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# INTERNATIONAL ENVIRONMENTAL LAW: A CANADIAN PERSPECTIVE

François A. Mathys†

## INTRODUCTION

The aim of this essay is to review developments in international environmental law, however, this is a very broad topic and therefore by necessity this review will be rather general and selective in nature.

One of the striking policy phenomena of the last three decades has been the emergence of environmental protection as a major public issue that has spawned the rapid evolution of a separate body of international environmental law. During this period Canada and a number of other countries have sought to keep the issue of environmental protection on the agenda of the international community, and these countries have promoted the development of environmental legal principles.

Canada's approach to international environmental law has not changed dramatically over the last three decades. It is the Canadian view: (1) that while progress has been made, the existing body of international environmental law remains inadequate; (2) that such a body of law must continue to be developed on the basis of the principles that all states have a duty to preserve the environment, and that states must accept responsibility for any significant damage they cause to the environment of another state or the environment beyond any state's jurisdiction; and (3) that the law must be developed to enable the effective application of these principles either through existing institutions or new institutions to be established. While the Canadian legal position has remained consistent, significant changes have taken place both in terms of the approach taken by individual

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states to the question of environmental protection and in the development of environmental legal principles since the rise of environmental awareness in the 1960s.

## I. INTERNATIONAL AGREEMENTS

One does not need to be reminded of the "classic" foundations of international environmental law, yet a return to these principles can be illuminating. The trilogy of the *Trail Smelter*,<sup>1</sup> *Corfu Channel*<sup>2</sup> and *Lake Lanoux*<sup>3</sup> cases established the principles: (1) that states have an obligation to avoid transboundary harm; (2) that environmental harm may be wrongful; and (3) that victim states have the legal right to insist on the prevention and abatement of such harm. These cases are often cited for the *sic utere* principle, which is the obligation not to use your property in such a way as to damage your neighbour's.<sup>4</sup> There is another basic principle that is perhaps even more relevant to management of the global environment, which was one of the bases of the *Corfu Channel* case. The *Corfu Channel* principle is the "elementary considerations of humanity,"<sup>5</sup> which imposed a duty to warn of the danger of mines.<sup>6</sup> In the context of the environment, this principle suggests the duty to avoid injuring both present and future generations through mismanagement of the environment.

The direct descendant of these cases is Principle 21 of the Stockholm Declaration,<sup>7</sup> which provides:

States have, in accordance with the Charter of the United Nations and the principle of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within

<sup>1</sup> *Trail Smelter Case* (U.S. v. Can.), 3 R. Int'l Arb. Awards 1905 (1938 & 1941).

<sup>2</sup> *Corfu Channel Case* (U.K. v. Alb.), 1949 I.C.J. 4 (Judgment of Apr. 9).

<sup>3</sup> *Lake Lanoux Arbitration* (Fr. v. Spain), 24 I.L.R. 101 (1957) (English), 12 R. Int'l Arb. Awards 281 (1957) (French).

<sup>4</sup> The full maxim is *sic utere tuo ut alienum non laedas*. BLACK'S LAW DICTIONARY 1380 (6th ed. 1990).

<sup>5</sup> *Corfu Channel*, 1949 I.C.J. at 22.

<sup>6</sup> *Id.*

<sup>7</sup> Declaration of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF.48/14 & Corr. 1, reprinted in 11 I.L.M. 1416 (1972) [hereinafter 1972 Stockholm Declaration].

their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.<sup>8</sup>

Principle 21, which was the product of long and difficult negotiations, soon found acceptance as a principle of "hard law." It has been further fashioned and utilized in treaty instruments such as the London Dumping Convention of 1972<sup>9</sup> and the 1982 United Nations Convention on the Law of the Sea (UNCLOS III).<sup>10</sup>

### A. UNCLOS III

International environmental law has not stood still in recent years. One crucial achievement that may be described as a breakthrough is Part XII of UNCLOS III.<sup>11</sup> Part XII of UNCLOS III is based firmly on Principles 21 and 22 of the Stockholm Declaration,<sup>12</sup> and it requires positive obligations by states with respect to the preservation and protection of the marine environment. While certain UNCLOS III provisions remain controversial, no state has rejected Part XII. On the contrary, even non-signatory states have declared that Part XII reflects existing customary international law.<sup>13</sup>

Article 192 of Part XII embodies the basic principle that "[s]tates have the obligation to protect and preserve the marine environment."<sup>14</sup>

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<sup>8</sup> *Id.* at 1420.

<sup>9</sup> Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2403, T.I.A.S. No. 8165, 1046 U.N.T.S. 120, reprinted in 11 I.L.M. 1291, 1294 (1972).

<sup>10</sup> United Nations Convention on the Law of the Sea, done at Montego Bay, Dec. 10, 1982, U.N. Doc. A/CONF.62/122 (1982), U.N. Sales No. E.83.V.5 (1983), reprinted in 21 I.L.M. 1245 (1982) [hereinafter UNCLOS III].

<sup>11</sup> *Id.*

<sup>12</sup> 1972 Stockholm Declaration, *supra* note 7, at 1420. Principle 22 provides: "States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction." *Id.*

<sup>13</sup> See generally Ramakrishna, *Environmental Concerns and the New Law of the Sea*, 16 J. MAR. L. & COM. 1 (1985); Reiley, *Introduction to a Tempest: The Legal, Technological and Political Dimension of the 1984 Law of the Seas Conference in San Francisco*, 18 U.S.F. L. REV. 415 (1984); Sohn, *Symposium: The Law of the Seas Crisis*, 58 ST. JOHN'S L. REV. 237 (1984).

<sup>14</sup> UNCLOS III, *supra* note 10, at art. 192.

Article 193 reflects, in treaty form, Principle 21 of the Stockholm Declaration by providing that "[s]tates have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment."<sup>15</sup>

Under Article 194, states are obliged to "take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source . . . ."<sup>16</sup> For example, atmospheric pollution is specifically designated as requiring regulation in Article 212.<sup>17</sup> Article 212 provides in pertinent part that "[s]tates shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere . . . ."<sup>18</sup> This provision is clearly applicable to air space under state sovereignty.<sup>19</sup> Article 222 further provides for the enforcement of Article 212 by imposing a clear legal obligation on states to enforce the laws and regulations adopted in accordance with Article 212.<sup>20</sup> Similar provisions deal with pollution by dumping,<sup>21</sup> pollution from vessels<sup>22</sup> and pollution from land-based sources.<sup>23</sup> Finally, Article 235 deals with responsibility and liability, providing that "[s]tates are responsible for the fulfillment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law."<sup>24</sup> Article 235 further provides that "[w]ith the objective of assuring prompt and adequate compensation in respect of *all* damage caused by pollution, States shall co-operate in the implementation of existing international law and in the further development of international law relating to responsibility and liability . . . ."<sup>25</sup>

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<sup>15</sup> *Id.* at art. 193.

<sup>16</sup> *Id.* at art. 194.

<sup>17</sup> *Id.* at art. 212.

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> *Id.* at art. 222.

<sup>21</sup> *Id.* at art. 216.

<sup>22</sup> *Id.* at art. 211.

<sup>23</sup> *Id.* at art. 213.

<sup>24</sup> *Id.* at art. 235.

<sup>25</sup> *Id.* (emphasis added).

Thus, UNCLOS III is not merely a landmark instrument in the development of the law applicable to the marine environment—it provides general principles also applicable to the atmosphere.

### B. *International Law Commission*

One potential source of law that until now has been underutilized, but it could be of great significance in the area of environmental law, is the International Law Commission (ILC).<sup>26</sup> The ILC is addressing two topics: liability for injurious consequences from acts not prohibited by international law, and the law of non-navigational uses of international watercourses. Both of these topics relate directly to the law of the environment. The ILC's development of the law in these areas is relevant, topical and of important legal significance. The work of the ILC is widely cited for its authority by legal experts, which includes: foreign ministry legal advisors, academicians, private international lawyers, and other publicists. The ILC's work normally provides the basis for multilateral conventions,<sup>27</sup> for example, the 1958 United Nations Convention on the Law of the Sea (UNCLOS I),<sup>28</sup> and the Vienna Convention on the Law of Treaties.<sup>29</sup>

The topic of international liability for injurious consequences arising out of acts not prohibited by international law has developed an increasingly environmental orientation. Some ILC members call for a set of principles elaborating the positive

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<sup>26</sup> The International Law Commission was created by the General Assembly pursuant to article 13(1) of the U.N. Charter. The ILC's primary duties are to formulate rules of international law. "Its charge covers both the progressive development and codification of international law; that is, it may develop new formulations, or it may simply codify existing law." F. KIRGIS, *INTERNATIONAL ORGANIZATIONS IN THEIR LEGAL SETTING* 250 (1977).

<sup>27</sup> *Id.* The ILC's first function was to codify customary international law of the sea.

<sup>28</sup> The United Nations Conference on the Law of the Sea resulted in four conventions: Convention on the High Seas, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82; Convention on the Continental Shelf, Apr. 29, 1958, 15 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311; Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 15 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205; and Convention on Fishing and Conservation of the Living Resources, Apr. 29, 1958, 17 U.S.T. 138, T.I.A.S. No. 5969, 559 U.N.T.S. 285 [hereinafter UNCLOS I].

<sup>29</sup> Vienna Convention on the Law of Treaties, May 23, 1969, U.N. Doc. A/CONF.39/27 (1969), 1155 U.N.T.S. 331, reprinted in 8 I.L.M. 679 (1969).

duty to preserve and protect the environment, as well as the principles of prevention and compensation applicable in cases of transboundary environmental harm.<sup>30</sup>

Similarly, the law relating to non-navigational uses of international watercourses is being codified and developed with particular emphasis on pollution problems and how to deal with them. The Fourth Report<sup>31</sup> of the United States member of the ILC, Stephen McCaffrey, deals specifically with pollution and environmental protection, and it contains such elements as a broad definition of pollution. The report defines pollution as:

[a]ny physical, chemical or biological alteration in the composition or quality of the waters of an international watercourse [system] which results directly or indirectly from human conduct and which produces effects detrimental to human health or safety, to the use of the waters for any beneficial purpose or to the conservation or protection of the environment.<sup>32</sup>

The report states that "the increasingly serious problem of pollution of watercourses by 'toxic rain,' or atmospheric deposition of toxics, would also be included within the proposed definition" of pollution.<sup>33</sup> The report not only recognizes a duty to avoid causing appreciable harm to other states, but it also mandates that watercourse states, "individually and in co-operation, take all reasonable measures to protect the environment of an international watercourse [system], including the ecology of the watercourse and of surrounding areas, from impairment, degradation or destruction, or serious danger thereof, due to activities within their territories."<sup>34</sup> It further states in stronger language that "[w]atercourse states shall, individually or jointly and on an equitable basis, take all measures necessary, including preventive, corrective and control measures, to protect the marine envi-

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<sup>30</sup> *Report of the International Law Commission to the General Assembly*, U.N. Doc. A/42/10 (1987), reprinted in [1987] 2 Y.B. INT'L L. COMM'N 39, 47, U.N. Doc. A/CN.4/SER.A/1987/Add.1 (Part 2).

<sup>31</sup> United Nations General Assembly, International Law Commission, Fourth Report on the Law of the Non-Navigational Uses of International Watercourses, U.N. Doc. A/CN.4/412, add. 1 and corr., add. 2 and corr. (1988).

<sup>32</sup> *Id.*, add. 2 at 2.

<sup>33</sup> *Id.*, add. 2 at 3-4.

<sup>34</sup> *Id.*, add. 2 at 20.

ronment . . . .”<sup>35</sup> Perhaps surprisingly, these provisions have been widely accepted and have not really attracted much controversy.

Furthermore, even members of the ILC who were not traditionally concerned with the environment have been prefacing their remarks with a recognition of its importance. Presently, it is not possible to predict the outcome of the Commission’s deliberations on these matters, but it is encouraging that the attitudes displayed at recent sessions are far more knowledgeable and positive than was the case at previous sessions.

### C. *Multilateral Environmental Developments*

The developments outlined thus far have been rather general in nature. This is not to suggest that more specific progress has not been achieved at the multilateral level. For instance, the Economic Commission for Europe’s Convention on Long-Range Transboundary Air Pollution (L-RTAP),<sup>36</sup> adopted in 1979, has been hailed as the first multilateral convention in the field of air pollution control, while the Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on the Reduction of Sulphur Emissions or Their Transboundary Fluxes by at least 30 Per Cent (Sulphur Protocol),<sup>37</sup> adopted in 1985, is undoubtedly the first multilateral instrument to prescribe reductions in the emission of air pollutants. In the same vein, the 1987 Montreal Ozone Protocol<sup>38</sup> to the 1985 Vienna Convention for the Protection of the Ozone Layer (Ozone Layer Convention)<sup>39</sup> will

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<sup>35</sup> *Id.*

<sup>36</sup> Convention on Long-Range Transboundary Air Pollution, done at Geneva, Nov. 13, 1979, U.N. Doc. ECE/HLM.1/R.1, T.I.A.S. No. 10541, reprinted in 18 I.L.M. 1442 (1979) [hereinafter L-RTAP].

<sup>37</sup> Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on the Reduction of Sulphur Emissions or Their Transboundary Fluxes by at least 30 Per Cent, done at Helsinki, Jul. 8, 1985, U.N. Doc. ECE/EB.AIR/12, reprinted in 27 I.L.M. 698, 707 (1987) [hereinafter Sulphur Protocol].

<sup>38</sup> Montreal Protocol on Substances That Deplete the Ozone Layer, done at Montreal, Sep. 16, 1987, reprinted in 26 I.L.M. 1541 (1987) [hereinafter 1987 Montreal Protocol].

<sup>39</sup> Vienna Convention for the Protection of the Ozone Layer, done at Vienna, Mar. 22, 1985, reprinted in 26 I.L.M. 1516 (1987) [hereinafter Ozone Layer]. For further discussion, see Benedick, *International Cooperation to Protect the Ozone Layer*, U.S. Dep’t of State, Bur. of Publ. Aff., Current Policy No. 808 (1986). See also Zanger, *Carbon Dioxide’s Threat to Global Climate: An International Solution*, 17 STANFORD J.



go down in history as the first ever global agreement to protect the earth's atmosphere from possible damage caused by human activity.<sup>40</sup> It is also probably the first global treaty to mandate controls in the absence of any clear proof of substantial damage or economic loss. Scientific uncertainties notwithstanding, this action was initiated before total damage had been done to the ozone layer. Despite the fact that one Convention is regional and the other is global, the two Conventions and accompanying Protocols share a common approach that may provide a useful model for achieving progress in other related areas of environmental protection.

These Conventions share a number of common elements. Neither Convention imposes a specific obligation to reduce by a fixed amount either L-RTAP emissions or the production of substances that deplete the ozone layer. The general language concerning the need for reductions, supplemented by a provision for a mechanism for achieving consensus on reductions in the future, indicates that these Conventions should be viewed as a first step.<sup>41</sup>

The L-RTAP Convention simply provided that the parties "shall endeavor to limit and, as far as possible, gradually reduce and prevent air pollution"<sup>42</sup> and "shall by means of exchanges of information, consultation, research and monitoring, develop without undue delay policies and strategies as a means of combating the discharge of air pollution."<sup>43</sup> The Ozone Layer Convention, however, is a little more specific. Article 2 of that Convention prescribes as a general obligation that "[t]he Parties shall take appropriate measures in accordance with the provisions of this Convention and of these protocols . . . to protect human health and the environment against the adverse effects of ozone depletion."<sup>44</sup> To that end, the parties, in accordance with their means and capabilities, should cooperate and adopt measures to control, limit, reduce or prevent human activities under their jurisdiction or control should it be found that these

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INT'L L. 389 (1981).

<sup>40</sup> Ozone Layer, *supra* note 39, at art. 2.

<sup>41</sup> L-RTAP, *supra* note 36, at arts. 2, 4; Ozone Layer, *supra* note 39, at arts. 2, 6.

<sup>42</sup> L-RTAP, *supra* note 36, at art. 2.

<sup>43</sup> *Id.* at art. 3.

<sup>44</sup> Ozone Layer, *supra* note 39, at art. 2.

activities have or are likely to have adverse effects.<sup>45</sup> Many states were then unwilling to go further. The fact that the Protocols followed so rapidly on the heels of the Conventions is a positive sign that should not be underestimated.

The Ozone Layer Convention is also far more explicit than the L-RTAP Convention in regard to the possibility of negotiating specific future agreements or protocols on reduction, and the mechanism for doing so. Article 2, of the Ozone Layer Convention, provides that states should cooperate with a view towards adopting protocols to fulfill the purposes of the Convention.<sup>46</sup> The general mechanism providing for the negotiation of protocols was the "Conference of the Parties,"<sup>47</sup> in addition, the final act of the Convention specifically called for work to continue on an ozone protocol and called for a further diplomatic conference.<sup>48</sup> The conference, which was held in Montreal in September 1987, achieved notable success in the adoption of a protocol to control the production of ozone depleting substances.<sup>49</sup>

Both the L-RTAP and Ozone Layer Conventions recognize the need for further study of the problems of atmospheric pollution, both have emphasized a need to coordinate further study and exchange of information<sup>50</sup> and both have provided secretariat facilities to assist in meeting these needs.<sup>51</sup> In the Ozone Layer Convention, the parties have also agreed upon a coordinated program of research which was annexed to the Convention.<sup>52</sup> Further research programs may be initiated as a result of decisions taken by the Conference of the Parties.<sup>53</sup>

#### D. *Pollution Curbing Protocols*

The 1987 Montreal Protocol is the first global treaty on the environment that contains control measures addressing a serious

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<sup>45</sup> *Id.*

<sup>46</sup> *Id.* at art. 2.

<sup>47</sup> *Id.* at art. 6.

<sup>48</sup> Ozone Layer, *supra* note 39.

<sup>49</sup> 1987 Montreal Protocol, *supra* note 38.

<sup>50</sup> L-RTAP, *supra* note 36, at arts. 3, 4 & 8; Ozone Layer, *supra* note 39, at arts. 3, 4 & Annex II.

<sup>51</sup> L-RTAP, *supra* note 36, at art. 11; Ozone Layer, *supra* note 39, at art. 7.

<sup>52</sup> Ozone Layer, *supra* note 39, at Annex I.

<sup>53</sup> *Id.* at art. 6.

environmental problem before its worst effects have been felt. It provides for a phase down in the production and consumption of ozone depleting chemicals<sup>54</sup> in twelve month intervals in order to attain 50 percent reduction by the year 1999 based on the calculated level of consumption and production in 1986.<sup>55</sup>

The 1987 Montreal Conference when drafting this Protocol sought to set obtainable schedules for reduction of ozone depleting chemicals at attainable intervals.<sup>56</sup> At that time, Canada predicted that attainment of production and consumption levels by industry during the prescribed intervals would not readily be met.<sup>57</sup> In fact, industry—both producers and users alike—recognize that the Protocol represents an unequivocal rejection of chloroflourocarbons (CFCs). On its own initiative, industry has begun to phase out production and consumption of CFCs at a greater rate than required under Article 2.<sup>58</sup>

Secondly, the Protocol institutes a mechanism to modify the reduction schedule. Specially, it enables the Parties to make further adjustment and reduction of production or consumption of the controlled substances for the 1986 levels.<sup>59</sup> For example, the Parties could increase the 50 percent reduction level if technically feasible options or public pressure demands it.<sup>60</sup> In fact, work toward such a further reduction has already begun.<sup>61</sup>

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<sup>54</sup> The controlled ozone depleting chemicals include the following:

Group ICFCL3 (CFC-11)

CF2Cl2 (CFC-12)

C2F3Cl3 (CFC-113)

C2F4Cl2 (CFC-114)

C2F5Cl (CFC-115)

Group IICF2BrCl (halon-1211)

CF3Br (halon-1301)

C2F4Br2 (halon-2402)

1987 Montreal Protocol, *supra* note 38, at Annex A.

<sup>55</sup> *Id.* at art. 2.

<sup>56</sup> *Id.*

<sup>57</sup> MacKerron, *Conferees Call For CO2 and CFC Cuts*, CHEMICAL WEEK, July 20, 1988, at 26.

<sup>58</sup> See, e.g., *Conserving and Recycling CFCs Best Ozone Protection*, PR Newswire, June, 28, 1988 (Nexis, Omni Library); Meadows, *The Hole Story: The Damage We Measure is a Result of What We Did Years Ago—And Years' Worth of CFC Emissions are Still on Their Way Up, Impossible to Stop*, L.A. Times, Apr. 3, 1988, §5, at 1, col. 1.

<sup>59</sup> 1987 Montreal Protocol, *supra* note 38, at art. 2.

<sup>60</sup> *Id.*

<sup>61</sup> Watson, *Canada Proposes Ban of CFCs*, United Press International, Feb. 21,

Thirdly, Article 5 contains special provisions favoring developing countries. In essence, the Protocol entitles developing countries to delay their compliance with the control measures in Article 2 for the reduction of ozone depleting chemicals listed in Annex A for ten years.<sup>62</sup> This Article was included in order to both meet developing countries' basic domestic needs and to ensure that compliance can be met in the future by all participating Parties without creating economic hardship.<sup>63</sup>

Finally, Article 4 contains trade sanctions requiring Parties to the Protocol to not export CFCs to, or import CFCs from, non-parties.<sup>64</sup> This requirement also includes products containing CFCs.<sup>65</sup> Information exchange on new technology "for producing and for utilizing controlled substances" is restricted.<sup>66</sup> However, new technology "that improve[s] the containment, recovery, recycling or destruction of controlled substances, promote the development of alternative substances, or otherwise contribute to reduction of emission of controlled substances" will not be restricted.<sup>67</sup>

On May 2, 1989, the countries participating in the Vienna Convention and the 1987 Montreal Protocol, adopted the Helsinki Declaration on the Protection of the Ozone Layer (Helsinki Declaration).<sup>68</sup> This Declaration expresses the intent of the parties to work towards a reduction in emission of ozone depleting chemicals and it "ENCOURAGE[S] all parties that have not done so to join the Vienna Convention . . . and its Montreal Protocol."<sup>69</sup>

The Sulphur Protocol was adopted in 1985 to carry forward the intent of the L-RTAP Convention that parties "shall reduce their national annual sulphur emissions or their transboundary fluxes by at least 30 per cent as soon as possible and at the latest

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1989 (Nexis, U.P.I. Library).

<sup>62</sup> 1987 Montreal Protocol, *supra* note 38, at art. 5. For a list of the ozone depleting chemicals, see *supra* note 55.

<sup>63</sup> 1987 Montreal Protocol, *supra* note 38, at art. 5.

<sup>64</sup> *Id.* at art. 4.

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> Helsinki Declaration on the Protection of the Ozone Layer, May 2, 1989, *reprinted in* 28 I.L.M. 1335 (1989).

<sup>69</sup> *Id.* at 1336.

by 1993, using 1980 levels as the basis for calculation of reduction."<sup>70</sup> The parties also agreed to study the necessity for further reductions and called for calculations of annual sulphur budgets and transboundary fluxes.<sup>71</sup>

In addition to reduction of CFCs and sulphur emissions, work has proceeded towards internationally agreed upon measures aimed at the reduction of nitrogen oxides (NOX) or their transboundary fluxes. On October 31, 1988 the Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes (NOX Protocol)<sup>72</sup> was opened for signature and Canada has signed it.

The NOX Protocol will, as a first step, commit signatories to ensure that by 1994 their total national emissions of NOX or their transboundary fluxes do not exceed their 1987 levels.<sup>73</sup> The NOX Protocol also requires the Parties to begin negotiating further measures to commence no later than 1996 to reduce NOX emissions at a level required to achieve agreed upon environmental quality targets.<sup>74</sup>

While the NOX Protocol is not dissimilar to the Sulphur Protocol, there is no requirement that parties reduce the national annual NOX emissions of their transboundary fluxes by a fixed amount. Reductions are tied to the development of greater certainty of the concept of critical loads,<sup>75</sup> a concept which measures the tolerance of ecosystems or materials to pollutants.<sup>76</sup> The relevance of this difference demonstrates the delicate balance between the certainty of the science and the gains achievable in an environmental agreement. This should not be seen as a

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<sup>70</sup> Sulphur Protocol, *supra* note 37, at art. 2.

<sup>71</sup> *Id.* at art. 6.

<sup>72</sup> Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, done at Sofia, Oct. 31, 1988, reprinted in 28 I.L.M. 212 (1989) [hereinafter NOX Protocol]. Canada, the United States and twenty-three other member countries of the United Nations' Economic Commission for Europe signed the protocol.

<sup>73</sup> *Id.* at art. 2.

<sup>74</sup> *Id.*

<sup>75</sup> The Protocol defines "critical load" as "a quantitative estimate of the exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge." *Id.* at art. 1.

<sup>76</sup> *Id.*

hindrance to the progressive evolution of environmental agreements, but rather as an illustration of the fact that, to the greatest extent possible, environmental interests should start with both a sound base and an attainable goal.

The L-RTAP and Ozone Layer Conventions and their Protocols are acknowledged to be successful international approaches to the problems of atmospheric pollution. Undoubtedly, some would have preferred to have seen less hortatory and more binding language in the original L-RTAP Convention, and others would have liked faster progress on the Sulphur and NOX Protocols, but the achievement they represent should not be ignored.

## II. THE CANADIAN PERSPECTIVE

### A. *Canada's Participation in the International Arena*

Canada is a staunch supporter of any and all environmental law advancements. Canada has maintained a leading role in efforts towards developing law for the protection and preservation of the earth's atmosphere. In June of 1988, Toronto was the venue for the International Conference on the Changing Atmosphere: Implications for Global Security.<sup>77</sup>

At the opening of the conference, the Prime Minister of Canada, the Right Honourable Brian Mulroney, spoke strongly in favour of a concerted international effort to achieve concrete progress in dealing with this mounting environmental concern. He challenged the international community to develop, by 1992, an umbrella framework convention for the protection of the atmosphere.<sup>78</sup>

Participants at the Toronto Conference heard a call for action from Mrs. Gro Harlem Brundtland, the Prime Minister of Norway, who warned that the industrialized world has been playing "lethal games with vital life support systems."<sup>79</sup> She called for a new global ethic to mobilize resources necessary to combat climate change because "the impact of climate change

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<sup>77</sup> MacKerron, *Conferees Call For CO2 and CFC Cuts*, CHEMICAL WEEK, July 20, 1988, at 26.

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

may be greater and more drastic than any other challenge that mankind has faced with the exception of the threat of nuclear war."<sup>80</sup>

One of the major conclusions of the Toronto conference was to urge the international community to:

Initiate the development of a comprehensive global convention as a framework for protocols on the protection of the atmosphere. The convention should emphasize such key elements as the free international exchange of information and support of research and monitoring, and should provide a framework for specific protocols for addressing particular issues, taking into account existing international law. This should be vigorously pursued at the International Workshop on Law and Policy to be held in Ottawa early in 1989, the high-level political conference on Climate Change in the Netherlands in the Fall, 1989, the World Energy Conference in Canada in 1989 and the Second World Climate Conference, Geneva, June 1990, with a view to having the principles and components of such a convention ready for consideration at the Inter-governmental Conference on Sustainable Development in 1992. These activities should in no way impede simultaneous national, bilateral and regional actions and agreements to deal with specific problems such as acidification and greenhouse gas emissions.<sup>81</sup>

Keeping these objectives in mind, Canada hosted a meeting of legal and policy experts, entitled the "Protection of the Atmosphere: International Meeting of Legal and Policy Experts," in Ottawa, February 20-22, 1989.<sup>82</sup> The goals of this meeting were: (1) to develop the legal and institutional framework for dealing with existing and emerging atmospheric problems including, where possible, agreement on principles that might form the basis of a convention and for the protection of the atmosphere; (2) to identify areas where a consensus may not be achievable (due to legal, technical or scientific reasons) and to suggest ways for overcoming such obstacles; and (3) to develop a series of recommendations for future action, including one recommendation

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<sup>80</sup> *Id.*

<sup>81</sup> *Conference Statement from the World Conference on The Changing Atmosphere: Implications for Global Security*, at Toronto, Canada (June 27-30, 1988) (available at Pace Yearbook of International Law).

<sup>82</sup> Watson, *supra* note 61.

forwarding the meeting report and draft principles to a qualified multilateral organization for consideration.<sup>83</sup>

In November 1990 the Second World Climate Conference was held in Geneva. The Geneva conference concluded that global warming should be studied in the context of existing and future socioeconomic conditions on a regional basis.<sup>84</sup> The United States held to an isolated position that there is not enough scientific knowledge about the severity of global warming to justify the large expense of pollution reduction goals.<sup>85</sup> Most other developed nations have endorsed the idea of concrete pollution reduction goals to limit global warming.<sup>86</sup> Scientific uncertainty should not be invoked as an argument for ignoring the warning signs and take action to slow global warming through pollution reduction.

After to the Geneva Conference, on December 11, 1990, Canada's Environmental Minister Robert R. de Cotret released, on behalf of the Federal government, a comprehensive, three billion dollar, five year environmental action plan for Canada, which is known as the Green Plan.<sup>87</sup> Six of the hundred targets and initiatives of the Green Plan focus on shaping Canada's foreign policy and activism towards acceleration of global co-operation, understanding and progress on environmental issues.<sup>88</sup> Canada is dedicated to see global action on protection of the earth's environment and will continue to advocate through various international institutions environmentally responsible actions in many areas including global warming and acid rain.

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<sup>83</sup> *Meeting Statement from Protection of the Atmosphere: International Meeting of Legal and Policy Experts*, at Ottawa, Canada (Feb. 20-22, 1989) (available at Pace Yearbook of International Law).

<sup>84</sup> See *Conflicting National Interests Blocks Responses to Climate Change*, Official Says, BNA Daily Report For Executives, Mar. 5, 1991, at A5.

<sup>85</sup> *Id.* See also Waxman, *Global Warming Is For Real; The US Must End Its 'Can't Do' Attitude and Get to Work to End this Threat to Life on Earth*, ROLL CALL, Feb. 18, 1991 (Nexis, Omni library).

<sup>86</sup> *Id.*

<sup>87</sup> Government of Canada-Canada's Green Plan, *Federal Government Releases Environmental Green Plan*, Press Release No. PR-HQ-090-56 (Dec. 11, 1990) [hereinafter Green Plan].

<sup>88</sup> *Id.*



## B. *Canada's Motivation*

Most of Canada's initiative in environmental issues is because of Canada's geographic proximity to the United States. Canada and the United States share a 5,500 mile common border, 2,200 miles of which pass through rivers and lakes.<sup>89</sup>

Canada and the United States have maintained a long and continuing mutually beneficial relationship through bilateral treaties in order to protect and preserve their common environment.<sup>90</sup> Their first bilateral agreement was the Boundary Waters Treaty of 1909.<sup>91</sup> This treaty established the principle that neither country should pollute the common boundary waters to the injury of the other. This treaty also created the International Joint Commission (IJC), which established the basis for joint management of the shared boundary waters.<sup>92</sup>

This principle has guided both States for eighty years, often with the involvement of the IJC, and today it finds expression, for example, in the Great Lakes Water Quality Agreement of 1978 and its subsequent amendments, which provided a framework for remedying pollution in the Great Lakes.<sup>93</sup>

Canada and the United States also have a long record of cooperation in the protection of migratory birds and animals. This cooperation started with the Migratory Birds Convention of 1916,<sup>94</sup> and continues as demonstrated by the 1987 Porcupine Caribou Herd Management Agreement.<sup>95</sup>

The most serious common environmental threat facing both Canada and the United States is "acid rain." Acid rain is the

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<sup>89</sup> This does not even take into account rivers that flow across the border.

<sup>90</sup> *Canada-United States: Acid Rain*, Canadian Embassy Public Affairs Office publication, July, 1989 [hereinafter *Acid Rain*] (available from Canadian Consulate General to the United States, 1251 Avenue of the Americas, 16th Floor, New York, NY 10020-1175).

<sup>91</sup> Treaty Relating to the Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada, Jan. 11, 1909, 36 Stat. 2448, TS 548, 12 Bevans 319.

<sup>92</sup> *Id.*

<sup>93</sup> Agreement on the Great Lakes Water Quality Agreement, Nov. 22, 1978, 30 U.S.T. 1383, T.I.A.S. No. 9257. This Agreement was revised in 1983 and 1987, to deal with the new pollution problems in the Great Lakes as they emerged. *Acid Rain*, *supra* note 90, at 5.

<sup>94</sup> Convention on the Protection of Migratory Birds in the United States and Canada, Aug. 16, 1916, 39 Stat. 1702, TS 628, 12 Bevans 375.

<sup>95</sup> Agreement on the Conservation of the Porcupine Caribou Herd, July 17, 1987.

return to earth in rain, snow fog or dust of sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NOX) that have been released into the air.<sup>96</sup>

Consider the following acid rain damage statistics for Canada:

- Some 14,000 Canadian lakes are already acidified, with the lost of virtually all indigenous fish species;<sup>97</sup>
- another 150,000 have been damaged, which amounts to one in seven Canadian lakes;<sup>98</sup>
- one-third of the available Atlantic salmon habitat in Nova Scotia has been lost;<sup>99</sup>
- more than 55 percent of forests in Eastern Canada grow in areas where rainfall is acidic;<sup>100</sup>
- even Canada's maple sugar industry is in jeopardy, 40 percent of sugar maples show sign of decline;<sup>101</sup> and
- more than 80 percent of all Canadians live in areas where acidic deposits exceed acceptable levels.<sup>102</sup>

While this explains why acid rain is a problem in Canada, why has Canada devoted such considerable effort in engaging the United States on the issue? The answer is essentially two-fold. First, even if Canada were to eliminate *all* of its sulphur dioxide emissions, it would still be eliminating only half of the acid rain problem. Fifty percent of the acid rain falling in Eastern Canada is manufactured in the United States and, thanks to prevailing winds and tall stacks it is exported to Canada.<sup>103</sup> In

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<sup>96</sup> *Acid Rain*, *supra* note 90, at 2. SO<sub>2</sub> emissions are mainly produced by coal-fired power generation plants (mostly in the United States) and non-ferrous ore smelter (the major source in Canada). The primary source for NOX emissions are vehicles and fuel combustion. In North America the significant producers are located in the United States midwest and the Ontario and Quebec provinces. *Id.*

<sup>97</sup> *Id.* at 6.

<sup>98</sup> *Id.*

<sup>99</sup> *Acid Rain: The Facts*, pamphlet from Environment Canada [hereinafter *The Facts*] (available from Inquiry Centre, Environment Canada, Hull, Quebec, Canada, K1A 0H3).

<sup>100</sup> *Canada-United States: Acid Rain—Acid Rain and Forest Decline*, Canadian Embassy Public Affairs Office publication at 1 [hereinafter *Forest Decline*] (available from Canadian Consulate General to the United States, 1251 Avenue of the Americas, 16th Floor, New York, NY 10020-1175).

<sup>101</sup> *Id.*

<sup>102</sup> *The Facts*, *supra* note 99, at 1.

<sup>103</sup> *Acid Rain*, *supra* note 90, at 2.

some cases, the United States contribution is responsible for three quarters of the total acid rain fallout.<sup>104</sup>

The other reason that Canada continues to press the United States for action is that it believes that the United States has a responsibility, under international law, to reduce the transboundary flow of SO<sub>2</sub> emissions to the point where it is not causing significant damage in Canada.<sup>105</sup>

### C. *United States Responsibility*

Canada's legal position is that the United States has an affirmative duty to reduce the transboundary flow of acid rain to Canada. This duty is based on a principle of responsibility under international environmental law that was first enunciated during a previous United States-Canadian dispute over damage due to sulphur dioxide emissions. In the 1941 *Trail Smelter Case*,<sup>106</sup> however, the shoe was on the other foot. In addition to admitting liability and paying some \$ 390,000 to the United States in damages, Canada accepted the arbitral tribunal's finding that: "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 when the case is of serious consequence and the injury is established by clear and convincing evidence."<sup>107</sup>

As noted earlier, this specific principle of responsibility for injury by fumes was broadened in two other international decisions dealing with state responsibility: the 1949 *Corfu Channel*<sup>108</sup> and the 1975 *Lake Lanoux*<sup>109</sup> cases. The modern statement of the principle, now generalized to cover all environmental damage, has been incorporated into the corpus of customary international law, and it is found in Principle 21 of the Stockholm Declaration,<sup>110</sup> adopted at the 1972 United Nations Conference on the Human Environment.

There are a number of specific legal issues that flow from

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<sup>104</sup> *Id.*

<sup>105</sup> See *supra* note 4.

<sup>106</sup> *Trail Smelter Case* (U.S. v. Can.), 3 R. Int'l Arb. Awards 1905 (1938 & 1941).

<sup>107</sup> *Id.* at 1965.

<sup>108</sup> *Corfu Channel Case* (U.K. v. Alb.), 1949 I.C.J. 4 (Judgment of Apr. 9).

<sup>109</sup> *Lake Lanoux Arbitration* (Fr. v. Spain), 24 I.L.R. 101 (1957) (English), 12 R. Int'l Arb. Awards 281 (1957) (French).

<sup>110</sup> See 1972 Stockholm Declaration, *supra* note 7 and accompanying text.

Principle 21. First, it is a well established principle that the international liability a state may incur for acts of private persons—in this case, United States coal-fired electrical power plants—is a function of that State's control over the activities concerned. There is a convincing argument to be made in regard to acid rain that the United States government is the one actor that has both the knowledge of the problem and the ability to regulate it in an efficient way.

Second, Canada can establish both that significant damage to the environment has occurred and that the fault is due, in part, to the United States. With regard to the damage caused by acid rain, the examples cited above speak for themselves.<sup>111</sup> On the question of fault, the United States knows that its emissions are crossing the border.

Canada and the United States' first attempt to address the problem of transboundary flow of acid rain manifested itself in the 1980 Memorandum of Intent Concerning Transboundary Air Pollution.<sup>112</sup> This Memorandum stated the intention of both states to develop a bilateral agreement and vigorously enforce existing air pollution legislation.<sup>113</sup> The Annex to the Memorandum established Work Groups to develop scientific and technical bases for a bilateral agreement.<sup>114</sup>

Although the research on acid rain continued by these Work Groups, in 1985, Prime Minister Mulroney and President Reagan appointed Special Envoys on acid rain to further the research.<sup>115</sup> In January 1986, the Special Envoys released the Lewis-Davis Report on acid rain.<sup>116</sup> Indeed, in endorsing this report of the Special Envoys on acid rain, the United States went further and admitted that acid rain remains a serious trans-

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<sup>111</sup> See *supra* notes 97-102 and accompanying text.

<sup>112</sup> Memorandum of Intent Concerning Transboundary Air Pollution, with Annex, signed at Washington, Aug. 5, 1980, 32 U.S.T. 2521, T.I.A.S. No. 9856 [hereinafter Memorandum of Intent].

<sup>113</sup> Memorandum of Intent, 32 U.S.T. at 2526.

<sup>114</sup> *Id.* at 2529.

<sup>115</sup> *Acid Rain Milestones*, pamphlet from Environment Canada (available from Inquiry Centre, Environment Canada, Hull, Quebec, Canada, K1A 0H3). These Special Envoys purpose was to pursue legal and regulatory consultations on the causes of acid rain, to further the exchange of information and identify possible solutions to the problem of acid rain. *Id.*

<sup>116</sup> *Id.*

boundary environmental problem.<sup>117</sup>

What then was left in dispute? First, the United States questioned the cause and effect linkage between sulphur dioxide emissions originating from the United States and the damage found in Canada. This appeared to be the basis for United States arguments that more research was required before action could be taken. In September 1987, the United States National Acid Precipitation Assessment Program (NAPAP) issued an interim report that consisted of four volumes of some 1,200 pages.<sup>118</sup> The scientific research it contained was thorough—for as far as it went. "As far as it went" refers to the fact that the report did not include Canadian information that the authors chose to ignore.<sup>119</sup>

Second, the United States was unwilling to subscribe to any particular control program until it was satisfied, again on the basis of clear scientific evidence, that the remedy would be effective, both from a technical and economic point of view.

In regard to the first issue, Canada believed that a significant body of expert scientific evidence already existed to conclude: that acid rain pollution was causing damage to natural resources and public health; and that much of the damage could be traced to sources found in the United States.<sup>120</sup> Indeed, scientists at Environment Canada verified the following: acidic deposition in much of Eastern Canada is at levels causing significant damage to the environment; it is possible to identify the levels of emissions and deposition at which significant damage will not occur; and it is possible, both in specific and in general cases to identify, by atmospheric modeling, the extent to which Canadian and United States sources are contributing to the levels of

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<sup>117</sup> On March 19, 1986, Brian Mulroney, the Prime Minister of Canada, and President Reagan of the United States endorsed the Envoys' Conclusion that acid rain presents a serious transboundary environmental problem. They agreed to implement Envoys' twelve recommendations designed to move both countries towards a long term solution to the acid rain problem. *Id.*

<sup>118</sup> United States National Acid Precipitation Assessment Program, Interim Assessment, Sept., 1987 (available from the U.S. Government Printing Office). *See also Acid Rain Milestones*, *supra* note 115, at 2.

<sup>119</sup> The following day Canadian Environment Minister Tom McMillan dismissed the NAPAP report as flawed, incomplete and misleading. *Id.*

<sup>120</sup> *See supra* notes 97-102 and accompanying text.

deposition.<sup>121</sup>

In response to Canada's reaction to the NAPAP report, on January 25, 1988, the United States recommitted itself to fulfilling the recommendations of the Special Envoys and agreed to negotiate a Limited Air Quality Accord with Canada.<sup>122</sup> The proposed Accord would provide for monitoring, investigating and evaluating the problem of acid rain. Furthermore the clean coal technology program, recommended by the Special Envoys has been launched.<sup>123</sup> A panel has been established to review projects for funding. At this point the movement towards a bilateral accord was consistent with United States internal policy regarding clean air.

In 1988, several bills to amend the United States Clean Air Act (CAA) were in the United States Congress. Finally, in November 1990, the United States Congress passed the comprehensive amendments to the CAA.<sup>124</sup> Before the United States could enter into a bilateral agreement with Canada providing for monitoring, investigating and evaluating acid rain, it was necessary to promulgate the new amendments to its domestic law. The primary reason for this was because these new amendments repealed the percent-reduction controls on SO<sub>2</sub> emissions and replaced them with controls that cap such emissions from utilities at 10 million tonnes by the year 2000, with half of the reduction to be accomplished by 1995.<sup>125</sup> The new amendments also created a NO<sub>x</sub> program requiring emissions reduction in several increments to a forecasted cumulative emissions reduction to be 29 million tonnes by the year 2010.<sup>126</sup>

Canada had previously implemented a stringent SO<sub>2</sub> emission reduction program in March 1985.<sup>127</sup> The program's objective is to reduce total SO<sub>2</sub> emissions in the seven most eastern

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<sup>121</sup> See Green Plan, *supra* note 87.

<sup>122</sup> See Acid Rain Milestones, *supra* note 115, at 2.

<sup>123</sup> Clean Coal Technology Demonstration Program—Annual Report to Congress, Mar., 1990, U.S. Government Printing Office Doc. DOE/FE-0195P.

<sup>124</sup> Clean Air Act, 33 U.S.C. § 7401 (1988), as amended by Act of Nov. 15, 1990, Pub. L. No. 101-549 (1990).

<sup>125</sup> *Id.* The Clean Air Act Amendments of 1990—A Detailed Analysis, HAZARDOUS WASTE CONSULTANT, Jan./Feb. 1991, at 4.1, 4.23.

<sup>126</sup> *Id.*

<sup>127</sup> The Facts, *supra* note 99, at 2.

provinces by 50 percent of the 1980 levels by 1994.<sup>128</sup> The Green Plan commits Canada to cap on total emissions in the seven most eastern provinces to 2.3 million tonnes for 1995 to 2000.<sup>129</sup> Thus far Canada's program has been successful in reducing SO<sub>2</sub> emissions to about 2.8 million tonnes (40 percent below the 1980 levels).<sup>130</sup>

Once the United States restructured its targets and schedules for SO<sub>2</sub> and NO<sub>x</sub> emissions reduction, it was finally able to move forward with negotiations for a long overdue bilateral agreement. Canada wanted an agreement that committed the United States to targeted reductions over a specified time period otherwise the agreement would be of little use. In light of the impact on acid rain on Canada's environment and the extensive scientific information provided by Canada to the United States on acid rain, the desire to secure a commitment from the United States is not difficult to understand.

On March 13, 1991, Canada and the United States signed the Agreement Between the Government of Canada and the Government of the United States of America on Air Quality (Air Quality Accord).<sup>131</sup> This Accord is a culmination of Canada's relentless effort to create a partnership with the United States to control transboundary air pollution. The Air Quality Accord formalizes both countries' commitments to permanently decrease acid rain causing emissions to a level that no longer threatens the Canadian environment by: (1) establishing specific objectives for emissions limitations or reduction of air pollutants;<sup>132</sup> (2) undertaking environmental impact assessments, given prior notification of potentially harmful projects and mitigation measures;<sup>133</sup> (3) carrying out coordinated or co-operative scientific and technical research along with economical research<sup>134</sup> and exchange of information;<sup>135</sup> (4) establishing an Air Quality Com-

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<sup>128</sup> *Id.*

<sup>129</sup> *Id.*

<sup>130</sup> *Id.*

<sup>131</sup> Agreement Between the Government of Canada and the Government of the United States of America on Air Quality, Mar. 13, 1991 [hereinafter Air Quality Accord]. (This bilateral agreement is reprinted in toto at Appendix.)

<sup>132</sup> *Id.* at art. IV.

<sup>133</sup> *Id.* at art. V.

<sup>134</sup> *Id.* at art. VI.

<sup>135</sup> *Id.* at art. VII.

mittee<sup>136</sup> and giving new responsibilities to the IJC;<sup>137</sup> and (5) periodically review and assess progress, consult, address issues and settle disputes between the two countries.<sup>138</sup> If the objectives of the targeted emissions reduction and monitoring are fulfilled, the Accord will ensure protection from acid rain damage along with providing the means to deal with other trans-boundary air pollution problems. The enactment of this Accord will hopefully continue the eighty year history of Canada and the United States working together towards protecting shared natural resources and the environment.

### CONCLUSION

In Canada's view, environmental law is too important to be left to develop through a *laissez-faire* approach that in practice consists of responding to catastrophes on an *ad hoc* basis. This would leave urgent and crucial areas virtually unregulated. The time has come for concerted international action at the governmental level. There is a critical need to develop basic norms that can be applied to specific problem areas while at the same time reflecting the need to protect and preserve the environment for future generations. The 1987 Montreal Protocol is proof that, when the political will is mustered, it is possible to improve the odds in the increasingly risky game that mankind has been playing with its own future.

International lawyers face a unique challenge and a tremendous opportunity. The legal foundations have been laid. Both the media and the public have been sensitized to the problems facing the environment. Governments have become increasingly disposed to seek solutions. The international community has reached the point where momentum will not be lost and that environmental protection will be a realized goal.

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<sup>136</sup> *Id.* at art. VIII.

<sup>137</sup> *Id.* at art. IX.

<sup>138</sup> *Id.* at arts. X-XIII.



## APPENDIX

AGREEMENT BETWEEN THE GOVERNMENT OF  
CANADA AND THE GOVERNMENT OF THE UNITED  
STATES OF AMERICA ON AIR QUALITY\*

The Government of Canada and the Government of the United States of America, hereinafter referred to as "the Parties",

Convinced that transboundary air pollution can cause significant harm to natural resources of vital environmental, cultural and economic importance, and to human health in both countries;

Desiring that emissions of air pollutants from sources within their countries not result in significant transboundary air pollution;

Convinced that transboundary air pollution can effectively be reduced through cooperative or coordinated action providing for controlling emissions of air pollutants in both countries;

Recalling the affords they have made to control air pollution and the improved air quality that has resulted from such efforts in both countries;

Intending to address air - related issues of a global nature, such as climate change and stratospheric ozone depletion, in other fora;

Reaffirming Principle 21 of the Stockholm Declaration, which provides that "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility 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";

Noting their tradition of environmental cooperation as reflected in the Boundary Waters Treaty of 1909, the Trail Smelter Arbitration of 1941, the Great Lakes Water Quality Agreement of 1978, as amended, the Memorandum of Intent Concerning Transboundary Air Pollution of 1980, the 1986 Joint Report of the Special Envoys on Acid Rain, as well as the ECE Convention on Long-Range Transboundary Air Pollution of 1979;

Convinced that a healthy environment is essential to assure the well-being of present and future generations in the United States and Canada, as well as of the global community;

Have agreed as follows:

## ARTICLE I

### Definitions

For the purposes of this Agreement:

1. "Air pollution" means the introduction by man, directly or indirectly, of substances into the air resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems and material property and impair or interfere with amenities and other legitimate uses of the environment, and "air pollutants" shall be construed accordingly;
2. "Transboundary air pollution" means air pollution whose physical origin is situated wholly or in part within the area under the jurisdiction of one Party and which has adverse effects, other than effects of a global nature, in the area under the jurisdiction of the other Party;
3. "Boundary Waters Treaty" means the Treaty Relating to Boundary Waters, and Questions arising along the Boundary between the United States and Canada, signed at Washington on January 11, 1909;
4. "International Joint Commission" means the International Joint Commission established by the Boundary Waters Treaty.

## ARTICLE II

### Purpose

The purpose of the Parties is to establish, by this Agreement, a practical and effective instrument to address shared concerns regarding transboundary air pollution.

### ARTICLE III

#### General Air Quality Objectives

1. The general objectives of the Parties is to control transboundary air pollution between the two countries.
2. To this end, the Parties shall:
  - (a) in accordance with Article IV, establish specific objectives for emissions limitations or reductions of air pollutants and adopt the necessary programs and other measures to implement such specific objectives;
  - (b) in accordance with Article V, undertake environmental impact assessment, prior notification, and, as appropriate, mitigation measures;
  - (c) carry out coordinated or cooperative scientific and technical activities, and economic research, in accordance with Article VI, and exchange information, in accordance with Article VII;
  - (d) establish institutional arrangements, in accordance with Articles VIII and IX; and
  - (e) review and assess progress, consult, address issues of concern, and settle disputes, in accordance with Articles X, XI, XII and XIII.

### ARTICLE IV

#### Specific Air Quality Objectives

1. Each Party shall establish specific objectives, which it undertakes to achieve, for emissions limitations or reductions of such air pollutants as the Parties agree to address. Such specific objectives will be set forth in annexes to this Agreement.
2. Each Party's specific objectives for emissions limitations or reductions of sulphur dioxide and nitrogen oxides, which will reduce transboundary flows of these acidic deposition precursors, are set forth in Annex 1. Specific objectives for such other air pollutants as the Parties agree to address should take into account, as appropriate, the activities undertaken pursuant to Article VI.
3. Each Party shall adopt the programs and other measures

necessary to implement its specific objectives set forth in any annexes.

4. If either Party has concerns about the programs or other measures of the other Party referred to in paragraph 3, it may request consultations in accordance with Article XI.

#### ARTICLE V

##### Assessment, Notification, and Mitigation

1. Each Party shall, as appropriate and as required by its laws, regulations and policies, assess those proposed actions, activities and projects [in its territory] [within the area under its jurisdiction] that, if carried out, would be likely to cause significant transboundary air pollution, including consideration of appropriate mitigation measures.
2. Each Party shall notify the other Party concerning a proposed action, activity or project subject to assessment under paragraph 1 as early as practicable in advance of a decision concerning such action, activity or project and shall consult with the other Party at its request in accordance with Article XI.
3. In addition, each Party shall, at the request of the other Party, consult in accordance with Article XI concerning any continuing actions, activities or projects that may be causing significant transboundary air pollution, as well as concerning changes to its laws, regulations or policies that, if carried out, would be likely to affect significantly transboundary air pollution.
4. Consultations pursuant to paragraphs 2 and 3 concerning actions, activities or projects that would be likely to cause or may be causing significant transboundary air pollution shall include consideration of appropriate mitigation measures.
5. Each Party shall, as appropriate, take measures to avoid or mitigate the potential risk posed by actions, activities or projects that would be likely to cause or may be causing significant transboundary air pollution.
6. If either Party becomes aware of an air pollution problem that is of joint concern and requires an immediate response, it shall notify and consult the other Party forthwith.

### ARTICLE VI

#### Scientific and Technical Activities and Economic Research

1. The Parties shall carry out scientific and technical activities, and economic research, as set forth in Annex 2, in order to improve their understanding of transboundary air pollution concerns and to increase their capability to control such pollution.
2. In implementing this Article, the Parties may seek the advice of the International Joint Commission regarding the advice of monitoring activities.

### ARTICLE VII

#### Exchange of Information

1. The Parties agree to exchange, on a regulate basis and through the Air Quality Committee established under Article VIII, information on:
  - (a) monitoring;
  - (b) emissions;
  - (c) technologies, measures and mechanisms for controlling emissions;
  - (d) atmospheric processes; and
  - (e) effects of air pollutants, as provided in Annex 2.
2. Notwithstanding any other provisions of this Agreement, the Air Quality Committee and the International Joint Commission shall not release, without the consent of the owner, any information identified to them a proprietary information under the laws of the place where such information has been acquired.

### ARTICLE VIII

#### The Air Quality Committee

1. The Parties agree to establish and maintain a bilateral Air Quality Committee to assist in the implementation of this Agreement. The Committee shall be composed of an equal number of members representing each Party. It may be supported by subcommittees, as appropriate.

2. The Committee's responsibilities shall include:
  - (a) reviewing progress made in the implementation of this Agreement, including its general and specific objectives;
  - (b) preparing and submitting to the Parties a progress report within a year after entry into force of this Agreement and at least every two years thereafter;
  - (c) referring each progress report to the International Joint Commission for action in accordance with Article IX of this Agreement; and
  - (d) releasing each progress report to the public after its submission to the Parties.
3. The Committee shall meet at least once a year and additionally at the request of either Party.

#### ARTICLE IX

##### Responsibilities of the International Joint Commission

1. The International Joint Commission is hereby given, by a Reference pursuant to Article IX of the Boundary Waters Treaty, the following responsibilities for the sole purpose of assisting the Parties in the implementation of this Agreement:
  - (a) To invite comments, including through public hearings as appropriate, on each progress report prepared by the Air Quality Committee pursuant to Article VIII;
  - (b) to submit to the Parties a synthesis of the views presented pursuant to sub-paragraph (a), as well as the record of such views if either Party so requests; and
  - (c) to release the synthesis of views to the public after its submission to the Parties.
2. In addition, the Parties shall consider such other joint references to the International Joint Commission as may be appropriate for the effective implementation of this Agreement.

## ARTICLE X

### Review and Assessment

1. Following the receipt of each progress report submitted to them by the Air Quality Committee in accordance with Article VIII and the views presented to the International Joint Commission on that report in accordance with Article IX, the Parties shall consult on the contents of the progress report, including any recommendation therein.
2. The Parties shall conduct a comprehensive review and assessment of this Agreement, and its implementation, during the fifth year after its entry into force and every five years thereafter, unless otherwise agreed.
3. Following the consultations referred to in paragraph 1, as well as the review and assessment referred to in paragraph 2, the Parties shall consider such action as may be appropriate, including:
  - (a) the modification of this Agreement;
  - (b) the modification of existing policies, programs or measures.

## ARTICLE XI

### Consultations

The Parties Shall consult, at the request of either Party, on any matter within the scope of this Agreement. Such consultations shall commence as soon as practicable, but in any event not later than thirty days from the date of receipt of the request for consultations, unless otherwise agreed by the Parties.

## ARTICLE XII

### Referrals

With respect to cases other than those subject to Article XIII, if, after consultations in accordance with Article XI, an issue remains concerning a proposed or continuing action, activity, or project that is causing or would be likely to cause significant transboundary air pollution, the Parties shall refer the matter to an appropriate third party in accordance with agreed terms of reference.

### ARTICLE XIII

#### Settlement of Disputes

1. If, after consultation in accordance with Article XI, a dispute remains between the Parties over the interpretation of the implementation of this Agreement, they shall seek to resolve such dispute by negotiations between them. Such negotiations shall commence as soon as practicable, but in any event not later than ninety days from the date of receipt of the request for negotiation, unless otherwise agreed by the Parties.
2. If a dispute is not resolved through negotiations, the Parties shall consider whether to submit that dispute to the International Joint Commission in accordance with either of those options, they shall, at the request of either Party, submit the dispute to another agreed form of dispute resolution.

### ARTICLE XIV

#### Implementation

1. The obligations undertaken under this Agreement shall be subject to the availability of appropriated funds in accordance with the respective constitutional procedures of the Parties.
2. The Parties shall seek:
  - (a) the appropriation of funds required to implement this Agreement;
  - (b) the enactment of any additional legislation that may be necessary to implement this Agreement;
  - (c) the cooperation of State and Provincial Governments as necessary to implement this Agreement.
3. In implementing this Agreement, the Parties shall, as appropriate, consult with State or Provincial Governments, interested organizations, and the public.



ARTICLE XVExisting Rights and Obligations

Nothing in this Agreement shall be deemed to diminish the rights and obligations of the Parties in other international agreements between them, including those contained in the Boundary Waters Treaty and the Great Lakes Water Quality Agreement of 1978, as amended.

ARTICLE XVIEntry into Force, Amendment, Termination

1. This Agreement, including Annexes 1 and 2, shall enter into force upon signature by the Parties.
2. This Agreement may be amended at any time by agreement of the Parties in writing.
3. Either Party may terminate this Agreement upon one year's written notice to the other Party, in which case any annexes will also terminate.
4. Annexes constitute an integral part of this Agreement, except that, if an annex so provides, either Party may terminate such annex in accordance with the terms of that annex.

IN WITNESS WHEREOF, the undersigned have signed this Agreement.

DONE in duplicate, at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 1991, in English and French languages, each version being equally authentic.

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\* Signed Mar. 13, 1991. Provided by United States Information Service, Ottawa, Canada, telephone number, 613-238-5335.