

An Overview of the IDGEC Carbon Management Research Scoping Report LF

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IASCP Conference, June 1-4, 2000
Bloomington, Indiana

Thank you. The purpose of my talk today is to give you a brief overview of the IDGEC's Carbon Management Research Activity Scoping Report. In doing so, I will focus primarily on describing the two CMRA research themes and the core questions that will be explored in each theme. I will also talk a little bit about CMRA organization, linkages that will be made with other projects and programs, and the outcomes of a planning workshop held May 29-30, 2000, in Tokyo, Japan.

The Carbon Management Research Activity (CMRA) is a flagship activity of the International Human Dimensions Program's (IHDP) long-term project on the Institutional Dimensions of Global Environmental Change (IDGEC). The purpose of this activity is to investigate the critical near- and long-term institutional issues associated with controlling greenhouse gas emissions, the cause of global climate change.

As you all know, the international community has embarked on an effort to develop a global regime to address climate change. Two international treaties, the Framework Convention on Climate Change and the Kyoto Protocol, currently form the core of this regime. CMRA research will be directed towards two "themes" important to policymakers and researchers that are associated with this regime. Because the international community is particularly concerned with the nearer-term issues of implementing the FCCC and the Kyoto Protocol, the first CMRA theme explores those institutional issues associated with administering these existing agreements. The second theme focuses on the longer-term issues of learning and adjusting the climate regime to changes in technology, scientific understanding, and global socioeconomic conditions.

Theme 1: Administering the Current Climate Regime

The first substantive area of CMRA is concerned with the nearer-term institutional issues associated with administering the FCCC and the Kyoto Protocol. With the FCCC in force and the Protocol in the process of ratification, both Annex I and developing countries are moving forward with the development and implementation of measures to meet their commitments. For Annex I countries, this includes not only the development of policies to reduce emissions from sources and enhance sinks and reservoirs, but also the development, transfer, and diffusion of environmentally-sound technologies, practices, and processes to developing countries.

Annex I countries can adopt a range of market-based and regulatory policy instruments to meet these commitments. Some are "market"-based in that they use economic forces to change behavior, while others employ the more traditional regulatory approach. The particular mix of these instruments that countries ultimately adopt depends very much on their national circumstances. The degree to which these instruments are effective in mitigating climate change

will be a function of mix of the instruments adopted, the design and implementation of the policies themselves, and the institutional framework within which they must operate.

The development and administration of this regime is complicated by the Protocol's call for the development of three interlocking "flexibility" mechanisms. The clean development mechanism (CDM), joint implementation (JI) and emissions trading (ET) will allow Annex I countries to obtain some a portion of their required reductions through collaborative efforts with other countries. The role that the Protocol establishes for private sector in the development and operation of these mechanisms also adds complexity to the regime, as it will require the private and public sectors to interact on an unprecedented scale. The governments remain the responsible parties in the regime, however, and the system through which any emissions trading will occur, while market oriented, will be constrained by domestic and international institutions established by these governments. These constraints include the rules that the international community adopts governing the operation of the Kyoto mechanisms, the rules each country creates to manage the exchange of permits domestically and internationally, and the interactions among these different international and domestic institutions.

To explicate these complexities and their ramifications, the CMRA will explore two related sets of institutional issues. The first of these concerns the international and national implications of the development of the Kyoto mechanisms. As the CDM, JI and ET are developed, institutional questions will need to be addressed concerning both interactions among the operational international rules and interactions between these international rules and concomitant national rules. The development of these mechanisms will also raise institutional issues about the mix of and effectiveness of policy instruments that nations adopt. For example, the Protocol specifies that units of emissions reductions acquired through emissions trading are to be supplemental to domestic action. However, the international community has not yet agreed on a definition of the term 'supplemental', and each of the options being considered could substantially alter the nature and mix of policies instruments that different countries choose to adopt. Finally, important questions arise concerning whether or not these mechanisms are to function as the primary means for the transfer of technology to developing countries and how technologies being transferred through these mechanisms can be screened to ensure their appropriateness and long-term effectiveness.

A second set of issues involves how the mix of market-based and regulatory measures adopted to implement these agreements could affect the regime's objectives of promoting sustainable development and protecting the global climate in a cost-effective manner. For example, the implementation of the Kyoto mechanisms could have a substantial impact on the balance between emissions reductions and carbon sequestration efforts. Because carbon sequestration measures are perceived as being less costly than emissions reduction measures, the number of carbon sequestration activities is likely to increase substantially as countries move forward to implement the FCCC and the Kyoto Protocol. Issues associated with this increase, as well as those associated with deforestation and land use changes, are of particular concern to developing countries. The relationship between the regime's two objectives is also not clear. While they are not necessarily incompatible, rules adopted to implement one objective can create conflicts with the other. For example, the choice of rules governing supplementarity could have important implications for the sustainable development path of Annex I countries. Similarly, rules restricting the use of ODA for CDM investments could force developing countries to choose between emission reduction/sequestration measures and other development objectives.

CMRA research under this first theme will be focused on two core questions:

1. What are the implications of this market-oriented climate change regime for operation of the Kyoto mechanisms and the mix and effectiveness of policy instruments adopted by national governments?
2. What are the implications of the emerging regime, and of the mix of market-based and regulatory measures adopted under it, in terms of climate protection and sustainable development?

Research efforts conducted under this theme would focus on a number of specific research questions derived from these core questions. Examples of these research questions might include:

- How will international rules governing each of the Kyoto mechanisms affect the administration of the others?
- How do the rules governing this regime affect the development and implementation of policy measures in different countries?
- How do these rules affect the development, transfer and diffusion of environmentally sound technologies, practices and processes?
- What are the relative merits of market-based versus regulatory instruments in the context of the regime?
- What are the implications of differences among these national and international rules for the effectiveness of the climate change regime and the goal of sustainable development?

Theme 2: The Long-Term Evolution of the Climate Regime

The second theme of the CMRA focuses on issues associated with the evolution and redesign of the climate regime over time. Research efforts under this theme will explore the longer-term questions about the regime's adjustment to both national experiences with its implementation and changes in technology, scientific understanding, and global socioeconomic conditions.

The CMRA will again explore two sets of institutional under this theme. The first of these concerns compliance and the long-term implementation of the climate regime. The relationship between international compliance mechanisms and the processes through which domestic policy change occurs is not well understood. As we all know, most industrialized countries committed in 1994 to reducing their emissions to 1990 levels by the end of the decade. Emissions have continued to rise unabated, however, due in part to a failure by these countries to implement fully the policies they proposed to meet these commitments. Because implementation is difficult, an understanding of how nations make policy changes in response to international treaties and which factors influence this process is crucial to the effective design and long-term evolution of the climate change regime. Compliance issues such as liability that are associated with the emissions-trading mechanism and the role of the private sector are also particularly important.

The second set of longer-term issues on which the CMRA will focus concerns the processes through which regimes adapt to changing technology, scientific understanding, and global socioeconomic conditions. All regimes must adapt to changing circumstances and underlying conditions if they are to persist. This is particularly important for regimes addressing large-scale environmental problems such as climate change, as these problems involve poorly understood,

complex systems that are subject to rapid, nonlinear change over short time frames. Because the processes through which international regimes are negotiated unfold over years to decades, opportunities exist for learning and adaptation. For the case of climate change, the processes through which national climate change policies are developed and implemented have also been found to foster learning and adaptation. Questions remain, however, as to how changes in science and socioeconomic conditions is best incorporated into the regime, as well as the role of environmental and business interests, the media and the public in overall learning and adaptation process.

The core questions regarding this theme are:

1. What are the essential factors shaping compliance with and long-term implementation of the evolving climate change regime?
2. How can flexibility, self-correcting procedures, and social learning processes be incorporated into the evolving climate change regime?

Some of the specific issues that could be explored under these core questions include:

- How have coalitions of interests at the national and international levels shaped the development and implementation of national climate change policies?
- How does the unique role of the private sector in this regime affect compliance and implementation?
- How might the regime be redesigned to better promote compliance and implementation?
- How effective are current processes and procedures in informing decision-makers at the national and sub-national levels about the science of climate change?
- What are the roles of the media, interest groups, and the public in learning and adaptation process at both the national and international levels?

Analytical approaches, Organization and Linkages

I should say something briefly here about analytical approaches, organization, and linkages for the CMRA. We anticipate that research efforts conducted under the CMRA will employ a range of analytical techniques, including quantitative studies, modeling, and structured case studies. To narrow the scope of the project and to maximize the potential for comparative analyses, emphasis will be placed, where appropriate, on the Arctic and Southeast Asia, the IDGEC's two core regions, and on the international, national, and local efforts to enhance GHG reservoirs and sinks. We recognize, however, that this focus may not be appropriate for investigations into such issues as compliance. We anticipate that CMRA research will be initiated and conducted through a network of researchers and research institutions with expertise in fields relevant to the institutional questions being examined, and the CMRA Scientific Steering Committee and the IDGEC International Program Office will work together ensuring that CMRA research projects are coordinated both with each other and with other relevant research efforts through workshops, formal and informal meetings, and other means of communications. Finally, the IDGEC will undertake the CMRA through extensive collaboration with other projects, including activities being undertaken by the International Geosphere-Biosphere Program (IGBP), the World Climate Research Program (WCRP), and other programs of the International Human Dimensions Program (IHDP), as well as policy research efforts being undertaken by the FCCC Secretariat, non-profit organizations, and industry groups.

Outcomes of The Initial Planning Meeting

An initial planning meeting for the CMRA was held on May 29-30 in Tokyo, Japan. Sponsored by the National Institute for Environmental Studies, Japan, and the International Human Dimensions Program and attended by over thirty researchers from twelve countries and a range of disciplines, the meeting marked the research activity's transition from an initial scoping phase into the research phase. As such, it had several objectives. The first objective was to stimulate a discussion among the participants about the institutional issues and research questions raised by the Scoping Report and to identify those that are of particular concern to policy makers and researchers. The meeting's second objective was to elaborate on the most important of these research questions and identify, in concrete terms, an initial set of research projects that could be undertaken under the CMRA that would begin to resolve them. Finally, the SSC wanted to elicit from the participants their ideas as to how best to develop the linkages and network of researchers necessary to move the activity forward.

While the participants did not make an effort to reach specific conclusions regarding the range of issues and topics discussed at the meeting, a general consensus did emerge regarding a number of issues:

- There was general agreement among the participants that a coordinated research program into the range of institutional issues associated with the climate regime is timely and of tremendous interest to both researchers and policy makers.
- Two questions that emerged as being particularly important are: (1) the relationship between the CDM rules and incentives for participation in it, and (2) the effectiveness of the various options being considered in the compliance mechanism.
- The meeting participants recognized that an expanded network of researchers was necessary to move the activity forward, and that additional efforts were necessary to draw researchers from such important regions such as Africa and Latin America that were not represented at this first planning meeting.
- Participants expressed interest in participating in a on-going dialogue with the policy community on institutional questions associated with the climate regime, and expressed interest in exploring possibilities for holding a series of discussions with participants in the meetings of Conference of the Parties and its subsidiary bodies.
- Meeting participants and the CMRA Steering Committee would welcome recommendations and nominations from the FCCC Parties of other researchers who might become involved in this effort.

As a next step, participants agreed that an electronic discussion group should be developed to further refine the list of research questions and project proposals. Details on this discussion network will be available on the IDGEC website in the near future. In the meantime, the CMRA Steering Committee is exploring options for securing funding and initiating specific research projects regarding the two research questions identified as being particularly important in the near term.

Thank you very much, and I welcome any questions you might have.