

toxic metals (mercury and lead) that now "infect" ecosystems from the Arctic to the Antarctic are transported on the winds of the atmosphere. Mr. Bruce described the transnational character of these atmospheric contaminants as "the democracy of the winds."

The Increase in Carbon Emissions

Richard Richels of the Electric Power Research Institute (EPRI) added that global carbon emissions have increased at an annual rate of 3.2 percent since 1950, the absolute level of emissions rising from 1.6 to 5.7 billion tons of carbon. There has also been a substantial shift in the pattern of global contributions. For example, in 1950 North America and Western Europe accounted for 68 percent of total emissions. By 1980 their share had fallen to 43 percent. In contrast, the portion attributable to China and other developing countries in Latin America, Southeast Asia, and Africa rose from 7 percent to 20 percent over the same period. In the absence of an international agreement to limit growth, carbon emissions are expected to increase considerably, perhaps by a factor of four or more over the next century. During this period, there is likely to be a significant shift in the regional patterns of emissions. By 1990 the industrialized countries accounted for 71 percent of man-made carbon emissions. By 2100 their share is expected to drop below 50 percent.

Deforestation was also recognized as a small but significant contributor to the increase in atmospheric CO₂ with a contribution of approximately 1 billion tons per year, or 20 percent of the overall total. According to Dr. McElroy, the soils and the biosphere appear to be important CO₂ reservoirs. If the soils are carbon sinks, there may be a possible linkage with acid rain. Dr. McElroy stressed the speculative nature of such a linkage, but the possibility suggests the need for integrated policies in order to deal with interlink environmental problems; for example, acid rain policy may need to consider its impact on the effects of carbon emissions.