

Chairperson's Comments

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Chairperson's Comments on Session VII: How can IAMs research conclusions be applicable to both Developing and Developed Countries?

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In the first half of the session, speakers emphasized three important facets of the global warming issues, i.e., efficiency or cost-effectiveness (Dr. Richels), equity (Prof. Parikh), and safety (Prof. Alcamo), respectively. Dr. Richels elaborated how important the "when flexibility" and "where flexibility" are if cost-effectiveness is to be achieved in global abatement strategies. The former involves the question of timing of abatement efforts and the latter necessitates a cooperative scheme among developed and developing countries. Dr. Richels proposed an interesting cost-sharing scheme in this respect.

Prof. Parikh argued for a collective decision making based on a more broadly defined cost-benefit analysis with liability-based internalization of environmental externalities, joint implementation, and safe-minimum standards. It was argued that the equity issue may most clearly be handled by emission allocations so that developing countries can have equitable representation in cumulative emissions. How IAMs can clarify the implications of incorporating equity issues, as has been touched upon by Dr. Richels, remains one of the important tasks of this modeling community.

Prof. Alcamo presented the analysis of "Safe Emission Corridors." The concept attempts to combine various environmental targets with economic (cost) considerations. The main emphasis of this approach is to reconcile short term emission targets with long term climate goals. Prof. Alcamo showed how an early mitigation can broaden the later emission corridor. Although much work needs be done to sharpen the "safeness" of corridors, limiting too rapid changes in temperature rise in the short run to protect ecosystem disruption, seems to provide a new perspective to the integrated assessment modeling work.

It may not be necessary to incorporate all the above three criteria of efficiency, equity, and safety in a single IAM. However, the final assessment of any policy would certainly require them all, and it is the challenge to the integrated assessment modeling community to establish a coherent framework in this sense, that is comprehensible to all policy makers from developed and developing countries.

In the latter half of the session, the problems of technology and uncertainty were discussed. Prof. Yamaji concluded that the availability of cleaner energy technologies in the future makes delayed abatement responses more cost effective (which supports earlier conclusions of Dr. Richels). However, both Prof. Parikh and Prof. Dowlatabadi pointed out in this connection that one should explain how and what inducement, information, and social responses would come about, that are necessary to bring forth such technological changes.

Prof. Prida reported detailed energy supply systems in a developing country, indicating medium/small scale power plant technologies rather than large-scale and most advanced technologies from developed countries are those contributing to solve both energy bottlenecks and local environmental concerns. The presentation highlighted the critical link between local/global environmental degradation and economic development.

Finally, Prof. Dowlatabadi discussed decision making under uncertainty and proposed to think the way of considering how to respond rather than just how to respond. His suggestion is to base policy responses not on changeable indicators but on smoother and more certain ones.

The question posed for this session reminds us not to concentrate on modeling developed countries with fully advanced market economies. Long-term responses to global warming must involve decades and centuries during which many countries undergo socio-economic structural changes, and the direction of these changes might not be aiming toward the present highly developed economies that tend to overuse environmental resources. If, therefore, the chairperson is to provide a short answer to the question given in the title of this session, it would be something like this: "We have witnessed many important developments in the past few years that have proved the usefulness of IAMs, but our discussions have just shown that there are still enough rooms for further study to really establish the confidence with the IAMs as a tool for global policy making."