



## Acid Rain — What is it?

Acid rain is the popular name for the return to earth in rain, snow, fog or dust of sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) which have been released into the air.

## Where does it come from?

SO<sub>2</sub> emissions are mainly produced by coal-fired power generating stations (the major source in the United States) and non-ferrous ore smelters (the major source in Canada). The primary sources for NO<sub>x</sub> emissions are vehicles and fuel combustion. Thus acid rain is mainly produced in areas of heavy industry and/or dense population. In North America the significant producers are located in the American Midwest and the provinces of Ontario and Quebec.

## Where does it fall?

Acid rain falls downwind of major emission sources, including areas very far downwind. In North America, Ontario, Quebec and the Atlantic region in Canada, and the New England states are unwilling recipients of millions of tonnes of acid deposition annually.

*“There will be a debate and votes on clean air legislation in this Congress. It is clear we have to do something.”*

Senate Majority Leader Mitchell

*“It (legislation) will include a plan to reduce, by date certain, the emissions which cause acid rain—because the time for study alone has passed, and the time for action is now.”*

President Bush

## A Common Problem

The long-range transport of acid rain pollutants and their harmful effects on the environment are established facts.

- Acid rain is a serious environmental problem in both the United States and Canada.
- Acid rain is a serious transboundary problem.

Acid rain does not discriminate; it is destroying the U.S. environment as inexorably as it is destroying Canada's. It is a rapidly escalating ecological tragedy in both the United States and Canada. Urgent action is required to solve the acid rain problem.

Using sophisticated atmospheric computer models and field experiments, Canadian scientists have analyzed the

transborder movement of sulphur dioxide. Their calculations show a flow of 3.8 million metric tonnes (one metric tonne equals 1.1 ton) from the United States to Canada in 1980 and 3.2 million tonnes at present. Projections for 1995 suggest an increase to the range of 3.5 to 4.2 million tonnes. Comparable figures for the flow from Canada to the United States are 1.5 million tonnes in 1980 and 1.0 million tonnes at present, with a reduction to 0.8 million tonnes by 1995.

These figures mean that American emissions cause, on average, 50 percent of the acid deposition which falls on Canada. In some particularly vulnerable areas of Canada, up to 75 percent of the acid deposition originates in the United States. Canadian emissions are responsible, on average, for 15 percent of the acid rain falling on the northeastern United States. In some areas, up to 25 percent of the acid deposition originates in Canada.

All figures are in U.S. dollars unless otherwise noted.

## A Mutual Obligation

The United States and Canada are obliged by international law and precedent to reduce the transboundary flow of air pollution to an amount that does not cause damage in the territory of the other.

The Boundary Waters Treaty of 1909 established the principle that neither country should pollute boundary waters to the injury of the other, and called for an end to transboundary pollution.

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