

## Comment on “Intercontinental Transport of Air Pollution: Will Emerging Science Lead to a New Hemispheric Treaty?”

In their paper (1), Holloway et al. present data indicating that aerosols and O<sub>3</sub> are regularly transported from Asia to North America and from North America to Europe. If these data are correct, North American and European policy makers will need to pay closer attention to the long-range transport of aerosols and O<sub>3</sub> to uphold domestic air quality standards.

Elaborating on a policy response, Holloway et al. (1) propose the creation of a hemispheric pollution treaty, modeled after the Convention on Long-Range Transboundary Air Pollution (CLRTAP). Yet, the authors neglect to take into account a large body of literature pointing to significant difficulties inherent in their proposal. Even more important, they fail to answer the pivotal question of *why* European, North American, and Asian countries would want to create a hemispheric pollution treaty—and the most likely answer is that they do not.

**Difficulty of Designing Effective Institutions.** Extensive studies have shown that creating multilateral environmental institutions is resource-consuming and often plagued by political and design difficulties (2). In the case of CLRTAP, it took two decades for it to become a premier institution on scientific, technical, and political air pollution issues. Many factors that have contributed to the success of CLRTAP would also be considerably different in trying to create a hemispheric pollution treaty. For example, CLRTAP has greatly benefited from strong and continuous support from “green” European countries and extensive involvement of sophisticated and well-funded research organizations such as IIASA and EMEP (3).

In addition, an institutional design and its outcomes cannot easily be copied from one region to another region that is politically, economically, and culturally different—as proposed by Holloway et al. (1)—without very careful adaptations. It is not only a question of getting the science “right”, but it is also necessary to seriously consider region-specific issues relating to explicit local policy needs and political legitimacy (4). This can be a highly intricate task, as demonstrated, for example, in efforts to apply the Regional Air Pollution Information and Simulation (RAINS) model in Asia based on the European RAINS model (5).

**Little Need for a Hemispheric Treaty.** The challenge of designing effective multilateral environmental institutions notwithstanding, there is no clear political, economic, or scientific reason for European, North American, and Asian countries to pursue a hemispheric pollution treaty. On the basis of political and economic factors and current understanding of the movements of aerosols and O<sub>3</sub>, regional solutions seem to be more politically feasible as well as more economically efficient. Nevertheless, sustained efforts and investments by major industrialized and industrializing countries are required to address the transboundary transport of aerosols and O<sub>3</sub>.

Because most aerosols and O<sub>3</sub> that are transported to Europe seem to come from North America and not from Asia, European countries have little reason to push for a hemispheric pollution treaty. The creation and operation of such a treaty would require extensive resources, and many

of those resources would have to come from European countries. If they want to address the transport of aerosols and O<sub>3</sub> from North America to Europe, European countries are better served to use CLRTAP and other existing forums to find cooperative trans-Atlantic solutions (6).

Addressing the transport of emissions from Asia to North America is a major challenge. It is moreover reasonable to expect that such transport will accelerate with continuing industrial development, high reliance on coal, and rapid growth in motor vehicles across Asia (7). Although Holloway et al. (1) argue that leveraging emission reductions to bolster national images could be an incentive to Asian countries to agree to a hemispheric pollution treaty, it is unlikely that the largest Asian countries (and emitters) would support the creation of an agreement that principally would be directed at themselves—especially without any tangible benefits for doing so.

This raises important questions about the willingness of the United States and Canada, two countries that seem to be net importers of emissions from Asia, along with Japan, to channel more human, financial, and technical resources toward reducing Asian emissions. If, in fact, the United States, Canada, and Japan were to take the lead on abating trans-Pacific transport of aerosols and O<sub>3</sub>, there is no obvious reason to seek to include European countries. Instead, one policy option could be to create a trans-Pacific pollution treaty. Yet, a trans-Pacific agreement, which would take several years to negotiate, is not in itself a guarantee of emission reductions. Its expected utility should be carefully considered before the start of possible treaty negotiations.

Multiple collaborative efforts to reduce Asian emissions, however, can be taken with or without a treaty. To that end, several actions would be required across rapidly industrializing Asian countries, including switching to new industrial technologies and production processes, altering transportation patterns, and addressing energy sources (5, 7). On these issues, the World Bank and other international organizations could work cooperatively with North American and Asian countries and private interests on joint ventures targeting major emission sources. Simultaneously, these and other joint efforts could seek to gradually raise regional air pollution standards and build national and local human and technical capabilities to enforce such standards.

**No Apparent Link to the CO<sub>2</sub> Issue.** Holloway et al. (1) also argue that a hemispheric pollution treaty could pave the way for future CO<sub>2</sub> regulations, including commitments “by the United States, China, and other major emitters in opposition of the current Kyoto Protocol”. In fact, China ratified the Kyoto Protocol on August 30, 2002, and has accepted it along with most developing countries that have no CO<sub>2</sub> reduction obligations under the Protocol. The authors, however, offer no real evidence why a hemispheric treaty on aerosols and O<sub>3</sub> would defuse conflicts among the leading industrialized countries on international climate policy, and it remains unclear why a hemispheric pollution treaty would lead to increased CO<sub>2</sub> emission reduction commitments by either industrialized or developing countries.

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ES0351903