

Developing Countries Participation in the Modeling of Impacts of Response Measures

**WORKSHOP ON THE STATUS OF MODELING ACTIVITIES
TO ASSESS THE ADVERSE EFFECTS OF CLIMATE CHANGE
AND THE IMPACTS OF IMPLEMENTED RESPONSE MEASURES**

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Outline of the Input

- General over-view of modeling efforts on the impact of response measures,
- IPCC contribution to such efforts,
- Developing countries role on the above efforts,
- Recommended measures to enhance developing countries participation



General Over-view of Modeling Efforts on the Impact of Response Measures

Models used for such efforts:

- AIM, CETA, FUND, G-CUBED, GRAPE, GTEM, MERGE3, MS-MRT, RICE and WORLDSCAN GREEN, OWEM, and CLIMOX
- The models are Macro Top-down models
- Used for the Impacts on Annex B and Spillover effects on Non-Annex B



IPCC Findings Using the Models

Overall

- Emission constraints in Annex I countries have well established, albeit varied “spill over” effects on non-Annex I countries.



WGIII- Uncertainties Qualification

Well-established: models incorporate known processes; observations consistent with models; or multiple lines of evidence support the finding;

Established but Incomplete: models incorporate most known processes, although some parameterizations may not be well tested; observations are somewhat consistent but incomplete; current empirical estimates are well founded, but the possibility of changes in governing processes over time is considerable; or only one or a few lines of evidence support the finding;



WGIII- Uncertainties Qualification

Competing Explanations: different model representations account for different aspects of observations or evidence, or incorporate different aspects of key processes, leading to competing explanations;

Speculative: conceptually plausible ideas that haven't received much attention in the literature or that are laced with difficult to reduce uncertainties



IPCC Findings on Oil Producing Countries

Oil-exporting, non-Annex I countries:

- Analyses report costs differently, including, reductions in projected GDP and reductions in projected oil revenues.
- The study reporting the lowest costs shows reductions of 0.2% of projected GDP with no emissions trading, and less than 0.05% of projected GDP with Annex B emissions trading in 2010



IPCC Findings on Non Annex I Countries

Other non-Annex I countries:

- They may be adversely affected by reductions in demand for their exports to OECD nations and by the price increase of those carbon-intensive and other products they continue to import.
- These countries may benefit from the reduction in fuel prices, increased exports of carbon-intensive products and the transfer of environmentally sound technologies and know-how.
- The net balance for a given country depends on which of these factors dominates.



Role of the Developing Countries in the Modeling Efforts

All models used in the IPCC TAR were developed in:

- United States
- Europe
- Japan
- Australia

DC
Circumstances

Isolating impacts
on Individual DC



Considerations by Parties

- Initiate a program that would support parties to exchange information on their experience regarding 4.8 & 4.9 modeling efforts.
- Strengthen the secretariat to:
 - Compile and disseminate information on modeling methods and tools for evaluating the vulnerability assessment for the adverse effects of response measures under Article 4.8.
 - Compile mitigation actions taken by Parties in order to assist modeling efforts in developing countries.



Considerations by the IPCC

- Increase the participation of developing countries experts in the preparation of future IPCC assessments
- Future assessments need to include more assessment of research conducted in developing countries and are of other languages other than English



Considerations by GEF

- Include the strengthening of the capacity of developing countries, and where needed, establishing national centers to undertake the modeling efforts on Article 4.8 and 4.9 in their activities.
- Support developing countries' modeling efforts to assess their vulnerability under Article 4.8 and 4.9 in their national communications.



Considerations by International Modeling Community

- Work with developing countries experts to make the above models more suitable to determine spillover effects for their respective countries.
- Cooperate with developing countries scientists to isolate spillover effects on the individual developing countries.

