

**THIRTY-SECOND SESSION OF THE IPCC  
Busan, 11-14 October 2010**

IPCC-XXXII/Doc. 16  
(20.IX.2010)  
Agenda Item: 11.5  
ENGLISH ONLY

**OTHER PROGRESS REPORTS**

**Report on Scenario development and coordination  
with the scientific community**

(Submitted by Working Group Co-Chairs Christopher Field, Ottmar Edenhofer, and Qin Dahe)

## **Report on Scenario development and coordination with the scientific community**

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As described in the IPCC Expert Meeting Report - Towards New Scenarios for Analysis of Emissions, Climate Change, Impacts, and Response Strategies (Noordwijkerhout, The Netherlands, 19-21 September 2007), development of new scenarios for use in the AR5 and beyond is being led and executed by an independent, community-based process that involves individuals from a range of disciplines. The Integrated Assessment Modeling Consortium (IAMC) is leading the work on emissions and economic scenarios.

The relationship between the IAMC and the IPCC is moving forward on the basis of direct interactions between the IAMC and each Working Group. One co-chair of each Working Group (WGI – Qin, WGII – Field, WGIII – Edenhofer) is taking the lead in coordination with the IAMC. A memorandum of understanding to formalize the relationship is in the final stages of discussion.

The catalytic task group on development of socioeconomic scenarios, established by IPCC-30, played an important role in developing conversations with the IAMC. The relationship between the IPCC and the IAMC is now on solid enough footing that direct relationships with each Working Group are productive and efficient. The successful role of the catalytic task group is now complete.

In the broad area of coordinating scenario development, the most important activities have been the following.

### **Recent Activities**

**1)** Scenarios session at the 2009 Summer Workshop of the Energy Modeling Forum (July, 2009). The Summer Workshop of the Energy Modeling Forum is one of the main vehicles through which the integrated assessment modeling community sets its agenda. Topics addressed at the workshop range from evaluation of model intercomparison experiments to discussion of processes not well represented in the integrated assessment models. In the 2009 session on scenario development, organized by Kristie Ebi, Executive Director of the WGII TSU, Ottmar Edenhofer, Christopher Field, and Richard Moss had the opportunity to meet a large segment of the integrated assessment modeling community, to describe their visions for the scenario development process related to the AR5, and to establish personal contacts.

**2)** Presentations to the IAMC. On September 15, 2009, Ottmar Edenhofer and Christopher Field addressed the annual meeting of the IAMC via video link. These presentations and the following discussions established the foundation for continuing interactions between the IAMC and the Catalytic Task Group. Topics discussed included not only the goals for the interaction but also the style and context. The discussion at this meeting considered upcoming events to advance the process of scenario development, including the three events described below.

**3)** US National Research Council workshop on Describing Possible Socio-Economic and Environmental Futures for Climate Change Research and Assessment (Feb 4-5, 2010, Washington, DC). This meeting was organized by the Committee on Human Dimensions of Global Environmental Change (HDGC) and the Climate Research Committee (CRC). The steering group, led by Richard Moss, also included Christopher Field, Ottmar Edenhofer, and Kristie Ebi.

The objectives of the workshop were to:

- Review the state of science for considering socioeconomic changes over long time frames
- Clarify definitions and concepts to facilitate communication across research communities
- Brainstorm about driving forces and key uncertainties that will affect impacts, adaptation, and vulnerability (IAV) and mitigation in the future
- Consider research needs and the elements of a strategy for describing socio-economic and environmental futures for climate change research and assessment

At the workshop, participants tackled an agenda that covered the following tasks:

- Review narrative and quantitative methods from a range of disciplines for developing long-term scenarios of socio-economic futures
- Identify key factors that will influence adaptation, mitigation, and the environment in the coming decades and that need to be covered in future socio-economic scenarios
- Discuss a new process for scenario development that uses “Representative Concentration Pathways” (RCPs) of future forcing and examine the range of socio-economic assumptions in model runs consistent with the RCPs
- Share prior experience in the use of narratives and scenarios
- Provide a venue for IPCC to plan next steps for the development and use of narratives and socio-economic scenarios, drawing on knowledge and experience of expert participants

The outputs of the workshop, still under development, will include a workshop summary prepared by the international steering group appointed by the National Academy of Sciences, plus other products as determined by the workshop participants.

**4) Economics session at the 2010 Summer Workshop of the Energy Modeling Forum (July 2010).** Ottmar Edenhofer and Christopher Field, plus Kristie Ebi, Gary Yohe, and Michael Mastrandrea organized a session on Economics in the IPCC. This session addressed aspects of economics treated in the scenarios as well as aspects that are not yet included.

The two-day session was designed to assist IPCC authors in conducting their upcoming work. The focus of the session was on approaches for incorporating a diverse set of views in assessment frameworks. Speakers presented critical reviews from existing literature in sessions that addressed (1) economic analyses of decision-making (adaptation, mitigation, iterative risk management), (2) valuation analyses using multiple metrics (mitigation costs, adaptation costs, damages attributed to climate change) including multigas metrics (for example, looking at the role of GWP’s as exchange rates between different gases and what they might mean for optimal and constrained mitigation pathways), and (3) appropriate accounting of co-benefits. The sessions combined presentations, organized discussions, and extensive discussion from the floor.

The 2010 Summer Workshop also provided a forum for discussing a proposed formal memorandum of understanding between the IPCC and the IAMC.

### **Upcoming Activities**

The next upcoming major activity related to scenario development is the IPCC Workshop on Socioeconomic Scenarios for Climate Change Impact and Response Assessment (WoSES), scheduled for November 1-3, 2010. This workshop, which is jointly organized by WGIII and WGII, has the following goals:

- identify a core set of socio-economic parameters to be used to describe quantitative socioeconomic pathways and qualitative narratives consistent with the emission pathways for the
- RCPs, including the key factors affecting mitigation and adaptation on different spatial and temporal scales
- define a process for producing future projections for these factors and associated uncertainties
- identify a set of core policy assumptions and the 2nd best situations to be considered in the socioeconomic pathways and narratives
- define a process to arrive at socioeconomic pathways and narratives using the above, taking into account requirements of short- and long-term scenarios and exploring the coverage of the space of plausible scenarios

The workshop will produce a report including extended abstracts of presentations and a short summary of the key issues addressed. This is intended to provide a carefully focused reference for the benefit of the authors of the AR5. The workshop will include about 70 participants, based on government nominations, which are now complete.