The Canada-Wide Acid Rain Strategy for Post-2000

Strategy and Supporting Document

Federal/Provincial/Territorial
Ministers of Energy and Environment

Halifax, Nova Scotia
October 19, 1998

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The Canada-Wide Acid Rain Strategy for Post-2000

Federal/Provincial/Territorial
Ministers of Energy and Environment

Halifax, Nova Scotia
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The Canada-Wide Acid Rain Strategy for Post-2000 fulfills the commitment by Ministers in their 1994 Statement of Intent on Long-Term Acid Rain Management in Canada. *The Strategy* is based on information provided by a multi-stakeholder task group in its report *Towards a National Acid Rain Strategy* and subsequent inter-governmental consultations.[1]

The Strategy builds on the success of the 1985 Eastern Canada Acid Rain Program, which has achieved a 50% reduction in sulphur dioxide (SO_2) emissions in eastern Canada since 1980. In 1997, emissions in Ontario, Quebec, New Brunswick and Nova Scotia were below their provincial caps. Furthermore, Quebec and New Brunswick have programs planned, or in place, that will reduce SO_2 emissions from their current caps in the order of 40%. As a result, Canada is presently more than meeting all its international commitments on SO_2 emissions: emissions in the southeast Canada Sulphur Oxide Management Area (SOMA) are currently 30% below its cap; and national emissions are approximately 18% below the national cap. The United States is expected to meet its SO_2 commitment: a 40% emission reduction nationally from 1980 levels no later than 2010.

The Strategy is based on scientific evidence that reveals that acid rain will, despite the progress made, continue to damage sensitive ecosystems even after full implementation of current Canadian and U.S. control programs. Significant further SO_2 emission reductions from southeastern Canada and the northeast and mid-west United States are needed to achieve critical loads for wet sulphate, the threshold above which sulphate loads harm the environment. Further major U.S. reductions are essential since Canada cannot protect its ecosystems with Canadian reductions alone. Even if Canadian emissions were eliminated, sulphate critical loads would still be exceeded in large areas of eastern Canada unless there are further substantial U.S. reductions. Emission reductions in both countries will also provide human health benefits by reducing levels of fine particulate matter in the air. There is also a need to address the role of nitrogen in acidification.

In recognition of the above, federal, provincial, and territorial Ministers of Energy and Environment agree to the following:

(1) A primary long-term goal of *The Strategy* is to meet the environmental threshold of critical loads for acid deposition across Canada.

(2) As steps towards the achievement of this goal:

(a) The federal government, with support from the provinces and territories, will aggressively pursue further SO_2 emission reduction commitments in key areas of the United States and the incorporation of these commitments into the Canada-United States Plan of Action for Addressing Transboundary Air Pollution and/or the Canada-United States Air Quality Agreement, and will report on progress to Energy and Environment Ministers in 1999.

(b) Targets and schedules for further SO_2 emission reductions in Ontario, Quebec, New Brunswick and Nova Scotia will be established by each jurisdiction in consultation with stakeholders. Concurrently, the four above provinces will also work cooperatively to develop targets and time-lines for the designated area (SOMA). These, when combined with comparable further U.S. emission reductions, will move towards achieving critical loads for wet sulphate deposition in eastern Canada. They will report on progress to Energy and Environment Ministers in 1999.

(3) In areas where acid deposition is below critical loads, governments will take steps to minimize growth in emissions of SO_2 and nitrogen oxides (NO_x), and will seek opportunities for improvements where possible.

(4) Consistent with the CCME National Commitment on Pollution Prevention, jurisdictions will ensure, to the extent possible, that new sources of SO_2 and NO_x emissions in all parts of Canada, including government facilities, use processes, practices, materials, products and energy that avoid or minimize creation of these pollutants and, where appropriate, apply similar provisions to existing sources.

(5) The federal government will annually review compliance with international commitments on SO_2 and NO_x emissions.

(6) The federal government will maintain an active role in acid rain science and monitoring in cooperation with provincial and territorial governments, and federal/provincial/territorial governments will cooperate (while respecting the resources and capabilities of different governments) in assessing the role of nitrogen in acidification.

(7) With the goal of ensuring the capability to assess both the degree of environmental improvement achieved and the adequacy of the control programs, federal/provincial/territorial governments (each determining its own level of involvement) will review the adequacy of acid rain science and monitoring programs and report, with recommendations, to Energy and Environment Ministers in 1999.

(8) Starting in 1999, federal/ provincial/ territorial governments will report annually on SO_2 and NO_x emissions and forecasts and progress in implementing *The Strategy* to Energy and Environment Ministers.

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1 Elaboration on the features of *The Strategy* and terms used is contained in the document entitled *Supporting Document for The Canada-Wide Acid Rain Strategy for Post-2000.*

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Joint Meeting of Energy and Environment Ministers
Halifax, Nova Scotia
October 19, 1998

Supporting Document for The Canada-Wide Acid Rain Strategy for Post-2000

Federal/Provincial/Territorial
Ministers of Energy and Environment

Halifax, Nova Scotia
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Introduction

Canada has made good progress to reduce emissions of sulphur dioxide (SO_2) — the main culprit in acid rain — over the last 15 years. In eastern Canada, SO_2 emissions have been cut in half from 1980 levels. Despite this achievement, however, acid rain remains a problem. In fact, even with full implementation in 2010 of the Canadian and U.S. Acid Rain Programs, about 800,000 square kilometres of eastern Canada will continue to receive harmful levels of acid rain.

Hence, in 1994 federal and provincial/territorial Ministers of Energy and Environment called for a new long-term acid rain strategy for Canada.

The Canada-Wide Acid Rain Strategy for Post-2000 fulfils that 1994 commitment. *The Strategy* is based on the report *Towards A National Acid Rain Strategy* (hereafter referred to as the Task Group report), as well as comments from a broad range of stakeholders and subsequent consultations among governments.

The Canada-Wide Acid Rain Strategy for Post-2000 puts in place a framework for:

- addressing the remaining acid rain problem in eastern Canada;
- ensuring that new acid rain problems do not occur elsewhere in Canada; and
- ensuring that Canada meets its international commitments on acid rain.

Background

Eastern Canada Acid Rain Program

Introduced in 1985, the Eastern Canada Acid Rain Program put a cap on the sulphur dioxide (SO_2) emissions that cause acid rain at 2.3 million tonnes a year, starting in 1994. The cap applies to the seven easternmost provinces (Manitoba eastward). Seven original federal-provincial agreements capped SO_2 for 1994 and subsequent agreements were signed with some provinces. A list of the provincial SO_2 emission caps is shown in Table 1. This "phase I" program was designed to protect "moderately" sensitive ecosystems and was a first step towards solving the acid rain problem.

The 1985 First Sulphur Protocol

Under the auspices of the United Nations Economic Commission for Europe (UN-ECE), Canada signed the First Sulphur Protocol in 1985 which committed Canada to a national cap on SO_2 emissions of 3.2 million tonnes for 1993 and beyond.

Table 1 Existing Provincial SO_2 Emission Caps

Province	SO_2 Emission Cap (kilotonnes)	Emission Cap Status
Manitoba	550	cap for 1994
Ontario	885	cap for 1994 and beyond
Quebec	500	cap for 1994-2000
New Brunswick	175	cap for 1994-2000
Nova Scotia	189	cap for 1994-2000
Newfoundland	45	cap for 1994
Prince Edward Island	5	cap for 1994

1991 Canada-United States Air Quality Agreement

In 1991, Canada and the United States finally signed the Air Quality Agreement to manage transboundary air pollution, starting with acid rain since U.S. emissions are responsible for more than half the acid deposition in eastern Canada. For Canada, the Agreement enshrined the 2.3 million tonne cap for eastern Canada for the period 1994-1999, and reiterated the 3.2 million tonne cap on national SO_2 emissions established in the First Sulphur Protocol, for the year 2000 and beyond. For the U.S., it enshrined its commitments under the *Clean Air Act Amendments* to reduce SO_2 emissions nationally by 40% from 1980 levels by 2010.

1994 Second Sulphur Protocol

In 1993, Energy and Environment Ministers gave the green light to Canada to sign the UN-ECE "Second Sulphur Protocol." Canada signed the Protocol in 1994, and ratified it in 1997. The Protocol specifically designates a Southeast Canada "Sulphur Oxide Management Area" or SOMA in southeastern Canada (as shown in Figure 1) to manage only those SO_2 emissions that may contribute to acidification in the United States and that also contribute to acidification in Canada. The Protocol then put a cap on SOMA emissions at 1.75 million tonnes a year starting in 2000.

A summary of Canada's international commitments with respect to SO_2 emissions is shown in Table 2.

Figure 1 **The Southeast Canada SOMA**

Table 2 **Canada's Current International Obligations with Respect to SO_2 Emissions**

International Agreement	Canadian Commitment
1985 First UN-ECE Sulphur Protocol	Cap national SO_2 emissions at 3.2 million tonnes for 1993 and beyond
1991 Canada/U.S. Air Quality Agreement	Cap eastern Canadian emissions of SO_2 at 2.3 million tonnes for 1994-1999
	Cap national SO_2 emissions at 3.2 million tonnes for 2000 and beyond
1994 Second UN-ECE Sulphur Protocol	Cap southeast Canada SOMA SO_2 emissions at 1.75 million tonnes for 2000 and beyond
	Cap national SO_2 emissions at 3.2 million tonnes for 1993 and beyond

1994 Statement of Intent

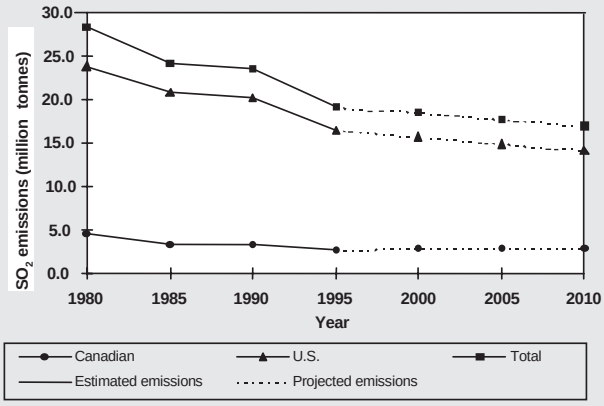
In 1993, in giving their support for signing the Protocol, Energy and Environment Ministers agreed to develop a long-term acid rain management strategy for Canada to address the on-going acid rain problem and related health effects, and to ensure Canada could meet its international obligations. The 1994 Statement of Intent (see Appendix A) reaffirmed Ministers' desire to put a long-term acid rain management strategy in place and gave guidance on the expected scope and intent of the strategy.

Substantial progress to date

Canada has not only met all its current domestic and international commitments on acid rain, it has exceeded them. In 1997, SO_2 emissions were 24% below the eastern Canada cap, representing a 54% reduction from 1980 levels. Also, SO_2 emissions were nearly 30% below the Southeast Canada SOMA cap for the year 2000, and are estimated to be 18% below the 3.2 million tonne national cap. As a result, some lakes have started to show signs of biological recovery.

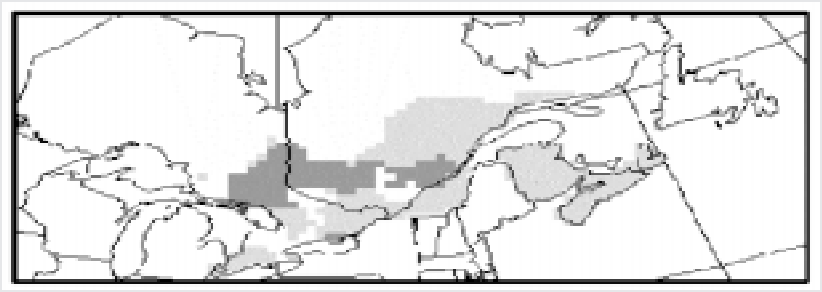
The U.S. is expected to meet its legislated emission reduction requirements. As of 1996, it had cut its SO_2 emissions nationally by 26% from 1980 levels. By 2010, when its Acid Rain Program is fully implemented, emissions are expected to be down by a total of 40%

Figure 2 **SO_2 emissions in Canada and the U.S.**



nationally, with somewhat greater reductions in key mid-west states.

Figure 3 **Map of the area where critical loads will still be exceeded in 2010**



Remaining problem

Despite this good progress, and even with full implementation in 2010 of the U.S. program, sensitive ecosystems in almost 800,000 square kilometres in southeastern Canada — an area the size of France and the United Kingdom combined — will receive harmful levels of acid rain, i.e., above the environmental threshold or "critical load." As a result an estimated 95,000 lakes in southeastern Canada will remain acidified.

In addition to sulphate, nitrogen deposition can also cause acidification. Nitrogen is a nutrient, but too much nitrogen can eventually saturate the soil, making the run-off acidic. One of the sources of nitrogen is emissions of nitrogen oxides (NO_x) — the same emissions that contribute to smog. There are disturbing signs that nitrogen deposition may, in time, undermine some of the benefits of controlling SO_2 emissions. While scientists are still developing critical loads for nitrogen and further actions may be required, *The Strategy* uses sulphate critical loads as a yard-stick for assessing excess acid deposition.

Forests are also harmed by acid rain: there is evidence of increased defoliation, tree mortality, and nutrient losses in forest soils. Preliminary modelling shows that annual forest growth in eastern Canada is estimated to decrease by 10% when critical loads are exceeded. The forestry sector in eastern Canada produces over $26 billion a year. Hence, reductions in both sulphate and nitrate would be beneficial.

Lastly, but very importantly, SO_2 emissions also transform in the air into tiny sulphate particles that penetrate deep into the human lung. Recent evidence shows that sulphate particles are associated with increased premature mortality, emergency room visits, asthma symptom days, bronchitis, and other respiratory diseases. Any SO_2 emission reductions achieved to combat acid rain will also result in lower levels of these particulates.

The "critical load" is a measure of how much pollution an ecosystem can tolerate, in other words, the threshold above which pollutant load harms the environment.

Acid rain is a result of deposition of sulphate and nitrogen. Because the nitrogen cycle is very complex, nitrogen critical loads have not been established for all parts of Canada, but work is under way to establish critical loads for nitrogen and sulphur combined. However, critical loads for sulphate deposition are well known for eastern Canada and were mapped in the *1990 Canadian Long-Range Transport of Air Pollutants and Acid Deposition Report.* These critical loads were calculated for wet sulphate deposition to aquatic ecosystems, as aquatic ecosystems were thought to be the most sensitive ecosystem to acid deposition. As a result, critical loads for sulphate deposition are defined as the amount of sulphate that can be deposited on the area and still maintain 95% of the lakes in the region at or above a pH of 6. Critical loads for wet sulphate deposition in eastern Canada range from 8 to over 20 kilograms of wet sulphate per hectare per year.

Key Features of the Strategy

1. Meeting critical loads

The primary goal of *The Canada-Wide Acid Rain Strategy for Post-2000* is to ensure that critical loads for acid deposition are achieved across Canada thereby ensuring the health of our forests and aquatic ecosystems. Current scientific information indicates that critical loads for wet sulphate deposition are being exceeded only in eastern Canada.

In eastern Canada, as a first step toward that goal, SO_2 emissions need to be reduced to a point where the resulting sulphate deposition does not exceed sulphate critical loads, taking into account U.S. emission reductions as well. The U.S. is responsible for more than half the acid deposition in eastern Canada. In addition, NO_x emissions may also have to be reduced in the future once scientists establish critical loads for nitrogen. (Acid deposition is a function of both sulphate and nitrogen deposition.)

2. Emission reductions in the southeast Canada SOMA

The document *Towards A National Acid Rain Strategy* describes the results of atmospheric modelling of emission reduction scenarios varying from 25 to 75 % above and beyond existing control programs for eastern Canada and the United States. Environmental benefits and costs of each scenario are also described.

The results clearly showed the importance of U.S. emissions to the remaining acid rain problem in eastern Canada. In addition, the results showed the geographical area where emissions need to be reduced in order to meet critical loads in eastern Canada is the southeast Canada SOMA, with the exception of Prince Edward Island. P.E.I. does not contribute significantly to the acid rain problem. As well, emission reductions in the U.S. (the mid-western and northeastern states) are essential for meeting critical loads in Canada.

The key finding of the modelling exercises is that very large emission reductions will ultimately be needed on both sides of the Canada-U.S. border to achieve critical loads. Specifically, initial modelling estimates suggest that SO_2 emissions in Ontario and Quebec would need to be reduced by 75% from their existing caps and New Brunswick and Nova Scotia by 30 to 50% from their existing caps. And the United States will need to reduce its SO_2 emissions (in the midwest and eastward) by 75% above and beyond current requirements in the *Clean Air Act Amendments.*

(i) Estimated environmental and health benefits of further emission reductions

The main reason for developing *The Canada-Wide Acid Rain Strategy for Post-2000* was to deal with acid rain, and the primary environmental benefit associated with each emission reduction scenario is a decrease in the area receiving acid deposition levels above critical loads for aquatic ecosystems and an associated decrease in the number of lakes that will remain acidified. However, reducing SO_2 emissions is also good for human health, because it lowers the ambient levels of fine sulphate particles.

The Task Group report describes modelling results which indicate that:

- If SO_2 emissions are cut by 25% in eastern Canada and the U.S., the area in eastern Canada receiving harmful levels of acid rain decreases by 34%, but aquatic ecosystems within 526,000 km^2 across Ontario, Quebec, Nova Scotia and New Brunswick would continue to be damaged by acid rain. Additional annual health benefits were estimated at: 200 premature deaths avoided, 560 emergency room visits avoided and 77,300 asthma symptom days avoided.

- If SO_2 emissions in eastern Canada and the U.S. are instead cut by 50%, then all of Atlantic Canada would achieve critical loads, but aquatic ecosystems in an area of 222,000 km^2 in Ontario and Quebec would still be damaged by acid rain. Additional annual health benefits were estimated at 550 premature deaths avoided, 1530 emergency room visits avoided, and 210,070 asthma symptom days avoided. The importance of U.S. emissions to the problem was clearly indicated when a 50% emission reduction for Canada only resulted in environmental benefits approximately 65% lower.

- If SO_2 emissions are cut by a full 75% in eastern Canada and the U.S., virtually all aquatic ecosystems in eastern Canada would be protected from acid rain and additional annual health benefits are estimated at 830 premature deaths avoided, 2,300 emergency room visits avoided and 316,900 asthma symptom days avoided.

It should be noted, however, that the health benefits and valuation exercises were quite controversial.

(ii) Estimated costs

There are substantial costs associated with reducing emissions. Table 3 shows the range of possible annual control costs to Canadian industry and utilities of reducing SO_2 emissions. The costs are annualized (total capital plus operating costs amortized over the life of the asset) in millions of dollars and do not reflect broader societal costs. The costs could well decrease as natural gas becomes available, and as the price of pollution prevention and control technologies falls.

In total, the 25%-emission-reduction-scenario has been estimated to cost roughly $80 million per year, the 50%-emission-reduction-scenario is expected to cost roughly $600 million per year; and the 75%-emission-reduction-scenario is expected to cost in the order of $2 billion per year.

Table 3 **Estimated Annualized Control Costs (millions of dollars)**

Province	25% Reduction Scenario	50% Reduction Scenario	75% Reduction Scenario
Ontario	$41-44	$378-450	$970-1300
Quebec	$14-17	$78-128	$562-750
New Brunswick	$0	$1	$10-17
Nova Scotia	$16-20	$57-61	$130-193
TOTAL	**$71-81**	**$514-641**	**$1672-2260**

(iii) The Commitment to Achieve Critical Loads

Since the long-term goal of *The Canada-Wide Acid Rain Strategy for Post-2000* is to achieve critical loads and since significant further SO_2 emission reductions in the SOMA region and the U.S. are required to meet wet sulphate critical loads, *The Strategy* recommends the four SOMA provinces report to Ministers in 1998 on progress towards developing SO_2 emission reduction targets required to achieve critical loads for wet sulphate deposition.

It should be noted that in 1997 the provinces were already well below their current SO_2 caps:

- Ontario was 27% below;
- Quebec was 33% below and planning to go to 40% below;
- New Brunswick was 28% below; and
- Nova Scotia was 8% below.

Because many of the sources that emit SO_2 also emit NO_x (which contributes to smog formation as well as acidification), carbon dioxide (which contributes to climate change), and fine particulate matter, these four provinces will consider integrating their acid rain management programs with their other air management programs.

3. Emission reductions in the U.S.

It cannot be stressed enough that large U.S. emission reductions are essential to meet critical loads in eastern Canada. Specifically, the U.S. needs to reduce its SO_2 emissions (in the midwest and eastward) by 75% beyond current requirements in the 1990 *Clean Air Act Amendments* to solve Canada's acid rain problem.

Fortunately, the U.S. is already investigating another 50% SO_2 emission reduction under the current U.S. initiative to meet the proposed new National Ambient Air Quality Standard for fine particulate matter. Canada will continue to strongly support the U.S. Environmental Protection Agency in these efforts.

Canada, working with the provinces and other stakeholders, will also use other avenues to seek a minimum 50% SO_2 emission reduction in the U.S., for example:

- the 1999 review of the *Clean Air Act Amendments*;
- the annual meetings of the Canada-U.S. Air Quality Committee;
- the 2001 assessment of the Air Quality Agreement;
- the development of the Joint Plan of Action on Transboundary Air Pollution; and
- other legislative venues.

4. Keeping clean areas clean

In order to ensure that all parts of Canada meet critical loads into the future, "clean" areas — areas that at present do not exceed critical loads — need to remain clean. Therefore, for all of Canada, excluding the SOMA, emissions of SO_2 and NO_x need to be managed to ensure deposition levels do not approach the critical load. It is important that provinces/territories take, as required, the necessary steps to keep their clean areas clean.

5. Pollution prevention

As per the CCME National Commitment on Pollution Prevention, pollution prevention is the preferred strategy for protecting the environment. Governments need to take steps to ensure pollution prevention, defined as the use of processes, practices, materials and energy that avoid or minimize the creation of pollutants, is applied to new sources. Recognizing the difficulties in applying pollution prevention to existing sources, governments are also encouraged to apply pollution prevention to existing sources whenever feasible. This element of *The Strategy* would also apply coast-to-coast.

6. Reviewing compliance with international commitments

Although current emissions and emission forecasts indicate that Canada will meet all of its existing international commitments with respect to SO_2 emissions into the foreseeable future, an annual review will prevent non-compliance by providing governments with sufficient warning of the possible need for corrective actions.

7. The role of nitrogen

There are disturbing signs that nitrogen deposition may, in time, undermine some of the benefits from controlling SO_2 emissions. The role of nitrogen is complex and further research is required to fully understand the role of nitrogen in acidification.

Canadian programs to control NO_x emissions are currently aimed at reducing levels of ground-level ozone. Governments will cooperate in assessing the impact of these emission reductions on acidification. This also highlights the need for governments to manage air issues in an integrated manner.

8. Continuing science

It is important to have a science program that ensures Canada remains in a good position to monitor the health of its environment and the effectiveness of Canadian and U.S. emission control programs. Therefore, it is important that the federal and provincial governments cooperate in taking stock of the adequacy of existing science programs related to acid rain research and monitoring.

Stakeholders also delivered a very strong message along these same lines: the precarious acid rain science program must continue to be able to monitor environmental impacts, recognizing that governments are under considerable budgetary constraints.

Environment Canada, in cooperation with provincial/territorial governments, will review the adequacy of existing science programs, and will report back to Energy and Environment Ministers, with recommendations, in the fall of 1999.

9. Reporting and communications

To keep decision-makers and the public informed, regular reporting is required. Specifically, the annual reports will address current and projected SO_2 and NO_x emission levels in Canada and the U.S., and progress in implementing the commitments in *The Strategy*. Environment Canada, in cooperation with provincial/territorial governments, will submit the first annual report to Energy and Environment Ministers in the fall of 1999.

Stakeholder Positions

The members of the multi-stakeholder task group who developed the supporting documentation for this Strategy came to consensus on a number of policy recommendations. The elements of *The Strategy* regarding pollution prevention, keeping clean areas clean, reviewing of monitoring and science programs and annual reporting on emissions of NO_x and SO_2 are consistent with the Task Group recommendations.

The Task Group was also able to reach consensus regarding the following recommendations for further emission reductions:

1. The long-term goal of the Acid Rain Program for post-2000 is to meet critical loads for acid deposition across eastern Canada, and achievement of sulphate critical loads is a first step in achieving that goal.

2. The federal government, in cooperation with the provinces and stakeholders, should seek further emission reductions in the U.S.

3. Targets and schedules for further emission reductions towards meeting this long-term goal need to be established taking into account integration with other air issues and the need for equity among provinces.

However, the Task Group was unable to come to consensus on setting the targets and schedules for further SO_2 emission reductions to achieve critical loads. The three non-government organizations (NGOs) and the three industry representatives (from the mining, electrical utilities, and petroleum sectors) on the Task Group have submitted their respective positions on this matter, which are described more fully in the Task Group report.

Non-government organizations' position
Environmental and health NGOs would like Ministers to agree this year to a schedule to reach critical loads in eastern Canada, without delay. Their position is that provinces start by freezing emissions in the SOMA at their current levels — which are almost 30% below the SOMA cap — then further reduce SO_2 emissions in increments of 25% until the full 75% reduction is realized by 2015.

The NGOs also want a 25% reduction in SO_2 emissions in western Canada by 2003, and a strategy to be developed by 1998 to reduce nitrogen deposition to critical loads.

Industry's position
Industry does not want Canada to act unilaterally to reduce SO_2 emissions. Rather, industry's position is that Canada pursue joint actions with the U.S. to set a bilateral goal of achieving critical loads on both sides of the border, and then to reduce emissions from both countries to meet that goal.

In the near term, however, industry suggests that the provinces work with industry and other stakeholders to advance and implement potential emission reduction initiatives that are technically and economically feasible.

Conclusion

Further SO_2 emission reductions are needed in the southeastern part of Canada and in the mid-western and northeastern United States to solve Canada's acid rain problem. *The Canada-Wide Acid Rain Strategy for Post-2000* provides the framework for achieving further emission reductions towards the long-term objective of reducing acid deposition to below critical loads in all parts of Canada while protecting those areas not presently threatened by acid rain.

APPENDIX A

Statement of Intent

Federal/Provincial/Territorial Ministers of Energy and Environment

Long-Term Acid Rain Management in Canada

The Ministers of Energy and Environment of Canada, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, Yukon and Northwest Territories hereby agree to manage acid rain causing emission in the following manner:

1. They agree to formulate and cooperate in measures which will contribute to mitigation of the negative impacts from sulphur dioxide (SO_2) emissions, including but not limited to the acidification of aquatic and terrestrial ecosystems, impacts on human health, and visibility impairment. In formulating these measures, the acidification effects of other pollutants will be taken into account.
2. They also agree to cooperate in determining corrective actions that would be required to stay within the permanent 3.2 million tonne national cap on SO_2 emissions beyond the year 2000.
3. To these ends, they agree to jointly develop by 1997, with industry and other stakeholders, a national strategy for a long-term domestic Acid Rain Program for post-2000. This strategy will address the need for further emission reductions within Canada as well as the need for further emission reductions in the United States for those sources and pollutants that result in continuing negative impacts from acid deposition in Canada.
4. This strategy will be based on (i) assessment of progress made in existing programs and the adequacy of programs in Canada and the United States to protect the Canadian environment, (ii) public consultation, and (iii) the principles of cooperation that were agreed upon in November, 1993 in the Comprehensive Air Quality Management Framework for Canada (including but not limited to pollution prevention, cost-effectiveness and harmonization of national and regional goals).
5. In the interim, until the long-term strategy is approved, they agree to continue tracking emissions of acidifying pollutants and assessing conformity with domestic and international commitments.

Original signed by

_____

Marcelle Mersereau
Minister of Environment
Province of New Brunswick

Original signed by

_____

Doug Anguish
Minister of Energy
Province of Saskatchewan

On behalf of Federal/Provincial/Territorial
Energy and Environment Ministers
Bathurst, New Brunswick
November 8, 1994