

The Costs of Limiting Carbon Emissions

Dr. Richels presented the findings of his study on the costs of implementing a reduction in global carbon emissions. He pointed out that this information is important to policy makers in assessing the feasibility and cost-effectiveness of various strategies. He emphasized that the study was not a cost-benefit analysis and focussed only on carbon emissions from the energy sector. Although there was disagreement over appropriate levels of reduction, the consensus was that the burden will fall disproportionately on industrialized nations. Dr. Richels said that if global income inequalities diminish, developing countries will experience much faster rates of economic expansion and growth in energy demands than their currently industrialized counterparts. It was recognized that developing nations are unlikely to accept any agreement that fails to provide for some increase in their carbon emissions. For them, the issue will be how far to limit increases in emissions, a point reiterated throughout the conference.

Dr. Richels's model assumed that the industrialized countries would agree to stabilize carbon emissions at their 1990 level through the year 2000, gradually reducing them by 20 percent by the year 2020; the developing countries would limit emissions to twice their 1990 levels. Overall, the proposed limit would lead to a 15 percent increase in global emissions between 1990 and 2030, but no further increase thereafter. By 2100 the emissions level would be 75 percent less than it would have been in the absence of an international agreement.

The following costs for reducing carbon emissions were estimated:

The United States: By 2030 a loss of roughly 3 percent of the total annual Gross Domestic Product (GDP).

Organization for Economic Cooperation and Development (OECD) Countries: Measurable macroeconomic consequences do not begin to accrue until 2010; annual losses in total consumption limited to the 1 to 2 percent GDP range.

The Soviet Union and Eastern Europe: By 2030 a loss of roughly 4 percent of macroeconomic consumption.