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Acid Rain: A Common Problem, A Joint Solution*

ALLAN GOTLIEB**

Ambassador of Canada to the United States

LADIES AND GENTLEMEN,

Recently, an editorial cartoon in the *Toronto Globe and Mail* showed a parent counselling his young son and encouraging him to choose, and I quote: "A career with a future, long-term security and the promise of permanence." That career was of Canada's acid rain negotiator.

That cartoon underlines, in an ironic way, the deep frustration and concern felt by Canadians about U.S. policy towards acid rain. As the Canadian Ambassador in Washington, I have been in the front lines of the battle over acid rain for close to seven years and I must confess to sharing this frustration and concern.

It is for that reason that I am very grateful for this opportunity to talk to you about the issue, to explain our position on it and to seek your assistance in resolving it.

With the important exception of acid rain, relations between our two countries are excellent.

"To have a friend," the great American author, Emerson, advised, "Be one." For 120 years, we have been friends.

We Canadians have had the peace of mind that alliance with the United States brings. And you Americans have been able to rest assured that your northern border was secure.

* Address delivered at Thirteenth Annual Mineral Law Seminar, University of Kentucky Mineral Law Center, Radisson Plaza Hotel, Lexington, Kentucky, October 21, 1988.

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These are no small comforts, especially now, in an age of nuclear weapons, when neither of us lives in a fire-proof house. And these are no small benefits, these days, in an age of economic interdependence, when competition is our common fate.

Ours is the world's largest bilateral trading relationship. Last year, our two-way trade in goods and services totalled more than \$165 billion. Canada is the USA's best customer.

In 1987, we bought almost \$83 billion worth of U.S. goods and services, taking almost twenty-five percent of U.S. merchandise exports. That is roughly equal to all U.S. exports to the European Common Market (all twelve countries), and more than twice U.S. sales to Japan. The province of Ontario, alone, bought more goods and services from the United States than Japan did.

Our purchase of U.S. coal, to take one sector of interest to you, totalled \$677 million last year.

In trade *policy* terms, Canada and the United States have made very heartening progress in the struggle to liberalize trade in the face of strong protectionist forces in both countries.

Together we have negotiated a truly historic free trade agreement. The agreement has been passed by the U.S. Congress and signed into law by the U.S. President. It is more controversial in Canada and, thus, awaits the signal of the general election outcome there.

The agreement will not solve every problem or satisfy every interest. But it will raise living standards on both sides of the border, make industries on both sides more competitive internationally and, by establishing mutually agreed rules of the game, take a lot of the politics out of trade—politics that would otherwise create conflicts, diminish competitiveness and lower living standards.

Canada and the United States also enjoy a good defense relationship. We have fought side by side in two world wars and in Korea. Together we defend North America, through NORAD and other cooperative arrangements. Together, with our NATO allies, we help to defend Europe.

And, with the single exception of acid rain, we have had a very good record of cooperation in protecting our common environment.

It is not surprising that Canadians feel a special stewardship for the natural environment and are near unanimous in their wish to safeguard it.

In turn benevolent and malevolent, it has shaped our history, underwritten our prosperity and touched our souls. If the essence of the United States is distilled in documents—The Declaration of Independence, The Federalist Papers, The Constitution—the essence of Canada is found in the forests and plains and lakes of our vast country. The environment is the mystical bedrock of our nationhood.

When we urge action on the Administration and Congress in Washington on acid rain, we do so with the support of every party represented in the Canadian Parliament, every provincial government, every newspaper, every industry and every shade of Canadian public opinion.

This is not to say that Canadian unity on acid rain is somehow a genetic phenomenon. We are, perhaps, an even less homogeneous people than you Americans are, if that's possible.

Consensus on acid rain was not built in Canada overnight. Nor was it achieved without extensive debate. Canadians don't like just to throw money at problems any more than Americans do.

But we eventually reached agreement that we had to act and, once we did so, the program came together quickly.

Our program goes beyond air pollution control. We believe we have essentially achieved clean air by setting emission standards that provide relief to our population centres.

According to a report prepared for the EPA by the respected American firm, ICF, Incorporated, between 1970 and 1984 Canada reduced SO₂ emissions by forty-one percent.

While we were happy that we were making very respectable progress in reducing SO₂ emissions, we realized that existing programs would not solve the acid rain problem.

We calculated, scientifically, that the Canadian environment could tolerate wet deposition of acid of about 18 lbs. per acre per year.

To reach that level, we had to reduce sulphur dioxide emissions in eastern Canada by 50 percent from allowable 1980 levels. We set ourselves, in law, the target date of 1994.

Reaching this target, also, requires a 50 percent cut in the acid rain crossing the border from the United States. This is because roughly half of the acid rain falling in eastern Canada originates in the American Midwest.

The Canadian Acid Rain Program is on track; 1987 SO₂ levels were down 35 percent from 1980 levels.

While the United States, too, has made progress in reducing SO₂ emissions, under the 1970 Clean Air Act, there is no comparable acid rain program in the United States. And, fueling our concern further, are estimates that total U.S. SO₂ emissions may be bottoming out and that the flow of U.S. acid rain across the border may begin even to negate the gains made in our own program.

What is surprising to Canadians in this situation is the vigour with which the Canadian Acid Rain Program has been attacked in some quarters here. It is all the more surprising since the eastern United States will benefit significantly from the Canadian program which will reduce transborder flows of acid rain from eastern Canada to the United States by more than fifty percent. In fact, the benefits have already begun.

Perhaps it would be helpful if I were to respond to some of the more frequently heard questions and criticisms about our policy and acid rain program.

The most basic question is why, in practical terms, we Canadians are so worked up about acid rain. I am sure you will find the answer compelling.

- over one million square miles of eastern Canada are vulnerable to damage from acid rain;
- the cost of the damage now occurring is very conservatively estimated to be about one billion dollars annually;
- the geology of eastern Canada is such that 300,000 lakes are vulnerable to acid rain damage (the comparable U.S. figure is only 11,000 lakes). Of the 300,000 lakes, 150,000 are actually being damaged (the comparable U.S. figure is 3,800); 14,000 of the Canadian lakes are already acidified; (the comparable U.S. figure is only about 1,100).
- half of the eastern Canadian forest is receiving more acid deposition than we believe is healthy and that forest contributes \$14 billion per year to our economy

- eighty percent of Canadians live in areas where acid rain deposition is high and there is growing concern about the health effects of acid rain and related pollution;
- buildings, including historic buildings and monuments, are being damaged.

Nor, of course, is it only our problem. As Prime Minister Mulroney told the U.S. Congress in April, "The one thing that acid rain does not do is discriminate. It is despoiling your environment as inevitably as it is ours."

By the way, I commend to you the excellent examination of the issue that appeared in the *Louisville Courier Journal* in September.

The second question we often hear is, "Why do you insist the United States install scrubber technology when Canada has not installed scrubbers itself?"

That question has two parts. Let me take the second part first.

In Canada, SO₂ emissions are produced predominantly not by our power generating industry, as is the case here, but by our ore-smelting industry. For smelters, acid gas technology, not scrubbers, is the most effective technology. The accusation that Canada has no scrubbers, therefore, is not just a red herring, it is a crimson whale.

At INCO in Sudbury, Ontario, Canada's largest single polluter, the current containment rate for SO₂ emissions is seventy percent. By 1994, the containment rate will be over ninety percent, and this for a plant built in the twenties.

INCO has agreed to reduce its total annual emissions to 265 thousand tonnes by 1994, from 1,150,000 tonnes in 1980.

Similarly, Noranda in Quebec, has agreed to achieve, by 1995, a containment rate of seventy percent of its SO₂ emissions. The SO₂ tonnage figures are 552 thousand tonnes for 1980 and 165 thousand tonnes for 1995.

Coal-fired electricity generation stations do, of course, exist in Canada. But they are a relatively small part of the problem. In Ontario, in 1987, twenty-six percent of electricity was produced from hydro power, forty-seven percent from nuclear energy, and twenty-four percent from coal.

But though Ontario hydro's contribution to the acid rain problem is small, it is part of the problem and hydro is required

by law to reduce SO₂ emissions from 454 thousand tonnes in 1980 to 175 thousand tonnes in 1994, a cut of sixty percent.

It is free to use low sulphur coal to try to meet that target. And to use new technologies. But, if the target cannot be met otherwise, Ontario recognizes that recourse will have to be had to scrubbers.

The first part of that question was, why does Canada insist that the U.S. install costly scrubber technology? The answer is, we don't. It is none of our business whether you use scrubbers or new clean coal technology or switch fuels or all three.

It is none of our business whether you achieve reductions through regulation or deregulation or through incentives or disincentives or however.

But, as I said, about half of the acid rain falling in Canada originates in the United States. It is legitimately our business that it be reduced.

A third charge we hear sometimes is that our interest in acid rain is really a mercenary one, that it is, in fact, a plot to sell more electricity to the United States.

While it probably intrigues people with a penchant for conspiracy theories, all I can say is that it is just not true.

In the first place, Canadian electricity exports amount to less than two percent of U.S. consumption.

Second, three-quarters of Canadian power imported into the United States has replaced off-shore oil. Canadian electricity is both cheaper and more reliable than off-shore oil.

Third, electricity from Canada is only one of the many options the United States has to meet the demand for electricity—cogeneration, coal, nuclear, conservation, renewables and gas come readily to mind.

And fourth, negotiations between Canadian sellers and U.S. buyers necessarily take into account the alternative domestic suppliers of power available to the buyer. Americans do not have to buy electricity from Canada.

A further question we hear has to do with the science of acid rain. In light of the finding of the National Acid Precipitation Assessment Program (NAPAP), aren't Canadian fears about the seriousness and urgency of the problem exaggerated?

Regrettably, the reverse is true. The scientific reasons for acting are becoming more and more compelling. And the NAPAP

report was incomplete and its interim conclusions badly flawed.

To illustrate, the summary concluded that acidification has done little significant damage to lakes. It did so, however, by setting up pH 5.0 as the threshold below which it accepted that damage occurred (pH numbers go down as acidity goes up). The problem is that biological damage in many lakes begins when pH values drop below pH 6.0, a level *ten times less acidic than pH 5.0*.

Indeed, in response to this criticism, NAPAP officials have acknowledged that if pH 6.0 were used as the threshold for damage, then the number of lakes affected would be two to five times higher.

It is not, therefore, surprising that only limited damage was found. (The parallel would be to define all persons not on respirators as being in good health and then to conclude that the population at large was healthier than expected.)

The NAPAP summary also postulated that the situation was not worsening; Canadian experience and that of Europe as well contradicts that finding.

There is a general consensus among scientists—in Canada, in Western Europe, and in the USA—that man-made acid gas emissions are doing damage to aquatic and terrestrial systems, to materials, and perhaps to human health.

Even though the science in the three-volume NAPAP report is basically sound, it is also incomplete, in the view of Canadian scientists. Despite our provision of substantial peer-reviewed information, the report ignored Canada's data on the impact of acid rain in Canada.

We remain convinced:

- that the effects of acid rain are widespread and serious;
- that the problem is worse than it was expected ten years ago that it would be and that it is worsening;
- and that we know more than enough about the nature, causes, and effects, of the problem to put into place effective control programs.

Another question we often hear is, wouldn't an acid rain control program just cost too much to implement?

Certainly a control program costs money; Canada's program cost about \$500 million a year.

But the costs should not be exaggerated. IDF, Inc. has had a careful look at the likely costs of various emission reduction alternatives in the United States. It examined two particular scenarios—an 8 million ton reduction of SO₂ below 1980 levels and a 12 million ton reduction, both to be achieved by 1995.

The analysis concluded that “total annualized costs are forecast to increase by \$2.6 and \$5.6 billion in the 8 and 12 million ton reduction cases respectively.” (ICF Report, October, 1985 p. 1-13).

These kinds of reduction would cost the average American less than the equivalent of a loaf of bread a month.

That does not strike us as being a major burden on the world's largest national economy.

And none of these costs take into account the positive gains from economic activity generated in related industry, for example, the pollution control technology industry.

The study also found that *cuts* in the production of American high sulphur coal needed to achieve the pollutant reductions could be almost entirely offset by *increases* in the production of American low sulphur coal.

And, by some estimates, there is enough low sulphur coal available in the major *Eastern* U.S. coal basin to meet electric utility for the next fifty years.

But at least, and at last, the issue has now been reduced to its core—economics.

Senator Alan Simpson of Wyoming put it best on the floor of the Senate, recently, when he said the issue is “really about economic struggles and not about clean air.”

The stripping away of the underbrush of scientific controversy is very helpful. It does boil the problem down to one of public policy priorities, both economic and political. But the issue remains a Gordian knot. It pits region against region and splits parties.

The difficulties inherent in solving the issue, however, do not diminish the U.S. responsibility to act.

I do not use the word “responsibility” lightly. There is no doubt that the United States does have a responsibility to Canada with regard to acid rain. International Law on the point is clear.

The 1941 Canada—U.S. Trail Smelter Arbitration held Canada liable for emissions flowing south over the border. The Tribunal held:

“No state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another.”

The rule was expanded and codified in principle 21 of the Declaration on the Human Environment of the 1972 United Nations Stockholm Conference which committed states “to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.”

By the way, in the Trail Smelter case, we brought the smelter emissions under control and even paid compensation to the victims.

In short, Canada is an unwilling site for the disposal of millions of tons of SO₂ from the United States. From an economic standpoint, such freeloading—or should we say, free unloading—encourages waste and inefficiency.

Where do matters stand? What are the next steps?

For the first time in my nearly seven years in Washington, I am permitting myself a measure of optimism.

The issue, at last, is clearly defined.

The industries concerned and the unions concerned—or at least most of them—acknowledge that action is required.

Both candidates for the Presidency are firmly on record as favouring substantial acid rain reduction programs with targets and dates.

In Congress there is a developing consensus that action is inevitable.

Senate Majority Leader Byrd has indicated that he is prepared to support an acid rain control program that would achieve substantial reduction in emissions, while providing adequate protection to coal producing states, such as West Virginia and Kentucky.

Recently, Senator Byrd told the Huntington, West Virginia *Herald-Dispatch*, “The time has come to seek a compromise on acid rain.”

This session of Congress did not find that compromise. Chances are that the next session will. Not incidentally, American public opinion seems increasingly insistent that environmental issues, including acid rain, be moved up the public policy agenda again.

Please understand that we are not seeking utopia. Do not mistake us for those who are.

We are not asking that you simply close the coal mines of Kentucky and West Virginia or the power plants of the Ohio Valley. In fact, we welcome the U.S. Government's Clean Coal Technology Development Program as a constructive step forward.

We are asking that you join us in solving this common problem.

From the Boundary Waters Treaty of 1909 to the latest version of the Great Lakes Water Quality Agreement, Canada and the United States have a long and honourable history of cooperation. Cooperation between Canada and the United States on our shared environment has, in virtually every respect other than acid rain, been a model for the rest of the world to emulate.

Join us in removing the one remaining blemish on that remarkable record.

Relations between our two countries are good. As Emerson might have put it, good relations are the result of sensitivity on both sides to the others' interests and of efforts to make the relationship work.

For 170 years, we have worked at being friends. And we have mostly succeeded.

We are co-tenants of this great North American continent. It is in your national interest, as well as ours, that we work together to meet the challenges posed to both countries by the growing menace of acid rain.

LADIES AND GENTLEMEN, THANK YOU VERY MUCH.