Controlling Carbon and Sulphur: International Investment and Trading Initiatives

Report on the Eleventh International Conference Convened by the IAEE, BIEE and RIIA

The 1996 annual tripartite conference which was sponsored by the *Financial Times* focused on the potential roles of joint implementation and emission trading in the international control of carbon and sulphur emissions. This was a relatively narrow but politically salient topic which attracted a large and well informed audience. The political importance of the conference was demonstrated by support from UNCTAD, the Japanese Environmental Agency and MITI and the U.S. Department of Energy and the U.S. Environmental Protection Agency.

Political and Institutional Developments

The first morning of the Conference was devoted to an update on political and institutional developments. Speakers included Carlos Fortin, Deputy Secretary-General of UNCTAD; Dirk Forrester, Assistant Secretary for Congressional Public and Interdepartmental Affairs in the U.S. Department of Energy; Professor Bert Bolin, Chairman of the Intergovernmental Panel on Climate Change (IPCC) and Ambassador Raul Estrada-Oyuela, Chairman of the negotiating committee on the Berlin Mandate on Climate Change. Three main issues were identified:

- *The interaction between science and politics in the international negotiations on climate change.* The early work on climate change had been led by scientists, but since the 1992 Framework Convention on Climate Change there had been a clear distinction between the scientific and technical assessment by the IPCC and the negotiation of protocols to the Framework Convention which, although very dependent on the work of the IPCC, was a political process. There was now a large measure of agreement on the scientific assessment but important differences of view about scenarios for future emissions of greenhouse gases and about options for responding to the challenge of climate change. Michael Jefferson of the World Energy Council strongly criticized the treatment of both these issues in the Second Assessment Report of the IPCC.
- *The involvement of the developing countries in measures to limit greenhouse gas emissions.* Quantified commitments to limit emissions have so far been made by the Annex I parties to the Framework Convention (the OECD countries and certain of the economies in transition). It will be necessary at some stage to secure stronger commitments from the Developing Countries - Dirk Forrester made it clear that some move from those countries might be needed to persuade the Senate to ratify protocols to the Convention. But it would be wrong and impracticable to try and prevent the economic development of the developing countries, which in any case on their own, lacked the resources and the administrative structure and skills to implement major programs to restrain emissions. Ambassador Estrada-Oyuela suggested that a possible solution was to set mandatory policy objectives supported by coordinated mechanisms for all parties to the Convention. Commitments to concrete policies and measures would be optional for the developing countries. Other possible solutions were explored later in the context of joint implementation and emissions trading.
- *Differentiated emission targets.* Perhaps because of the specific scope of the Conference this difficult subject received less attention than might have been expected. However, the need for sensitivity to differences in environmental priorities among countries was generally agreed. The case for differentiation was argued by Harold Dovland, Adviser to the Norwegian Ministry of the Environment, on the basis of experience under the ECE Convention on Long Range Transboundary Air Pollution.

Joint Implementation and Activities Implemented Jointly

These sessions were opened by Professor Tim Jackson of the Centre for Environmental Strategy at the University of Surrey. He explained the general intention of the concept of joint implementation (JI) – to devise mechanisms which allow two or more parties to meet their obligations through activities implemented jointly. For example, one party to the FCCC might invest in greenhouse gas emission technologies within the geographical borders of a second party. Ultimately institutional arrangements might be put in place to allow the first party to seek full or partial credit from these investments towards meeting its own obligations for emission reductions. This would lower the costs of greenhouse gas abatement by seeking out the least cost options first, irrespective of geographical boundaries. However, as was pointed out by several speakers from developing countries as well as Professor Jackson, JI might turn out to be a way in which developed countries could avoid taking action at home by utilizing the low cost options in developing countries leaving those countries in the longer term to face the high cost options to reduce emissions. It was essential, if JI was to succeed, that institutional arrangements should be devised to overcome this difficulty. Agreed and clear environmental targets would be an essential part of such arrangements. One approach outlined by Professor Jan-Olaf Willums of the World Business Council for Sustainable Development, was to move from a transaction-based to an asset-based understanding of JI. Carbon offsets would be treated as a "mineable resource" similar to mineral resources. The host government could enter into an agreement in which a foreign entity provided the technology or capital that allowed this carbon offset resource to be developed and would either sell the product to someone who wanted to buy it or keep it in the bank for later. This was an interesting line of thought but it was not altogether clear how it would work in practice.

JI is at present in the pilot phase of "Activities Implemented Jointly" (AIJ) in which no emissions credit is given to the donor government or undertaking. Nevertheless, a number of governments have thought it worthwhile to undertake programs to provide experience of AIJ and the Conference was given accounts of the programs in place in Europe, Japan and the United States. These programs provide some encouragement to firms to participate in AIJ. However, if AIJ programs are to succeed the private sector must in the words of Berndt Bull, Norwegian Deputy Minister of the Environment, "be willing to consider the pilot period as an opportunity for investments in knowledge and practical experience without achieving credits for emission reductions."

Tradeable Emission Permits

Many of the Conference speakers and participants were enthusiasts for some form of emissions trading. The alternative economic instrument of carbon taxes was seen, particularly by the U.S. speakers as politically impracticable: as Dirk Forrester put it the price of the Clinton Administration's attempt to introduce an energy tax had been a Republican Senate and a Republican House of Representatives. But interestingly the concept of emissions trading was also supported by UNCTAD who saw it as a means of securing resource transfers to developing countries which they estimated at US$40-50 million a year – roughly equivalent to the current level of official development assistance. The main note of skepticism came from Jorgen Henningsen of the European Commission who argued that trading was only interesting if expensive measures were required to reduce emissions. However, there were at present many low cost measures available to reduce emissions of CO_2. The time to consider CO_2 emissions trading would be when it became necessary to move to more demanding measures.

The starting point for work on CO_2 emissions trading is experience of the U.S. tradable permit system for SO_2 emissions. This experience was described in some detail by speakers from the U.S. Government, the electricity industry and a brokerage firm. The U.S. system was developed in special political circumstances – the high costs of command and control regulation and the unacceptability of environmental taxes – and applied in a single country. Although there are some useful lessons, it is far from an analogy for a global system for CO_2 emissions. Accounts were given of work in hand to develop such a system in UNCTAD, the OECD and the IEA and of proposals for a pilot system of CO_2 trading from Centre Financial Products Limited, a brokerage company. John Palmisano of Enron Europe argued strongly against allowance trading and in favor of emission reduction credit trading but the audience was not convinced that this distinction was critical. Much more work needs to be done before it becomes clear whether a practicable and negotiable international system for CO_2 emissions trading can be developed. What is clear from the work described at the conference is that such a system would need to be simple and confined to countries which have accepted quantified emission limits.

Conclusion

The conference had limited terms of reference. This meant that certain basic questions were not raised – the extent to which resources should be devoted to reducing CO_2 emissions at the expense of other environmental and social objectives; how far it is possible to go on the basis of low cost no regret measures; and the balance between trading and other instruments to reduce emissions. But the limited focus on a salient political issue made for a well informed and enthusiastic conference. In his opening remarks Carlos Fortin said: "Infusing new momentum and enthusiasm into the process of consensus building and action (on climate change) will not be easy...... This conference is part of a necessary process of reflection and assessment and can make a lasting contribution to charting the way forward." The conference fulfilled that expectation.

David Jones

Edith Penrose Passes Away

Long-time friend of IAEE, Edith Penrose, passed away on October 11, 1996 in Waterbeach, near Cambridge, England. She was 81.

Dr. Penrose earned her doctorate from Johns Hopkins University. She retired in 1978 as a professor at the University of London's School of Oriental and African Studies where she was also head of the school's economics department. She had also been a professor and dean at the Institute Europeén d'Administration des Affaires in Fontainebleau, France.

She began her work on the oil industry in the late 1950's when she was a visiting professor at the University of Baghdad, ultimately writing a book, *The Large International Firm in Developing Countries: The International Petroleum Industry*. This was published in 1968. By 1976 she was considered one of the world's top oil economists.

Dr. Penrose received her bachelor's degree from the University of California at Berkeley in 1936 and her doctorate in 1950. Her first book, *Economics of the International Patent System*, was published in 1951.