

The Economics of Adaptation to Climate Change

2nd - 3rd April 2009

Fondazione Giorgio Cini, San Giorgio Maggiore Island, Venice – Italy

Background of the Workshop

Even if world governments soon agree to adopt measures to stabilize GHG concentrations in the atmosphere by the end of the century, the projected residual increase in global warming will considerably alter climate worldwide. Adaptation is thus needed to respond optimally to the new challenging environment. This issue has traditionally been overshadowed by the focus on mitigation policy, but has recently finally emerged in the mainstream political debate and research agenda. It promises to become dominant in the next few decades.

Adaptation is a process taking place through space and time. It needs to be evaluated from a local standpoint, because adaptation strategies are designed to cope with well defined impacts in specific areas, but also from a worldwide perspective, as it is also a global strategy dealing with a global problem. Short- and medium-term optimal adaptation strategies and early action have to be assessed as they must be coherent with long-term adaptation needs.

This heterogeneity of spatial and time horizons poses a serious challenge to economists that study optimal adaptation strategies. At present, we still lack a unifying framework of analysis and this generates inconsistencies across time and space. Long-term analyses of adaptation strategies have often neglected short-term implications and policy decisions. Different degrees of spatial resolution of the models employed affect cost estimates and optimal strategies substantially.

Objectives of the Workshop

The aim of this workshop is to gather leading researchers actively engaged in the study of the economics of adaptation to climate change to critically review the methodologies used in their analysis and to evaluate further developments or new approaches that would make it possible to address questions that still remain unanswered. Particular emphasis will be given to the long/short term and local/economy-wide dimensions of adaptation strategies and to new methodologies that are capable of addressing the shortcomings of the first generation of studies on adaptation.

Structure of the Workshop

This two-day workshop will be structured into four sessions with ample time for presentation (30 min) and discussion (60 min). Invited speakers will present recent advancements in their field of research and will critically assess shortcomings and future developments. A wide range of methods will be explored to provide a wide overview of the frontiers of the discipline.

DAY 1: Thursday, April 2nd, 2009

- 08:45 - 09:00 Registration
- 09:00 – 09:15 Welcome Address
Carlo CARRARO - *University of Venice, FEEM and CMCC, Italy*
Shardul AGRAWALA - *OECD, Paris*
- 09:15 – 11:00 **Opening Lectures: Economic Aspects of Adaptation to Climate Change**
Chair: Carlo CARRARO - *University of Venice, FEEM and CMCC, Italy*
- 09:15 - 09:50 A Policy Take on the Economics of Adaption
Shardul AGRAWALA - *OECD, Paris*
- 09:50 - 10:25 Adaptation: Why Is It Important, What Do We Know About It, and What Is Still Missing?
Robert MENDELSON - *Yale University, USA*
- 10:25 – 11:00 Open Discussion
- 11:00 – 11:30 Coffee Break
- 11:30 – 13:00 **Session 1: Mitigation and Adaptation: an Integrated Approach to Climate Change Policy**
Chair: Shardul AGRAWALA - *OECD, Paris*
- 11:30 – 12:00 The Optimal Timing and Investment Size of Mitigation and Adaptation Strategies
Carlo CARRARO - *University of Venice, FEEM and CMCC, Italy*
Enrica DE CIAN - *FEEM, Italy*
Francesco BOSELLO - *University of Milan and FEEM, Italy*
- 12:00 – 12:30 Act or React? Anticipatory vs. Reactive Adaptation from an IAM Perspective
Robert DELLINK - *OECD, Paris*
Kelly DE BRUIN - *Wageningen University, The Netherlands*
- 12:30 - 13:00 Discussion Coordinated by Laurence TUBIANA - *IDDR, France*
- 13:00 – 14:00 Lunch
- 14:00 – 17:30 **Session 2: Adaptation Sectoral Damage Estimates/Functions**
Chair: Samuel FANKHAUSER - *London School of Economics, UK*
- 14:00 – 14:30 Recent Developments in Ricardian Methods to Estimate Damage Functions in the Agricultural Sector
Emanuele MASSETTI - *FEEM, Italy*
Robert MENDELSON - *Yale University, USA*
- 14:30 – 15:00 The Impact of Climate Change on Coastal Zones
Robert NICHOLLS - *University of Southampton, UK*
- 15:00 – 15:30 The Impact of Climate Change on Water Resources: a Computable General Equilibrium Analysis
Richard TOL – *ESRI, Ireland and Vrije Universiteit, The Netherlands*
- 15:30 – 16:00 Coffee Break
- 16:00 – 16:30 Extreme Events: Risk Managements in a Climate Change Context
Stephane HALLEGATTE – *CIREN and Météo-France, France*
- 16:30 – 17:30 Discussion Coordinated by James MACGREGOR - *International Institute for Environment and Development, UK*
- 17:30 – 17:45 Closing Remarks
- 20:00 Social Dinner at the Restaurant “Le Maschere”

DAY 2: Friday, April 3rd, 2009

- 9:00 – 13:00 **Session 3: Effects of Climate Change Impacts and Adaptation Measures**
Chair: Franck LECOCCQ - *AgroParisTech and INRA, France*
- 09:00 – 09:30 Adapting Forests and Ecosystems to Climate Change
Brent SOHNGEN - *Ohio State University and RFF, USA*
- 09:30 – 10:00 Adaptation to Temperature Extremes
Wolfram SCHLENKER - *Columbia University, USA*
- 10:00 – 10:30 Adapting to Climate Change: Challenges and Options for Farmers in Sub-Saharan Africa
Rashid M. HASSAN – *University of Pretoria, South Africa*
- 10:30 – 11:00 *Coffee Break*
- 11:00 – 11:30 Costs of Adaptation for Infrastructure in the Developing World: Methods and Preliminary Results
Gordon HUGHES – *University of Edinburgh, UK*
- 11:30 – 12:00 Climate Change Impacts and the Role of Autonomous Adaptation
Francesco BOSELLO - *University of Milan and FEEM, Italy*
- 12:00 – 13:00 Discussion Coordinated by Samuel FANKHAUSER - *London School of Economics, UK*
- 13:00 – 14:00 *Lunch*
- 14:00 – 16:15 **Session 4: What Adaptations Should Occur and When?**
Chair: Robert MENDELSON - *Yale University, USA*
- 14:00 – 14:30 Overview of Types and Timing of Adaptations
Joel SMITH - *Stratus Consulting, USA*
- 14:30 – 15:00 Mapping Adaptation Funding Flows. The RFF Global Adaptation Atlas Project
Shalini VAJJHALA - *RFF, USA*
- 15:00 – 15:30 Global Climate Change and the Funding of Adaptation
Seraina BUOB - *University of Bern, Switzerland*
- 15:30 – 16:15 Discussion Coordinated by Franck LECOCCQ – *AgroParisTech and INRA, France*
- 16:15 – 16:30 Closing Remarks
Shardul AGRAWALA - *OECD, Paris*
Carlo CARRARO - *University of Venice, FEEM and CMCC, Italy*

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