

## **Climate Change, Sustainability Science and STS**

Scientists, internationally and in New Zealand, have developed a strong body of knowledge about the world's climate system, the impact of greenhouse gas emissions, and the strategies need to manage human induced climate effects. There is now increasing awareness of the economic, social and political dimensions of climate change, including the ability of societies to develop strategies to avoid, mitigate and adapt to systemic changes.

A key component in responding to climate change is developing the science and research capacity to understand the interaction between ecological and human systems. Increasingly, decision-makers in government and industry are looking to science to provide a way forward with new technologies and sustainable economic development. At the same time, there is a demand from citizens for effective and decisive action on climate change, which requires new understandings of the psychological, cultural and political dimensions of social change. Science and research, therefore, are pivotal to our understanding of the climate change problem and also for designing and implementing the solutions that are so urgently needed. Given the focus on research following the 2009 Copenhagen meeting, including the new international agricultural research initiative, it is timely to consider the New Zealand agenda for climate change research and where it is going.

What kind of research have we focused on so far? What other areas of research are needed? Is the challenge of climate change appropriately reflected in our wider national research, science and technology objectives? How are the demands of citizens, industry and policymakers being met through climate change research? What priorities do scientists themselves regard as important for the future?

### **An STS perspective on climate change research**

'Science, Technology and Society' (STS) studies is a well established, international field of scholarship which looks at the social processes behind the creation of research, science and technology - and at the consequences of R,S and T for society. In particular, STS researchers study the sociology of scientific knowledge, how science policy is developed, and practices of public engagement in science, including science communication and dialogue.

A new professional group, the Asia Pacific STS Network, was recently set up by STS practitioners in New Zealand and Australia and is attracting strong interest. A regional workshop in Wellington in December 2008 was followed by an international conference in Brisbane in November 2009. This included a panel on climate change, sustainability and the role of STS, which provided the impetus for this workshop.

Through an STS perspective, this workshop will enable scientists and science policy makers to reflect on our current climate change research agenda and to critically assess what is being prioritised, how the biophysical and social sciences can be better integrated— and what this might mean for future directions in science generally.

Knowledge is needed from both the biophysical sciences and the social sciences. Moreover, better understandings are needed across different disciplines and knowledge domains, and new ways of developing knowledge that integrate academic sciences with the aims of industry and government, and the expectations of society. These dimensions are reflected in trends towards **transdisciplinary research** and **sustainability science**.