce that to complete our team in the Tyndall Centre, we hope to appoint in the very near future Professor John Schellnhuber, currently Director of the Potsdam Institute for Climate Change Research, to be the Tyndall Centre's first Research Director. Professor Schellnhuber unfortunately is unable to attend the launch today owing to a long-standing commitment to an important meeting in Germany, but he sends a message of support to the Tyndall Centre today. Let me quote from this message directly (and in English!):

"It is exciting that the UK is establishing this new research Centre which among many things will make a major contribution to the next generation of integrated assessment models for climate change. This contribution will be further enhanced through integrating, from the outset, stakeholder wisdom and perspectives in the research strategy. The Tyndall Centre extends the concept of a focused single-site research institute into a more inclusive national network of research expertise. I have every confidence that the Tyndall Centre will become a world-leading inter-disciplinary research centre for climate change. I wish you well today for the launch of the Centre."

Now, I have detained you all for long enough. There is food and drink awaiting through the curtain. Let me only remind you that we reconvene in this part of the hall at 1.30 for an 'Any Questions' panel discussion on the topic—'COP6 and beyond—what role for research?'. This will be chaired by the BBC News On-line environment correspondent Alex Kirby. Over lunch we invite you to submit your written questions on this theme to the panel and to place them in the coloured trays lying on the tables next door. You will find question slips attached to the bottom of your red programme sheet, or else next to the coloured trays. May I encourage you to do this within the next half hour so that we have time to make our selection of questions.

Thank you again for coming today and for supporting us as we launch this important new research enterprise. Thank you especially to Sir Geoffrey Allen for hosting this event, to Professor Lawton and Sir Anthony Cleaver for their words of support, and most importantly to the Minister for the Environment, the Right Hon. Michael Meacher, for opening the Centre today. Thank you.

***** As delivered *****