**Proposal for a Joint IPCC WGII/WGIII Workshop on**

**Socioeconomic Scenarios for Climate Change Impact and Response Assessments**

## Background

During its 25th session (Mauritius, 26–28 April 2006), the IPCC decided that rather than directly coordinating and approving new scenarios itself, the process of new scenario development should be coordinated by the research community, with the IPCC catalyzing the development of and assessing results from a new set of scenarios as part of the Fifth Assessment Report (AR5) cycle. This new set is intended to replace and extend the scenarios used in earlier IPCC assessments, and to be compatible with the full range of available baseline and policy emission scenarios.

These scenarios are referred to as "representative concentration pathways" (RCPs), and were developed with the goals of integrating (a) climate change and earth system models (ESM) projections of climate change, (b) integrated assessment models (IAM) projections of changes in GHG emissions, and (c) projections of impacts, adaptation and vulnerabilities (IAV) under different assumptions about emission trajectories and socioeconomic development.

The research community outlined three phases of scenario development: a preparatory phase and two main phases of scenario development—a parallel product development phase and an integration, dissemination, and application phase. In the preparatory phase, radiative forcing pathways based on four integrated assessment (IA) concentration and emissions scenarios were chosen from the existing literature and provided to climate modelers. The RCPs are in the process of being input into ESM to produce a new set of climate simulations that will be used for mitigation, impacts, and adaptation analyses.

## Rationale for an IPCC Workshop on Socioeconomic Scenarios and Storylines

During the development phase, the IPCC Expert Meeting Towards New Scenarios for Analysis of Emissions, Climate Change, Impacts, and Response Strategies, held in Noordwijkerhout, The Netherlands (19–21 September, 2007), called for the organization of a meeting of the IAM and impact and adaptation communities to develop a joint strategy for storyline development. The need for such a workshop was reiterated by the Task Group established by the IPCC during its 30th session in Antalya, Turkey (21-23 April, 2009) to facilitate the catalytic role of the IPCC.

With the RCPs, climate model simulations are envisioned to be complemented by a "library of socioeconomic scenarios and storylines" to inform impacts and adaptation analyses and IAM emission trajectories in ways that are mutually consistent. While each RCP was generated by an IAM driven by a set of assumptions about future socioeconomic development, technology, and policy, many other alternative sets of assumptions could result in the same concentration/radiative forcing pathway. This flexibility is an intentional and innovative feature of the RCP process. However, the assumptions chosen can significantly affect the outcomes of impacts and adaptation projections and analyses. Consistent scenario definitions of baseline and mitigation scenarios are critical to ensure comparability across studies that will be assessed in the IPCC AR5; this process needs to be initiated soon. An IPCC Workshop involving

the relevant communities engaged with the scenario development is necessary to address these issues.

**Aims of IPCC Workshop**

The overall aim of the workshop is laid down in the Noordwijkerhout report (II.3.2 – New IAM scenarios). In detail this includes:

1. Development of consistent sets of baseline and mitigation scenarios that allows for an assessment of all relevant mitigation and adaptation options. Therefore, baseline and mitigation scenarios will be analyzed in terms of impacts, adaptation needs and mitigation requirements. These alternative scenarios should cover and lay open the reasonable range of socio-economic, technological and climate science assumptions and employ the RCPs as benchmark scenarios.
2. Identify the most crucial socio-economic uncertainties and underlying assumptions relevant for baseline as well as mitigation scenarios, such as demographic development, land-use changes, technological change, macro-economic growth and trade patterns.
3. Exploring a number of (mitigation) scenario which take into account more "real world" mitigation scenarios like the limited availability of certain technologies, delayed participation of crucial countries, sub-optimal design of policy instruments like taxes and emission trading schemes as well as other barriers of implementation.
4. Outline a valid, robust, and consistent approach across the IAM and IAV communities to employing these alternative scenarios that characterize and frame different possible futures in each set of baseline and mitigation scenario.
5. Extract and identify a minimum set of illustrative quantitative socioeconomic trajectories that can be clustered to develop narrative storylines relevant to IAV and IAM ex-post analyses.

**Science Steering Group**

WGIII Co-Chairs: Ottmar Edenhofer, Ramon Pichs, Youba Sokona; WGII Co-Chairs: Vicente Barros and Chris Field will chair the Science Steering Group. Additional members will be identified from Working Group II and III scientists.

**Timing: 2010**

**Duration: 3-4 Days (IPCC Workshop)**

**Participants: ca. 70**

**Trust Fund: 30 Journeys of the 2010's pre-defined budget-line "New Scenarios" are requested.**