807 Globalization in Environmental Regulation: the View from the United States and Canada

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Ahab Abdel-Aziz is the chairman of Osler, Hoskin & Harcourt LLP's Environmental Law Group and coordinator of the firm's Environmental Litigation Specialty Group in Toronto. His principal focus is on developing legal strategies and policies which enable corporations to meet their legal environmental civil and regulatory liabilities while at the same time reducing the environmental cost of business. In addition, he appears as defense counsel in civil environmental litigation and in quasicriminal and regulatory prosecutions.

Prior to joining Osler, Hoskin & Harcourt LLP, Mr. Abdel-Aziz served as a clerk of the Federal Court of Appeal. He has also served as in-house counsel in charge of environmental matters for a major integrated oil company. While acting in that capacity, Mr. Abdel-Aziz advised the company on environmental regulatory compliance, civil disputes, criminal prosecution, and the environmental law implications of transactions.

He is currently a member of the National Round Table on the Environment and Economy's (NRTEE) brownfields task force and has been charged with drafting a national brownfields strategy. NRTEE reports to the Prime Minister of Canada. Mr. Abdel-Aziz has also served as a member of the Ontario Bar Association's Environmental Law Section Executive, and as a member of the executive of the Environmental Crimes and Enforcement Committee of the ABA's Environmental Law Section.

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Karl S. Bourdeau is a director in the Washington, DC office of Beveridge & Diamond, P.C., which has specialized in handling complex environmental matters. Mr. Bourdeau has practiced environmental law exclusively, engaging in a broad range of legislative, litigation, transactional, and counseling matters.

In his prior capacity as chairman of the firm's international environmental practice group, Mr. Bourdeau oversaw and coordinated the firm's wide-ranging representation of clients in international fora and foreign jurisdictions on environmental matters. He remains active in that practice, which encompasses, among other things, counseling on the environmental aspects of multilateral environmental and trade agreements and the evolving environmental regulatory and liability regimes of countries throughout the globe.

Mr. Bourdeau graduated from Muhlenberg College summa cum laude with a BS and received his law degree from Harvard Law School, where he served as Federal Developments Editor of the *Harvard Environmental Law Review*.

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Jack S. Mustoe is senior vice president, legal and general counsel, NOVA Chemicals and is also responsible for NOVA's purchasing function. Mr. Mustoe joined NOVA Corporation of Alberta 14 years ago as vice president, general counsel and corporate secretary and was later named senior vice president, general counsel and corporate environmental officer of NOVA Corporation. He assumed his current position in 4 years ago.

Prior to joining NOVA, Mr. Mustoe served as senior legal counsel for Dome Petroleum Ltd. and as assistant general counsel for Norcen Energy Resources Ltd.

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THE GLOBALIZATION OF INTERNATIONAL AND DOMESTIC ENVIRONMENTAL LAW: THE VIEW FROM CANADA

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The scope of the globalization of markets extends beyond the international movement of capital, production and trade. As international economic interdependencies become more explicit and the competition for capital becomes more urgent, nation-states have placed greater emphasis on multilateral rule making in a number of areas, including environmental law. Multilateral environmental initiatives offer governments ready-made tools for responding to domestic and international pressures for the effective management of environmental impacts, while at the same time providing (at least) the appearance that such regulation will be a neutral factor in the competition for capital. In reality, however, the particular political, constitutional or economic circumstances of participating nations, together with the manner of implementation of often vague international principles, can lead to the development of variable regulatory regimes.

In this paper we will examine briefly the evolution of international environmental initiatives over the last three decades—from the multilateral enunciation of principles to the implementation of wide-ranging international regulation of specific substances and sectors. We will then examine the impact of multilateral initiatives on the development of federal environmental law and on the increasing centralization of environmental regulation in Canada. In this context we will also consider some of the contradictory pressures building within the Canadian system. In particular, we will consider the increasing criminalization of environmental law (arising out of limitations on the constitutional jurisdiction of the federal government) in circumstances where reliance is increasingly placed by the government and the courts on the so-called "Precautionary Principle" (arising out of international initiatives to which Canada subscribes).

Finally, we will briefly consider some of the tools for advocacy available in the Canadian context for the purpose of challenging arbitrary rule making and regulatory actions that are inconsistent with the best available science.

PART I— BACKGROUND: INTERNATIONAL ENVIRONMENTAL REGULATORY TRENDS

International action on environmental issues derives primarily from concern over the ecological and economic impact of trans-boundary pollution. The principles that have informed the nature and direction of such action can be traced to several early cases involving international law. The arbitration decision in *Trail Smelter*[1] documents an early instance of the creation of an international environmental obligation. In that case, the court stated that nations are obliged to avoid using or enabling the use of their sovereign territory in a manner that will injure the territory of another nation or the property of persons within that territory. This principle was re-

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[1] Trail Smelter (U.S. v. Can.), 3 R.I.A.A. 1938, Mar. 11, 1941.

affirmed by two subsequent decisions: the International Court of Justice's decision in the *Corfu Channel* case[2] and the *Lac Lanoux*[3] arbitration.

While these decisions played a significant role in laying the foundation of international environmental law, international agreements have played a much greater role in establishing international norms. In particular, three specific international negotiations resulting in multilateral agreements have played a key role in the development of the principles that underlie international environmental law as it exists today.[4]

The *United Nations Conference on the Human Environment* held in Stockholm in 1972 represents the first landmark development.[5] The Stockholm Conference has been described as the beginning of environmental awareness in the international community.[6] The Stockholm Conference culminated in the *Stockholm Declaration,* which is a non-binding statement of principles intended to guide the development of environmental regulation by participating states.[7] One of the most important provisions (Principle 21) affirms that states are responsible for those actions within their borders that have environmental impacts within the borders of other states. The *Stockholm Declaration* represents the first multilateral agreement asserting the responsibility of individual nation-states for trans-boundary pollution. The generality of the principles espoused within the *Stockholm Declaration* is representative of the early phases in the development of public international environmental law.

The report of the World Commission on Environment and Development, *Our Common Future* (1987), commonly referred to as the Brundtland Report,[8] is the second landmark development in the arena of international environmental law. The Brundtland Report is important because it enunciated the concept of "sustainable development", which has subsequently become firmly entrenched as a guiding principle for domestic environmental regulation around the world. The report defined sustainable development as "*development which meets the needs of the present without compromising the ability of future generations to meet their own needs*". The report also observed that "*sustainable development aims to promote harmony among human beings and between humanity and nature*". The report called for the use of the concept of "sustainable development" as a guiding principle in the development of economic policy by individual nation-states. The report also promoted conservation and highlighted the need to provide special protection for unique ecosystems and human settlements. In developing these principles and

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[2] (Merits) (U.K. v. Albania) (1949), I.C.J.

[3] *Lac Lanoux Arbitration* (France v. Spain) (1957), 12 RIAA 281.

[4] J. Benickson, *Environmental Law,* 2nd ed. (Toronto: Irwin Law, 2002) at 61. [Hereinafter Environmental Law.]

[5] Declaration of the United Nations Conference on the Human Environment, 16 June 1972, 11 I.L.M. 1416. [Hereinafter Stockholm Conference.] . The Stockholm Conference is widely regarded as the historical precursor to the 1992 United Nations Conference on Environment and Development

[6] Halpern, S. 1992. United Nations Conference on Environment and Development: Process and documentation. Providence, RI: Academic Council for the United Nations System (ACUNS).

[7] Ibid., at p.1.

[8] The World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press, 1987) [Hereinafter Bruntland Report].

goals, the Brundtland Report assumed that environmental and economic issues were interconnected and that, ultimately, they must be addressed through a global strategy. Consequently, the report emphasized the need for reform of environmental principles at the international level, even as nation-states pursue their individual commitment to sustainable development.

The *United Nations Conference on Environment and Development at Rio de Janeiro* ("UNCED") represents the third and most recent landmark event in the development of international environmental law. More than 170 countries, 108 of which represented by their heads of state, and 2400 non governmental organizations, met in Rio de Janiero in 1992, for UNCED.[9] The UNCED is significant for it marked the transition from multilateral agreements based on non-binding statements of principle to binding multilateral international environmental regulatory initiatives. UNCED participants signed a number of important environmental conventions. These included the "Rio Declaration on Environment and Development"[10] (the "*Rio Declaration*"), the "Framework Convention on Climate Change",[11] the "Convention on Biological Diversity"[12] and the "Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests".[13] Two of these, The Framework Convention on Climate Change and the Convention on Biological Diversity, were formal treaties with binding provisions applicable to signing parties. The other UNCED agreements were non-binding statements on the relationship between sustainable environmental practices and the pursuit of social and socio-economic development.[14]

The *Rio Declaration* enunciates 27 principles that the signing nations have agreed to use as the basis for their treatment of environment and development issues. It is similar in content to the 1972 *Stockholm Declaration*, but it also contains many new elements that significantly expand upon the international principles embodied in the earlier document. Notably, the *Rio Declaration* includes:

- a statement of the so-called "precautionary approach";
- a reference to a "right to development";
- an assertion of the obligation to undertake environmental impact assessments;
- an affirmation of the desirability of a supportive and open economic system; and
- a statement that each individual shall have open access to information concerning the environment that is held by public authorities, including information on hazardous materials

[9] University of Hamburg, UN Conference on Environment and Development, 1992.

[10] (1992) 31 I.L.M. 874.

[11] (1992) 31 I.L.M. 849.

[12] (1992) 31 I.L.M. 818.

[13] (1992) 31 I.L.M. 881.

[14] Ibid.

and activities in their communities, and the opportunity to participate in decision-making processes."[15]

The UNCED also resulted in the adoption of Agenda 21. This document outlines a comprehensive environmental regulatory agenda in areas such as water and coastal management, combating poverty, health care and price and trade policies linked to environmental objectives. To date, Agenda 21 has played a significant role in guiding the development of domestic environmental regulation, especially in developing countries.

These three landmark developments have played important roles in setting the direction and defining the scope of international action on environmental issues. They have brought forth the significant policy cornerstones of international environmental law.[16] The most universal of these is the duty to prevent trans-boundary harm as enunciated in Principle 21 adopted at the Stockholm Convention.[17] Broadly speaking, this tenet lay at the root of all international environmental principles. This principle, which originated in case law, has become the most widely accepted principle of international environmental law. Similarly, the notion of "sustainable development", as articulated in the Brundtland Report and re-affirmed in the 1992 Rio de Janeiro Convention, has been widely adopted as a guiding principle in the development of domestic environmental regulation around the world. This concept promotes the view that economic development patterns should meet precise needs without compromising future development and the environment. Finally, the "Precautionary Principle" has been gaining significant acceptance and has become widely present in both international agreements and domestic legislation. On one of its many incarnations, this principle postulates that the "lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat". This principle has also been developed within more recent treaties such as the *Climate Change Convention.*[18]

These principles have played a significant role in setting the domestic environmental policy agendas of participating states and they have formed an important interpretative backdrop to the implementation of the myriad of specific international environmental instruments that come to be reflected in domestic environmental law.

The Internationalization of Canadian Environmental Law

While the myriad of international environmental instruments have been developed and adopted for the purpose of creating international norms, these multilateral agreements take on a meaningful existence only in so far as they affect the environmental policy and regulatory activities of participating nation-states. Environmental agreements have been defining, with increasing specificity, systematic common approaches to environmental issues of common interest, and these approaches are in turn coming to be increasingly reflected within the domestic

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[15] See R. K. Paisley, *Sustainable Development: The Environment and the Pacific Rim: Looking Ahead to the 21st Century*, (1993) 27 U.B.C. L. Rev. 107 – 111.

[16] E. Hughes, *International Environmental Law, in Canadian Environmental Law*, 2nd edition Butterworths.

[17] See, for example, the Stockholm Conference; the Rio Declaration; and OECD Council Recommendation C(74)224, Nov. 14, 1974, Title B(2), *in* OECD, OECD and the Environment 142 (1986).

[18] (1992) 31 I.L.M. 874, Principle 15.

regulatory systems and environmental law of nation-states around the world. This phenomenon of multilateral or collective responses to the global implications of environmental issues has been termed the "internationalization" or "globalization" of environmental regulation.[19]

International environmental agreements have directly influenced the development of the Canadian domestic environmental regime. The impact of international agreements on domestic policy can be illustrated by the examination of three representative areas of environmental regulation; namely, (1) hazardous waste; (2) air pollution and ozone depleting substances and (3) biosafety. These three areas have been the subject of a most comprehensive array of international action, and, as a direct result of Canada's undertaking of these international obligations, these areas have also become the subject of specific intense regulatory action in Canada. [20]

Regulation of Hazardous Waste

The management and trans-boundary movement of hazardous wastes has been made subject to regulation at the international level under the *Basel Convention*.[21] The convention requires that parties ban imports or exports if there is "reason to believe that the wastes in question will not be managed in an environmentally sound manner." Under the convention, the obligations of

[19] See R.W. Hahn & K.R. Richards, "The Internationalization of Environmental Regulation" (1989) 30 Har. Int'l L.J. 421.

[20] Extensive international regulation has also occurred in various other areas. For instance, the international regulation of ocean dumping began under the 1972 *Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter (London Dumping Convention)* (1972) 11 I.L.M. 1294, 26 UST 2403 which was amended (1979) 18 I.L.M. 499. The convention regulates the conditions under which ocean dumping is permitted and what substances cannot be dumped in the ocean. The list of substances which are prohibited and which have special restrictions goes beyond the outlining of environmental principles and demonstrates international regulation of these issues. Prohibited items include ogranohalogens, mercury, cadium, persistent plastics, oil, high level radioactive waste, biological and chemical warfare agents. Special restrictions apply to substances such as arsenic, lead copper, zinc, organosolicons, cyanides, fluorides, pesticides, beryllium, nickel, vanadium, scrap metal, bulky wastes, and some radioactive materials. A permit system was developed in which dumping could only take place through the fulfillment of the requisite conditions, subject to emergency situations. This agreement was legislated into Canadian law under the *Canadian Environmental Protection Act* (S.C. 1999, c.33, Part 7, Division 3; as well as *Ocean Dumping Regulations*, 1988, SOR/89-500 as amended). Beyond the *London Dumping Convention* there have been a number of treaties which expanded the regulation of ocean dumping. The *Protocol* to the *London Dumping Convention* as well as the *Helsinki Convention* (the *Helsinki Protocol (Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30%* (1987), (1988) 27 I.L.M. 707, 1985) and *Oslo Convention* the Oslo *Protocol* (*Protocol to the 1979 LRTAP Convention on the Further Reduction of Sulphur Emissions* (1994) 33 I.L.M. 1540). have demonstrated further and more explicit international regulation of ocean dumping issues. International environmental regulation can also be seen in the area of endangered species. The *Convention for the Regulation of Whaling with Schedule of Whaling Regulations* (TIAS 1Y49, 161 UNTS 72, 1946) is an early example. This convention resulted in the International Whaling Commission which regulated whaling by initially outlining a quota system. This developed into the creation of a sanctuary which eventually became a ban on commercial whaling in 1982. Other examples of regulation of endangered species includes: the *International Agreement on the Conservation of Polar Bears and their Habitat* (1976), CTS 24, which outlines standards to implement hunting regulation and quotas; and the *Convention on International Trade in Endangered Species* (CITES), (1975), CTS 32 which regulates and restricts trade in numerous endangered species.[20]

[21] *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 22 March 1989, 28 I.L.M. 657.

signatory parties include notification of proposed shipments of hazardous wastes destined either for final disposal or recycling to be given by the exporting country to the importing country. A positive obligation also operates on parties to pass implementing legislation.[22]

Canada is a party to *The Basel Convention.*[23] Canada ratified the initial *Basel Convention* with the *Export and Import of Hazardous Waste Regulations* ("EIHWR") in 1992.[24] The provisions of the *Canadian Environmental Protection Act* ("CEPA")[25], the governing Canadian federal environmental legislation, conforms to the requirements of the *Basel Convention.* CEPA allows Canada to:

- implement its obligations to control the trans-boundary movement of hazardous wastes and hazardous recyclable materials;[26]
- prohibit exports or imports of hazardous wastes and hazardous recyclable materials as required under international agreements;[27]
- control the trans-boundary movements of prescribed non-hazardous wastes destined for final disposal;[28]
- require exporters of hazardous wastes and prescribed non-hazardous wastes destined for final disposal to submit reduction plans;[29]
- and prescribe conditions for the environmentally sound management of hazardous wastes and hazardous recyclable materials.[30]

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[22] Hazardous wastes are also regulated internationally through the *London Dumping Convention* as well as the *Convention on the Physical Protection of Nuclear Materials,* which controls the use and transportation of nuclear materials, and the *POPS Convention Stockholm Convention on Persistent Organic Pollutants* (2000), UNEP/POPS/CONF/4 cited online which, among other things, bans the production, import, and export of some internationally produced chemicals such as aldrin, chlorane, dieldrin, endrin, heptachlor, mirex, toxaphene, and PCBs.

[23] *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 22 March 1989, 28 I.L.M. 657.

[24] In the 1995 and 1998 conferences, the *Basel Convention* was amended to include a ban against shipments of hazardous waste from OECD countries to non-OECD countries (Decision III/1). This ban applies irrespective of whether the waste is destined for final disposal or whether it is destined to be recycled. This ban is not yet in effect as there is a requirement that 75% (or 62 ratifications) of the parties present ratify the agreement. As of June 16, 2002, Canada had not yet ratified this amendment and there have been only 30 total ratifications.

[25] S.C. 1999, c.33

[26] Ibid., s.185.

[27] Ibid., s.186.

[28] Ibid., s.185.

[29] Ibid., s.188.

[30] Ibid., s.185(c).

Since 1992, and the adoption of the EIHWR, the commitments that Canada made under the *Basel Convention* have been adopted into its domestic legislative framework.

Ozone Depleting Substances and Air Pollution

International regulation of the Ozone layer has been effected through the 1985 *Vienna Convention for the Protection of the Ozone Layer*[31] and the Montreal *Protocol on Substances that Deplete the Ozone Layer* (1989) (the "Montreal Protocol").[32] These agreements set limits on the use of Ozone Depleting Substances ("ODSs") as well as outline time frames for the elimination of these ODSs.

Under the 1985 *Vienna Convention*, nations agreed to take "appropriate measures ... to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the Ozone Layer."[33] The exact measures to be taken were not specified, but the purpose of the convention was to encourage research, co-operation and the exchange of information. Efforts to build upon the results of the *Vienna Convention* eventually lead to the creation of the Montreal Protocol. The Montreal Protocol stipulated that the production and consumption of compounds that deplete the Ozone in the stratosphere were to be phased out. This was the first international agreement to limit the use of Ozone depleting chemicals. The Montreal Protocol was amended at London in 1990[34] and again in Copenhagen in 1992[35] because ongoing Ozone depletion necessitated the acceleration of the phase-out process of substances originally on the list of ODSs, including the production of fully halogenated CFCs and carbon tetrachloride as well as methyl chloroform. Substances were also added to the list of ODSs through the amendments based on improved scientific understanding of Ozone depletion. The principal elements of the phase-out schedule are as follows, subject to essential use authorizations which are in essence allowable exceptions:

- Halons: 100% elimination by January 1, 1994
- CFC, HBFCs, Methyl Chloroform, Carbon Tetrachloride: 100% elimination by January 1, 1996
- HCFCs: Freeze by January 1, 1996; 100% elimination by January 1, 2030
- Methyl Bromide: Freeze by January 1, 1995; 100% elimination by January 1, 2005[36]

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[31] 22 March 1985, 26 I.L.M. 1529. [Hereinafter *Vienna Convention.*]

[32] 16 Sept. 1987, 26 I.L.M. 1550. [Hereinafter *Montreal Protocol*.] The *Montreal Protocol* has been amended a number of times to increase the list of banned substances based on new scientific research. For a more detailed review of these amendments please refer to the discussion of how international agreements affect domestic environmental regimes.

[33] *Vienna Convention, supra*, Art. 2(1).

[34] *London Amendment and Adjustments to the Montreal Protocol* (1991) 30 I.L.M. 539.

[35] *Copenhagen Amendments* (1992) 32 I.L.M. 874.

[36] It should be noted that developing countries have, on average, a 10 to 15 year grace period to meet these targets.

The Canadian domestic response to these initiatives has been both federal and provincial regulation aimed at eliminating the uses of ODSs, to regulate cross-border control and to regulate equipment in which ODSs are used.

At the federal level, the CEPA and its regulations provide the legislative framework for Canadian compliance with the requirements of the Montreal Protocol. The regulations under CEPA[37] that deal specifically with the substances outlined in the Montreal Protocol and its amendments are outlined through the *Ozone Depleting Substances Regulations*. These regulations prescribe standards for the production of and import and export of ODSs, and satisfy the federal government's compliance[38] commitment under the Montreal Protocol.[39]

Provincial legislatures have also responded and legislated the control of ODSs.[40] Every province in Canada presently has passed regulations to control the use and production of ODSs. Provincial and federal regulation of ODSs has proceeded in a highly consistent manner and every jurisdiction complies with at least the minimum requirements of the Montreal Protocol.[41]

The 1979 *Convention on Long-Range Trans-boundary Air Pollution* (LRTAP) was another important example of international agreements, aimed at regulating air pollution, that have resulted in domestic legislation in Canada.[42] The LRTAP and its major protocols[43] regulate at the

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[37] Ozone Depleting Substances Regulations, 1998 SOR/99-7, (December 16, 1998); Federal Halocarbon Regulations, SOR/99-225, (June 17, 1999).

[38] Ibid., s.7(1) and Schedule 4.

[39] These regulations were designed to implement the protocol and its proceeding amendments and Canada was actually compliant with some requirements earlier than was agreed to under their international obligations. The *Ozone Depleting Substances Regulations*, for example phased-out CFC and carbon tetrachloride production and imports in 1995 Ibid., Reg 7(1) and Schedule 4 a year before their international obligation. The following outlines the ratification dates of the *Montreal Protocol* by the federal government: (1) Montreal Protocol (1987), ratified by Canada June 30, 1988, entered into force in Canada January 1, 1989; *London Amendment* (1990) ratified by Canada July 5, 1990, entered into force in Canada August 10, 1992; and *Copenhagen Amendments (1992)* ratified by Canada March 16, 1994, entered into force in Canada June 16, 1994.

[40] See, for example, Alta. Reg. 125/93; *Ozone-Depleting Substances Regulations,* B.C. Reg. 53/93; *Ozone-Depleting Substances Control Act,* 1993, S.S. 1993, O-8.1; *Ozone-Depleting Substances Control Regulations,* R.R.S. c. O-8.1, Reg.1; *Ozone-Depleting Substances Act,* S.M. 1989-90, c. 38; N.B. Reg. 93-202; & N.B. Reg. 95-170; *Ozone-Depleting Substances and Replacement Regulations,* E.C. 619-94; & *Environment Act,* S.Y. 1991, c. 5, s. 145.

[41] See Environment Canada, Comparison of ODS Regulations in Canada *Regulatory Status as of December 31, 1999* online at: http://www.ec.gc.ca/ozone/regs/compE.htm .

[42] *Convention on Long-Range Transboundary Air Pollution*, 13 November 1979, 18 I.L.M. 1442. [Hereinafter LRTAP.]

[43] The *Helsinki Protocol (Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30%* (1987), (1988) 27 I.L.M. 707, 1985); the Oslo *Protocol (Protocol to the 1979 LRTAP Convention on the Further Reduction of Sulphur Emissions* (1994) 33 I.L.M. 1540); the Sophia Protocol (*1988 Protocol to the 1979 Convention on Long Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxide or their Transboundary Fluxes* (1989) 28 I.L.M. 212); the VOC Protocol (*The Volatile Organic Compounds Protocol* (1991) 31 I.L.M. 568); the Geneva Protocol (1991 (volatile organic compounds); the Aarhus Protocol, (*1998) UN ECE Protocol to the 1979 Convention on LRTAP on Heavy Metals* cited online at: http://www.unece.org/env/lrtap; *The Gothenburg Protocol to Abate Acidification, Eutrophication and Ground Level Ozone* cited online at: http://www/unece.org/env/lrtap .

international level and control such substances as sulphur, nitrogen oxide, persistent organic pollutants, and heavy metals.[44] The 1979 Convention attempted to provide a framework through which countries would limit, gradually reduce and eventually prevent air pollution.[45] This included the monitoring of long-range trans-boundary air pollution by encouraging co-operation and the exchange of information between countries. Numerous protocols to LRTAP were negotiated in relation to specific substances and established more specific reduction targets for certain air pollutants, including sulphur emissions, nitrogen oxides and volatile organic compounds.[46] For its part, Canada ratified the LRTAP on December 15, 1981, and subsequently, the United Nations Economic Commission for Europe conducted a status review of implementation[47] on the substantive protocols in force[48] and found that Canada had made the required reductions in emissions.[49]

The principles enunciated in LRTAP have been reflected in the provisions of CEPA regarding the control of toxic substances. For instance, many of these substances are on the toxic substances list[50] and, thus, are regulated by Environment Canada. As well, CEPA contains various provisions pertaining to international pollution which are attributable to LRTAP. CEPA gives Environment Canada the power to regulate any substance released from Canada that may create or reasonably be believed to contribute to air pollution.[51] Finally, Canada's determination to live up to its international commitments[52] is reflected in the fact that CEPA specifically

[44] For a more detailed review of their regulation see the section on the effects that international agreements have on domestic environmental regimes.

[45] LRTAP, *supra*, Art. 2.

[46] See note 42.

[47] Cited online at: http://www.unece.org/env/lrtap/conv/conclusi.htm .

[48] The Oslo Protocol, the Helsinki Protocol, the Sophia Protocol and the Geneva Protocol.

[49] A review Canada's 1993 emission rates found that they had exceeded their international commitments in reducing the levels of emissions by more than 30% and thus were in compliance with the Helsinki Protocol. The review was unable to determine if Canada was in compliance with the Sofia Protocol and the Geneva Protocol as there was incomplete data. With respect to the Oslo Protocol, Canada was excepted from the standards because it is subject to the *United States/Canada Air Quality Agreement* of 1991, for which a specific derogation from applying emission limit values is provided in the Protocol.

[50] CEPA, *supra,* s.66.

[51] CEPA, *supra,* s. 167.

[52] This means that the agreements that Canada enters into on the international front cannot be ignored once Canada agrees to be bound by them. This also means that not only will Canadians be subject to regulation of substances that make it onto the lists, but substances that are not on any of the Canadian lists as candidates for action because they have been screened through the system set out in the Act to determine risk posed and the level of action required, can still end up requiring pollution prevention action because they are a part of a binding international agreement dealing with air and water pollution. A person can be faced with implementation of pollution prevention for something outside CEPA.

addresses and seeks to regulate issues of air pollution in Canada having effects in other countries or which involve violations of any international agreements.[53]

The 1979 Convention also resulted in additional initiatives to reduce SO^2 and VOC, and the federal government created several target programs in recent years under a framework for air quality management established by the National Air Issues Co-ordinating Mechanism. These include the Acid Rain Control Program (1985), the NO/VOCs Management Plan (1991) to reduce Ozone smog, and the Accelerated Reduction-Elimination of Toxics (ARET) voluntary agreement. Under federal-provincial agreements, the provinces assumed responsibility for the implementation of these programs. The Canadian government has also signed an Air Quality Accord (1991) with the United States, mostly to address acid rain problems, but also to address other air management issues.

The federal and provincial governments also co-operated to develop and introduce programs to reduce the levels of emissions after the ratification of LRTAP. For example, the Ontario Countdown Acid Rain Program was developed to address concerns by the Ontario government that four companies accounted for over 70% of Ontario's total emissions. This domestic regime reflected and developed from international agreements entered into by Canada.

Further international initiatives to regulate air pollution and Ozone depletion have developed in the context of efforts to regulate the emission of green house gases. The *Climate Change Convention*[54] set the framework for the creation of the Kyoto Protocol,[55] a detailed regulation of emissions of greenhouse gases that outlines targets for individual countries for the reduction of emissions, and sets out an overall emissions reduction target of at least 5% by 2008-2012.[56] The protocol also establishes how emissions reductions are to be calculated, how a projected emission trading mechanism is to function and how credit may be obtained for emission reduction by engaging in development in developing countries.[57] Although Canada has not yet ratified the Kyoto Protocol, the federal and provincial governments have begun discussions aimed at ratification and implementation and the Prime Minister has indicated that he expects the Protocol will be implemented. Further, a number of initiatives undertaken by the federal government, such as the Clean Air Initiative, appear to be put in place in anticipation of the Kyoto Protocol being ratified[58].

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[53] CEPA, *supra,* s. 166. The international air pollution provisions apply to pollution that violates or is likely to violate "an international agreement binding on Canada in relation to the prevention, control or correction of pollution". If there is a violation, the provisions state that the Minister must do one of the following: (1) publish a notice under s.56(1), requiring the person to whom it is directed to implement a pollution prevention plan; or (2) recommend a regulation to the Governor in Council for the purpose of preventing, controlling or correcting the pollution (s.166(3), s.176(3)).

[54] *UN Framework Convention on Climate Change* (1992) 31 I.L.M. 849.

[55] *Kyoto Protocol to the UN Framework Convention on Climate Change* (1998) 37 I.L.M. 22.

[56] Ibid., Art. 3(1). These reduction target is based on 1990 levels for carbon dioxide, methane and nitrous oxide, while HFCs, PFCs, and sulphur hexafluoride can be measured at either the 1990 or 1995 levels Ibid., Art. 3(7) and Art. 3(8).

[57] Ibid., Art. 7.

[58] Discussed to greater detail in Part II of this paper

Biosafety

The *Convention on Biological Diversity*[59] gave rise to a series of regulations relating to biosafety. The convention outlined ways to protect habitats and required the management of resources by states within and outside protected areas. The convention placed a duty on participating parties to conserve biological diversity within their jurisdiction as well as outside their jurisdiction, in certain cases[60]. It also placed an obligation on states to provide for environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity.[61] Building upon initiatives undertaken under the *Convention on Biological Diversity*, the *Cartegena Protocol on Biosafety*[62] (the "Cartegena Protocol") created specific regulations with respect to biosafety in the international arena. The protocol requires states to notify other states if they plan to transport and release genetically modified organisms ("GMOs") onto their land. Further, the importing state has the power to regulate or even ban the importation of that GMO.[63] There is also regulation of how genetically modified food or feed is labeled and transported.[64]

Much of the significance of the *Convention on Biological Diversity* lies in the fact that it is a prime example of an international agreement driving domestic regulation. Adopted in May 1992, the objectives of the convention included the following:

(a) the conservation of biodiversity;

(b) the sustainable use of biological resources; and

(c) the fair and equitable sharing of benefits resulting from the use of genetic resources.

Canada ratified the agreement on December 4, 1992. Although Canada did not oblige itself to any specific targets under the agreement, Article 6 called for the development of national strategies and the integration of biodiversity into sectoral and cross-sectoral decision-making. Canada responded to this requirement by creating the Canadian Biodiversity Strategy (1996), which has since won full provincial and territorial endorsement.

The goals of the Canadian Biodiversity Strategy include the following:

(a) to conserve biodiversity and use biological resources in a sustainable manner;

(b) to improve our understanding of ecosystems and increase our resource management capability;

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[59] (1992) 31 I.L.M. 818.

[60] Ibid., Art. 4.

[61] Ibid., Art. 14.

[62] Cited online at: http://www.biodiv.org/doc/legal/cartagena-protocol-en.pdf .

[63] Ibid., Arts. 7-10.

[64] Ibid., Arts. 11, 18, 20.

(c) to promote an understanding of the need to conserve biodiversity and use biological resources in a sustainable manner;

(d) to work with other countries to conserve biodiversity, use biological resources in a sustainable manner; and

(e) to share equitably the benefits that arise from the utilization of genetic resources.

The report also called for a strengthening of the biotechnology provisions of CEPA. In the time since the publication of this report, biotechnology was listed as a matter to be regulated under CEPA.[65]

The principles of the *Convention on Biological Diversity* can be seen at work throughout CEPA. For instance, the preamble of CEPA demonstrates a domestic commitment to biological diversity. At paragraph 15, the Preamble states that:

> the Government of Canada will endeavor to remove threats to biological diversity through pollution prevention, the control and management of the risk of any adverse effects of the use and release of toxic substances, pollutants and wastes, and the virtual elimination of persistent and bioaccumulative toxic substances …

Under CEPA, an administrative duty is created acknowledging the obligation to protect biodiversity. CEPA states that responsibility to be:

> to protect the environment, including its biological diversity, and human health, from the risk of any adverse effects of the use and release of toxic substances, pollutants and wastes …[66]

CEPA also creates the power to enact regulations to protect biological diversity, a fundamental principle of the *Convention on Biological Diversity*.[67] Co-operation with international agencies and groups to further research and development for this purpose is also provided for in CEPA.[68]

"The Precautionary Approach", which was given particular emphasis in the convention, has likewise come to drive much of Canada's environmental regulatory agenda. This influence is clearly evident in CEPA. The preamble to *Convention on Biological Diversity* states:

> Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat …

In further listing the duties of the government of Canada in administering the act, the provisions of CEPA state that the government should:

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[65] Biotechnology is treated in Part 6 of CEPA.

[66] CEPA, *supra*, s.2 (1) (j).

[67] CEPA, *supra*, s.330.

[68] CEPA, *supra*, s.44(3)

> exercise its powers in a manner that protects the environment and human health, applies the Precautionary Principle that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation, and promotes and reinforces enforceable pollution prevention approaches …[69]

Canada gave further evidence of its commitment to the principles laid out in the Convention on Biological Diversity by signing the *Cartagena Protocol on Biosafety*, which was an extension of the *Convention on Biological Diversity.* Canada's decision to sign the *Cartagena Protocol* was taken after consultations with provincial and territorial groups as well as environmental groups, importers and exporters. The objective of the *Cartagena Protocol*, outlined in Article 1, is:

> to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on trans-boundary movements.

The *Cartagena Protocol* establishes an agreement procedure that is designed to ensure countries are provided in advance with the information needed to make informed decisions about entering into agreements relating to the importation of living modified organisms into their territory. It also regulates the transboundary movement of living organisms that are the products of biotechnology and that may have adverse effects on biodiversity. Among other issues, the Cartagena Protocol also addresses the topic of living modified organisms (LMOs) that have been bio-engineered to enhance or perform specific functions.

Although Canada signed the protocol in April 2001, it has not yet been ratified. The government has stated that it is considering initiatives for the 2002-2003 fiscal year, including the creation of regulations to implement its commitment to take action on the principles laid out in the *Cartagena Protocol on Biosafety*.[70]

It is evident that international environmental agreements have had and continue to have a significant effect on the development of the Canadian environmental regulatory agenda. Canada's commitment to these various agreements is such that domestic standards may on occasion exceed the requirements of a specific international agreement. Ratification and compliance with international agreements has been proved to be a driving force that has influenced the character of Canada's approach to the regulation of the environment.

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[69] CEPA*, supra*, s.2(1)(a)

[70] Articles stating government has outlined this initiative are cited online at: http://subscript.bna.com/SAMPLES/ier.nsf/85256269004a991e8525611300214487/f28f7700de4c1b9f85256b88007edb4e?OpenDocument and http://waste.epa.gov.tw/download/news/910326.htm .

PART II DOMESTIC ENVIRONMENTAL REGULATORY TRENDS

As can be seen from the foregoing, Canada has committed itself to the practice of international decision making with respect to environmental issues and examples abound of domestic legislation that the international obligations Canada has assumed. It has become increasingly apparent, however, that a basic divergence exists between certain of the principles that Canada has subscribed to internationally to shape its domestic approach to environmental regulation and lawmaking and the principle of federalism that defines the constitutional structure of Canada. In particular, the assumptions that underlie the idea of "sustainable development" suggest that the potential for positive environmental action is maximized where programmatic solutions to environmental issues are pursued at the broadest possible jurisdictional level – that is, at the level of the nation-state. However, Canada's constitutional structure is such that jurisdiction over environmental issues not specifically referred to or allocated to the provincial or federal government. As a consequence, debates over jurisdiction have come to be played out before the court.

To date, the rulings of the courts have tended to uphold an expanded conception of federal jurisdiction with respect to environmental matters. With the successive court findings in favor of federal jurisdiction to legislate on environmental matters, the federal government has been given a freer hand to initiate programs that more fully reflect its international commitments. That is to say, one of the primary consequence of Canada's participation in international decision and rule making on the environment has been the expansion of the jurisdiction of the federal government to act on environmental issues.

This trend on matters of jurisdiction has had a fundamental impact on the nature of the regulatory initiatives undertaken in the Canadian context. Equipped with broader powers to act, the federal government has moved to embrace a regulatory approach that more fully reflects Canada's international commitments. In doing so, the federal government is dramatically expanding the scope of environmental regulatory activities in Canada.

Regulatory activity in Canada, has undergone through three generations. The first generation tended to focus on regulating the entry of waste into the environment. Emissions and deposits were addressed at the source point. Beyond regulating the release of waste, this generation of regulatory activity also tended to focus on clean up rather than prevention. The second generation of regulatory initiatives gave greater weight to the idea of prevention, emphasizing cradle-to-grave tracking of toxic substances, which represents a significant departure from past practice. This approach moves beyond point of source regulation to include regulation of the manufacture, use, storage, transportation and disposal of toxic substances. In embracing the idea of "sustainable development" as laid down in the Brundtland Report, the federal government is now moving into a third phase of regulatory action; one that treats entire productive and commercial processes, as opposed to individual substances, as the proper subject of regulatory efforts.

Brundtland Report and the Centralization of Domestic Environmental Regulation

The broadest expression of the principles to which Canada has committed itself internationally is embodied within the idea of "sustainable development", which is comprehensively elaborated

within the Brundtland Report.[71] In general terms, the report describes sustainable development as being development that "meets the needs of the present without compromising the ability of future generations to meet their own needs".[72] The detail of the conceptual framework of the Report is of interest in so far as it conveys the ideology that informs it. The global ecosystem is described as a single entity that hosts the whole of human civilization as represented by its diverse cultures and the multiplicity of nation-states.

The health of the global ecosystem is directly affected by the fact that industrial and commercial processes yield consequences that are not part of the objective of producing or circulating goods and services. That is, the current manner in which productive and commercial processes are articulated creates, in addition to their intended outcomes, negative impacts on the global environment. These consequences are "environmental externalities". To address these "externalities" , and for development to be sustainable, steps must be taken to ensure that all environmental externalities are "internalized" That is, the specific character of productive and commercial processes must be recast to acknowledge, address, and eliminate, so far as is possible, the external environmental consequences that previously were an innate though unintended product of the processes themselves.

According to Brundtland, sustainable development is predicated on the idea that many environmental issues are global in nature and that they very often arise as the inherent consequence of productive and commercial processes that are integral to the current articulation of the global economy. Furthermore, the Brundtland Report acknowledges economic globalization and asserts that nation-states remain the most effective vehicle through which human action can be expressed. It stresses the importance of nation – states leading the environmental regulatory effort with the aid of local governments, (implying a centralization of environmental regulatory measures). In effect, the report represented an appeal for a new approach to environmental issues in the global context – one that required nation-states to enter into and implement a host of treaties and conventions to create the conditions in which sustainable development can be achieved in practice.

The Brundtland Report also stresses that the strategies of sustainable development must include the institution of the basic democratic principle of accountability. Hence while nation states were required to address "environmental externalities", this is required to be done through a process which is equitable to the parties affected by the government measures. In this regard, public participation in policy and legislative formulation must be permitted and government regulators must be accountable on the basis of objective evidence.

Division of Powers and Environmental Regulation

Given the structure of Canadian federalism and the constitutional division of powers, it is questionable whether the jurisdiction of the federal government to legislate with respect to the environment can be stretched sufficiently to accommodate the level of comprehensive environmental regulation contemplated by the Brundtland Report. In this context, Canadian courts have, to a degree, intervened through a series of recent decisions to expand federal jurisdiction beyond the traditional understanding of the constitutional division of powers.

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[71] Brundtland Report

[72] Brundtland Report, *supra* at 8

The Canadian Constitution divides jurisdictional powers among the federal[73] and provincial governments.[74] The Constitution contains no specific reference to environmental protection. Accordingly, the jurisdictional issue on environment matters must be inferred from a reading of those jurisdictional provisions that are explicitly enunciated.

The regulation of the environment has been held to be an area of constitutional jurisdiction with respect to which the federal and provincial governments may act. The federal government's power to regulate with respect to environmental matters rests on the powers enumerated in section 91 and is augmented by the federal section 91 "peace, order and good government" ("POGG") authority. POGG enables the federal government to legislate with respect to matters that are beyond provincial capabilities or are of national concern. The federal government has also relied on its plenary power to make criminal law to legislate with respect to environmental issues. Provincial jurisdiction has been based principally on the "local works and undertakings" and "property and civil rights" clauses of section 92. The concurrent federal-provincial constitutional authority provides for flexibility in addressing environmental problems that require integrated solutions. At the same time, this overlap can, and does occasionally, create constitutional conflicts. In such instances, the courts are called upon to decide whether the statute under challenge falls under federal or provincial jurisdiction and whether it is within the jurisdiction of the enacting authority.

In the past, the POGG power was very narrowly construed. However, the POGG power now can be invoked in three circumstances: first, national emergencies; second, new matters not existing in 1867 and which cannot be said to be local matters; and, third, matters once considered to be local but which exceed provincial ability to regulate and which, given their nature, are a "national concern".[75] The first two circumstances are not likely to give rise to a federal prerogative to act with respect to environmental matters, except in rare circumstances. Justifying federal initiatives to regulate the environment is almost always predicated on the basis of an identifiable national concern with respect to which provincial governments are incapable of acting effectively. However, for a matter to qualify as a "national concern" it must "meet the test of singleness or indivisibility": the matter cannot be merely an aggregate of local matters. Rather, it must display a degree of unity that makes the problem inherently indivisible.".[76]

The landmark decision of the Supreme Court of Canada in *R. v. Crown Zellerbach Canada Ltd.,* helps illustrate this point. The decision related to a challenge calling into question the constitutionality of federal provisions dealing with dumping in coastal waters. After determining that provisions of the federal *Ocean Dumping Act* could not be upheld under any of the specific powers listed in section 91, Justice LeDain assessed the statutory scheme against the "national

[73] Federal powers include: s.91(2) (trade and commerce); s.91(3)(taxation); s.91(10)(navigation and shipping); s.91(12) (sea coast and inland fisheries); s.91(24) (indians and lands reserved for indians); s.91(27) (criminal law); s.92(10)(a)(extra provincial works and undertakings0; s.92(10)(c)(works for the general advantage of Canada).

[74] The primary bases of provincial constitutional authority are s.92(2) (direct taxation with the provinces); s.92(5)(management and sale of public lands); s.92(10)(local works and undertakings); s.92(13)(property and civil rights); s.92(15)(enforcement of provincial laws; s.92(16)(local or private matters) and s.109 (control of all lands, mines, minerals and royalties belonging to the several provinces.

[75] *Labatt Breweries of Canada Ltd. v. A.G. Canada,* [1980] 1 S.C.R. 914.

[76] *Re Anti-Inflation Act,* [1976] 2 S.C.R. 373 at 458.

concern" branch of POGG. To satisfy the "national concern" test, the court held that the subject matter of the statute must have "a singleness, distinctiveness, and indivisibility that clearly distinguishes it from matters of provincial concern and a scale of impact on provincial jurisdiction that is reconcilable with the fundamental distribution of legislative power under the Constitution".[77] Taking into account, among other things, the inability of the provinces to deal with problem of ocean dumping, the extent to which the federal measures affected provincial jurisdiction, and the nature of marine pollution itself, Justice LeDain concluded that such pollution, given its "predominantly extra-provincial as well as international character and implications" qualified as a matter of national concern.

In his dissent, Justice La Forest sounded a cautionary note and stated that to "allocate the broad subject-matter of environmental control to the federal government under its general power would effectively gut provincial legislative jurisdiction." The challenge for the courts, he concluded, "will be to allow the federal Parliament sufficient scope to acquit itself of its duties to deal with national and international problems while respecting the scheme of federalism provided by the Constitution". Given that the unity of ecosystems has increasingly come to be accepted as a truism, the provincial inability test, as applied in *Crown Zellerbach*, will create a lower threshold, effectively subordinating provincial prerogatives to the general power of the federal Parliament.

The jurisdiction to manage environmental matters was further examined in *Canada (A.G.) v. Hydro-Quebec.*[78] In this case, the Supreme Court of Canada considered the constitutionality of CEPA's toxic substance provisions. It was concluded that the need for environmental protection lacked the "singleness, distinctiveness and indivisibility" of necessity to satisfy the national concern test under the POGG. Nevertheless, the Supreme Court of Canada upheld the legislation in issue on the basis of the federal criminal law power. The litigation arose out of criminal actions alleged against Hydro-Quebec for allowing PCBs to be released into the environment in quantities greater than what was allowed under an Interim Order issued pursuant to sections 34 and 35 of CEPA, banning the release of toxic substances into the environment in excess of specified quantities. Hydro-Quebec challenged the constitutionality of Sections 34 and 35 of CEPA as being *ultra virus*. Both the majority and minority of the Supreme Court found that environmental protection was a valid public purpose which could legitimately result in prohibitory legislative measures of a criminal nature. The majority and minority differed, however, in their conclusions over whether the provisions of CEPA were *ultra virus.*[79]

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[77] *R. v. Crown Zellerbach Canada Ltd.* [1988] 1 S.C.R. 401.

[78] Canada (A.G.) v. Hydro-Quebec, [1997] 3 S.C.R. 213.

[79] Against Hydro-Quebec's attack of the provisions' regulatory nature, LaForest J., writing for the majority, relied on previous cases in which the federal legislation with regulatory elements had been upheld as valid criminal law. In drawing a parallel with the federal *Food and Drugs Act* and citing the Supreme Court's decision in *RJR-MacDonald***,** LaForest J. analysed the operation of section 34 of CEPA in the following manner:

> In short, s.34 precisely defines situations where the use of a substance in the List of Toxic Substances in Schedule I is prohibited, and these prohibitions are made subject to penal consequences. This is similar to the techniques Parliament has employed in providing for and imposing highly detailed requirements and standards in relation to food and drugs, which control their import, sale, manufacture, labeling …

The majority of the court held that section 97(2) accords Parliament the plenary power to make criminal law in the widest sense: "It is entirely within Parliament's discretion to determine what evil it wishes by penal prohibition to suppress and what threatened interest it thereby wishes to safeguard". The court held that the limit on the federal government's power to legislate is that it cannot "invade areas of exclusive provincial legislative competence". To determine whether such an invasion has occurred, "it is appropriate to determine whether a legitimate public purpose underlies the prohibition." It was held that protecting the environment in that fashion was a "wholly legitimate" objective.

This ruling represents a significant expansion of the federal plenary power to make criminal law. Traditionally, it had always been thought that this power cannot be used to sustain regulatory schemes.[80] In the environmental law field in particular, doubts had been expressed about whether the plenary power to make criminal law could furnish sufficient jurisdictional authority for some of the more elaborate environmental management schemes. Prior to *Hydro-Quebec*, regulatory elements had been upheld as exemptions that could be appended to a criminal ban and its corresponding sanctions in order to define the precise ambit of the crimes targeted.

The provision at issue in *Hydro Quebec* was passed under Part II of CEPA, which deals with the control of toxic substances. The purpose of Part II is to provide a procedure for assessing whether a substance should be regulated and, thus, added to the List of Toxic Substances in Schedule I. When an order to this effect is made, whether to prohibit the use of the substance so added in the manner provided in the regulations made under section 34(1), subject to a penalty, the court held that the "prohibition is enforced by a penal sanction and is under girded by a valid criminal objective, and so is valid criminal legislation."

The dissent, on the other hand, held that:

> [s]ections 34 and 35 do not define an offence at all. Rather, they establish a regulatory regime whereby the Ministers of Health and the Environment can place substances in the List of Toxic Substances and define the norms of conduct regarding those substances on an ongoing basis. It would be an odd crime whose definition was made entirely dependant on the discretion of the Executive … Section 34 allows for the regulation of every conceivable aspect of toxic substances. **[Emphasis added]**

In *Hydro-Quebec,* the majority decision dispels any doubt over whether the plenary power to make criminal law can sustain what are, in effect, complex regulatory schemes. In turning to section 34 of CEPA, it is apparent that the section contains no specific prohibition at all. On the contrary, the provision does not proscribe conduct, rather it authorizes the making of regulations in relation to substances that have been added to the List of Toxic Substances in Schedule I of CEPA. The addressee of the section is not an individual citizen who, on pain of suffering a criminal sanction is given a binding command not to engage in a particular conduct, but rather

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What Parliament is doing in s. 34 is making provision for carefully tailoring the prohibited action to specified substances used or dealt with in specific circumstances. This type of tailoring is obviously necessary in defining the scope of a criminal prohibition, and is of course, within Parliament's power.

[80] S. Deimann, *R.* v. *Hydro-Quebec: Federal Environmental Regulation as Criminal Law (1998),* 43 McGill L.J. 923.

the Governor in Council is vested with comprehensive authority to regulate virtually every aspect of a substance appearing on the List of Toxic Substances.

As is evident in *Crown Zellerbach* and *Hydro-Quebec*, the courts have been readjusting the federal government's jurisdiction over the environment by recasting the issues so that regulation can be effected by claiming jurisdiction under the POGG and plenary power to make criminal law.[81] This readjustment is in line with the principles espoused in the Brundtland Report. In fact, in *Hydro-Quebec* explicit reference is made to the Brundtland Report, which envisioned the following division of labor between national government and local governments in the regulation of toxic substances:

> The regulations and standards should govern such matters as air and water pollution, waste management, occupational health and safety of workers, energy and resource efficiency of products or processes and *the manufacture, marketing, use, transport and disposal of toxic substances. This should normally be done at a national level,* with local governments being empowered to exceed, but not to lower, national norms.[82]

The constitutional division of powers in Canada has thus shifted domestically to reflect imperatives with respect to sustainable development as enunciated in the Brundtland Report.

Evolution of Domestic Environmental Regulatory Schemes

The current judicial interpretation of the constitutional division of powers on environmental issues has been fundamentally influenced by Canada's adherence to the principles laid down in the Brundtland Report. Those principles have also driven the federal government's policy approach in developing and deploying the latest generation of environmental regulatory schemes.

In general, the proposition that the provinces on their own initiative are not adequately positioned to deal effectively with environmental issues given the interconnectedness of ecosystems globally, has gained increasing acceptance domestically. The adoption of the principals behind the Brundtland Report have led the federal government to move beyond its traditional approach regulating activities that have an impact on the environment, as they were too narrow in their conception and scope. And in this connection, the federal government's more recent regulatory initiatives seem to move in the direction of requiring economic activities to internalize the environmental externalities that they produce. This approach represents a significant step beyond both past and current practice with respect to regulatory activity.

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[81] As well, as enunciated in the Brundtland Report, sustainable development requires increased participation in international agreements, which Canada has increasing done. However, at present only the federal executive can enter into binding international commitments on behalf of Canada and there is no treaty implementation power *per se*. Therefore, for Canada's commitments internationally to have any legal meaning domestically, the provinces would have to assent on them as far as they touch upon provincial jurisdiction or the federal government must be able to justify the legislation under one of the residual heads of power. With increasing international commitments, there is further pressure on to centralize environmental management.

[82] Hydro-Quebec*, supra* 219-220.

First and Second Generations of Environmental Regulation in Canada

The first generation of environmental statutes focused on the control of waste deposited on land and emitted into water or the atmosphere. Statutes giving rise to regulatory regimes in this generation identified the waste sources and placed them under regulatory control.[83] The objective of statutes in this first generation of regulatory initiatives was to minimize the amount of waste discharged into the environment. They were based on the notion that the environment, below certain identifiable thresholds, could absorb and break down targeted waste products. This type of regulation focused providing point-source regulation of pollution. For example, the regulation of air and water pollution controls point sources like smoke stacks, exhaust pipes and sewers. It was recognized that existing statute law, such as the common nuisance provisions of the Criminal Code, public health statutes and miscellaneous other provisions scattered through natural resource development statutes did not amount to comprehensive environmental control.[84] Examples of first generation statutes include the *Clean Air Act*,[85] the *Canada Water Act*[86] and the *Fisheries Act Pollution Amendments and Industry Regulations*.[87]

By contrast, the second generation cradle-to-grave regulatory approach tracks and limits the flow of toxic chemicals everywhere the chemicals exist. The approach moves beyond point-source regulation to include regulation of the workplace, storage, transport, use of toxins, and finally the disposal of toxins. These second generation of environmental laws developed from the conclusion that the earlier laws were too narrow in scope and not effectively implemented and embody the view that environmental protection is a long-term process that must be addressed in a preventive and anticipatory manner. The regulatory concern that toxic substances do not respect provincial and national boundaries was also recognized in this generation of laws. The *Canadian Transportation of Dangerous Goods*[88] legislation and the CEPA are representative of second generation environmental regulation in Canada.

Transportation of Dangerous Goods Act

In 1985, the federal government expanded its authority over hazardous substances with the enactment of the TDGA.[89] which is designed to promote public safety in the transportation of dangerous good" both inter-provincially and internationally.[90] The TDGA establishes a schedule

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[83] A. Lucus, "Legal Techniques for Pollution Control: The Role of the Public" (1971), 6 U.B.C.L. *Rev.* 167.

[84] Ibid.

[85] R.S.C. 1985, c. C-32.

[86] R.S.C. 1985, c. C-11.

[87] R.S.C. 1985, c. F-14.

[88] R.S.C. 1985, c. T-19, s.3(1) [Hereinafter TDGA]

[89] Although the TDGA was passed in 1980, it did not come into effect until its regulations were promulgated in 1985.

[90] These include explosives and gases, flammable and combustible liquids and solids, oxidizing substances, poisonous and infectious substances, radioactive materials, corrosives, etc.

of dangerous goods that are subject to regulation. Under the Act, the federal government is authorized to regulate all handling, offer for transport and transport of dangerous goods.[91]

The duties set out under the regulations to TDGA are specific and vary for the different groups or classes of dangerous goods. The duties prescribed in the regulation pertain to safety marks, safety requirements and safety standards that are necessary for the various types of dangerous goods; shipping records and other documents that must be used in handling, offering for transport or transporting dangerous goods; the information that must be included in those documents and the persons by whom and manner in which they must be used and kept; and the quantities or concentrations of dangerous goods in relation to which emergency response assistance plans must be approved.[92]

The TDGA is a typical cradle-to-grave regulation in that it identifies the substances that are to be regulated and prescribes standards and procedures for handling and transporting these substances where ever they go.

The federal TDGA has spawned and been integrated with provincial legislation governing the same activities within intra-provincial jurisdictional bounds. Hence, provincial legislation has followed upon the enactment of the TDGA and has largely adopted the federal legislation by explicit reference, hence providing seamless regulatory coverage for the packaging and movement of toxic substances.

Canadian Environmental Protection Act

CEPA is an even clearer example of cradle-to-grave environmental regulation. CEPA was designed to consolidate and strengthen many of the existing environmental statutes administered by Environment Canada and to establish a cradle-to-grave management system for toxic substances.[93] Specifically, CEPA requires Environment Canada and Health Canada to "categorize" and "screen" 23,000 substances, that are considered to be in use in Canada to

[91] There are 9 classes of dangerous goods. Class 1—explosives; Class 2—gases: compressed, deeply refrigerated, liquefied or dissolved under pressure; Class 3—Flammable and combustible liquids; Class 4—Flammable solids; substances liable to spontaneous combustion; substances that on contact with water emit flammable gases; Class 5—Oxidizing substances; organic peroxides; Class 6—poisonous (toxic) and infectious substances; Class 7—Nuclear substances, within the meaning of the *Nuclear Safety and Control Act*, that are radioactive; Class 8—corrosives; Class 9—miscellaneous products, substances considered to be dangerous to life, health, property or the environment when handled , offered for transport or transported.

[92] The Act prescribes the following, more general duties: an emergency response assistance plan must be in place before offering for transport or importing any quantity or concentration of dangerous goods (s.7); a manufacturer or importer of a container or packaging, must keep records of the persons to whom the manufacturer or importer supplies the container/packaging (s.9); there is a duty to report on any person who has charge, management or control of a means of containment (container/packaging) from which there was an accidental release (or a release was imminent) of dangerous goods above the prescribed quantity or concentration. Such a person also has a duty to take all reasonable emergency measures to reduce or eliminate any danger to public safety that results or may reasonably be expected to result from the release (s.18).

[93] CEPA consolidated the *Environmental Contaminants Act*, the *Ocean Dumping Control Act*, *supra,* the international air pollution and fuels regulation sections of the *Clean Air Act*, and the nutrient regulations of the *Canada Water Act*.

determine whether they are toxic as defined in the Act and, consequently, whether they must be included on the Domestic Substance List ("DSL").[94]

The DSL lists substances that were, between January 1, 1984 and December 31, 1986, in use in the context of Canadian commercial manufacturing processes, or that were manufactured in or imported into Canada in a quantity of 100 kg or more in any calendar year. Types of substances on the DSL include simple organic chemicals, pigments, organometallic compounds, surfactants, polymers, metal elements, metal salts and other inorganic substances. The three largest uses of these substances were fragrances, perfumes, deodorizers and flavoring agents (14%), polymers (11%), and colorants such as pigments, stains, dyes and inks (10%).[95]

While most of the substances on the DSL have not undergone any environmental or human health assessment, CEPA does provide for the systemic assessment of substances on the DSL, a process that comprises two phases:

Screening: This stage entails the categorization of substances and identification of substances that will proceed to the second phase. The Minister assesses the substances on the basis of their inherent toxicity to non-human organisms, persistence and bio-accumulation potential.[96] If the substance does not meet the criteria, then no further action is required for this substance under the categorization and screening exercise;

SLRA: When a substance is categorized as satisfying the criteria for persistence, bioaccumulation and inherent toxicity to non-human organisms, then a screening level risk assessment ("SLRA") is required. The SLRA involves a more in-depth analysis of a substance to determine whether the substance is "toxic" or capable of becoming toxic.

An SLRA results in one of the following actions:

- ***No further action***—If the SLRA indicates that the substance does not pose a risk to the environment or human health, no further action will be taken to regulate the substance.

- ***Substance added to the Priority Substance List***—A substance will be added to the Priority Substance List if a further assessment is necessary to determine more comprehensively the possible risks associated with the release of the substance.

- ***Substance added to the List of Toxic Substances in Schedule I of CEPA***—If the SLRA indicates a clear concern, the substance will be added the List of Toxic Substances in

[94] A substance is "toxic" if it is entering the environment in a quantity or concentration or under conditions that (*a*) have or may have an immediate or long-term harmful effect on the environment or its biological diversity; (*b*) constitute or may constitute a danger to the environment on which life depends; or (*c*) constitute or may constitute a danger in Canada to human life or health (s.6).

[95] D. Dube, R. Breton, R. Chenier, C. Gagnon, P. Harris, D. MacDonald, R. Sutcliffe, *Categorization and Screening of the Domestic Substances List Under CEPA* (InConference, Release 12: November, 1999).

[96] The criteria for persistence and bio-accumulation are to be derived from those in the Toxic Substances Management policy ("TSMP") and are to be included in regulations. All the substances on the DSL must be classified by 2006.

Schedule I of CEPA. These substances would then be considered for regulatory action or other controls.

- ***Virtual Elimination List ("VEL")***—Substances that are persistent, bio-accumulative, inherently toxic substances (only applies to releases, not uses), would be recommended for virtual elimination.

For substances considered toxic, Environment Canada is given authority to regulate the substances cradle-to-grave. Environment Canada may require the preparation of Pollution Prevention Plans,[97] Virtual Elimination Plans[98] and Emergency Response Plans.[99] Pursuant to section 93, the Governor in Council, on the recommendation of the Minister of Environment, may pass regulations with respect to any of the following: the quantity or concentration of the substance that may be released into the environment; places where the substance may be released; quantity of the substance that may be manufactured, used or offered for sale; placing limits on the import/export of the substances; the quantity of the substances that may be contained in a product; the conditions under which the substance or a product containing it may be stored, displayed, handled, transported; and, prescribing requirements for testing and record keeping.[100] Such regulation of the manufacture, use, transport and handling of toxic substances is clearly a cradle-to grave approach to regulation. Further, pursuant to section 94, the Minister is authorized to make an interim order where immediate action is necessary, providing the federal government with even broader decision-making power in the context of environmental regulation. This regulatory scheme is enforced through the use of the federal criminal law power.[101]

Third Phase of Environmental Regulation

While the current incarnations of the TDGA and CEPA are representative of Canada's cradle-to-grave regulation of toxic substances, it is apparent that Canada's move to embrace the principles embodied within the Brundtland Report is giving to a new and even more radical approach to environmental regulation.[102]

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[97] CEPA, *supra*, ss.56-63.

[98] CEPA, *supra*, s.79--where the Minister publishes a statement indicating that virtual elimination of a substance will be implemented, person who is described in the statement will have to prepare and submit to the Minister a plan in respect of the substance in relation to the work or undertaking.

[99] CEPA, *supra*, s.193-205. The Minister may publish a notice requiring an implementation of an environmental emergency plan respecting the prevention of, preparedness for, response to or recovery from an environmental emergency in respect of a substance on the List of Toxic Substances in Schedule 1.

[100] CEPA, *supra*, s.93.

[101] The Act sets out penalties for contraventions of provisions, prohibition or orders arising from the Act or the regulations. Person is liable: on indictment, to a fine of not more than $1,000,000 or to imprisonment for a term of not more than three years, or to both; on summary conviction, to a fine of not more than $300,000 or to imprisonment for a term of not more than six months, or to both (s.272).

[102] Other international initiatives have also resulted in domestic action and law reform. For instance, the initiatives under the Stockholm Declaration, the *Vienna Convention*, the *Montreal Protocol*, etc. have been incorporated in and are clearly reflected in the various provisions of CEPA.

The Brundtland Report spells out institutional and legal systematic deficiencies that are said to stand in the way of sustainable development. The report found that environmental agencies in most nation-states were hobbled in their ability to deal with environmental issues:

> Most … agencies have been confined by their own mandates to focusing almost exclusively on the effects. *Today, the sources of these effects must be tackled*. While … existing environmental protection policies and agencies must be maintained and even strengthened, governments now need to take a much broader view of environmental problems and policies.[103]

Having made this observation, the Brundtland Report concluded that:

> Environmental regulation must move beyond the usual menu of safety regulations, zoning laws, and pollution control enactment; environmental objectives must be built into taxation … foreign trade*, and all components of development policy*.[104] [Emphasis added.]

The Report states:

> …the Environment cannot be protected when growth leaves out of account the costs of environmental protection.[105]

The Brundtland Report concluded that global environmental problems could no longer be approached as discrete phenomena to which decision-makers merely react. Rather, environmental problems have been redefined as being the outward expressions of "environmental externalities" that are the innate product of productive and commercial processes in operation in the global economy. The Brundtland Report advocates that states move towards an approach that forces environmental "externalities" to be "internalized" within the process that gave rise to them in the first place. That is to say that states are encouraged to regulate economic and industrial activity in the context of environmental regulation; something of a reversal of the polarities seen in earlier approaches to environmental regulation. Canada appears to be answering that call.

The third generation approach to environmental regulation is evident in some of the recent developments and program initiatives emerging under CEPA. Environmental regulation is moving from cradle-to-grave regulation towards regulating the products and industries in which these substances exist. Hints of this new approach are evident in the amendments to the CEPA provisions authorizing the regulation of toxic substances. In comparing section 34(1) of CEPA 1988[106] to the corresponding section 93 of CEPA 1999, the only additions or revisions to the Ministerial power to regulate toxic substances were that the federal government is now authorized to regulate the "packaging and labeling of the substance or a <u>product containing</u>"[107] a toxic substances and the "total, partial or conditional prohibition of the import or export of a

[103] Brundtland Report, 311.

[104] Ibid., 64.

[105] Ibid, 37.

[106] *Canadian Environmental Protection Act,* S.C. 1998, c.22.

[107] CEPA, *supra*, s.93(1)(q).

product that is intended to contain the substance".[108] These amendments endow the federal government with broader jurisdiction to regulate the specific products that can or are intended to contain toxic substances.

Strategies other than legislative measures have also been developed to regulate toxic substances in accordance with the principles of sustainable development (i.e. regulation of products or sectors were the products have been produced). For instance, CEPA Part 4 allows for voluntary agreements to be made, whereby a particular industry sector will undertake to regulate itself and/or enter into a memorandum of understanding ("MOU") with the federal government. As will be discussed below, such agreements are currently being entered into in the automotive sector as an alternative to more independent regulatory action.

Similarly, an examination of recent regulatory initiatives undertaken by the federal government to regulate products in the automotive and the dry cleaning industries makes it apparent that the new approach to regulating environmental matters is more comprehensive and in line with some of the approaches to sustainable development enunciated in the Brundtland Report.

Product Regulation in the Automotive Sector—The Clean Air Strategy

The new trend toward product regulation to serve environmental ends has been evident in the initiatives taken by the federal government in regulating the automotive industry. On February 19, 2001, Environment Minister David Anderson made public the details of a ten year Plan of Action for cleaner vehicles, engines and fuels. The Plan of Action represents an integral part of the Government of Canada's Clean Air Strategy. These Clean Air initiatives will be supported by regulations, guidelines and studies over the coming years. Studies undertaken by the federal government have concluded that transportation is the largest source of air pollution in Canada and that the use of engines to power vehicles and equipment and the combustion of transportation fuels have a profound impact on the environment. The strategy sets out a plan to develop new Canadian emission standards for vehicles and engines that are more in line with those standards currently sanctioned by the United States Environmental Protection Agency.

The key elements of the Clean Air Strategy are the regulations that will be promulgated under CEPA, the objective of which is to reduce emissions from:

- cars, vans, pick-up trucks and sports utility vehicles to be phased-in beginning with the 2004 model year;
- large trucks and buses to be phased-in beginning with the 2004 model year;
- off-road diesel vehicles and engines such as those used in the agricultural sector and by the construction industry;
- gasoline utility engines such as those used in snowblowers, lawn mowers, chain saws; and
- outboard marine engines and personal watercraft.[109]

[108] CEPA, *supra*, s.93(1)(m).

[109] Taking Action on Vehicles, Engines and Fuels to Clean the Air and Protect Human Health. http://www.ec.gc.ca/air/taking-action_e.shtml .

A number of regulations devised to address these issues have either been passed or will shortly be enacted. For instance, the proposed *On-Road Vehicle and Engine Emission Regulations* calls for cleaner vehicles to be available in Canada starting September 1, 2003. These measures are intended to cumulatively result in progressively greater annual emission reductions of pollutants contributing to smog. It is estimated that, in 2020, the proposed regulations will contribute to the following emissions reductions from on-road vehicles: nitrogen oxides (-74%), particulate matter (-64%), carbon monoxide (-23%), and volatile organic compounds (-14%).[110]

The *On-Road Vehicle and Engine Emission Regulation* contains the following measures:

- *National Emissions Mark*—A legislative scheme for establishing emission standards for vehicles and engines under CEPA that is based on the use, and conditions for use, of a national emissions mark. The scheme will provide assurance to car buyers that manufacturers of vehicles and engines are in compliance with the standards set out in the regulations. These proposed regulations will establish the national emissions mark and set out the method for obtaining the Minister's authorization to use it.

- *More Stringent Emission Standards*—The proposed regulations set out technical standards for vehicles and engines respecting exhaust, evaporative and crankcase emissions, on-board diagnostics systems and other specifications related to emission control systems. The technical standards corresponding to the U.S. EPA standards are incorporated by reference from the U.S. Code of Federal Regulations to ensure that the standards are identical in both countries. The proposed regulations ensure that on-road vehicles and engines entering the Canadian market, starting with the 2004 model year, will meet progressively more stringent exhaust emission standards.[111] The proposed regulations introduce significantly more stringent emission standards for on-road vehicles and engines. For example, the allowable levels of smog-forming emissions such as NO_x, VOCs and PM from new large sport utility vehicles will be reduced by about 95%, 84% and 92%, respectively, relative to current regulated limits. On the same basis, emissions from new heavy-duty diesel engines will be reduced by 95%, 89% and 90%, respectively.[112]

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[110] *Environment* Minister *Announces Tougher Emission Standards for On-Road Vehicles and Engines*. www.ec.gc.ca/Press/2002/020404_n_e.htm . The federal Agenda on Cleaner Vehicles, Engines and Fuels, a specific strategy for these sectors was published in the *Canada Gazette* on February 17, 2001. The recent and proposed regulations also fulfil one of Canada's commitments under the Ozone Annex to the 1991 Canada-United States Air Quality Agreement.

[111] Phase-in schedules vary by vehicle class and include: updated standards for light-duty vehicles, light-duty trucks, motorcycles and medium duty passenger vehicles (2004-2009) and a two phase approach for the new low emission standards for heavy-duty engines (Phase 1: 2004-2006 and Phase 2: 2007-2010). The proposed regulations specify classes of on-road vehicles and engines subject to the emission requirements. This are aligned with corresponding U.S. EPA rules

[112] Building on the current Canadian vehicle and fuel standards (i.e., low sulphur gasoline regulations), a new study by SENES Consultants and Air Improvement Resources Inc. indicates that the proposed *On-Road Vehicle and Engine Emission Regulations*, combined with the technology-enabling proposed *Sulphur in Diesel Fuel Regulations,* will result in progressively greater annual emission reductions in the 2004 to 2020 period. http://www.ec.gc.ca/Press/2002/020404_b_e.htm .

Part of an Integrated Plan – Petroleum Sector Fuel Content Regulation

The proposed regulations discussed above are part of an integrated approach to reducing emission from on-road vehicles, together with the *Sulphur in Gasoline Regulation*[113] and *Sulphur in Diesel Fuel Regulations*. The *Sulphur in Gasoline Regulation* addresses the permissible concentration of sulphur in gasoline, prescribes reporting requirements for refineries, blending facilities and suppliers, and sets out gasoline importing notification requirements and gasoline transportation requirements.

Similarly, the proposed *Sulphur in Diesel Fuel Regulations* will regulate the concentration of sulphur in diesel fuel. On December 22, 2001, Environment Canada published proposed *Sulphur in Diesel Fuel Regulations*, which are intended to replace the current Diesel Fuel Regulations. The new regulations reduce the limit for sulphur in road diesel to 15 mg/kg (15 parts per million) starting June 1, 2006. The current limit of 500 mg/kg continues in place until that date.[114] Only diesel fuel that is sold for use in on-road vehicles in Canada will be affected by these regulations whereas diesel fuel sold for use in other applications than in on-road vehicles will be exempt. Pursuant to these regulations, refiners or importers of diesel fuel for use or sale in Canada are to submit to Environment Canada for each calendar quarter during which diesel fuel is produced or imported, within thirty days after the last day of each quarter, a report containing diesel fuel quantity and sulphur concentration as outlined in the reporting requirements of the regulation. Refiners or importers of diesel fuel for use or sale in Canada, and all persons who sell or offer for sale diesel fuel for use in Canada are to keep a record of the quantities of diesel fuel that are produced, imported or sold for use in light-duty vehicles, light duty trucks and heavy-duty vehicles.[115]

These regulations also compliment other existing clean air initiatives, including the *Benzene in Gasoline Regulations*.[116] These regulations prescribe the permissible benzene concentrations in gasoline, sampling and reporting requirements. The latter regulations also provide a detailed regulatory scheme of benzene emissions. Moreover, they regulate the manufacture of gasoline in refineries and blending facilities (primary suppliers) in detail, to the point that benzene emission limits are set for primary suppliers during different times of year.[117] The objectives of the above federal regulatory actions were to achieve a 30 parts-per-million limit for sulphur in gasoline by January 1, 2005; reduced benzene levels in gasoline; and a 15 parts-per-million limit for sulphur in diesel fuel.

The integrated regulatory approach was further supplemented by a Memorandum of Understanding on the control of emissions from passenger cars and light-duty trucks, entered

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[113] S.O.R./99-236.

[114] The goal of these regulations is to ensure that the level of sulphur in diesel fuel used in on-road vehicle in Canada will not impede the effective operation of advanced emission control technologies planned to be introduced on 2007 and later model year vehicles to comply with stringent new exhaust emission standards. The companion regulations on these exhaust emission standards are expected to be proposed in the *Canada Gazette*, Part I in the spring of 2002.

[115] http://www.ec.gc.ca/CEPARegistry/regulations/DetailReg.cfm?intReg=63 .

[116] SOR/97-493.

[117] SOR/97-493, s.17.

into between Environment Canada, the Canadian Vehicle Manufacturers' Association ("CVMA"), and the Association on International Automobile Manufacturers of Canada ("AIAMC"). The MOU formalizes a commitment from vehicle manufacturers to market in Canada for model years 2001 and 2003, the same low-emission vehicles being offered for sale in the United States under the Voluntary National Low-Emission Vehicle ("NLEV") program. Environment Canada has also indicated that it will investigate and pursue further complementary measures to regulations, such as economic instruments, to promote the early introduction of cleaner fuels into Canada.[118]

Product Regulation in the Dry Cleaning Sector

Another example of the trend of product and sector regulation appears in the Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulation. The purpose of this regulation is to reduce releases of tetrachloroethylene (PERC), into the environment from dry cleaning facilities. These reductions will be attained by requiring newer, more efficient dry cleaning machines, by minimizing spills of this solvent and by managing the collection and disposal of residues and waste water. The reporting provisions in these regulations apply to persons who import or recycle PERC for any use and to persons who sell PERC to dry cleaners. These provisions are harmonized with the regulations being proposed to manage PERC use in commercial and industrial degreasing applications. Persons with a diverse commercial market will thereby avoid the inconvenience of reporting separately their solvent quantities under two related federal regulations of the Department of the Environment.

It is apparent that Canada's commitment to the principles laid down in the Brundtland Report around the idea of sustainable development have already had and can be expected to continue to have a profound impact on the Canadian approach to environmental regulation. As a preliminary matter, the Brundtland Report emphasized the idea of nation-states co-ordinate their activities internationally and pursue centralized initiatives domestically as the best approach to dealing with global environmental issues. Judicial decisions in the Canadian context have paid increasing heed to the principles laid out in various international agreements and statements of principle. The net result has been a profound shift in the constitutional distribution of power to act with respect to the environment. Increasingly, the federal government has gained a freer hand to act unilaterally on environmental issues. The impact of this can be seen in the character of the regulatory initiatives undertaken by the federal government in the automotive and, to some extent, the dry cleaning sectors. It is evident that the federal government is now pursuing on a third generation approach to environmental regulation— one that, in line with the Brundtland Report, emphasizes the need to internalize the environmental externalities of economic activity so as to help ensure that the idea of sustainable development will guide future growth.

PART III THE PRECAUTIONARY PRINCIPLE AND PUBLIC ACCOUNTABILITY

One of the principal ideas embedded within the concept of sustainable development as expressed in the Brundtland Report is that the pursuit of sustainable development ought to proceed in a manner that is, at its heart, democratic. That is, decisions on how to alter current practices so as to facilitate sustainable development must be taken with the benefit of the broadest possible

[118] http://www.ec.gc.ca/air/taking-action_e.shtml .

degree of public participation. In terms of regulatory decision making, the principle of accountability must be rigorously observed. Inasmuch as environmental externalities must be addressed through reform and stepped up regulation of productive and commercial processes in the global economy – requiring the processes themselves to account for the externalities that they create, care must be taken to provide adequate proof is at hand to justify connecting observable environmental phenomena to specific productive and commercial processes.

However, the Precautionary Principle, which generally provides that a lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize environmental threats, can endow regulators with a means of evading accountability. This Precautionary Principle has gained wide currency in Canada and it is anticipated that it will assume a greater role in informing the character of environmental regulation in Canada. The degree to which this is so is evident in a federal government Discussion Document published in 2001 entitled "A Canadian Perspective on the Precautionary Approach/Principle".[119] The government intended this document, in part, to serve as a guide that will restrict use of the Precautionary Principle on the part of regulatory authorities in Canada. It is apparent, however, that the Discussion Document comes nowhere near placing the type of accountability on regulators as does the U.S. *Data Quality Act*[120], currently under consideration, which would enable challenges to regulatory action on the basis of the quality of scientific evidence in support of the measures. The growing reliance by Canadian regulators on the Precautionary Principle and the absence of objective accountability place a premium on the use of creative and persistent advocacy techniques to challenge unreasonable regulatory actions and rulemaking.

Precautionary Principle: Elusively Defined

In simple terms the Precautionary Principle has been characterized as representing a "better safe than sorry" approach to environmental regulation, whereby the risk of environmental harm associated with a particular activity or technology, even if not completely "proven", is nonetheless deemed to be impermissible.[121] Fundamentally, the Precautionary Principle is based on an assumption of the inability of science to predict the plethora of possible environmental effects stemming from human action, as well as, a belief in the notion that society cannot afford to determine if a given activity carries a real potential for harm through a process of trial and error.

Though the above approach appears to be relatively straightforward, translating that formal definition into actual legislation has proved to be a difficult task and can lead to significant problems.

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[119] Canada, *A Canadian Perspective on the Precautionary Approach/Principle* [insert cite] at p. 14. [Hereinafter Discussion Document.]

[120] Public Law 106-554 section 1(a)(3)[51] of the Treasury and General Government Appropriations Act for Fiscal Year 2001. Issuance of final guidelines by the Office of Management and Budget on January 3, 2002.

[121] D. Shipworth and R. Kenley, "Fitness Landscapes and the Precautionary Principle: The Geometry of Environmental Risk" (1999) 24:1 *Envir. Manag.* 121 at 121.

International Development of the Precautionary Principle

The appearance of the Precautionary Principal in international instruments has been growing significantly in frequency while at the same time it has become the subject of highly variable formulations. The looseness and variability of the formulations open wide doors to arbitrary regulations. We have set out below a litany of the variable formulations of the Precautionary Principle that have appeared in a number of international instruments since the late 1980's.

The earliest international agreement containing an explicit reference to the Precautionary Principle is the Ministerial Declaration of the Second International Conference on the Protection of the North Sea, issued in London in November 1987. At this conference, it was concluded that:

> in order to protect the North Sea from possibly damaging effects of the most dangerous substances, a precautionary approach is necessary which may require action to control inputs of such substances even before a causal link has been established by absolutely clear scientific evidence.[122] [Emphasis added.]

Moreover, the June 1990 Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer state:

> [The Parties to this Protocol are] determined to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations and bearing in mind the developmental needs of developing countries. [Emphasis added.]

In 1992, the Precautionary Principle received further sanction in the Rio Declaration on Environment and Development.[123] The declaration set forth a series of principles designed to guide the international community in the promotion of sustainable development. Principle 15 states that:

> …in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. [Emphasis added.]

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[122] Second International Conference on the Protection of the North Sea, London, 24-25 November 1987, Ministerial Declaration, issued by the Department of the Environment of the United Kingdom, April 1988. Note also the 1985 *Vienna Convention on Ozone Depleting Substances* recognizing 'precautionary measures' taken at national and international levels.

[123] Adopted in 1992 by the United Nations Conference on Environment and Development [UNCED] in Rio de Janeiro.

Agenda 21, approved at the Rio Conference, advises, in relation to radioactive waste, that participating states should not:

> promote or allow the storage or disposal of high-level, intermediate level and low-level radioactive waste near the marine environment unless they determine that scientific evidence, consistent with the internationally agreed principles and guidelines, shows that such storage or disposal poses no unacceptable risk to people and the marine environment or does not interfere with other legitimate uses of the sea, making, in the process of consideration, appropriate use of the concept of the precautionary approach. [Emphasis added.]

Regarding the protection of the oceans, Agenda 21 calls for:

> new approaches to marine and coastal area management and development at the national, subregional, regional and global levels, approaches that are integrated in content and are precautionary and anticipatory in ambit. [Emphasis added]

The revision to the Treaty of Rome as agreed to at Maastricht states that:

> The Community policy on the environment shall be based on the Precautionary Principle and on the principle that preventative action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay. Environmental protection requirements must be integrated into the definition and implementation of other Community policies.[124] [Emphasis added.]

Article 3.3 of the 1992 U.N. Framework Convention on Climate Change states that:

> the parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost effective so as to ensure global benefits at the lowest possible cost. [Emphasis added.]

The 1992 OSPAR Convention (Convention for the Protection of the Marine Environment of the North East Atlantic) provides, in Article 2, that contracting parties shall make use of:

> the Precautionary Principle, by virtue of which preventative measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly,

[124] Title XVI, Article 130R, Section 2 of the Treaty of Rome as amended by Title II of the Treaty on European Union signed in Maastricht on February 7, 1992.

> into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the imputes and effects. [Emphasis added.]

In its preamble, the Convention on Biological Diversity passed at the 1992 United Nations Conference on Environment and Development states:

> that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat. [Emphasis added.].

As readily appears, the use and formulation of this so-called principle in international instruments varies materially and confusingly. At times it is cast as necessary measures to control known dangerous substances where no absolutely clear evidence exists in a given circumstance. At other times it is variably a touch stone to be saluted in the midst of a balancing formula. At yet other times, it is cast as an anti-avoidance rule, or an adjunct (perplexingly) to "polluter pays", or a reverse onus clause or a logical deduction based on reasonable and probable grounds. There is a growing concern that in their enthusiasm for applying this so-called Precautionary Principle, Canadian regulators risk taking on the arbitrary and elusive characteristics of the doctrine they are espousing.

Adoption of the Precautionary Principle Domestically

There are growing indications of formal recognition of the Precautionary Principle in Canada. The Precautionary Principle has been adopted in the federal CEPA, and its use in decision making has become a provincial regulatory policy associated with sustainable development; most recently, in Nova Scotia's environmental legislation.

The Precautionary Principle is set out in the preamble[125] of CEPA. The wording of the principle in the preamble is identical to the wording of the Precautionary Principle enunciated in the *Rio Declaration*. The preamble states:

> the Government of Canada is committed to implementing the precautionary principle that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation … [Emphasis added.]

Similarly, the Nova Scotia *Environment Act*,[126] states at section 2(b)(ii) that

> the precautionary principle will be used in decision-making so that where there are threats of serious or irreversible damage, the lack of full scientific certainty

[125] The precautionary principal is also referred to in ss. 2(1)(a) and 6(1.1) of CEPA.

[126] S.N.S. 1994-95, c. 1, s. 1.

> shall not be used as a reason for postponing measures to prevent environmental degradation …

The Supreme Court of Canada has also recognized the applicability of the Precautionary Principle to domestic decision making. In its *Hudson*[127] decision the Supreme Court confirmed the authority of a Quebec town to regulate pesticide use within its municipal boundaries. The majority suggested that the legitimacy of the bylaw was enhanced insofar as the bylaw's preventive approach respected the Precautionary Principle in international law. The court stated that "to permit the Town to regulate pesticide use is consistent with principles of international law and policy". The court adopted the view set out in Driedger on Construction of Statutes on the role of international law in statutory interpretation:

> [T]he legislature is presumed to respect the values and principles enshrined in international law, both customary and conventional. These constitute a part of the legal context in which legislation is enacted and read. In so far as possible, therefore, interpretations that reflect these values and principles are preferred.[128]

Without consideration of the intense scrutiny to which this so-called principle is being subjected in some jurisdictions (including the United States), in relying on the Precautionary Principle, the court stated that:

> Scholars have documented the precautionary principle's inclusion in virtually every recently adopted treaty and policy document related to the protection and preservation of the environment … As a result, there may be "currently sufficient state practice to allow a good argument that the precautionary principle is a principle of customary international law".[129]

Thus, the Precautionary Principle has come very close to being recognized by the Supreme Court of Canada as a principle of customary international law and an integral part of the legal context in which all environmental legislative provisions must be interpreted. This extraordinary conclusion can lead us potentially to the circumstance where: (a) environmental legislation and rule making can develop in a context which is both criminalize and unscientific and (b) the courts' hands are tied from acting against arbitrary regulation and prosecution

Critique of the Precautionary Principle

There have been numerous critiques of the Precautionary Principle as it has been defined and applied in the international sphere. Some of the criticisms include arguments to the effect that the Precautionary Principle is "poorly defined, not sufficiently grounded in science, stifles development of technology, and hinders trade".[130] Also, it has been argued that the application of the Precautionary Principle may, in and of itself, actually create various risks to human health and the environment.

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[127] *114957 Canada Ltee (Spaytech, Societe d'arrosage) v. Hudson (Town),* (2001) SCC 40.

[128] Ibid.

[129] Ibid.

[130] M. Parish, "RS20310: Science Behind the Regulation of Food Safety: Risk Assessment and the Precautionary Principle" (CRS report for Congress, National Library for the Environment, August 27, 1999).

One of the most consistent criticisms of the Precautionary Principle has been that it is so vague that it is functionally unworkable. For instance, the degree of threatened harm required for pre-emptive precautionary action seems to vary significantly from one definition to the next (e.g., "threat of significant reduction", "reasonable grounds for concern", "threats of serious or irreversible damage", "unacceptable risk"). It is also unclear whether threats to human health should be the sole subject of protection, or whether the principle should aim to protect biodiversity and legitimate uses of the environment. At any rate, all of the various definitions of the Precautionary Principle tend to mandate regulatory action in order to protect health or the environment before conclusive scientific evidence of the harm has come to light.[131]

The Precautionary Principle has been attacked as being so poorly defined that it conveys little if any meaning. One study in particular cited 14 distinct interpretations of the Precautionary Principle.[132] Some have even characterized the Precautionary Principle as being more a manifesto than a workable standard.[133] In some cases the term is merely included in legislation as a guiding principle without any definition whatsoever. This can lead to obvious difficulties in cases where disputes arise and either side takes up an interpretation of the principle that suits their cause. In this way, as Don Mayer points out:

> the Precautionary Principle could easily be a kind of ink-blot test where necessary precautions are in the eye of the beholder. Depending on their philosophical perspectives, policymakers can easily choose an interpretation of the Precautionary Principle that others would not.[134]

Thus, according to its detractors, for the Precautionary Principle to be usable, it must be defined with greater precision in a manner which is, to the greatest extent possible, universally recognized.

Another telling criticism has been made by Dr. Elizabeth Whelan, the president of the American Council on Science and Health:

> the Precautionary Principle ... assumes no health detriment [will arise] from the proposed regulations and restrictions. By that I mean that the Precautionary Principle overlooks the possibility that real public health risks can be associated with eliminating minuscule, hypothetical risks.[135]

The underlying notion here is that the focus of those applying the Precautionary Principle is so fixed on the elimination of even remotely possible health and other risks that the hazards posed

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[131] E. Groth III, "Science, Precaution and Food Safety: How Can We Do Better" (Discussion Paper for US Codex Delegation, February, 2000) [http://www.consumersunion.org/food/codexcpi.htm .]

[132] K.R. Foster, P. Vecchia & M.H. Repacholi, "Policy Forum: Risk Management Science and the Precautionary Principle" (2000) 288:5468 Science 979 at 980.

[133] K.J. Barrett, Canadian Agricultural Biotechnology: Risk Assessment and the Precautionary Principle. (Doctoral Thesis Botany). University of British Columbia, (1999) [unpublished] at 63; cited in P. S. Puttagunta, "The Precautionary Principle in the Regulation of Genetically Modified Organisms", (2000) 9 Health L. Rev.27.

[134] D. Mayer, "The Precautionary Principle and International Efforts to Ban DDT" 9 *S.C Envtl. L.J.* 135 at 155.

[135] E. Whelan, "Our 'Stolen Future' and the Precautionary Principle" (Debate: "Environmental Chemicals: Public Health Concern or Hype?", Willard Hotel, June 12, 1996) (1996) *Priorities* Vol. 8 No. 3.

by the elimination of the substances or activities at issue are sometimes completely ignored. The most commonly cited historical example of this phenomenon is that of the banning of the pesticide DDT. The use of DDT increased enormously on a world-wide basis after World War II, primarily because of its effectiveness against the mosquito that spreads malaria and lice that carry typhus. After discoveries that DDT was toxic to fish and that it was "linked" to both breast and prostate cancer, its use was banned in the United States (followed by all but a dozen countries around the world) in 1973. However, many argue that DDT remains an "irreplaceable" tool in the fight against malaria, which still infects over 400 million people per year.[136] Some have argued that the banning of the pesticide as a precaution has caused millions of deaths in malarial outbreaks in developing countries, even as science has yet to conclusively establish that humans are actually harmed through DDT exposure.[137]

Another similar example is the banning or labeling of Genetically Modified Organisms ("GMOs"). Some maintained that the over-regulation of GM crops, as a consequence of scientifically unconfirmed fears that such crops could pose future risks to human health, could lead to global food shortages and habitat destruction. This could occur, in part, through limits being placed on the production of high-yield crops, nutritionally enhanced foods and new vaccines, as well as a correlative increase in lower yield crops which require more acreage and possible deforestation.[138]

The notion that the use of the Precautionary Principle creates unforeseen and unnecessary pernicious consequences was articulated by Frank B. Cross in his article *Paradoxical Perils of the Precautionary Principle.*[139] In this article, Cross characterizes the Precautionary Principle as being "deeply perverse". His reasons for reaching this conclusion have been summarized as follows:

1. The Precautionary Principle is an uncertain decision rule.

2. The Precautionary Principle contains within it a "presumption that an action aimed at public health protection cannot possibly have negative effects on public health." Yet such "unanticipated adverse effects are demonstrably common."

3. The Precautionary Principle creates the illusion that risks can be eliminated, when in fact an attempt to achieve zero risk almost inevitably leads to unintended risky consequences.

4. The Precautionary Principle does not prescribe how much uncertainty or risk should be allowed by a regulation.

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[136] T. DeGregori, "Let Us Spray! Malaria and DDT in Mozambique" (2000), American Council on Science and Health: Editorial, online: http://www.acsh.org/press/editorials/malaria032000.html (date accessed: July 17, 2002).

[137] Ibid.

[138] J.H. Adler, "More Sorry than Safe: Assessing the Precautionary Principle and the Proposed International Biosafety Protocol" (2000) 35:2 *Texas Int. L. J.* 173.

[139] (1996) 53 *Wash. & Lee L. Rev*. 851.

> 5. If new regulations can impose counterproductive effects (risks), and if a precautionary approach toward regulations required a demonstration "to a certainty" of the absence of such risks, then "the Precautionary Principle would preclude further regulation."[140]

One of the most interesting facets of this critique of the Precautionary Principle is that if the Precautionary Principle were applied to its own use it could never actually be applied in practice. That is, because the existence of harmful risks associated with the application of the Principle in practice cannot usually be ruled out (e.g., deaths due to malarial outbreaks associated with the banning of DDT) to a scientific certainty, it would follow that the Precautionary Principle would preclude its own implementation.

Many have also argued that the Precautionary Principle essentially defames science by distorting its findings and propagating sometimes hysterical beliefs based on "unsound" analyses. For example, Soren Holm and John Harris, two British medical researchers, recently attacked the Precautionary Principle by stating that it does not represent a valid tool for evaluating scientific evidence; it ultimately distorts reality and leads to the acceptance of false beliefs.[141] According to Dr. Elizabeth Whelan, the use of the Precautionary Principle has tended to correspond more to public perception of potential harm, rather than on potential harm based on sound scientific data.[142]

Limits on the Use of the Precautionary Principle

Notwithstanding that there has been growing extensive criticism of the Precautionary Principle, it is increasingly relied on in the formation of environmental legislation, policy and regulatory action in Canada. The fundamental weakness of this approach is that the Precautionary Principle can become a means by which regulators avoid accountability for the justifications and impacts of the measures they impose. In cases where there is insufficient scientific evidence to justify a measure, the measure can be justified as a "precaution". This appears to give regulators boundless authority to legislate arbitrarily at a large cost to society. A great many legislative measures could be justified on an ill-defined precautionary basis.

As a means of placing restrictions on the regulators' use of the Precautionary Principle and as means to rationalize the use of the principle, the Canadian government published its 2001 Discussion Document entitled "A Canadian Perspective on the Precautionary Approach/Principle".[143] In this document, a number of general principles of application are recommended in order to guide the exercise of the Precautionary Principle in practice. The non-binding document states:

- Sound scientific information and its evaluation must be the basis for applying the precautionary approach, particularly with regard to (i) the decision to act

[140] D. Mayer, *supra*, at 163.

[141] Letter published in *Nature,* July 29, 1999. Soren HoIm and John Harris, Institute of Medicine, University of Manchester, UK.

[142] E. Whelan, *supra*, at p.1.

[143] Discussion Document, *supra,* p. 14

or not to act (i.e., to implement precautionary measures or not), and (ii) the measures taken once a decision is made.

- A valid and reasonable scientific information base must underpin the application of the precautionary approach.

- Before the precautionary approach can be applied, scientific data relevant to the risk must be evaluated through a sound, credible, transparent and inclusive mechanism leading to a conclusion that expresses the possibility of occurrence of harm and the magnitude of that harm (including the extent of possible damage, persistence, reversibility and delayed effect).

- Urgent situations may require different approaches to assess whether sound scientific evidence has been attained. Immanency of risk may dictate the choice of the option offering the greatest prospect of success in view of the available scientific information, with an understanding that implementation of the option will include close monitoring to assess the effectiveness of the measure in addressing risk and positive/negative impacts.

With respect to a definition of the required scientific "soundness" that should underlie the exercise of the precautionary approach, the Discussion Document states that:

> Within the context of the precautionary approach, determining what constitutes a *sufficiently* sound or credible scientific basis is always challenging and often controversial. The emphasis is on providing a sound and credible case that risk of serious or irreversible harm exists. "*Sufficiently* sound scientific information" is interpreted as a base of scientific data—whether empirical, theoretical or from "traditional knowledge"—that can establish reasonable evidence of a theory's validity, including its uncertainties, and that indicates the potential for such a risk.
>
> Moreover, in order to capture the full diversity of scientific thought and opinion, the scientific basis for decision making should be drawn from a variety of scientific sources and experts from many different disciplines. Decision makers should give particular weight, however, to peer-reviewed science and reasonableness in their judgements. The science function can be further supplemented by advisory processes that include widely recognized and credible individuals. [Emphasis in original.]

The Discussion Document also focuses on "follow-up" monitoring, testing and discussion once a precautionary measure, based on uncertain scientific evidence, has been adopted. This can be seen as a way through which some of the potential pernicious side-effects associated with the exercise of the Precautionary Principle can be mitigated. In general terms, the Discussion Document states that "follow-up scientific activities, including further research and scientific monitoring, are a key part of the application of the precautionary approach. Such follow-up should reduce scientific uncertainty and allow improved decisions to be made in the future".[144]

[144] Ibid., s.2.1.

Another measure proposed by the Discussion Document to moderate some of the problems associated with uncertainty in the exercise of the Precautionary Principle revolves around shifting of the necessary "burden of proof":

> Generally, the responsibility for providing the scientific information base (the burden of proof) should rest with the party who is taking an action associated with potential or serious harm. When faced with a concrete scenario, there should be an assessment of who would be in the best position to provide the information base. This assessment could depend upon which party holds the responsibility or authority, and could also be informed by such criteria as who has the capacity to produce timely and credible information. Assignment may best be decided on a case-by-case basis and may introduce innovative strategies such as collaborative arrangements. The responsibility for providing information may shift as the scientific knowledge evolves.[145]

Thus, in order to minimize uncertainty associated with scientific data upon which precautionary measures are based, the Discussion Document suggests that those capable of providing the highest quality of information should be burdened with the task of proving, to the greatest extent possible, that, although a particular risk exists, precautionary measures should or should not be taken. This approach can raise very serious concerns about the application of the Precautionary Approach in the context of the criminalization of environmental regulation as a result of constitutional constraints. In effect, this approach raises the specter of industry being subject to criminal prosecution pursuant to orders under CEPA and be required to prove its innocence on pain of conviction. This "guilty until proven innocent approach" can be seen as alien to the fabric of the constitutional rights of the accused both under the *Charter of Rights and Freedoms* and at common law.

Another interesting element in the process proposed by the Discussion Document is the infusion of "societal values" into regulatory decision-making. According to the Document, the degree of scientific certainty required before precautionary measures are taken should vary relative to society's "chosen level of protection against risk".[146] Though the Discussion Document does not go into any detail on how society's level of protection against risk is to be practically ascertained, it suggests that "ultimately, the chosen level of protection should be set in the public interest by weighing potential (or perceived) costs and benefits of assuming the risk in a manner that is consistent overall with societal values". However, in a possible allusion to the potential for public hysteria, the Discussion Document contains the caveat that:

> While societal values are key in determining a chosen level of protection against risk, in all cases sound scientific evidence is a fundamental prerequisite to applying the precautionary approach. Situations *where there is no threat of serious or irreversible harm* to human health, safety, the environment or resource conservation *should not be considered to be related to the precautionary approach.*[147]

Thus, overall, the federal government's Discussion Document, which does not have the force of law, represents an attempt to balance the need for scientific certainty underlying the exercise of

[145] Ibid., Guideline s.3.4.

[146] Ibid., at Guideline s.3.2.

[147] Ibid.

the Precautionary Principle with the regulators' need to protect the citizens to whom they are accountable.

The approach to the Precautionary Principle set out in the Discussion Document, despite attempting to balance often ambiguously defined public interests against credible science, nonetheless appears to fall short of meeting one of the key principles underlying sustainable development as laid out in the Brundtland Report. In particular, the Brundtland Report places great importance on democratic decision-making and accountability. While the principles espoused in the Discussion Paper may place some modest limits on the ability of regulators to rely on evasive and vague definitions of the Precautionary Principle as a means of justifying the most egregious regulatory measures, the Discussion Document does not go far enough in making the regulators accountable to the citizens on the basis of the best available scientific knowledge. The effective operation of democratic processes and the economic efficacy of regulatory initiatives depend in great measure on the rational connection between regulation and science. In a democracy, when those most affected become aware of how policies will affect them, they will increasingly demand a say in policy formation, through effective public consultation and mechanisms designed to make decision-makers accountable.[148] The Discussion Document fails to recommend specific action to mandate such procedures and mechanisms and is not binding on the regulators. It does not go as far as the U.S. *Data Quality Act* to make regulatory bodies accountable and to align their activities more effectively with the principles of sustainable development set out in the Brundtland Report.

PART IV ADVOCACY

As discussed above, unlike the case in the U.S., there is no mechanism in Canada through which citizens are able to directly challenge the science upon which regulatory actions are based. However, there are three principal means within the Canadian context by which the inadequate scientific basis of regulation can be challenged.

Strategic Participation in Regulatory Decision Making

Once measures are taken, and legislation is enacted it is sometimes either too late or too difficult for industry and other private and public sector interests to voice their concerns. Thus, it becomes ever more important for those interested to organize at an early stage of policy development to voice concerns and to question the basis behind regulatory action.

Strategic participation in the early stages of policy development is key to preventing arbitrary regulatory action. Strategic participation requires that interested group organizations keep abreast of current policy development initiatives and make reasoned and persuasive submissions to regulators where opportunity is available for public participation. When proposed regulations are posted for public comment, a common practice within the federal and most provincial governments, interested parties have an opportunity to question the scientific basis behind the proposed measures.

[148] M. Walters, *Ecological Unity and Political Fragmentation: Implications of the Brundtland Report for the Canadian Constitutional Order* (1991), 29 Alta. L.R. (No. 2) 420.

Further, the Discussion Document itself provides for circumstances in which the public should be consulted where the government invokes precautionary measures. It is crucial that interested groups take opportunities made available to them at those stages to challenge regulatory decision making that is not based on sound science. The Discussion Document stresses the importance of openness and transparency in supporting precautionary decisions and suggests that public involvement be structured into the scientific review and advisory process and the decision making process.[149] The Document also provides that regulators consider the "society's chosen level of protection" in determining whether precautionary measures are proportional to the potential severity of the risk being addressed. This should entail an assessment of factors such as societal values, the public's willingness to accept risk and economic and international considerations. This implies that the public should be consulted in determining the "society's" chosen level of protection. As well, the Document suggests that precautionary measures be subject to review in light of new scientific information or other relevant considerations.[150]

Hence, while it does not provide specific mechanisms for public challenge of the scientific basis of regulatory action, the government's own Discussion Document provides a basis for insisting upon adequate consultation of interested parties, where lacking, and on the principles set out in the paper to govern the circumstances in which the Precautionary Principle can be invoked.

Judicial Review as Means of Challenging Arbitrary Domestic Regulatory Initiatives

The traditional tool kits of administrative law can be brought to bear in challenging the jurisdiction of regulators to adopt scientifically arbitrary environmental legislation, regulations or by-laws or other measures. The *Hydro-Quebec* case, for example, involved a challenge of the federal government's jurisdiction to enact legislation and to issue an order pursuant to such legislation. Similarly, the *Hudson* case[151] provides a recent example of a by-law being challenged as being *ultra vires* with respect to the enabling legislation under which the by-law was promulgated.

In *Hudson*, the Supreme Court of Canada had to determine whether a by-law created under the auspicious of the *Quebec Cities and Towns Act*[152] ("CTA") was *ultra vires* of the Town of Hudson's jurisdiction pursuant to the Act. The court held that the by-law was not outside the powers that were expressly conferred by statute.

By-law 270,[153] which restricted pesticide use and used the same definition of pesticides as in the *Pesticide Act*,[154] was adopted in Hudson in 1991. The Town argued that the by-law was enacted under either section 410 or section 412 of the CTA. Section 410 grants municipalities the power to create by-laws to secure health and general welfare provided they are not contrary to the laws

[149] Discussion Document, 15

[150] Ibid, 15.

[151] [2001] 2 S.C.R. 241. [hereinafter *Hudson*]

[152] R.S.Q., c. C-19, ss.410(1),ss. 412(32) [hereinafter CTA]

[153] Town of Hudson By-Law 270 [am, 1995, by-law 327; am. 1996, by-law 341]. [hereinafter *By-law*]

[154] R.S.Q., c. P-9,

of Canada or Quebec. Section 412 also grants municipalities the power to create by-laws, but if they were promulgated in respect of corrosive, toxic or radio-active materials, the approval of the Minister of the Environment would be required.

The Supreme Court held that section 410 was applicable since pesticides were not outlined in section 412. The court also held that section 410 did not provide unlimited power and that the courts had to be vigilant in scrutinizing the true purpose of the by-law. This would help prevent the use of the "general welfare" power under the enabling legislation as "a basis for enacting by-laws that are in fact related to ulterior objectives, whether mischievous or not."[155] In this case, the by-law's purpose was to minimize the use of allegedly harmful pesticides in order to promote the health of Hudson's inhabitants. This purpose was held to fall squarely within the "health" component of section 410.

The court in *Hudson* held that the test for determining whether a municipal enactment was passed for a permitted municipal purpose was that it must have:

> a *reasonable connection to* the municipality's permissible *objectives* ...
>
> [M]unicipal bylaws are to be read to fit within the parameters of the empowering provincial statute where the by-laws are susceptible to more than one interpretation. However, courts must be vigilant in ensuring that municipalities do not impinge upon the civil or common law rights of citizens in passing ultra vires by-laws."[156] [Emphasis added.]

This test has subsequently been applied not only to the area of environmental regulation but other areas of the law as well.[157]

R. v. *Porter*[158] is an early decision that applies a test similar to the one used in *Hudson*. The test was concerned with evaluating the pith and substance of the regulation and comparing it to the purpose of the enabling legislation and, more specifically, the purpose of the provision in the enabling legislation which provided the authority to create the regulation. In *Porter,* the court held that Regulation 24(1) of the Atlantic Fishery Regulations[159] was *ultra vires* because the purpose of the regulation did not correspond with the purpose of the *Fisheries Act* and, in particular, the provision enabling the creation of regulations. Section 24(1) of the Atlantic Fishery Regulations did not allow a fishing vessel to engage in fishing unless a prescribed distance was maintained between a vessel's fishing gear and any other vessel. This regulation was created under section 34 of the *Fisheries Act* which permitted the creation of regulations for purposes such as the proper management and control of the seacoast and the conservation and protection of fish. The court determined that the creation of the regulation was an attempt to

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[155] *Hudson*, *supra*, at p. 259.

[156] *Hudson, supra*, at p. 263 quoting R. v. Greenbaum [1993] 1 S.C.R. 674 at p. 689 and *Shell Canada Products Ltd. v. Vancouver* (City), [1994] 1 S.C.R. 231.

[157] See *Ben Gardiner Farms Inc. v. West Perth (Township)* (2001) 152 O.A.C. 47 for environmental regulations and *Toronto (City) v. Goldlist Properties Inc.* [2002] O.J. No. 601; *Pub and Bar Coalition of Ontario v. Ottawa* (City) (2001) 23 M.P.L.R. (3d) 42; *Allstate Insurance Co. of Canada v. Toronto* (City) (2001) 152 O.A.C. 177.

[158] [1985] N.S.J. No. 168. [Hereinafter *Porter.*]

[159] C.R.C. 1978, c. 807.

regulate on a socio-economic basis. That is, it was created to give preferential access to certain groups of fishermen. This purpose was held to be *ultra vires* of the enabling legislation as there was nothing to support the contention that it was adopted to serve a purpose outlined in section 34 of the *Fisheries Act*, that is, to conserve or protect fish stock.

Re Minister of the Environment and Cacchione et al,[160] provides another example of the focus on the purpose of both the regulation and the enabling legislation to determine if it is *ultra vires*. In *Re Minister*, the Nova Scotia Supreme Court had to decide whether a regulation[161] was *ultra vires* of its enabling legislation, the *Environmental Protection Act* ("EPA") of Nova Scotia. Regulation 116/86 permitted the Minister to cancel an otherwise valid development zoning permit if it was not in the public interest and if one or more public highways or access roads leading to the site were inadequate because of the increased volume of vehicular traffic. This regulation was created under section 51 of the EPA. The court held that the purpose of the EPA was the preservation and protection of the environment, as is outlined in section 3 of the legislation. It was held that the pith and substance of Reg. 116/86 was the control of vehicular traffic. Thus, the pith and substance of the legislation was held not to correspond to the purpose of the enabling legislation and the authority to create regulations. Since the EPA did not permit the creation of legislation for the purpose of controlling vehicular traffic, the regulation was found to be *ultra vires* of the enabling legislation.

Overall, these examples provide evidence that regulations and by-laws can be challenged if their objectives do not correspond to the objectives of the regulations outlined in the enabling legislation. Similarly, as was evident in the *Hydro-Quebec* case, the enabling legislation may also be challenged as being *ultra virus* of the enacting body's legislative powers as set out in sections 91 and 92 of the Canadian Constitution, if the objective of the legislation can not be justified under an authorizing head of power. This suggests that, if a regulation is passed for a particular permissible purpose but scientific evidence is lacking to support the position that the basis for the measure is valid, an argument can be made that the measure is *ultra virus* of the enabling legislation or the Constitutional head of power.

Perhaps the Supreme Court in *Hudson* anticipated such an argument and attempted to rebut it before it was in fact made. In *Hudson*, the court stated that there must be a reasonable connection between the state measure adopted and the permissible objectives set out in the enabling legislation. In this case, the objective of the by-law was held to be the preservation of public health, and the measure, the by-law to ban pesticides, was held to be reasonably connected to the objective of preserving health. At the same time, the court cited the Precautionary Principle in upholding the challenged by-law. The court noted, in particular, that the Precautionary Principle had been well identified in international treaties and concluded that, in the "context of the Precautionary Principle's tenets, the Town's concerns about pesticides fit well under their rubric of preventive action."[162]

It is interesting that, although it did not specifically rely on the Precautionary Principle in reaching its conclusion, the court still referred to it. Perhaps it was anticipated that, in the future,

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[160] (1987), 35 D.L.R. (4th) 196. [Hereinafter *Re Minister*.]

[161] N.S. Reg. 116/86.

[162] *Hudson*, *supra* note 131, at p. 267.

arguments are likely to be made questioning the reasonableness of the court's decision on the basis of science. In reply to the anticipatory arguments, the court mentioned the Precautionary Principle in support of its position that it is not necessary to conclusively establish that a particular measure is harmful, where a measure is merely intended to be "precautionary". However, if the reasonableness of a particular measure is to be justified on the basis of the Precautionary Principle, the court ought to, and now with the publication of the Discussion Document, may be pressured to, engage in the Precautionary Principle analysis set out in the Discussion Document, as discussed in the previous section. Scientifically sound evidence ought to be presented to justify that the "precaution" is necessary, or that serious harm is likely to result if the measure is not taken. Hence the existing case law creates a significant opportunity to enable interested parties to bring the principles of the Discussion Paper to bear upon the "purposive" analyses of legislative measures for the purposes of determining *vires.*

Challenge Mechanisms Under International Trade Agreements

Government action taken in the name of protecting the environment or public health has sometimes turned out to be economic protectionism dressed up in the rhetoric of public safety. Even if attempts are made to justify protectionist measures on the basis of the Precautionary Principle, some comfort can be taken from the fact that many international agreements have built-in mechanisms to counteract or prohibit protectionist measures disguised as environmental protection initiatives.

A recent example of a disguised protectionist measure can be seen in the European Union's ban (dating back to 1989) on the importing of U.S. and Canadian beef treated with the bovine growth hormone. The ban was purportedly effected on the basis that the consumption of such hormone-treated beef posed a risk to human health. The European Commission specifically cited the Precautionary Principle as a motivating factor behind the ban, despite overwhelming evidence set forth by various government[163] and international[164] studies to the effect that hormone-treated beef is safe for human consumption.[165] The United States and Canada challenged the ban as a violation of the *General Agreement on Tariffs and Trade* ("GATT") before a World Trade Organization ("WTO") Dispute Settlement Panel. The European Union invoked Article XX of GATT, which allows treaty members to impose trade restrictions in order to protect, among other things, "human, animal or plant life or health". Article XX barriers must be applied according to certain requirements, including Sanitary/Phytosanitary ("SPS")[166] measures. The GATT SPS provisions can only be used when they are "(a) 'necessary to protect human, animal or plant

[163] The US Food and Drug Administration has collected and analysed data on hormone-treated beef since the 1950's and has concluded that the beef is safe for human consumption. See M. Parish, *supra*, at p. 4.

[164] Organizations that assert the safety of beef from hormone-treated cattle include the World Trade Organization; the Lamming Committee of the European Community (the European Community became the EU in 1993); the Joint Expert Committee on Food Additives of the World Health Organization and the Food and Agriculture Organization of the United Nations; the Committee on Veterinary Drugs of the Codex Alimentarius Commission; FDA; USDA; and *a* 1995 Scientific Conference convened by the European Commission.

[165] See also K.R. Foster et al, *supra* note 136, at 981.

[166] See Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 31 Legal Instruments-Results Uruguay Round 5.1-5.5, at http://www.wto.org/english/ docs e/legal e/final e.htm . (last visited Mar. 27, 2001).

life'; (b) 'based on scientific principles' and may (c) not be 'maintained without sufficient scientific evidence.'" The ban was challenged as not satisfying any of these elements and for being "more trade-restrictive than required to achieve the appropriate level of sanitary protection." Ultimately, the WTO Panel, and later a WTO Appellate Body, found that that the EU's precautionary decision was over-protective and had utilized too many assumptions, which "biased the risk assessment up to a scientifically unsupportable level".[167] The United States subsequently received permission to apply retaliatory trade measures against the EU.

While parties seeking to challenge arbitrary environmental measures in restraint of trade under the GATT must do so through the offices of a nation-state, such is not the case the "investor protection" provisions found the *North American Free Trade Agreement* (NAFTA Chapter 11)[168], the *Canada-Chile Free Trade Agreement* (CCFTA Article G-14)[169] and the draft *Free Trade Area of the Americas* (FTAA)[170]. These provisions may be relied on in challenging a party's domestic legislation on the basis that it is protectionist. While these provisions have been criticized as impeding the local government's ability to protect the environment they are mechanisms available to investors to challenge protectionist measures disguised as public welfare or environmental measures. Under all three agreements, investors may commence an action against parties for imposing measures that violate the protections afforded to investors.[171] Pursuant to each of the above agreements, investors are afforded the following protections:

(1) **Non-discrimination**.—Non-discrimination includes the "national treatment" principle and the "most favorite nation treatment". National treatment implies treatment no less favorable than that which the party would accord in like circumstances to its own investors and their investments. The most favorite nation treatment implies treatment no less favorable than the treatment accorded in like circumstances to investors of other parties and of non-parties (an advantage extended to one, must be extended to all).

(2) **Minimum standard of treatment—**The treatment accorded to parties must be in accordance with international law, including, fair and equitable treatment and full protection and security. [Must comply with international laws, or the Party/investor can take action].

(3) **Transparency—**Requirements or rules be known and published in advance.[172]

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[167] Report of the Appellate Body, WTODOC WT/DS26/AB/R and WT/DS48/AB/R, paras. 100-19 and 253(b), at http://www.wto.org/wto/english/tratop e/ distab e.htm (last visited Mar. 27, 2001).

[168] (1993) 32 I.L.M. 289 and 605.

[169] *Canada – Chile Free Trade Agreement*, Chapter G http://dfait-maeci.gc.ca/tna-nac/cda-chile/chap-g26.asp

[170] *Free Trade Area of the Americas*, (July 3, 2001) FTAA.TNC/W/133/Rev.1.

[171] Applies to "investors of the other Party" and to their "investments" in the territory of the Party. (ex) "investors of Canada" and their "investments in Chile and visa versa, "investor"—a corporation constituted under the laws of Canada but owned by the citizens of France, is an "investor", but a provision in the agreement stating that the enterprise of the Party must conduct substantial business activities in the Party under whose laws it is organized. "Investment"—includes not only controlling interests, but also passive investments.

[172] After the Metalclad appeal, discussed below, transparency may no longer be a guarantee afforded to investors

(4) **No "measures tantamount to expropriation"—**Measures tantamount to expropriation are prohibited if they are taken without compensation and on a discriminatory basis.

The decision in *Metalclad Corporation v. United Mexican States*[173] represents the first major ruling where the challenging investor was awarded compensation against a government. Investors were partially compensated for alleged unfair and expropriatory actions of the Mexican government that resulted in the company being prevented from operating a hazardous waste facility.

The tribunal granted the award on the basis that Mexico denied Metalclad fair and equitable treatment under NAFTA, and that the cumulative effect of its actions resulted in the "wrongful taking" of Metalclad's investment ("measures tantamount to expropriation"). The decision caused great outcry as critics argued that NAFTA was being transformed into a vehicle to prevent local governments from protecting its environment and its people. However, a close examination of the facts of the case reveal that the critics are misinformed.

Metalclad was a U.S. company that constructed a landfill in Mexico. Prior to construction, the federal government in Mexico issued a permit for the construction of the landfill. It also assured Metalclad that no other permits were required. As part of the federal approval process, Metalclad had already remediated a contaminated hazardous waste site operated by a previous occupant of the site; offered technical training to members of the community; employed local labor; provided free medical services; contributed 34 hectares of its property as a buffer zone for the conservation of endemic species; and contributed two pesos per ton of waste to social programs. Five months into construction, the municipality in which the project was situated notified Metalclad that it was unlawfully operating without a construction permit. Metalclad applied for a construction permit and completed building the facility. The permit, however, was denied. In fact, no such construction permit had ever been required for any project in the past 100 years. Nevertheless, at the same time that it denied the permit, the local government declared the area around the facility to be an ecological zone, in effect ensuring that the facility would never operate.

Based on these facts, the tribunal held the local government had no authority to deny the construction permit on environmental grounds: the municipality's authority only extended to construction considerations. Metalclad relied on the representations of the federal government that no other permits would be required. The absence of clear rules in this case amounted to a failure to ensure transparency required by NAFTA. It was also held that Mexico indirectly expropriated Metalclad's facility.

The tribunal's decision in Metalclad was appealed to the Supreme Court of British Columbia. On May 2, 2001, the court upheld in part the decision of the tribunal—that there was wrongful expropriation. However, the court overturned the tribunal's decision regarding standards of transparency, or the rights of investors to have their investments governed by clear and

[173] *Metalclad Corporation* v. *The United Mexican States,* Decision of the Tribunal (August 25, 2000), appeal to British Columbia Court of Appeal (2001), www.secinfo.com/d074.5a.d.htm.
Also see, Mert, S. "NAFTA" under Microscope in B.C. Court of Appeal over Mexican Waste Dump" *Canadian Press* (Feb 19, 2001).

predictable rules. The court held that the transparency requirements do not apply to private disputes.

This decision exemplifies that measures taken by local governments in the name of the environment are not necessarily about "environmental" disputes. The "investor-protection mechanisms" operate to protect investors from ad hoc measures of foreign governments. This decision was not about impeding the local ability to regulate with respect to environmental issues, but about preventing unfair treatment. However, by excluding transparency considerations from the "minimum standards of treatment" provisions and "expropriation" provisions, the court, in effect, removed the assurance given to investors by the tribunal that local rules must be clearly in place before investors make investments and that ad hoc regulatory measures would not be tolerated.

A similar challenge to local regulatory measures was made in *S.D. Myers Inc. v. Canada*[174]. In the background applicable to the case, the U.S. government had been considering opening its borders to permit the importation of PCBs. In the meantime, lobbyists in Canada had been attempting to restrict export of PCBs. An Interim Order was issued under section 35 of CEPA (emergency basis), permitting the export of PCBs to incinerators but prohibiting their export to landfills. S.D. Myers was operating a landfill close to the Ontario border. Canada justified the ban established under the Interim Order on the basis that government was acting to protect public health and that it had a duty to ensure that there would be disposal facilities within Canadian borders in the future. The court which decided S.D. Myers challenge ruled that the order was passed primarily to protect Canadian industry. Ensuring future disposal capacity nationally could have been achieved by other less restrictive means. The provisions ensuring "national treatment"—"likeness test" and "minimum standard of treatment" were violated.

The *Metalclad* and *S.D. Meyers* cases show that possible future action by foreign governments based on the Precautionary Principle may potentially be challenged if insufficient scientific evidence exists to justify those measures. As it could then be argued that the measures taken were in fact protectionist attempts guised in the rhetoric of protecting the environment based on the Precautionary Principle.

Thus, although Canada does not yet have legislation similar to the U.S. FDQA whereby citizens may directly challenge the basis for governmental measures, there are other domestic and international advocacy mechanisms available to challenge arbitrary government action. These include participation in the regulatory process through organized and persuasive submissions, judicial review of arbitrary measures and state and citizen challenges to legislation under international trade agreements.

[174] *S.D. Meyers Inc* .v. *Canada*, (November 13, 2002) appeal to the Federal Court of Appeal of Canada denied (2002) FCA 39.

THE DATA QUALITY ACT
NEW OPPORTUNITIES TO IMPROVE FEDERAL AGENCY USE OF SCIENTIFIC AND OTHER INFORMATION

Prepared for

AMERICAN CORPORATE COUNSEL ASSOCIATION'S
2002 ANNUAL MEETING
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I. WHAT IS THE DATA QUALITY ACT?[1]

A. Congress included the "Data Quality Act" ("DQA" or the "Act") in the Fiscal Year 2001 Consolidated Appropriations Act as Section 515 of the Treasury and General Governments Appropriations Act for FY 2001, Pub. L. 106-554. The DQA, a copy of which is attached, consists of only a few paragraphs with minimal legislative history.

B. The DQA required the Office of Management and Budget ("OMB") to issue guidelines under the authority of the Paperwork Reduction Act to provide "policy and procedural guidance for Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies. . . ". *See* 44 U.S.C. §§ 3504(d)(1) and 3516. Those agency guidelines are to establish both "data quality" standards to govern each agency's information quality and dissemination practices, and administrative mechanisms to provide for challenges to the quality of such information. Accordingly, the Act required two sets of guidelines to be developed, the first by OMB and the second by each federal agency.

1. OMB issued final guidelines for federal agencies in February 2002. *See* OMB's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8451 (Feb. 22, 2002).

2. On June 10, 2002, OMB issued supplemental guidance to federal agencies to improve draft agency guidelines that had been issued for public comment (hereinafter referred to as the "June 10, 2002 OMB Supplemental Guidance").

3. As of August 15, 2002 (the date of this summary outline), most agencies had published their draft guidelines in response to the OMB directive. In

[1] Because this outline was prepared prior to the release of final federal agency guidelines pursuant to the Data Quality Act, it does not account for those final guidelines or Office of Management and Budget actions with respect to them.

many cases, these agency guidelines were accompanied by "umbrella" guidelines issued by federal departments of which various agencies are a constituent unit.

C. The guidelines of each agency are to become effective on October 1, 2002. On that date, agencies are to have their final guidelines in place, OMB is to then "approve" them, and most information "disseminated" by agencies will thereafter be subject to challenge under the Act.

D. Beginning in 2004, agencies are required to submit annual reports to OMB on the number, nature, and resolution of complaints received by each agency regarding its perceived or confirmed failure to comply with OMB and agency DQA guidelines. The agency report must be both quantitative and qualitative.

E. As such, the DQA provides "affected" parties a potentially powerful tool to compel agencies, among other things, to employ scientific information of high "quality" in their human health and environmental decisionmaking.

1. The potency of this tool will be impacted, in great measure, by the manner in which federal agencies structure and refine their final DQA guidelines, and by the role OMB chooses to adopt for ensuring that those guidelines conform with the DQA.

2. The utility of the DQA for influencing agency use of scientific information will also be significantly impacted by resolution of the question of the circumstances under which judicial review of alleged agency noncompliance with the DQA is available.

II. WHAT INFORMATION IS SUBJECT TO THE DATA QUALITY ACT?

A. Information that is "disseminated by Federal agencies" is subject to the provisions of the DQA, i.e., "agency initiated or sponsored distribution of information to the public" is subject to the Act's requirements. 67 Fed. Reg. at 8460. "Information" is broadly defined, and includes information posted on web sites, but does not include hyperlinks to information disseminated by others. Information also does not include opinions, where the agency's presentation makes it clear that what is being offered is someone's opinion rather than fact or agency views. *Id.*

B. OMB has excluded certain information from the DQA by limiting the definition of "dissemination." Specifically, information is not "disseminated" under the OMB guidelines if its distribution is limited to --

1. government employees or agency contractors or grantees;

2. intra- or inter-agency use or sharing of government information;

3. responses to requests for agency records under the Freedom of Information Act, the Privacy Act, the Federal Advisory Committee Act, or an other similar law; or

4. correspondence with individuals or persons, press releases, archival records, public filings, subpoenas or adjudicative processes.

C. Among these categories of excluded information, the exclusions published by agencies that have created the largest controversy are those for adjudicative processes, press releases, and public filings.

1. The "adjudicative process" exemption has proven perhaps the most controversial. Broadly drafting this exemption could threaten to exclude from coverage certain information supporting agency decisions that affect individual parties. OMB has specifically admonished EPA and other agencies not to broaden the exception for "adjudicative proceedings" beyond the intent of the OMB Guidelines. *See* June 10, 2002 OMB Supplemental Guidance. OMB has stressed that the exception is only intended to address "the *findings and determinations* that an agency makes in the course of adjudications involving specific parties," and only in adjudicative "proceedings" that afford parties the opportunity to contest decisions. 67 Fed. Reg. at 8454 (emphasis supplied).

2. OMB has also suggested that agencies narrow the exception for press releases so that it applies only where the agency has already disseminated the information discussed in the press release in another way (which presumably is not subject to the exception).

3. OMB has further suggested that the "public filing" exception should be refined by agencies to ensure that their guidelines will apply to third-party information that is disseminated by the agency.

D. OMB's June 10, 2002 Supplemental Guidance also noted other exceptions that agencies should address in their final guidelines in an appropriate manner. These include:

1. Using statements of "intent" to clarify that inadvertent public disclosure of information should not be construed as "disseminated information" under the DQA.

2. Excluding the published research findings of a scientist, grantee, or contractor when they are published in the same manner as their academic colleagues, but do not imply official agency endorsement of their views or findings.

3. Excluding testimony or other submissions to Congress that are *not* simultaneously disseminated to the public. OMB suggested that this

exception be further narrowed to information that has already been disseminated in another way, in order to avoid the incentive to misuse testimony and other submissions to Congress to circumvent the information quality standards.

4. *Not* excluding third party information that is disseminated in a manner that reasonably suggests that the agency agrees with the information. For example, OMB cited with approval the Department of Transportation's proposed approach of applying DQA standards to technical, scientific, or economic information submitted by a commenter on a proposed rule if the agency will rely on that information in support of its rulemaking. OMB also cited EPA's draft guidelines, which apply the DQA to information that EPA adopts, endorses, or uses to formulate or support a regulation, guidance, or other agency decision or position.

III. WHAT ARE THE CORE RESPONSIBILITIES OF FEDERAL AGENCIES UNDER THE DATA QUALITY ACT?

A. Assurances That Information Disseminated Meets Basic "Quality" Standards

1. Agencies must first commit to embrace a basic standard of quality as a performance goal and take appropriate steps to incorporate quality into their information dissemination practices.

a. "Quality" encompasses information's "objectivity," "utility," and "integrity," as those terms have been defined by OMB.

(1) Objectivity – focuses on whether the disseminated information is presented in an accurate, clear, complete, and unbiased manner. For scientific and research information, OMB views information that has been subjected to formal, independent, external peer review as presumptively objective. However, this presumption can be overcome by a persuasive showing in a particular instance that the peer review did not meet the recommendations made by OMB's Office of Information and Regulatory Affairs ("OIRA") to the President's Management Council, which establish the following criteria:

(a) were peer reviewers selected primarily on the basis of necessary technical expertise,

(b) did peer reviewers disclose to agencies prior technical/policy positions they may have taken on the issues at hand,

(c) did peer reviewers disclose to agencies their sources of personal and institutional funding, and

(d) were peer reviews conducted in an open and rigorous manner?

(2) Utility – refers to the usefulness of the information to the intended user.

(3) Integrity – refers to the security of the information. i.e., protection of information from unauthorized access or revision to ensure that the information is not compromised through corruption or falsification.

b. OMB has required that stricter quality standards apply to "influential" scientific, financial, or statistical information.

(1) "Influential information" is information whose dissemination "the agency can reasonably determine . . . will have or does have a clear and substantial impact on important public policies or important private sector decisions."

(2) For "influential scientific, financial, or statistical information," OMB has required agencies to ensure a "high degree of transparency about data and methods to facilitate the reproducibility of the information. . . .". Agencies are allowed to identify in consultation with the scientific communities those types of data that, given ethical, feasibility or confidentiality constraints, can be subjected to the reproducibility requirement.

2. The "objectivity" requirement, the determination of which scientific information is "influential," and application of the higher quality standard to influential information, are likely to dominate the initial debate regarding the information "quality" standards agencies must meet.

B. Development and Implementation of "Pre-Dissemination Review" Procedures

1. Agencies are also to develop information resource management procedures that are applied *before* information is disseminated (hereinafter referred to as "pre-dissemination review" procedures).

2. In order to assure quality (i.e., data objectivity, utility and integrity), OMB expected agencies to develop a process for reviewing the quality of information before it is disseminated. According to OMB, information quality is to be integral to every step of an agency's development of

information, including the creation, collection, maintenance, and dissemination of information. As such, data quality must be able to be substantiated through documentation or other means appropriate to the information.

a. The requirements for agency pre-dissemination review of data under the DQA apply to all information that the agency first disseminates on or after October 1, 2002.

b. Unfortunately, the draft guidelines issued by most agencies relied primarily on pre-existing data quality review procedures and seemed to avoid OMB's call for new, enhanced pre-dissemination review procedures.

C. Development and Implementation of Administrative Correction Mechanisms

1. Finally, Congress required each agency to develop an administrative mechanism whereby affected parties can request that agency to correct poor quality information it has disseminated.

2. These mechanisms -- and the right to challenge the quality of agency information -- apply to all information that an agency disseminates on or after October 1, 2002, *regardless* of when the agency first disseminated the information. For example, the right to challenge information extends to information first disseminated on an agency website prior to October 1, 2002, provided that the agency continues to disseminate it *after* that date.

3. OMB allows the administrative mechanisms developed by agencies under the DQA to be flexible, appropriate to the nature and timeliness of the disseminated information, and incorporated into current agency information resources management and administrative practices. However, under the OMB guidelines:

a. agencies *must* specify <u>appropriate time periods for initial agency decisions</u> on data correction requests, and notify affected persons of the corrections made; and

b. agencies *must* provide an <u>objective administrative appeal process with appropriate time periods</u> for an agency to review the agency's initial decision and to resolve the reconsideration request (according to the June 10, 2002 OMB Supplemental Guidance, agencies can also provide a time limitation on the right of an affected party to file an appeal of initial agency decisions).

4. The following aspects of proposed administrative appeal mechanisms were common in the draft guidelines of a number of agencies and are arguably deficient:

a. many agencies did not provide any centralized docket, electronic or otherwise, in order to track specific information correction requests, view final decisions on them, and alert interested parties to specific challenges and their outcomes;

b. many agencies did not establish a process to flag data that has been the subject of an information correction request, flags which could alert potential data users of possible problems with data during the time that an agency is considering a correction request or has made a decision to correct information but has not yet implemented that decision;

c. some agencies attempted to limit who can file an information correction request to a universe of parties that is arguably narrower than the "affected" parties Congress had in mind (see Section IV below);

d. many agencies did not establish specific procedures for information requests and appeals, such as provisions for record documentation, written advocacy submissions, findings and conclusions, hearings (where appropriate), and use of technical experts to facilitate informed decisionmaking;

e. many agencies failed to specify time limits for decisions on both initial information correction requests and administrative appeals from adverse determinations;

f. some agencies proposed to use agency officials from within the program office or other unit responsible for disseminating the contested information in the first place for appeals of information correction request denials, rather than impartial agency officials with strong technical and/or legal credentials who are in "independent" positions within an agency, and are thus insulated from program policy pressures; and

g. most agencies did not make clear that once information is determined to not meet the DQA guidelines, it should no longer be used or disseminated by the agency until corrected.

IV. WHO MAY CHALLENGE POOR QUALITY DATA UNDER THE DATA QUALITY ACT?

A. The DQA provides that "affected persons" shall be able to "obtain [through the DQA administrative correction mechanisms established by agencies] correction of information . . . disseminated by the agency that does not comply with" OMB or agency DQA guidelines.

B. Several agencies attempted in their draft guidelines to limit the applicability of the DQA by narrowing the definition of "affected person" in a variety of ways. For example, the U.S. Department of Commerce defined "affected persons" essentially as those parties that meet the test for constitutional standing.

C. OMB in its June 10, 2002 Supplemental Guidance noted that the proposed approach of the U.S. Department of Health and Human Services ("HHS") to the "affected person" definition is preferred. HHS had provided that a complainant must "describe how the person submitting the complaint is affected by the information error," but had avoided using this answer to restrict who can submit a data correction request. Other agencies had similarly defined "affected persons" broadly so as to include anyone injured or otherwise impacted by the information in question, regardless of the nature or magnitude of the injury or impact.

V. WHAT QUALITY STANDARDS APPLY TO "INFLUENTIAL" HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION?

A. Adoption or Adaption of Safe Drinking Water Act Standards

1. For purposes of agency assessment of the "objectivity" of influential information involving analysis of risks to human health, safety or the environment, OMB incorporated the statutory quality standards applied to risk information disseminated pursuant to the Safe Drinking Water Act ("SDWA"), and directed agencies to either "adopt or adapt" the SDWA quality principles. These principles incorporate three central concepts.

2. First, the SDWA principles require the use of the "best available science" to "the degree that an Agency [EPA] action is based on science." 42 U.S.C. § 300g-1(b)(3)(A).

   a. "Best available science" refers to the <u>best available, peer-reviewed science</u> and supporting studies conducted in accordance with <u>sound and objective scientific practices</u> and with data collected by <u>accepted methods or best available methods</u> (if the reliability of the method and the nature of the decision justifies the use of the data).

   b. In *Chlorine Chemistry Council v. EPA*, 206 F.3d 1286, 1290 (D.C. Cir. 2000), the D.C. Circuit held that EPA failed to meet these standards when the Agency rejected the "best available" science "simply because of the possibility of contradiction in the future by evidence unavailable at the time of action --a possibility that will *always* be present."

3. Second, with respect to information about risks of adverse health effects, the SDWA requires that the presentation of such information be "comprehensive, informative, and understandable." 42 U.S.C. § 300g-1(b)(3)(B).

4. Finally, the SDWA requires that EPA include, to the extent practicable, in documents made available in support of a rulemaking --

    a. each population addressed by any estimate of public health risk effects;

    b. the expected risk or central estimate of risk for the specified populations;

    c. each appropriate upper-bound or lower-bound estimate of risk;

    d. each significant uncertainty identified in the process of the assessment of public health risks and studies that would assist in resolving the uncertainty; and

    e. peer-reviewed studies known to EPA that support, are directly relevant to, or fail to support any estimate of public health risk effects and the methodology used to reconcile inconsistencies in the scientific data.

    42 U.S.C. § 300g-1(b)(3)(B).

B. Agency Practice in Draft Guidelines

1. Despite sharp criticism, agencies resisted "adopting" these SDWA standards in their draft guidelines, seeking instead to "adapt" the standard in their guidelines in varying ways.

    a. For example, EPA sought to "adapt" the SDWA principles "to the extent practicable," and questioned in its draft guidelines whether it should qualify the use of best available science with respect to both human health and environmental assessments.

    b. House Energy & Commerce Committee Chairman "Billy" Tauzin (R-LA) and Representative Paul Gillmore (R-OH) sharply criticized EPA for failing to adopt the SDWA standard, and charged that guidelines that do not adopt the standard are in violation of the DQA because agencies must meet objectivity standards that OMB's guidelines have determined are set forth in the SDWA standard.

2. In response to this practice, OMB in its June 10, 2002 Supplemental Guidance reminded those "agencies that are likely to use and/or disseminate influential information in their analysis of risks to human health, safety, and the environment of the need to clearly state that they are *adopting* the SDWA standards, or justify in what ways and for what kinds of information the agency is adapting the SDWA standards." In

addition, OMB referenced with approval the proposed approach taken by the U.S. Food and Drug Administration, which had "read the SDWA standards as applicable to a risk assessment document made available to the public and did not limit their applicability only to documents related to a rulemaking."

VI. WILL THE DATA QUALITY ACT PROVIDE THE REGULATED COMMUNITY A MEANINGFUL OPPORTUNITY TO IMPROVE AGENCY DECISIONMAKING?

A. Available Opportunities to Improve Agency Decisionmaking

1. An "affected party," such as a member of the regulated community, has a number of potential opportunities under the DQA to improve an agency's decisionmaking by improving the information that the agency relies upon and disseminates in making such decisions.

2. These opportunities include the following:

a. **Encourage the agency to periodically review and improve its DQA guidelines.** OMB recognizes that the development and implementation of agency DQA guidelines will evolve over time. Agencies should be encouraged to periodically review and improve deficient elements of their initial set of guidelines.

b. **Use the agency's own pre-dissemination review process to improve information prior to dissemination.** Early on in an agency's decisionmaking process, interested parties - where practicable - should seek to ensure that the agency's development of information germane to its decisions (or to its actions in general) is consistent with the agency's pre-dissemination review requirements. Although this objective may prove difficult to accomplish, familiarity with pre-dissemination review requirements (including those set forth in internal agency information quality manuals and other guidance), and focused discussions with agency personnel directly responsible for development and evaluation of the relevant information, may facilitate the chances of success.

c. **Evaluate any available agency websites providing information on data currently subject to challenge, or successfully challenged but uncorrected.** Several commenters on the draft guidelines of various agencies encouraged those agencies to develop web sites to inform "affected" and other interested parties of data being challenged by others or already successfully challenged but still uncorrected. To the extent agencies have established such websites, they may provide useful information for

affected parties (e.g., to determine whether a party wishes to participate in a previously initiated challenge proceeding or to protest an agency's continued use of information when it has already held the information to be inadequate under the DQA).

d. **Use the agency data correction complaint process and administrative review procedures to challenge any deficient information disseminated by the agency.** Where necessary, the information correction request and administrative appeal processes should be invoked if poor quality information is disseminated. Parties resorting to such mechanisms should remember that information must meet the data quality guidelines of all three of the following: the agency involved, any federal department of which it is a part, and OMB.

e. **As necessary, inform OIRA, which is overseeing agency compliance with the DQA for OMB, of any egregious refusal to correct noncompliant information, or failure to issue timely decisions in response to a complaint or appeal.** Although OIRA has noted publicly that it does not envision interjecting itself into individual correction battles, it is bound to closely follow early data challenges and correction processes. OIRA is likely to engage an agency whose practices suggest it is failing to adhere to DQA requirements.

f. **Seek judicial review of agency decisions to not correct flawed data or agency refusals to correct data determined to be flawed.** Neither the DQA nor its legislative history address the issue of judicial review of (i) agency denials of administrative appeals of failed information correction requests, (ii) agency failures to resolve in a "timely" fashion correction requests or administrative appeals, or (iii) agency unwillingness to correct information it has determined is flawed. As a general matter, judicial review is favored by the courts in the absence of clear Congressional intent to prohibit such review. As a result, affected parties should have strong arguments that they can seek judicial review of any action (or inaction) referenced above, provided that they can demonstrate constitutional standing and ripeness of the issue in dispute. *See, e.g., Chlorine Chemistry Council v. EPA,* 206 F.3d 1286 (D.C. Cir. 2000) (finding association had standing to challenge EPA rule establishing a maximum contaminant level goal ("MCLG") for chloroform pursuant to the SDWA despite the absence of any direct, immediate impact upon association's members because EPA practice demonstrated that the MCLG could be used to set cleanup standards, and because it was "substantially probable" that the MCLG would expose the association's members to higher cleanup costs under Superfund).

g. **Apply the DQA standards to all data submitted to the agency, including your own.** Because the DQA applies to all information relied upon and disseminated by an agency (absent an applicable exemption), parties wanting agencies to cite the information they submit in support of an agency action should ensure that the information submitted meets OMB's and the agency's data quality standards. Conversely, information submitted to the agency by others (*e.g.,* state agencies) that does not meet the relevant DQA standards is susceptible to challenge once disseminated by the federal agency involved.

h. **Review agency decisions regarding DQA challenges to better understand how the agency is interpreting the DQA.** Agency decisions on information correction requests and administrative appeals of correction request denials should shed light on an agency's interpretation of the DQA. Such a review should enhance preparation of subsequent DQA challenges and provide a basis for determining whether an agency's administration of DQA requirements is so faulty as to warrant OMB intervention.

B. The Full Measure of the DQA's Utility in Challenging the Use by Agencies of Science in Environmental Decisionmaking Is Likely to Unfold Over Time, Despite What are Expected to be Early Numerous Challenges to Use and Dissemination of Human Health and Environmental Risk Information.

VII. THE IMPACT OF THE DQA ON THE "SOUND SCIENCE" DEBATE

A. Environmental and other citizen interest groups are concerned about the effect of the DQA on federal environmental regulation and policy. For example, a new think tank, the Center for Progressive Regulation, has been formed by Rena Steinzor, a professor at the University of Maryland Law School and former aide to Rep. John Dingell (D-MI), and other academics to focus on implementation of the Act, as well as on the use of cost/benefit analysis at OIRA.

B. Even before agency DQA guidelines were finalized, organizations had already begun filing challenges to agency data. For example, two organizations, the Competitive Enterprise Institute and the Center for Regulatory Effectiveness, filed petitions in February and June of 2002 with EPA and the White House Office of Science and Technology Policy challenging the "Climate Action Report 2002" submitted to the United Nations on climate change. The groups argued that the report inappropriately used computer models and data.

C. Although it remains to be seen how powerful a tool the DQA will become to promote the use of quality information and "sound science" (especially as this outline is being prepared prior to issuance of final agency guidelines on or around October 1, 2002), it is becoming apparent that the limits of the DQA will be tested early and often.

VIII. MAJOR ISSUES POSED BY THE INITIAL RESPONSE OF FEDERAL AGENCIES TO THE DATA QUALITY ACT MANDATE

A. Agencies have taken a variety of approaches to implementing the DQA scheme. Although OMB expects that over time agencies will continue to modify and refine their DQA processes as they develop experience in implementing the Act, many in the regulatory community were disappointed by the initial failure of numerous federal agencies (EPA included) to fully embrace the mandate of the Act.

B. Some of the major criticisms voiced by the regulatory community concerning the draft guidelines of federal agencies were as follows:

1. Most draft guidelines were riddled with caveats and exemptions intended to limit the application of the DQA. One of the most troubling of these, for a number of reasons, was the exemption proposed by many agencies for information disseminated as part of a proposed agency action (*e.g.*, an EPA rulemaking or cleanup decision) where an opportunity for formal notice and comment on that action exists.

2. Agencies tended to rely on existing information quality control programs rather than create new, more robust pre-dissemination review programs to satisfy their obligations under the Act. Had such existing programs been deemed acceptable by Congress, it is doubtful Congress would have felt compelled to enact the DQA in the first place.

3. Agency draft guidelines did not effectively address application of the DQA to data submitted by third parties (*e.g.*, state agencies) and relied upon and disseminated by the federal agency. Although it seems patently clear that dissemination of such data is subject to the Act (absent an applicable exemption), agencies largely failed to address how they would ensure the quality of such data.

4. Agencies generally fought hard to only "adapt" rather than fully "adopt" the SDWA standards, and did so without compelling reasons for their failure to fully embrace those standards. Agencies did so despite the fact that Congress has identified those standards as basic standards of quality for the use of science in EPA decisionmaking under that statute, and OMB has made them applicable to all influential scientific information disseminated by all federal agencies to achieve the goal of using "sound science."

5. Agencies often failed to clearly and fully identify the categories of information they routinely generate that constitute "influential" information subject to higher DQA quality standards. Although many agencies adopted the OMB definition of the term, they failed to heed OMB's directive to identify which information types the agencies viewed as meeting that definition and/or defined too narrowly the categories of

information falling within the definition. (For example, information in EPA's Integrated Risk Information System ("IRIS") database clearly meets the OMB definition of "influential" but was not identified as such by EPA in its draft guidelines.)

6. The administrative correction mechanisms proposed by most agencies were too deficient to be meaningful and functional. Among other things, agencies often:

   a. defined "affected parties" too narrowly, thereby unduly circumscribing the universe of persons entitled to invoke the administrative correction mechanisms;

   b. failed to identify clear and robust procedures that would govern the initial information correction and subsequent administrative appeal processes;

   c. neglected to establish mechanisms (*e.g.*, centralized, web-based docket systems) that would enable interested parties to learn of DQA challenges brought and resolved, and to participate in such challenges as appropriate;

   d. failed to establish mechanisms to post or flag information determined through the DQA process to be flawed but as yet uncorrected (so that parties would not erroneously rely on it);

   e. neglected to provide, in some cases, for timely resolution of DQA challenges and, in virtually all cases, timely correction of flawed data; and

   f. failed to create a meaningful administrative appeals mechanism by establishing an appeals body with (i) sufficient independence from the agency program office responsible for disseminating the information in the first place, and (ii) adequate resources to ensure timely resolution of challenges.

7. With very few exceptions, agencies failed to foreclose the use of data determined by them to be flawed as a result of a DQA challenge until such time as the information is corrected.

IX. CONCLUSION

A. The DQA hopefully will prove to be an effective tool in ensuring that the information disseminated by federal agencies is complete, accurate, unbiased, and otherwise of high quality. The pre-dissemination review and information correction request procedures adopted by each agency should be calculated to achieve those objectives.

B. Most importantly, regulated industry should be able to use an agency's DQA appeal process and, in appropriate circumstances, judicial review to ensure that the dictates of the Act are followed when information is relied upon and disseminated by an agency.

C. Because early information challenges under the DQA are anticipated, interested members of the regulatory community would do well to monitor (and decide whether it is worthwhile to seek to participate in) such challenges, which may set important precedents for the DQA programs of federal agencies.

OVERVIEW OF EXTENDED PRODUCER RESPONSIBILITY INITIATIVES IN NORTH AMERICA, EUROPE, LATIN AMERICA AND ASIA

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OVERVIEW OF EXTENDED PRODUCER RESPONSIBILITY INITIATIVES IN NORTH AMERICA, EUROPE, LATIN AMERICA AND ASIA

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I. Introduction

In response to the growing tide of consumer product wastes, governments around the world are implementing Extended Producer Responsibility ("EPR") initiatives at a rapid pace. Lead largely by the European Community ("EC") and its member countries, a number of countries in Asia and Latin America are also beginning to turn to EPR initiatives to deal with end-of-life products. Due to pressures from environmental groups, educated consumers and municipal authorities, EPR measures are beginning to take root in the United States as well, particularly at the state level.

These initiatives, which can range from simple government consumer education campaigns to mandatory product take-back and recycling programs, pose a number of serious business challenges to manufacturers, distributors and importers of consumer products. These challenges can include:

- logistical difficulties in marketing and distributing products on a regional or global basis due to conflicting product regulatory requirements;
- developing new product designs in response to material limits or bans;
- grappling with potential limits to market access posed by national EPR initiatives;
- increasing costs for products to cover material or waste disposal fees or taxes;
- responding to consumer and shareholder pressures to implement EPR measures; and
- implementing and funding new programs for end-of-life product collection, take-back and recycling programs.

EPR initiatives mark a fundamental and far-reaching shift in environmental policy on a global basis. While environmental regulations have historically focused on pollution controls of production processes, i.e., "downstream" and "end-of-the-pipe" regulations, EPR initiatives are focused on "upstream" regulations and product "life cycles." What the old and the new regimes have in common, however, is that the producer is again viewed as the "polluter" and therefore is frequently given primary responsibility for implementing these new "upstream" design requirements or "downstream" recycling mandates.

This paper provides a brief overview of the definition of EPR, its drivers, the types of EPR initiatives most commonly implemented at this time, and examples of EPR measures being proposed or adopted around the world. However, given the number and kinds of EPR proposals and measures in existence, this discussion is not intended to be exhaustive in any way and should not be relied upon as such. To provide the reader a sense of how EPR measures are affecting individual industry sectors, we have also provided two annexes that survey certain key initiatives affecting the electronics and automotive sectors.

II. Overview of Extended Producer Responsibility Initiatives

A. EPR Defined

The term Extended Producer Responsibility ("EPR"), as used in this paper, is intended to cover the broad range of environmental initiatives that impose requirements on producers, distributors, retailers and importers for managing their end-of-life products, including component parts, chemical constituents, packaging and packing materials, or the product as a whole. The Organization for Economic Cooperation and Development ("OECD") defines EPR as "an environmental policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer state of a product's life cycle."[1] There are two key aspects to EPR policies: (1) shifting of responsibility (physically and/or economically, fully or partially) for end-of-life products upstream to the producer and away from state or municipal governments; and (2) forcing or providing incentives to producers to take environmental considerations into account in the design of their products.[2]

B. EPR Drivers

There a number of drivers that contribute to the recent dramatic explosion of EPR initiatives. The key driver is simply that the generation of consumer product waste has risen at a significant rate world-wide over the last two decades and is projected to continue increasing at similar rates in the near future.[3] This sheer volume of consumer waste has placed a great deal of pressure, both financial and physical, on municipal waste infrastructures around the world, especially in Europe, Latin America and Asia, and increasingly in the United States. In many jurisdictions, the addition of new landfills and incinerators – increasingly difficult to site due to local opposition – has been unable to keep up with increased waste management demands.

In addition, a number of these consumer waste streams include heavy metals and hazardous chemical substances that existing municipal landfills and incinerators were not designed to adequately treat, threatening negative environmental impacts from unanticipated and uncontained releases of hazardous substances. Recognizing that the costs of waste treatment and

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[1] See OECD, Extended Producer Responsibility: A Guidance Manual for Governments, ENV/EPOC/PPC (2000)16/FINAL (October 2, 2000) at 20 (hereinafter "OECD Manual").

[2] Id.

[3] According to the OECD, growth of private household consumption between 1980 and 1997 was 37.5%, and over the same time period municipal waste production increased 40%. Id. at 19.

remediation are typically more than those associated with waste avoidance, municipalities are now applying the policies of waste minimization and recycling – long components of many hazardous waste regimes – to municipal household waste streams. As a consequence, more municipal authorities are focusing efforts on waste source reduction in addition to, or in lieu of, increased waste management capacity.

A third key driver is the growing recognition – by governments, consumers, environmental organizations, non-governmental organizations ("NGOs") and industry alike – of the environmental problems attendant to the rise in consumer wastes. For example, reports noting the problems of "e-wastes" have received wide circulation and press coverage[4] and are placing increasing pressure on governments and industry to act. To that end, there appears to be an increasing consensus that the historical focus of environmental regulation on the output of production processes – i.e., traditional "end-of-the-pipe" environmental regulations – may not be sufficient to protect human health and the environment, nor the most economically efficient mechanism for doing so.

Finally, the industrial "actors" involved in product chains – suppliers, producers, transporters, shippers, retailers and importers – are viewed as the unregulated "weakest link"[5] in the life-cycle of product management. In this regard, most governments have viewed EPR initiatives simply as an extension of the long-ratified principle of "polluter-pays"[6] – i.e., that the polluter should bear the costs of preventing and controlling pollution to ensure protection of human health, safety and the environment.[7] EPR initiatives expand the traditional notion of "polluters" from those who actually "generate" waste to those deemed "responsible" for placing in the stream of commerce products that become wastes once discarded by others.

C. Industrial Sectors Affected

EPR initiatives have been in place for a number of years for a few limited waste streams, such as beverage containers, used tires, and certain batteries, largely through consumer return-deposit systems. Recent EPR initiatives have become far more comprehensive in scope, however, and are now targeting a number of additional industries and product waste streams. The primary focus appears to be on waste streams that are either high-volume and/or contain chemicals of concern (typically hazardous substances). In this regard, the electronics and electric equipment, packaging, automotive, and chemical sectors have been key targets of EPR initiatives on a global basis. Recent EPR initiatives have been directed towards the following product sectors:

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[4] See, e.g., INFORM, Waste in the Wireless World: the Challenge of Cell Phones (2002); Worldwatch Institute, Vital Signs 2002 (2002); Basel Action Network, Silicon Valley Toxics Coalition, Exporting Harm: The High-Tech Trashing of Asia (2002).

[5] OECD Manual, at 21.

[6] Id. at 23.

[7] See generally OECD, Council Recommendation on Guiding Principles Concerning International Aspects of Environmental Policies (May 26, 1972) in OECD, The Polluter Pays Principle: Definition, Analysis, Implementation (Paris 1975).

- electronics and telecommunications (e.g., cathode-ray tubes ("CRTs"))
- batteries (e.g., Ni-Cd, mercury, "button" batteries)
- lighting (e.g., flourescent lights, mercury lights, sodium lights)
- automotive (e.g., mercury switches, catalytic converters)
- large household appliances (e.g., refrigerators, dishwashers)
- small household appliances (e.g., toasters, vacuum cleaners)
- chemicals (e.g., restricted use or bans on mercury, CFCs, etc.)
- packaging (e.g., recycled content, chemical compounds in packaging)
- pesticides and fertilizers (e.g., nitrogen, cadmium levels)
- medical equipment (e.g., radiotherapy, nuclear medicine, thermometers)

In Annexes A and B, we provide surveys of certain key initiatives affecting the technology and automotive sectors in North America, Europe, Latin America and Asia.

D. Types and Examples of EPR Instruments

Across the globe, EPR initiatives have taken a variety of forms. As a general matter, however, they can be categorized into (1) performance standards, (2) economic instruments and (3) product stewardship requirements. In many cases, EPR initiatives include elements or hybrids from all three types of instruments. Examples of some of the instruments most frequently used are set forth below:

1. Performance Standards

EPR "performance standards" are requirements imposed by law or commitments made by industry to ensure that products meet certain environmental standards. These standards take various forms.

a. Design for the Environment ("DfE")

DfE standards impose requirements on manufacturers to change the design of their products to minimize their environmental impacts. These standards have included: minimum recycled content requirements in products or packaging; product design configuration so that worrisome component parts (e.g., batteries, lightbulbs) can be easily removed and separately handled; and product energy efficiency or consumption requirements.

Example: *Brazil – CONAMA Resolution 257/99*

The Brazil battery-take back regulations require, among other things, that manufacturers take steps to ensure that covered batteries are incorporated into equipment in such a way as to enable them to be easily changed by consumers and separately disposed. In addition, the resolution includes limits on mercury, lead and cadmium contained in batteries.

Example: *EC Directive 94/62 on Packaging and Packaging Waste (December 31, 1994)*

EC Directive 94/62 creates a comprehensive packaging and packaging waste management program. Among its requirements are standards for recycling content and heavy metal limits (cadmium, lead, mercury and hexavalent chromium) in packaging, and a general directive that manufacturers ensure that their packaging be "designed, produced and commercialized" in ways to permit its reuse or recovery.

b. Material Limits, Bans and Use Restrictions

Material limits and bans, which have been in place for a number of years at the international level for a few key materials (such as CFCs and other ozone depleting substances), are now more frequently being used at the national or regional levels to reduce or eliminate certain chemicals (including heavy metals) in products. In particular, chemicals that have been targeted for material limits or bans are those that are persistent, bioaccumulative or toxic (e.g., mercury, lead, cadmium, PCBs, etc.).

Example: *United States – Connecticut – Mercury Education and Reduction Act (2002)*

Connecticut recently imposed a ban on all mercury-added products containing more than 1 gram of mercury. The bill has a number of provisions that become effective at different intervals between 2003 and 2006. Notably, after July 1, 2006 mercury-added products containing more than 0.1 grams are banned, as well as "mercury-added novelties" (e.g., toys) and mercury fever thermometers.

Example: *European Community – Draft Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHS Directive")*

Under the RoHS Directive, European Community ("EC") member states must ensure that new electrical and electronic equipment products put on the market after 2006 do not contain lead, mercury, cadmium, hexavalent chromium and two types of brominated flame retardants. The Directive, which was developed in tandem with a product take-back directive for waste electrical and electronic equipment ("WEEE"), is expected to be passed in the near future.

2. Economic Instruments

a. Return-Deposit Systems and Advance Disposal Fees

Return-deposit systems and advance disposal fee programs generally require a fee or tax to be paid on targeted products or product groups based on the estimated costs of collection and recycling. Fees are typically paid by consumers at the point of sale. In the return-deposit system, the consumer receives some of the deposit for returning the end-of-life product.

Example: *United States – California – California Tire Recycling Act*

The California Tire Recycling Act requires all persons who purchase new tires to pay an advance disposal fee of $1.00 per tire which is collected by the retailer. The fees are used to fund tire recycling and remediation of tire stockpiles in the state.

b. Materials Taxes

Some countries have imposed taxes on particular materials (or chemicals) deemed to cause pollution or create environmental hazards. The objective of the tax is to reduce the use of the taxed materials in favor of less harmful substitute materials.

Example: *Australia – Refrigerant Reclaim Australia ("RRA") Program*

The RRA is a voluntary industry-sponsored greenhouse gas reduction program directed towards reclamation and destruction of ozone depleting refrigerants. The program is funded by levies on industries that produce or import new refrigerants. The funds, paid into a trust, are used to finance destruction of existing ozone depleting substances.

Example: *Sweden – Fertilizer Taxes (2000)*

Sweden imposes taxes on nitrogen, as well as several other chemicals, in fertilizers.[8] The motivation of the tax is to improve inland and coastal waters and soil quality by reducing the use of nitrogen in fertilizers by imposing a "tax" on its use. Some of the taxes are used to finance environmental projects and environmental improvements in agriculture. The tax reportedly increases the nitrogen price by about 20%.

[8] See Stefan Speck, The Eco-Tax Database of Forum for the Future, Sweden 2000.

3. Product Stewardship Instruments

a. Product Labeling

Product labeling initiatives typically require manufacturers or distributors of products to include information on the hazardous chemical constituents contained in their products, as well as directions on their proper disposal. Labeling can be required on product packaging and containers as well as on the products themselves.

Example: *United States – Vermont – Mercury-Added Consumer Products Act*

Vermont has adopted legislation that prohibits the sale of certain mercury-added consumer products manufactured after March 1, 2000, unless they are labeled. Manufacturers must label products in a way that clearly informs the purchaser that mercury is present in the product and that the product may not be disposed of or placed in a waste stream destined for disposal until the mercury is removed and reused, recycled or otherwise properly managed. Affected products include thermostats, switches, medical instruments, electric relays and devices, lamps and batteries (excluding button batteries).

Example: *China – Clean Production Promotion Law (2002)*

China's new Clean Production Promotion Law would require all major components of "electromechanical equipment" to be marked with "standard numbers" referencing the nature of the raw materials used in the components to facilitate materials recovery and recycling. Although a definition of "electromechanical equipment" is not clearly set forth in the Law, the Law's drafters define "electromechanical equipment" to include "all consumer products powered with electricity, including those used in the electronics and automotive industries." (China's standard setting body will develop standard numbers corresponding to various raw materials used in the manufacture of such products.) Additionally, the Law establishes mandatory recycling for certain electromechanical equipment. Equipment subject to mandatory recycling will be listed in a catalogue that China's State Council will reportedly issue within the next year.

b. End-of-Life Product Take-back Regimes

Product take-back regimes impose responsibility on manufacturers, distributors and importers to "take-back" and manage their end-of-life products. Take-back programs often include product or materials reuse or recycling targets. In some cases, take-back programs are run by municipal authorities but financed through industry taxes and consumer product fees. Some programs also allow industries to participate collectively in industry-wide take-back

schemes of common waste streams, rather than require individual companies to engage in take-back of their specific products.

Example: *EC – Proposed Directive on Waste Electrical and Electronic Equipment (2000) ("WEEE Directive")*

The EC is expected to adopt the WEEE Directive this year. This directive will require producers to take-back their waste electrical and electronic products from households free of charge, achieve ambitious reuse and recycling targets, and treat remaining wastes at specially-created WEEE treatment centers. The take-back requirements apply to a broad range of consumer products, including large and small household appliances, telecommunication equipment, consumer equipment, lighting equipment, electrical and electronic tools, toys, medical equipment systems, monitoring and control instruments and automatic dispensers.

Example: *Mexico – Proposed General Law on the Prevention and Integral Management of Wastes (2002)*

The Mexican Chamber of Deputies recently passed by unanimous vote a bill that would impose comprehensive take-back obligations on producers, importers and distributors of covered end-of-life products designated as "special wastes" and certain hazardous wastes. The bill would subject a large category of "technology wastes" (including wastes from the automotive and information technology ("IT") industries) and packaging wastes to take-back requirements. The bill specifically targets for take-back obligations mercury and nickel-cadmium batteries, fluorescent and mercury vapor lamps, components parts containing mercury, cadmium, or lead, automotive catalytic converters, and automotive accumulators containing lead. The bill is currently before the Mexican Senate.

Example: *U.S. – California: Proposed Hazardous Electronic Scrap Recovery, Reuse, and Recycling Act of 2002 (S.B. 1619)*

California has proposed the first comprehensive take-back program for "hazardous electronic devices" in the U.S. Senate Bill 1619 would impose new hazardous material labeling requirements on manufacturers of a wide-range of consumer electronics and IT equipment. Electronics manufacturers would also be obligated to either implement a take-back system or pay a fee to cover the costs of the collection and recycling of hazardous electronic devices produced by each manufacturer. "Hazardous electronic devices" would include any consumer product, component, or device that

> requires an alternating current or direct current electrical charge for operation, and that contains lead, mercury, or any other persistent bioaccumulative toxin, as determined by the Department of Toxic Substances Control, including, but not limited to, televisions, video monitors, computer monitors, and any other device that has one or more CRTs containing lead.

III. Current and Future Trends

Across the globe, EPR initiatives are being proposed and adopted at a dizzying pace. While the most comprehensive and aggressive of these are being developed by the EC and its member countries, Asian and Latin American countries – which often rely on EC initiatives as models for their own legislation – are not far behind.[9] While product stewardship initiatives have been slower to gain footing in the United States, this situation may change in the near future as the combination of political pressures from environmental groups and the practical pressures of mounting consumer waste streams merge to become a driving force in domestic legislation.

A. North America (excluding Mexico)

Current Trends. EPR initiatives have been slower to take root in the United States and Canada in the same way they have in Europe and other regions. So far, EPR initiatives have been developed primarily by state and provincial authorities, although a bill to regulate computer hazardous wastes was recently introduced in the U.S. Congress (H.R. 5158). In the U.S., most EPR measures have been directed towards specific wastes (e.g., CRTs, mercury lamps). U.S. initiatives have tended to focus on labeling, consumer education and disposal restrictions, rather than wide-ranging industry-sponsored take-back recycling programs. Recent product stewardship initiatives in Canadian provinces suggest that Canada may be moving towards industry sponsored take-back programs as a way to address household hazardous wastes generally and may take a broader approach than has generally been the case in the U.S.

What to Look For. Generally speaking, it seems unlikely at this juncture that the U.S. will implement any national, comprehensive take-back legislation in the near term. At the federal level, although bills for specific wastes (e.g., CRTs, computers) will continue to be proposed, their chances for success in the current Congressional climate seem slim. EPA will also likely continue to address those waste streams within its jurisdiction, such as hazardous CRTs, through its universal waste program.[10] EPA's work on persistent, bioaccumulative and toxic ("PBT") chemicals, influenced in good measure by the agency's participation in international fora such as the NAFTA Commission for Environmental Cooperation, may

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[9] See, e.g., Germans to Talk Green With Zhu (People's Daily (China)), October 20, 2000.

[10] EPA recently proposed a rule that would regulate CRTs and mercury-containing equipment as hazardous universal wastes. 67 Fed. Reg. 40507 (June 12, 2002). Generally speaking, under the universal waste rule, high-volume/low-hazardous wastes are "conditionally" exempt from regulation as hazardous wastes provided they meet certain management requirements. The proposed rule lays out a number of specific management requirements for CRTs and mercury-containing equipment.

continue to drive agency initiatives on heavy metals and other chemicals of concern, including community right-to-know programs and emissions release reporting regimes.

Despite slow movement at the federal level, however, U.S. states will continue to develop EPR initiatives at a fairly rapid pace. Although the trend of product labeling and disposal bans for products containing chemicals of concern (e.g., mercury, cadmium, etc.) will continue, it is also likely that state initiatives will become increasingly comprehensive and place more responsibility on producers to fund or implement consumer waste management programs. This shift may especially be the case in light of budget shortfalls in many states, as evidenced by the first comprehensive take-back program for a broad category of "e-wastes" recently proposed in California. The main challenge for industry will be to stay abreast of this rapidly changing landscape and navigate the developing complex web of unique product and state-specific programs.

In Canada, it seems likely that EPR initiatives will continue to be developed at the provincial and local levels. However, recent reports from federal environmental agencies on electronics wastes indicate that national EPR initiatives could be introduced in Canada in the future.

B. European Community

Current Trends. The EC, in large part due to its lack of current and anticipated waste infrastructure and capacity, has been the "leader" in developing EPR initiatives. So far, these programs appear to be the most far-reaching world-wide. For example, the EC's packaging take-back program, adopted in 1994, is a comprehensive product stewardship program that requires member states to implement programs covering virtually all packaging and packing materials that include the following elements: (1) stringent recycling targets; (2) recycled content targets and hazardous substance limits; (3) return, collection, and recycling programs; and (4) package marking requirements. In a similar vein, in 2000 the EC adopted the End-of-Life Vehicle Directive, which imposes responsibility on producers for the costs of recycling cars put on the market after July 2002. Because the member states have failed to implement the Directive, the EC has recently initiated legal proceedings to enforce its requirements. In sum, EPR concepts are clearly an integral aspect of existing waste policy in the European Union and are likely to remain so.

What to Look For. In the near term, it is likely that the EC will adopt the WEEE and RoHS directives, which will require member states to adopt legislation that requires producers to fund or manage take-back programs for WEEE and impose bans on the use of heavy metals in electrical and electronic equipment. In addition, it is possible that initiatives derived from a recently circulated Chemicals White Paper will be proposed. These initiatives, while unlikely to require actual product stewardship programs, could dramatically change the way in which chemicals are regulated by requiring industry to obtain permission for the specific use of a number of hazardous substances. In addition, the White Paper calls for large-scale scientific studies of the environmental and health effects of the most commonly-used chemicals and chemicals of concern; if conducted, such studies could result in calls for new EPR programs or restrictions on use of highly hazardous chemicals. It is important to watch what the EC does,

as EC initiatives are likely to remain an important influence on environmental legislation and policy in Latin America and Asia, and increasingly, in the U.S.

C. Latin America (including Mexico)

Current Trends. With the exception of Brazil, Latin American countries (including Mexico) have not adopted EPR initiatives in any comprehensive way at this point in time. Brazil has been the most active in developing EPR initiatives, primarily for batteries. However, most countries in the region adopted hazardous waste laws only in the last decade or so, and some are just now in the process of adopting meaningful regulations and enforcement regimes. Generally speaking, Latin American countries continue to struggle greatly to develop adequate infrastructure to meet the solid and hazardous waste demands borne by the rapid urbanization and industrialization the region has undergone in the last twenty years. By general consensus, waste infrastructure and capacity in Latin America overall falls considerably short of the region's needs.

What to Look For. Notwithstanding the foregoing, the Latin American EPR landscape could conceivably change dramatically in the near term. Producer-sponsored product waste programs may provide an appealing solution to the region's solid and hazardous waste infrastructure woes, because they shift a great deal of the political and financial challenges of waste management from governments to industry. Brazil has had considerable success with its national battery take-back program and may well adopt similar programs for additional waste streams, such as lighting and other electronic wastes. Notably, both Brazil and Mexico have pending in their national legislatures aggressive and wide-ranging take-back legislation – modeled largely after EC proposals – for a broad number of consumer product wastes. While the passage of these bills remains unclear, both countries likely will continue to evaluate EPR initiatives as a core aspect of their national solid waste policies. Other countries in Latin America will likely follow suit (and, indeed, the Argentine legislature is currently considering battery and waste product take-back bills that were just recently introduced).

D. Asia

Current Trends. A number of Asian jurisdictions have initiated EPR policies and laws. At present, many of these policies and laws are at a nascent stage, with the notable exception of those in Japan and Taiwan (ROC). For instance, since the mid-1990s, Taiwan has been collecting recycling and treatment fees from manufacturers and importers of certain consumer products, containers and packaging materials. These include lead-acid and dry batteries and automobiles. Additionally, on July 12, 2002, the Japanese government enacted new legislation (Law No. 87) on recycling end-of-life motor vehicles. Among other things, this legislation imposes on manufacturers and importers the burden of recycling such vehicles. Increasing pressure on waste management infrastructure in rapidly developing Asian economies over the last decade, including the environmental burden resulting from rapid obsolescence of consumer electronics, is drawing media and government attention to these problems and various EPR "solutions" to such problems elsewhere around the world.

What to Look For. Asian countries are in the process of rapidly augmenting their environmental legal regimes to include legislation that moves beyond "end-of-pipe"

measures to “upstream” or “lifecycle” provisions that affect the manufacture and end-of-life management of consumer products. Initially, such measures often address recycling or materials restrictions for specific consumer products. Typically, such measures target polypropylene packaging or bags, batteries, tires, and “white goods” such as refrigerators, televisions, washing machines, and air conditioners. For instance, China is currently drafting specific legal measures to address button-cell battery and tire recycling, and the take-back and recycling of household consumer electronics. Additionally, an increasing number of jurisdictions are developing policies and laws that apply to multiple industries, thereby affecting a wide range of product types and manufacturing processes. For example, in early July 2002, Taiwan enacted the Resource Recycling and Reuse Act. Essentially, this Act augments the government’s authority to impose EPR requirements on manufacturers and importers of certain consumer products, containers, and packaging materials.

ANNEX A

OVERVIEW OF KEY EPR INITIATIVES AFFECTING THE ELECTRONICS SECTOR

ANNEX A

OVERVIEW OF KEY EPR INITIATIVES AFFECTING THE ELECTRONICS SECTOR[11]

The rapid development of technology in the consumer and business electronics and telecommunications industries has lead to the generation of increasing amounts of electronic waste ("e-waste") in countries around the world. Non-governmental organizations and government regulators in many regions are expressing concern over the volume of e-waste being disposed of in landfills and the environmental risks associated with certain components (e.g., batteries) and substances (e.g., cadmium, lead, mercury, etc.) commonly found in e-waste. As a consequence, a key target for many EPR initiatives is the electronics sector. Governments world-wide are considering and adopting product-related environmental measures that have the potential to limit market access, drive product design changes, and impose new costs and responsibility on the electronics sector.

I. North America (excluding Mexico)

EPR initiatives directed towards e-wastes in North America are being issued at a rapid pace in the United States and Canada. Both countries are seeing the first initiatives that would comprehensively regulate e-wastes and shift a large share of responsibility for managing such wastes to manufacturers of electronics products. While a complete survey of all North American initiatives governing e-wastes is beyond the scope of this document, we provide examples of some recent key measures worth noting or monitoring.

A. United States

Product stewardship initiatives to manage e-wastes are developing rapidly in the United States, largely due to the growing awareness of municipalities, environmental regulators and the public regarding the environmental issues associated with e-wastes and the attendant costs of their end-of-life management. Notably, because so many of the initiatives governing e-wastes are at the state or municipal level, few of them are similar, in form or substance. Recent initiatives have been issued as statutory mandates, agency rules and regulatory interpretations, voluntary industry programs and community-sponsored pilot projects. The substance of these programs also varies considerably, ranging from comprehensive product take-back schemes and land disposal bans to treatment as "universal wastes" under the Resource Conservation and Recovery Act ("RCRA"). As a consequence, the electronics sector as a whole faces the enormous challenge of navigating an increasingly complex web of fast-changing and potentially inconsistent product-related environmental requirements.

[11] This survey is not intended to be exhaustive and only provides representative initiatives.

1. Federal Level

a. Performance Standards – Possible Federal Legislation on E-Wastes

No federal environmental legislation currently exists targeting e-wastes per se. However, Representative Mike Thompson (D-California) recently introduced a bill, the Computer Hazardous Waste Infrastructure Program Act (H.R. 5158) that would establish a fee and grant program to promote the recycling of used computers and the development of a national infrastructure to collect and recycle used computers. The legislation would also require the U.S. Environmental Protection Agency ("EPA" or "the Agency") to conduct a market study on the kinds and amounts of waste materials in computers, determine existing and best management practices for those materials, and evaluate the costs for managing those materials. Based on the EPA study, Congress would then assess fees on the sales of computer equipment covered under the act. The bill was referred to the House Committee on Energy and Commerce. While it is unlikely that this legislation will see much movement in the current session of Congress, it will be the first in what will likely be a series of bills addressing various e-waste issues.

b. Performance Standards – Proposed Universal Waste Rules for Cathode-Ray Tubes (CRTs)

EPA has regulated several e-wastes as "universal wastes" under the Resource Conservation and Recovery Act ("RCRA"). To date, the Agency has designated mercury-containing lamps, thermostats and batteries as universal wastes. In June of this year, the Agency issued draft proposals that would regulate used cathode-ray tubes ("CRTs") and mercury-containing equipment as universal wastes as well. Generally speaking, the universal waste rules "conditionally exclude" designated waste streams from the RCRA hazardous waste management requirements provided certain waste management standards are met. EPA's efforts to address CRTs and other electronic wastes under RCRA is indicative of the Agency's growing interest in the risks associated with managing waste electronics. It seems likely that other initiatives governing end-of-life electronics will be forthcoming.

2. State Level

There are EPR initiatives governing e-wastes of some type being proposed or implemented in virtually every state. For illustrative purposes, we highlight here two that involve industry-sponsored product stewardship programs.

a. California: Take-Back, Labeling, and Fee Programs – Proposed Senate Bill 1619

In January 2002, California State Senator Romero introduced Senate Bill 1619 ("S.B. 1619"), the Hazardous Electronic Scrap Recovery, Reuse, and Recycling Act of 2002, which proposes a state program administered by the California Integrated Waste Management Board to encourage recycling and refurbishment of "hazardous electronic devices." S.B. 1619 would impose new hazardous material labeling requirements on manufacturers of a wide-range of consumer electronics and IT equipment. Electronics manufacturers would also be obligated to

either implement a take-back system or pay a fee to cover the costs of the collection and recycling of "hazardous electronic devices" produced by each manufacturer. Under the proposed legislation, a "hazardous electronic device" is defined as "any consumer product, component, or device that requires an alternating current or direct current electrical charge for operation," and contains lead, mercury, or any other persistent bioaccumulative toxin, as determined by the Department of Toxic Substances Control, including, but not limited to, televisions, video monitors, computer monitors, and any other device that has one or more CRTs containing lead.

b. Massachusetts: Product Stewardship Initiatives – Cathode-Ray Tubes

The Massachusetts Legislature is considering a bill that would require take-back requirements for cathode-ray tubes. The bill would prohibit CRTs from being offered for sale, use, or distribution unless the manufacturer submits and receives approval for a plan for a convenient and accessible system to collect such products at their end of life.

The bill has received wide support. Citing the costs of municipal disposal for electronic waste streams generally and the hazards associated with some of their toxic chemical constituents (including lead, cadmium, mercury, hexavalent chromium, polyvinyl chloride, and brominated flame retardents), a number of cities and towns in Massachusetts, including Boston, have been reportedly adopting a "Resolution Supporting Producer Take Back of Cathode Ray Tubes, Electronics and Household Hazardous Products." The Resolution calls on the Massachusetts Legislature to "develop and support legislation to require Producer Take Back for all consumer electronics products, computers, and household hazardous products," and to pass the pending CRT bill.

B. Canada

1. Federal Level: EPR – Industry Review of Options for Recovery of Electronics Waste

Management of electronics waste in Canada has received increased scrutiny in recent years by federal and provincial regulators, non-governmental organizations, and the information technology industry. The growing importance of this issue on the federal level in Canada is evidenced by three related reports, released in 2001, that were intended to form the foundation for a coordinated national approach to managing end-of-life electronics equipment in Canada.

Of these reports, the most relevant to EPR policy issues is "Options for Recovery of End of Life IT Equipment Waste in Canada" (Final Report, March 2001) (hereinafter "ITAC Industry Options Study" or "ITAC Final Report"), which was commissioned by the Information Technology Association of Canada ("ITAC") and was prepared with support from federal agencies Environment Canada and Industry Canada. According to the ITAC Industry Options Study, "public concern regarding EOL [end-of-life] management of IT equipment is growing among consumers, municipalities and senior levels of government and the IT industry should be pro-active in the design and implementation of an EOL management program for IT equipment."

The ITAC Final Report recommended that the industry pursue one of the following three policy options: (1) a national promotion and education program, in which industry would support and encourage the voluntary recovery of computer and telecommunications equipment; (2) a recovery system in which the end user (consumer or municipality) pays for transportation of used equipment to a processing facility, at which point industry would assume the cost and responsibility associated with processing, recycling and managing the equipment; or (3) a recovery system in which industry pays the transportation costs (e.g., courier service or pick-up from municipal drop-off depots) together with the costs of processing, recycling and managing the used equipment. The ITAC report concluded that any of the three foregoing options would likely be more cost-effective for both industry and consumers than traditional command-and-control regimes, and recommended that more detailed analysis be undertaken regarding the proposed stewardship options.

2. Provincial Level: Product Stewardship Initiatives

The most significant regulatory action to date relating to electronics waste management in Canada has occurred at the provincial level. The provinces of Manitoba and Ontario are pursuing aggressive product stewardship initiatives that are being viewed with interest by other provinces as potential models for managing wastes from the electronics and other sectors.

a. Manitoba: Product Stewardship – Proposed Household Hazardous Waste Regulations

In August 2001, Manitoba Conservation, the province's environmental agency, released a proposed regulation that would forbid manufacturers and retailers from selling products containing household hazardous waste ("HHW") – including consumer electronics equipment and batteries – unless they provide or participate in an approved "stewardship" plan for managing the disposal of such waste.

Under the regulation, manufacturers and retailers of products containing HHW would be required to submit a plan describing how their proposed stewardship program would operate. The proposed plans would be available to the public for review and comment, and would be assessed by Manitoba Conservation for compliance with a standard set of criteria, including financial, educational, operational and service requirements. It is expected that most of the funds for operation of the stewardship plans would come from "eco fees" levied on the sale of new products to consumers, or from contributions paid by the manufacturers and distributors of the regulated products. Each stewardship program would be required to prepare an annual report on activities and achievements, including audited financial statements and performance measures.

b. Ontario: Product Stewardship – Waste Diversion Act

In July 2002, Ontario enacted the Waste Diversion Act. The Act authorizes the creation of the Waste Diversion Organization ("WDO"), a permanent, non-governmental, not-for-profit organization empowered to develop, implement and administer waste diversion programs in Ontario. Under the Act, funding for waste diversion programs is to be provided by affected industry and municipalities. The Act provides a framework for developing waste diversion

programs for a range of household hazardous wastes, including electronic components and batteries.

Industry's formal participation in waste diversion programs under the Act will take place through Industry Funding Organizations ("IFOs"), which will be not-for-profit corporations run by industry representatives who are knowledgeable about the specific waste(s) or product(s) at issue. IFOs will designate stewards (i.e., those paying fees), set the amount of the fees or the formula for determining the fees, establish rules for the maintenance of records, set penalties for non-payment, and disburse fees for the operation of the waste diversion programs. Stewards responsible for paying fees under the Act are corporations with a commercial connection to the designated waste or product, such as the brandowner or the first entity in Ontario that has control of the product for commercial purposes. The Act provides that the fee must be reflective of the costs of the program and the proportion of costs attributable to the steward. The Act requires the WDO to work cooperatively with IFOs to develop, implement and otherwise operate waste diversion programs.

II. European Community

The European Community ("EC") has been aggressively pursing EPR initiatives over the past few years that will require member states to adopt legislation that will require producers to design electrical and electronic products taking into consideration environmental issues associated with the products' life-cycle, use substitutes for heavy metals in those products, and take back end-of-life products. Although a number of member states also have existing EPR legislation, those laws are not as restrictive as the EC proposals and will likely need to be amended to conform to the EC requirements. As a consequence, we do not address those state initiatives here.

A. Product Stewardship – Proposed Directive of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (the "WEEE Directive")

The WEEE Directive, which has been under negotiation for several years, addresses the proliferation of electrical and electronic equipment entering Europe's waste stream. The Directive is expected to be made final this year, and implementation by member companies will take about eighteen months. The WEEE directive will require member states to adopt legislation requiring producers to take-back their waste electrical and electronic products from households free of charge, achieve ambitious reuse and recycling targets, and treat remaining wastes at specially-created WEEE treatment centers. Key requirements include:

- Electrical and electronic waste must be collected separately from other waste;
- Households must be able to return used equipment free of charge;
- Producers must provide product information that allows consumers to identify components and hazardous substances;
- Hazardous substances must be removed from products and managed in accordance with EC waste directives;

- By a specified date (still under discussion) 65% by weight of information technology and telecommunications equipment must be reused or recycled and 75% must be recoverd (including waste-to-energy conversion, in which materials are burned to recover energy);

- Producers have responsibility for collecting and recycling used products and must pay for recycling of their own brand products; and

- Member states must collect data on the amounts of equipment put on the market each year, as well as on the amounts collected and recycled, and report this information to the European Commission at three-year intervals.

B. Design for the Environment – Draft Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHs Directive")

Under the RoHS Directive, EC member states must ensure that new electrical and electronic equipment products put on the market after 2006 do not contain lead, mercury, cadmium, hexavalent chromium or two types of brominated flame retardants. EEE is defined as "equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields and designed for use with a voltage rating not exceeding 1000 Volt for alternating current and 1500 Volt for direct current." Use of hazardous substances would be restricted in (1) large household appliances; (2) small household appliances; (3) IT & telecommunication equipment; (4) consumer equipment; (5) lighting equipment; (6) electrical and electronic tools; (7) toys, leisure and sports equipment; and (8) automatic dispensers. The Council and the European Parliament have agreed to exclude (1) medical equipment systems; and (2) monitoring and control instruments. The Directive, which was developed in tandem with a product take-back directive for waste electrical and electronic equipment ("WEEE"), is expected to be passed in the near future.

III. Latin America (including Mexico)

Latin American legislators and environmental authorities are just beginning to seriously evaluate EPR initiatives for e-wastes. However, it is likely – given the sweeping take-back bills currently under consideration in both Brazil and Mexico, Latin America's biggest markets – that take-back and other EPR initiatives will eventually become a standard component of regional solid waste policy in many jurisdictions in this region.

A. Brazil (Federal Level)

Taking its cue from the EC, Brazil has been the lead Latin American country to develop EPR initiatives for e-wastes, with comprehensive and vigorously enforced take-back initiatives on batteries since 1999 and a sweeping take-back regime that would cover a wide-range of products currently under evaluation by the Brazilian Federal Congress. Although not addressed in this paper, Brazilian states, which have a great deal of authority to regulate solid and

hazardous wastes, have also been quick to follow their federal counterparts' lead, and a great number of them have issued product stewardship initiatives aimed at certain e-wastes.

1. Product Stewardship – CONAMA Resolution 257/99 on Battery Take-Back

Take-back and recycling of batteries in Brazil has been required at the national level since 1999 under a Brazilian environmental agency (CONAMA) Resolution 257/99. Batteries (and electro-electronic apparatus of which batteries are an integral part) that exceed certain heavy metal limits for cadmium, mercury and lead are regulated by the Resolution. Under the Resolution, manufacturers and importers are responsible for the proper and safe recycling, reuse or disposal of batteries, although management of end-of-life batteries can be delegated to a third party. Batteries sold to consumers must be taken-back by retailers or a "technical assistance network" approved by industry (i.e., third party organization), which then passes them to producers or importers. Manufacturers must take steps to ensure that batteries and piles are incorporated into equipment in such a way as to enable them to be easily changed by consumers after their utilization, making possible their disposal separately from the equipment. Batteries not meeting content limits for lead, mercury and cadmium set by the Resolution are banned from ordinary landfill disposal.

2. Product Stewardship – Proposed National Solid Waste Law

The Brazilian Federal Congress is currently evaluating a proposed National Solid Waste Policy law that would impose sweeping reforms to Brazil's current waste regime. If made final, the proposed bill would regulate a number of newly-defined "special wastes" that include a broad and undefined category of "technological wastes." Generally speaking, the bill contemplates that mandatory take-back and return systems will be instituted for covered technological wastes jointly by federal and state environmental authorities and product manufacturers and importers. The bill appears to have a two-pronged approach to dealing with technological and packaging wastes: (1) federal and state environmental authorities and industry would manage consumer take-back and return programs and (2) industry would remain ultimately responsible for dealing with those wastes (i.e., handling, recycling and disposal) once collected.

B. Mexico (Federal Level)

1. Product Stewardship – Proposed Special and Hazardous Waste Take-Back Bill

In April of this year, the Mexican Chamber of Deputies passed by unanimous vote a sweeping and ambitious waste bill that could radically change the way wastes are defined and managed in Mexico and significantly impact the electronics sector. Electric and electronic waste products in Mexico are currently regulated as municipal solid wastes or, in some limited cases, possibly as hazardous wastes. Under the new draft law, "technological" and certain packaging wastes would be specifically regulated as "special management wastes." Producers, importers, or distributors of products that become covered wastes when discarded would have new responsibilities for ensuring take-back, collection, handling, and disposal of such wastes through

implementation of waste management plans. In particular, the proposed law would target for increased regulation: mercury or nickel-cadmium batteries, fluorescent or mercury vapor lamps, and accessories (components) containing mercury, cadmium, or lead. At this point, it is not clear when the bill will be taken up by the Senate.

2. Performance Standard – Proposed "Product" Hazardous Waste List

SEMARNAT, Mexico's environmental protection agency, recently proposed amendments to Mexico's hazardous waste classification regulation, NOM-052-ECOL-1993, that include new regulations of product wastes. As proposed, the rule lists the following items as so-called "low-hazardous" wastes: used electronic and electric appliances; electronic scrap (cathode ray tubes, integrated circuits, mercury switches, etc.); used batteries and piles containing nickel, cadmium or mercury; used batteries containing silver zinc oxide or mercury zinc oxide; used batteries and accumulators containing lead-acid; metal vapor lamp ballasts that contain PCBs in concentrations of greater than 50 ppm; and mercury vapor lamps. At this time, the proposed revisions do not specifically address how such low-hazardous wastes would be regulated. However, recent changes to Mexico's general framework law, LGEEPA, allow SEMARNAT to enter into agreements with state and local environmental authorities to regulate low-volume waste. If adopted as drafted, most regulation of these products would likely occur at the state level. The regulation could be made final as early as this fall.

C. Argentina: Product Stewardship – Proposed Senate Bill on Deposit/Return Take-Back Program for Batteries

In early July 2002, Senator Mabel Muller, Chair of the Ecology and Human Development Commission in the Argentine federal Senate, presented a draft take-back bill on batteries and products reliant on batteries. Senator Muller's bill would establish minimum federal standards for management of batteries that contain significant concentrations of toxic, hazardous, or noxious elements (as defined by statute); require a mandatory battery deposit-return program; establish "design for the environment" and labeling standards for batteries; and impose full responsibility on distributors, manufacturers and importers for end-of-life management of their batteries introduced into the stream of commerce. As drafted, the new bill covers portable batteries, rechargeable and non-rechargeable, containing mercury (more than 25mg per cell), cadmium (with concentrations over 0.025%), and/or lead (with concentrations over 0.4%), and allows for additional kinds of batteries to be added to the list. Lead acid batteries used for starting internal combustion engines (such as automotive batteries) or for charging or storage of electricity generated by non-conventional energy sources (such as photovoltaic panels) are exempt. If passed, the bill would create the first federal level e-waste take-back program in Argentina.

IV. Asia

A. China: Product Stewardship – Household Electronics Recycling/Take-Back Proposal

During the March 2002 Convention of the Chinese National People's Congress ("NPC"), two NPC representatives proposed that China "should establish laws governing the recycling of

'household electronic products.'" One of the incentives for developing this proposal appears to be the Chinese government's concern with the disposal of electronic wastes ("e-waste") in China, as noted in the report prepared by the citizen groups Basel Action Network and the Silicon Valley Toxics Coalition. The report is entitled "Exporting Harm: The High-Tech Trashing of Asia" (February 25, 2002, available at http://www.ban.org) and recounts the human and environmental impacts of illegally disposed e-waste in China.

Although legislative and regulatory proposals are still treated as confidential documents in China, State Environmental Protection Agency ("SEPA") officials have verbally advised Beveridge & Diamond, P.C. of the basics of the proposal. According to these SEPA officials, the "household electronics products" are broadly defined in the proposal to include, among other items: (1) cell phones; (2) computer key boards; (3) computer monitors; (4) computer printers; (5) central processing units ("CPUs"); (6) radios; (7) refrigerators; (8) televisions; (9) video recorders; and (10) washing machines. Based on our previous experience with China's rulemakers on issues concerning product stewardship and our recent consultations at SEPA, we understand that Chinese rulemakers conceive of "household electronic products" as *all electronic products with the exception of those used for industrial purposes.*

Based on our discussions with SEPA concerning the contents of the regulatory proposal, it appears that a number of obligations will be imposed on manufacturers and distributors of household electronic products, as well as on Chinese government authorities. For example, the proposal broadly stipulates that "all used household electronics products shall be recycled." The proposal also indicates that the "State" (i.e., the Chinese government) shall undertake measures to prevent used household electronics products from re-entering the marketplace. Moreover, the proposal specifies that the direct landfilling/disposal of used household electronic products shall be prohibited. According to the proposal, manufacturers and distributors of household electronics products will either be: (1) responsible for the take back and recycling of used household electronic products; or (2) obliged to pay a fee that will support such efforts undertaken by the Chinese government or third-party organizations. Although the proposal calls for the "establishment of an economic mechanism to support take back and recycling," the proposal does not yet provide specific details on how such a financial mechanism will operate.

Currently, SEPA plans to develop two regulations and a set of standards to address the take-back and recycling of household electronic products. The first regulation will reportedly address the "management of household electronic product take-back, re-use and recycling." The second regulation will purportedly cover the prevention and control of "secondary pollution" arising from the take-back, re-use and recycling of household electronic products. The standards will reportedly consist of "technical standards to guide the take-back, re-use and recycling of household electronic products."

Any regulations issued pursuant to the NPC regulatory proposal would be initially national in scope (i.e., cover all local activities in China). However, it is worth noting that local governments in China could subsequently issue their own ordinances to implement the national regulations. SEPA officials indicated to us that they are presently conducting research on various issues raised by the proposal.

B. Taiwan: Product Stewardship - Product Recycling and Reuse Regulations

Taiwan promulgated the Resource Recycling and Reuse Act on July 3, 2002 ("the Act"). The Act will enter into effect on July 3, 2003. According to regulatory officials at the Taiwan Environmental Protection Administration ("TEPA"), the Act will serve as the new statutory basis for take-back and recycling measures currently existing under the Waste Disposal Act (first enacted on July 26, 1974 and last amended on October 24, 2001). As a result, the Act will govern take-back and recycling of products, packaging, and containers presently covered under the Waste Disposal Act.

The Act grants broad authority to promulgate regulations and standards addressing issues related to recycling and reuse of used consumer products, containers, and packaging materials. According to senior TEPA officials, TEPA is currently collecting background information necessary to draft more detailed regulations, based on the principles of the Act, to further enhance the effective recycling and reuse of such items.

Using the recycling measures existing under the Waste Disposal Act as a gauge, it is likely that implementing measures under the new Resource Recycling and Reuse Act would address take-back and recycling of the following consumer electronics:

(1) Battery Chemistries/Products:

Alkaline Manganese (tubular)
Alkaline Manganese (button cell)
Lead Acid
Lithium (button cell)
Lithium (primary, tubular)
Lithium (rechargeable, tubular)
Manganese Zinc
Mercury Oxide
Nickel Cadmium (Ni-Cd)
Silver Oxide
Zinc Air

(2) Electrical Appliances:

Heater/Air Conditioners
Refrigerators
Televisions
Washing Machines

(3) Telecommunication ("Data Processing") Products:

Computer Shells
Hard Drives
Fluorescent Lamps
Monitors (CRTs)
Motherboards

"Notebook" Computers (Laptops)
Printers
Power Sources (for computers)

C. Japan: Product Stewardship - Ministerial Ordinances Addressing Battery Recycling Promotion, Labeling, and Voluntary Take-Back

Japan has issued a number of ministerial ordinances under the Law for the Promotion of the Effective Utilization of Resources (1991, as amended 2000) that address battery recycling, labeling, and take-back programs. Among the key ordinances in this area is the Ministerial Ordinance Concerning Voluntary Take-Back and Resource Reconservation of Used Sealed-Storage Batteries by Sealed-Storage Battery Manufacturers and Users (No. 1) (March 28, 2001) (hereinafter "Take-Back Ordinance" or "Ordinance"). Also of note is the Ministerial Ordinance Concerning Labeling Standards for Sealed Storage Batteries (No. 95) (March 28, 2001) (hereinafter "Labeling Ordinance" or "Ordinance").

The Take-Back Ordinance sets forth a number of definitions that are critical for an understanding of Japan's battery stewardship measures. These include the definition of "batteries" as covered by the ordinance. Batteries covered by the Take-Back Ordinance include sealed lead-acid storage batteries (limited to batteries with an electricity capacity of 234 coulombs or less, excluding those batteries used for memory storage apparatus), sealed alkaline storage batteries (excluding those batteries used for memory storage apparatus), and lithium storage batteries (excluding those batteries used for memory storage apparatus).

Other pertinent provisions of the Take-Back Ordinance include measures addressing compensation for take-back. The Take-Back Ordinance provides that battery manufacturers, importers, and battery-using industries shall, with limited exceptions, undertake voluntary take-back of used sealed storage batteries without obtaining compensation for the take-back activities. Under the ordinance, manufacturers and importers undertaking take-back programs would be responsible for, among other activities, providing drop-off boxes for voluntary take-back of used sealed storage batteries used as parts in the products manufactured or imported by the covered industries.

The Labeling Ordinance provides instructions and specifications for battery labels or markings to be applied to certain battery products. This ordinance indicates battery labels for sealed lead, alkaline (nickel cadmium and nickel metal hydride), and lithium storage batteries with various shapes. Generally speaking, the Labeling Ordinance specifies the type, size, chemical symbol, surface area of the symbol, and chasing-arrow (recycling) symbol, among other things, to be displayed on the battery via label or imprint.

ANNEX B

OVERVIEW OF KEY EPR INITIATIVES AFFECTING THE AUTOMOTIVE SECTOR

ANNEX B

OVERVIEW OF KEY EPR INITIATIVES AFFECTING THE AUTOMOTIVE SECTOR[12]

In response to the growing number of end-of-life vehicles and the environmental issues associated with their disposal, countries around the globe are beginning to impose EPR requirements on manufacturers and importers of automobiles. Much like EPR initiatives for other types of end-of-life products, these initiatives vary considerably in type and scope, and range from comprehensive government-imposed take-back programs to voluntary stakeholder initiatives.

The most comprehensive of the end-of-life vehicle initiatives has been developed by the European Community, which recently issued an end-of-life vehicle directive that requires member states to develop legislation imposing responsibility on manufacturers and importers to take-back and dispose of end-of-life vehicles. In Latin America, new initiatives in Mexico and Brazil are being considered that would require manufacturers, importers and distributors to take-back certain automobiles wastes, such as batteries, catalytic converters, and mercury switches. New recycling measures in Asia, some of which include producer take-back provisions, may also begin to cover a large category of automobile wastes and parts. Finally, state and local initiatives in the United States and Canada are being pursued that would restrict hazardous substances used in vehicles.

I. North America (excluding Mexico)

A. United States

The United States has been slow to develop EPR initiatives that cover end-of-life vehicles, although a number of states have had used tire recycling programs in place for several years. At the federal level, there are no EPR measures specifically targeted towards used vehicles. However, recent state measures aimed towards reductions or bans of hazardous substances (such as mercury and hexavalent chromium) in products are beginning to affect the design and disposal of component parts (such as mercury switches) used in automobiles.

1. Federal Level

Although there are no federal end-of-life management programs for vehicles, the U.S. Environmental Protection Agency ("EPA") participates in several voluntary stakeholder initiatives aimed at encouraging increased recycling and other life-cycle management improvements. While these programs remain voluntary only, the results of voluntary programs (e.g., improved technology) can lead to new industry standards and in some cases, new regulations.

[12] This survey is not intended to be exhaustive and only provides representative initiatives.

a. Voluntary Initiative – Partnership for a New Generation of Vehicles ("PNGV")

PNGV is an alliance between the federal government and the automotive industry working to help "speed the development of affordable vehicles that are cleaner, more fuel efficient, and more easily recyclable than today's fleet." The PNGV program has three goals: (1) significantly improve national competitiveness in manufacturing by reducing the time and cost to design and manufacture vehicles; (2) apply these innovations to conventional vehicles; and (3) develop a vehicle with up to three times the fuel economy of today's average car, while improving recyclability and maintaining comparable performance, utility, safety, and cost of ownership. Among other activities, PNGV is researching new varieties of sheet steels that can be made thinner and lighter. PNGV is also evaluating options for reducing vehicle mass, including reductions in the use of aluminum, magnesium, and titanium.

b. Voluntary Initiative – Clean Car Campaign

The Clean Car Campaign is a national campaign coordinated by state, regional and national environmental organizations promoting a "clean revolution" in the motor vehicle industry. In particular, the campaign seeks to promote the development and sale of advanced technology "clean" vehicles by encouraging consumers to purchase cleaner vehicles and advocating public policies to motivate automakers to invest in cleaner vehicle designs and manufacturing practices. The campaign asks automakers to agree to meet a "Clean Car Standard." The standard is based on increased fuel efficiency, reduced tailpipe emissions and clean production practices such as the elimination of heavy metals; design for recyclability; and maximum use of recycled materials. The Campaign has been an active participant in the "Partnership for Mercury Free Vehicles," an organization that has developed model legislation that provides for the removal and recycling of mercury switches in existing vehicles and a phase-out of mercury-added components in new vehicles.

c. Performance Standard – Proposed Universal Waste Regulation

The U.S. Environmental Protection Agency ("EPA") has regulated several e-wastes as "universal wastes" under the Resource Conservation and Recovery Act ("RCRA"). To date, the agency has designated mercury-containing lamps, thermostats and batteries as universal wastes. The Agency recently proposed rules that would regulate used mercury-containing equipment, including mercury switches and relays, as universal wastes as well. Generally speaking, the universal waste rules "conditionally exclude" designated waste streams from the RCRA hazardous waste management requirements provided certain waste management standards are met. Among other requirements, handlers (i.e., those who generate mercury-containing equipment) would have to manage the equipment in a protective manner, for example by storing them in containers that are closed, in good condition, and appropriately labeled. The equipment could be stored for no more than one year, unless a longer period is necessary to accumulate sufficient quantities to facilitate proper recycling or disposal. Other requirements are set forth for transporters, recyclers and disposers of mercury-containing equipment.

2. State Level

a. California: Chemical Ban – Hexavalent Chrome Banned in Motor Vehicle and Mobile Equipment Coatings

The Hexavalent Chromium and Cadmium Airborne Toxic Control Measure for Motor Vehicle and Mobile Equipment Coatings was adopted by the California Air Board on July 9, 2002. The general ban states that "no person shall sell, supply, offer for sale, or manufacture for sale in California any motor vehicle and/or mobile equipment coating that contains hexavalent chromium or cadmium." The law also prohibits the use of the banned coatings by a motor vehicle or equipment coating facility after December 31, 2003. A "sell-through" period is established through June 30, 2003 for those coatings manufactured prior to January 1, 2003. Although the ban applies to the sale, distribution, and manufacture of coatings, and explicitly does not affect the sale of motor vehicles or parts themselves (even if they have the banned coatings on them), the implementation of the ban will clearly have important "design for the environment" implications for motor vehicle parts going forward.

b. Vermont: Labeling of Mercury – Added Products, Including Mercury Switches

Vermont is one of a number of states that has adopted or is the process of adopting legislation to phase-out or ban mercury-added products, including mercury switches. The Vermont legislation prohibits the sale of certain mercury-added consumer products manufactured after March 1, 2000, unless they are labeled in compliance with the statute and rules of the Department of Natural Resources.[13] The list of affected products includes any of the following with mercury added during manufacture: (1) switches, individually or as part of another product; (2) electric relays or other electrical devices; (3) lamps; and (4) batteries other than a button battery. The label must clearly inform the purchaser that mercury is present in the item and that the item may not be disposed of or placed in a waste stream destined for disposal until the mercury is removed and reused, recycled, or otherwise properly managed. Primary responsibility for affixing the label is placed on the manufacturer, not the wholesaler or retailer. Manufacturers were required to submit detailed labeling plans and certifications of compliance to the Department of Natural Resources. The Vermont labeling measures are likely to serve as a model for other state labeling initiatives aimed at other products containing heavy metals such as cadmium, lead and mercury.

B. Canada

1. Federal Level: Regulation of Toxic Substances – Mercury and Hexavalent Chromium

The key federal legislation in Canada relating to control and elimination of toxic substances is the 1999 Canadian Environmental Protection Act ("CEPA 1999" or "CEPA"),

[13] Although a federal district court issued an injunction precluding the state from enforcing the labeling requirements as applied to lamps and products containing lamps, the United States Court of Appeals for the Second Circuit lifted the injunction in November, 2001.

S.C., ch. 33 (1999) (Can.). CEPA 1999 incorporates several substantial amendments to the original Canadian Environmental Protection Act of 1988. The focus of the new CEPA, which took effect on March 31, 2000, is pollution prevention and protection of the environment and human health in order to contribute to sustainable development.

Under CEPA, substances that are declared "toxic" are considered for risk management measures, including regulations, guidelines or codes of practice to control any aspect of their life cycle – from research and development through manufacture, use, storage, transport and disposal. Among the substances designated as toxic under CEPA are mercury and hexavalent chromium compounds. To date, however, the only mandatory controls on those substances issued by CEPA is a regulation limiting the release of mercury into the ambient air from mercury cell chlor-alkali plants.

Substances found not only to be toxic but also to be persistent, bioaccumulative, and resulting primarily from human activity may be proposed for "virtual elimination" under the Act. The "virtual elimination" concept was an outgrowth of the Great Lakes Binational Toxics Strategy, under which Canada and the U.S. agreed to pursue the goal of reducing to background levels (or "virtually eliminating") the release of persistent toxic substances in the Great Lakes region. Under the agreement, Canada's federal environment agency, Environment Canada, has agreed to support voluntary programs by Great Lakes-area industries, including the automotive industry, to reduce the generation, use, or release of toxic substances, including mercury and mercury compounds. As a result of the agreement, automakers Ford, Daimler Chrysler, and General Motors have all either eliminated or greatly reduced the use of mercury switches in new automobiles.

2. Provincial Level

In an effort to divert recyclable and hazardous materials from their municipal waste streams, provincial governments in Canada have, in recent years, been actively involved in the development and implementation of product stewardship initiatives, including mandatory recycling of tires, lead-acid batteries, paints, solvents, and used oil. Product stewardship programs involving some or all of these materials are currently in place in most Canadian provinces, including Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario and Quebec. Although we do not specifically address those initiatives here, several of them have implications for the automotive industry.

II. Europe

A. European Community – Product Stewardship – End-of-Life Vehicle Directive

The European Parliament and Council of Ministers adopted the End-of-Life Vehicle Directive, 2000/53/EC, in September 2000. The Directive requires member states to adopt legislation that ensures the collection, dismantling, treatment and recycling of end-of-life vehicles. The Directive contemplates that "producers" (including manufacturers and importers of vehicles) will be responsible for implementation of the take-back and recycling programs.

The Directive is phased-in over time, with producers initially responsible for vehicles put on the market after July 1, 2002 and all vehicles after 2007.

The Directive imposes significant end-of-life vehicle recycling requirements. By 2006, at least 85 percent of the average weight of a vehicle must be recovered, and at least 80 percent must be reused or recycled. By 2016, these targets will be increased to 95 percent and 85 percent, respectively. Finally, the Directive includes provisions for a phase-out of the use of several toxic substances in vehicles, including lead, mercury, cadmium and chromium.

The Directive was to be implemented by member countries by April 2002. However, to date, only a handful of member states have adopted national legislation imposing the Directive's requirements.[14] Much of the delay is due to continuing debates between car makers, the scrap industry, and governments over who should pay for the costs of implementation. At the end of July 2002, the EC launched legal proceedings against European member states for failure to implement the Directive.

III. Latin America (including Mexico)

A. Brazil (Federal Level) – Product Stewardship: Draft National Solid Waste Policy Law

The Brazilian Federal Congress is currently evaluating a proposed National Solid Waste Policy law that would impose sweeping reforms to Brazil's current waste regime. If enacted, the proposed bill would regulate a number of newly-defined "special wastes" that include a broad and undefined category of "technological wastes," which is in turn defined to include "wastes from the automotive industry." The bill does not provide further information regarding the scope of "automotive" wastes and its implementation would be left to federal and state environmental authorities. Generally speaking, however, the bill contemplates that mandatory take-back and return systems for covered automotive wastes will be instituted jointly by federal and state environmental authorities and product manufacturers and importers. The bill appears to have a two-pronged approach to dealing with technological and packaging wastes: (1) federal and state environmental authorities and industry would manage consumer take-back and return programs, and (2) industry would remain ultimately responsible for dealing with those wastes (i.e., handling, recycling and disposal) once collected. While difficult to predict, the Brazilian Congress could act on the measure this year.

B. Mexico - Federal Level

At both the legislative and administrative levels, Mexican authorities appear to be gearing up for increasing their regulation of certain used automobile product wastes ("automobile

[14] Germany is one of the few EC member states to have adopted legislation intended to implement the EC End-of-Life Vehicle Directive. The terms of the Act generally follow the requirements of the EC Directive. However, the Act directs producers to cover the costs of implementing the take-back program through surcharges imposed on consumers in the original sales price of new vehicles. In addition, the Act includes a protocol for dismantling end-of-life vehicles for treatment purposes.

wastes"). If promulgated, these changes could impose new end-of-life management requirements, including take-back and collection requirements, on importers, manufacturers and distributors of automobiles in Mexico. Even if these initiatives remain as drafts only, together they signal that Mexican authorities are clearly aware of the issues relating to automobile wastes and will likely continue to attempt to address these wastes going forward.

1. Product Take Back – Proposed General Law for Prevention and Integral Management of Wastes

At the legislative level, the Mexican Chamber of Deputies recently passed by unanimous vote a sweeping and ambitious waste bill that could radically change the way automobile wastes are classified and managed in Mexico. Most automobile wastes are currently regulated as municipal solid wastes (which can be placed in common trash and municipal landfills) or, in some cases, possibly as hazardous wastes (in which case, only the actual generator of the waste has handling and disposal responsibilities). Under the new draft law, entitled the General Law for Prevention and Integral Management of Wastes, producers, importers, or distributors of covered wastes are required to develop "special waste management plans" that would include take-back, collection, and handling and disposal requirements for covered wastes. Covered wastes include a broad category of "technological" wastes, which are in turn defined to include end-of-life wastes from vehicles. The bill specifically requires special waste management plans for used lubricating oils, automobile catalytic convertors, automotive lead accumulators, mercury or "ni-cad" electric batteries, and a general category of "components" that contain mercury, cadmium or lead (potentially including mercury switches).

2. Federal Level: Performance Standard – Proposed Revisions to Hazardous Waste Identification Regulation

At the regulatory level, the Mexican environmental protection agency, SEMARNAT, recently proposed amendments to its hazardous waste classification rule that would regulate certain automobile wastes as "low-hazardous wastes." Proposed NOM-052-ECOL-1993, would list the following items as low-hazardous wastes: (1) electronic scrap (including mercury switches); (2) used batteries and piles containing nickel, cadmium or mercury; (3) used batteries and accumulators containing lead-acid; (4) spent hydraulic fluid; and (5) used catalyzers from automobiles.

At this time, the proposed revisions do not specifically address how such low-hazardous wastes would be regulated. However, recent changes to Mexico's general framework law, LGEEPA, allow SEMARNAT to enter into agreements with state and local environmental authorities to regulate low-volume waste. If adopted as drafted, most regulation of these products would likely occur at the state level.

IV. Asia

A. China: Performance Standards (Federal/Central Level) – Clean Production Promotion Law

On June 29, 2002, China's National People's Congress ("NPC") enacted a statute entitled the "Clean Production Promotion Law" (the "Law"). According to the Law, which will enter into effect on January 1, 2003, its purpose is "to increase the utilization rate of resources, reduce pollutant generation and discharge, protect and improve the environment, protect human health, and promote the sustainable development of [the] nation's economy." The Law covers all industrial processes and products, and specifically, all enterprises manufacturing motor-driven vehicles, "large-size" electromechanical equipment, durable electromechanical consumer products, and other products designated by the related competent agencies. Such entities are required to describe their product's energy consumption rate, water consumption rate, and discharge of pollutants in the product operating manual.

Definitions for "large-size equipment" and details regarding how energy and water consumption and pollutant discharges are to be reflected in product operating manuals are not provided in the Law and will need to be furnished by the competent environmental authorities. The Law also provides that the major components of electromechanical equipment shall be marked with "standard numbers" referencing the nature of raw materials that are used in the components. The aim of this measure is reportedly to facilitate materials recovery and recycling. The Law indicates that China's standard-setting body (i.e., the State Quality and Technological Supervision Administration) will develop standard numbers corresponding to various raw materials.

The Law also includes a number of provisions on the subject of product take-back and recycling. For instance, the Law provides that if any consumer product is listed in the "mandatory recycling catalogue" to be issued under the Law, companies responsible for manufacturing and sale of such items shall be obliged to take-back and recycle the scrapped or end-of-life product. The mandatory recycling catalogue would be developed by the competent department for economy and trade under the State Council (i.e., the State Economic and Trade Commission ("SETC")) and would be submitted to the State Council for approval and release. SETC officials indicate that SETC is considering the initiation of drafting the catalogue later this year.

Many provisions of the Law remain ambiguous and will likely require significant details to be worked out by executing agencies. As such, it is not yet clear whether end-of-life vehicles or vehicle components will be included in the mandatory recycling catalogue.

B. China: Product Stewardship (Federal Level) – Tire Recycling and Management Measures

According to senior officials at SETC, SETC recently added the development of laws governing the recycling and management of used tires to its 2002 legislative agenda. This means that SETC will likely complete drafting activities related to such laws before the end of this year. At present, SETC is developing two laws addressing tire recycling and management. One law is

provisionally entitled "Management Methods for Recycling and Reuse of Used Tires." The other law is temporarily entitled "Safety Standards for Renovating and Repairing Tires."

While it is still too early to determine the full scope and content of the laws, based on our conversations with the senior SETC officials, we understand it is likely that the laws will include:

- Mandatory requirements on used tire recycling;
- Economic incentives for promoting used tire recycling and reuse;
- Deposit regime for new tire purchasing; and
- Technical standards for tire renovation and repair.

SETC has organized a group of local technical and legal experts to prepare the first drafts of the two laws. Currently, the expert team is collecting the necessary background information for the law drafting work.

C. Japan -Product Stewardship (Federal Level) - Law on the Recycling of End-of-Life Vehicles

In April, 2002, Japan's Ministry of Economy, Trade, and Industry ("METI"), Ministry of Environment, and Ministry of Land, Infrastructure, and Transport jointly proposed draft legislation on the recycling of end-of-life vehicles. The legislation, entitled the "Law on the Recycling of End-of-Life Vehicles" (No. 87), was promulgated on July 12, 2002. According to officials at the Ministry of Environment, the drafters of the Law believed that such legislation would provide incentives to vehicle manufacturers to develop vehicles that were readily recyclable and that would generate less reusable material, thereby reducing the recycling fees that would have to be passed on to consumers.

Among other significant provisions, the Law sets forth new requirements for motor vehicle manufacturers and importers to track their products and ensure that appropriate recycling efforts are undertaken by authorized organizations. Motor vehicle manufacturers and importers are also required under the Law to make efforts to help assure that illegal dumping of end-of-life vehicles does not occur. The Law specifies that such tracking shall take place via a manifest system. This system requires that authorized recycling entities inform a "central information center" every time vehicle ownership is transferred/cancelled by a consumer. Further, the Law provides that consumers will fund the end-of-life vehicle recycling efforts via a "recycling fee" and an "information management fee." Manufactures and importers will determine the fee rates. If a vehicle owner does not have a receipt evidencing payment of these fees, he/she will not be able to register the vehicle or obtain vehicle inspections necessary to operate the vehicle. Specific measures are set forth in the Law to address fee payments in situations in which vehicles are inherited, purchased used, or exported.

*Public Law 106–554
106th Congress

An Act

Making consolidated appropriations for the fiscal year ending September 30, 2001, And for other purposes

Dec. 21, 2000
[H.R. 4577]

Consolidated Appropriations Act, 2001.
Incorporation by reference.

Be it enacted by the Senate and House of Representatives of The United States of America in Congress assembled,

SECTION 1. (a) The provisions of the following bills of the 106th Congress are hereby enacted into law:

(3) H.R. 5658, as introduced on December 14, 2000.

APPENDIX C—H.R. 5658

...

SEC. 516. (a) IN GENERAL.—The Director of the Office of Management and Budget shall, by not later than September 30, 2001, and with pubic and Federal agency involvement, issue guidelines under sections 3504(d)(1) and 3516 of title 44, United States Code, that provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies in fulfillment of the purposes and provision of chapter 35 of title 44, United States Code, commonly referred to as the Paperwork Reduction Act.

(b) CONTENT OF GUIDELINES.—The guidelines under subsection (a) shall—

(1) apply to the sharing by Federal agencies of, and access to, information disseminated by Federal agencies; and

(2) require that each Federal agency to which the guidelines apply—

(A) issue guidelines ensuring and maximizing the quality, objectivity, utility and integrity of information (including statistical information) disseminated by the agency, by not later than 1 year after the date of issuance of the guidelines under subsection (a);

(B) establish administrative mechanisms allowing affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with the guidelines issued under subsection (a); and

(C) report periodically to the Director—

(i) the number and nature of complaints received by the agency and accuracy of information disseminated by the agency; and

(ii) how such complaints were handled by the agency.

...

Compliance Policies for Global Operations – A View from the Trenches

By: Jack Mustoe, Senior Vice-President, Legal
and General Counsel,
Nova Chemicals Corporation

Regulatory Lessons from the Context of Globalization

- There is an ever increasing focus on the regulation of products and industries in a comprehensive and systematic way. For example, in the petro-chemical industry we are subject to an intensive level of environmental / product regulation.

Regulatory Lessons from the Context of Globalization

- Significant environmental regulation tends to migrate across jurisdictions.
- Regulation based on science and broad consensus does not tend to remain local for long: Japanese standards get adopted in Europe and North America (and vice versa).

Regulatory Lessons from the Context of Globalization

- For regulation firmly grounded in science, the discrepancies between jurisdictions are largely accounted for by cultural differences in risk tolerance and can be accommodated by rational bridging between the various national policies. Firm scientific grounding tends to promote multi-jurisdictional consistency.
- Regulation based on political dynamics or trade agenda will necessarily tend to be arbitrary from a rational risk management perspective and is frequently draconian in terms of its impact on some of those targeted by the regulation. Arbitrary regulation obviously promotes inconsistency across jurisdictions and is difficult to rationally accommodate or bridge.

Regulatory Compliance Systems

- Corporations cannot endure without standards aimed at ensuring consistent compliance with environmental obligations across all jurisdictions.
- This is done through the institution of regulatory compliance systems.
- That can be a monumental challenge when doing business on a global basis.

Approaches to Regulatory Compliance Systems in a Global Context

- There are two possible approaches to the institution of regulatory compliance systems in a global context:
  - Decentralized jurisdiction specific policies & systems reflecting local environments
  - Centralized or globalized systems aimed at achieving consistency across jurisdictions
- While each approach has its pros and cons, there tend to be greater benefits in the globalized system (with some exceptions).

Pros & Cons of Decentralized Systems

- Pros:
  - Enables flexibility and adaptability to local and national conditions - e.g. enforcement patterns and local legal requirements.
  - Restricts local compliance to the standards imposed by policy makers rather than imposing the highest common denominator.
  - Can result in short-term savings in those jurisdictions that have not yet adopted stringent standards.
  - Can limit or localize the impact of arbitrary regulation.
  - Can result in compliance systems that are more easily accepted by local employees, regulators and (sometimes) laws.

Pros & Cons of Decentralized Systems

- Cons:
  - Where national policies and standards are based on risk it is difficult to justify inconsistent corporate policies and approaches across different jurisdictions.
  - The existence of a higher level of caution with respect to the same substance or practice within the company can be cited in regulatory, litigation or public relations contexts.
  - Extremely difficult to achieve a consistent benefit from experience gained in different jurisdictions.

Pros & Cons of Decentralized Systems, continued

- Results in operational inequities across business units (resources; expenses; reporting and compliance)
- More difficult and expensive to centrally understand, rationalize, monitor and assure quality in the multi-variate compliance systems
- Requires extensive resources to track multiple standards

Pros and Cons of Centralized Systems and Consistent Standards

- Pros:
  - Typically (not always) tends to adopt the highest standard as the benchmark and sets the corporate policy beyond reproach on the basis of discriminatory regional treatments.
  - Permits consistent expectations and promotes uniformity in the implementation of compliance and management systems.
  - Simplifies quality assurance and centralized management.
  - Simplifies the gathering of information and consistent implementation of knowledge on a global basis.

Pros and Cons of Centralized Systems and Consistent Standards

- Cons
  - May run afoul of national laws; e.g. France's interdiction against policies on matters touching on safety. Can entail significant jurisdiction specific local legal review costs to ensure compliance with national laws.
  - May engender resistance in employees, regulators and the public to the adoption of "foreign" standards.

Pros and Cons of Centralized Systems and Consistent Standards, continued

- Translation costs and ineffectiveness concerns. Policies and procedures that do not translate easily into the local cultural or linguistic customs tend to lose their force and benefit.
- May perpetuate arbitrary or draconian standards as "highest applicable standards".

The Limits of Consistency of Compliance Systems and Standards

- For the most part, consistent centrally managed compliance systems and standards are to be preferred because they are more likely to promote quality and accountability.
- Difficulties arise when significant non-risk based variance, contradictions and arbitrariness are found as between different jurisdictions. In those circumstances it is unwise to adopt draconian measures as one's global standards.
- Partly owing to widespread adoption of the precautionary principle, countries ostensibly implementing the same international imperatives and assessing the same risks, can implement widely varying, sometimes arbitrarily contradictory, standards.

Recap of the Precautionary Principle:

- Arose in the late 1980s as a principle widely adopted in international initiatives and applied in domestic legislation.
- Generally: lack or insufficiency of scientific certainty or information about the impact of an identified environmental concern should not be used as a reason to delay or avoid measures to address the issue.
- It is intended as a "better safe than sorry" approach.
- It is an amorphous concept with a number of varying incarnations or definitions in the many international instruments that advocate it.

Problems with The Precautionary Principle

- Because the Principle is amorphous, it is subject to variable interpretations by the different jurisdictions implementing it. Each can bring a very different approach to the same risk or issue while operating within that Principle.
- A substance or process can be "guilty until proven innocent" – there is a tendency to place the onus on the proponent to provide all the studies and information and to undertake the difficult task of proving a negative.
- Permits (maybe even encourages) regulation based on politically motivated misinformation and bad science.
- Being open to interpretation as a "zero tolerance" principle it encourages naive regulation, the sacrifice of potential benefits to avoid ill defined risk, and in the process can cause real environmental and other harm.

Case Studies on the Application of The Precautionary Principle - BFR

- Brominated Flame Retardants ("BFR")
  - Used to reduce/minimize flammability of consumer goods -- significantly lowers the risk of fire hazard.
  - E.U. has banned certain BFRs based on reports that have identified the presence of these substances in the marine environment and in humans.
  - Other studies indicate that:
    - BFR-like chemicals in the environment may not be present due to the use of BFR
    - BFR doesn't pose a significant threat to human health or the environment
    - There are not efficient or cost effective alternatives
  - Substantial benefit from using BFRs could be lost as a result of ban
  - BFR is required for consumer goods sold in the U.S.
  - U.S. may not accept E.U. products that don't contain BFR

Case Studies on the Application of The Precautionary Principle - MTBE

- Even within the United States, precautionary principle types of approaches are creating disparity in environmental policy
  - MTBE – fuel additive to reduce smog.
    - U.S. EPA and State of California have diametrically opposed approaches:
      - EPA mandated use of oxygenates; MTBE is very effective.
      - California banning MTBE ostensibly because of groundwater and human health concerns tied to leaking fuel that contains MTBE.
      - The problem, if any, is improper management of fuel that contributes to leaks, not MTBE or the fuels for that matter.
      - Fuels contain much more dangerous substances than MTBE. Science doesn't substantiate the concerns expressed about MTBE.

Case Studies on the Application of The Precautionary Principle – MTBE, continued

- Underlying Politics
  - MTBE is not produced in California - improves the market for local producers of ethanol at the expense of foreign producers of MTBE. The ethanol industry also has a strong lobby arm.

NAFTA, METHANEX CORP AND MTBE

- In 1999, Governor Davis of California bans MTBE use by the end of 2002.
- In June 1999, Methanex Corp., a major producer of MTBE, filed a claim for arbitration under Chapter 11 of NAFTA to overturn the ban on the basis that it is egregious and an arbitrary action that is not based on science, is politically motivated and is intended to protect the ethanol industry by discriminating against producers of MTBE.
- Methanex has cited that the ban is equivalent to an expropriation, which under Chapter 11, requires that affected parties be treated fairly and equitably, including the payment of compensation.
- In August 2002, the NAFTA arbitration panel hearing the claim told Methanex to file a new claim with additional evidence to support its position. The company is currently reviewing its options.

Responsible Response to Arbitrary Environmental Regulation

- Always work toward resolving difficulties through dialogue with government and representation through industry associations.
- Governments need to know that in this increasingly globalized context, arbitrary and politically motivated unique regulation is short sighted policy -- it comes with a long term economic cost.
- Must be careful not to compound arbitrary rules as we pursue cross-jurisdictional consistency in our compliance systems. It is important to leave an unreasonable standard as a one-off rather than adopting it across the board.

Responsible Response to Arbitrary Environmental Regulation, continued

- On issues that have a significant impact on business, consider advocacy:
  - GATT – WTO Anti-Protectionist Measures
  - Free Trade Agreements
    - If the regulations come within the ambit of NAFTA or other emerging trade agreements consider use "Investor Protection Mechanisms"
  - New U.S. Data Quality Act will help
  - Judicial Review of domestic government action

In Summary:

- Globalization is driving the harmonization of environmental regulation.
- Science-based standards are adopted rapidly and promote multi-jurisdictional consistency.
- Danger lies with regulation based on political or trade agendas.
- Political or trade driven regulation poses difficulties with the design and implementation of global corporate regulatory compliance systems as unwise draconian standards should not be adopted as a global standard.

Summary, continued

- Depending on the stage of development, arbitrary regulation can be addressed through dialogue with regulators or by exploring legal avenues such as judicial review or mechanisms under bilateral or international treaties.

EXTENDED PRODUCER RESPONSIBILITY INITIATIVES: Types, Trends and Why They Matter

Presented by:
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INTRODUCTION

Definition:

- **EPR initiatives impose a broad range of requirements on manufacturers, distributors, retailers and importers for managing end-of-life products**

INTRODUCTION

Impact:

- New, distinct form of regulation shifting responsibility for end-of-life products *upstream* to manufacturers, distributors, etc.
- Global increase in environmental regulation of products

INTRODUCTION

- EPR initiatives are increasingly more comprehensive and costly, and are creating several challenges for global companies
  - need for new product design due to material limits/bans
  - inconsistent regulatory requirements hinder product marketing/distributiion
  - market access problems due to national initiatives
  - customer/shareholder pressures to implement EPR measures

INTRODUCTION

- Greater burden on in-house counsel/EHS personnel to stay abreast of EPRs affecting global production and trade

PRINCIPAL INDUSTRIAL SECTORS AFFECTED

- Electronic Sector
- Automotive Sector
- Chemical Sector
- Packaging Sector
- Batteries
- Lighting
- Appliances
- Medical Equipment

TYPES OF EPR INITIATIVES

Generally fit into one of three categories:

- **Performance Standards**
- **Economic Instruments**
- **Product Stewardship Requirements**

TYPES OF EPR INITIATIVES

Performance Standards

(1) Design for the Environment

- **Requires manufacturer to change the design of a product to minimize environmental impacts**
- **<u>Example</u>: Brazil - CONAMA Resolution 257/99**

TYPES OF EPR INITIATIVES

Performance Standards

(2) Material Limits, Bans and Use Restrictions

- Limits or bans on materials used at the national or subnational levels to reduce or eliminate primarily persistent, bioaccumulative, or toxic chemicals
- Example: United States – Connecticut – Mercury Education and Reduction Act (2002)

TYPES OF EPR INITIATIVES

Economic Instruments

(1) Return-Deposit Systems and Advance Disposal Fees

- Fee or tax paid on certain products/product groups based on estimated collection and recycling costs
- Example: United States – California – California Tire Recycling Act

TYPES OF EPR INITIATIVES

Economic Instruments

(2) Material Taxes

- **Taxes placed on certain materials or chemicals deemed to cause pollution in order to reduce use of the taxed material**
- **Example: Sweden – Taxes on Use of Nitrogen and Other Chemicals in Fertilizers (2002)**

TYPES OF EPR INITIATIVES

Product Stewardship Instruments

(1) Product Labeling

- **Require manufacturers or distributors to include information on a product's chemical constituents, as well as directions for proper disposal**
- **Example: China – Clean Production Promotion Law (2002)**

TYPES OF EPR INITIATIVES

Product Stewardship Instruments

(2) End-of-Life Product Take-back Regimes

- Require manufacturers, distributors and importers to "take-back" end-of-life products, often through product/materials reuse or recycling targets
- Examples: (i) EC – Proposed WEEE Directive (2000); (ii) United States – Proposed Hazardous Electronic Scrap Recovery, Reuse and Recycling Act of 2002

CURRENT AND FUTURE EPR TRENDS

European Community (EC)

Current Trends

- Leader in developing EPR initiatives
- Comprehensive product stewardship take-back programs in place
  - Packaging Take-Back Program (1994)
  - End-of-Life Vehicle Directive (2002) (not currently being implemented)

CURRENT AND FUTURE EPR TRENDS

European Community (EC)

Future Trends

- Adopt take-back programs funded or managed by manufacturers (WEEE directive)
- Impose bans on use of heavy metals in electrical and electronic equipment (RoHS directive)

CURRENT AND FUTURE EPR TRENDS

European Community (EC)

Future Trends

- Chemical White Paper initiatives may be proposed
  - New "REACH" (Registration, Evaluation and Authorization of CHemicals) Program for Regulating Chemicals Produced/Imported in Europe
  - Registration for all new and existing chemicals produced above 1 ton (properties/volumes/uses/exposures/preliminary risk assessment/management measures)
  - Evaluation of chemicals produced in volumes above 100 tons and all PBTs (long-term exposure focus)
  - Authorization for use as raw material or product for chemicals of very high concern (carcinogenic/mutagenic, etc.)

CURRENT AND FUTURE EPR TRENDS

North America

Current Trends

- EPR initiatives developed primarily by state and provincial authorities thus far
- Most directed at specific wastes (*e.g.*, CRTs, mercury lamps)
- Focus on labeling and disposal restrictions rather than take-back programs

CURRENT AND FUTURE EPR TRENDS

North America

Future Trends

- Unlikely that U.S. will implement national, comprehensive take-back legislation in near term; EPA focus on PBTs
- States will develop more comprehensive and stringent EPR initiatives rapidly
- Challenge for industry to stay abreast of these changes

CURRENT AND FUTURE EPR TRENDS

Latin America (including Mexico)

Current Trends

- EPR initiatives have not been adopted in a comprehensive way (Brazil a leader)
- Lack of government resources/waste infrastructure capacity shortfall may fuel national EPR initiatives to shift burden

CURRENT AND FUTURE EPR TRENDS

Latin America (including Mexico)

Future Trends

- Brazil and Mexico have pending legislation for broad take-back programs
- EPR initiatives are becoming a core aspect of Brazil's and Mexico's waste policies, with other countries to follow

CURRENT AND FUTURE EPR TRENDS

Asia

Current Trends

- Several countries have pursued EPR initiatives
- Most are nascent (Japan and Taiwan's programs for batteries and vehicle recycling are exceptions)

CURRENT AND FUTURE EPR TRENDS

Asia

Future Trends

- Increased reliance on EPR initiatives
- Shift in focus from recycling or material restrictions for specific products to laws applicable to multiple industries (Taiwan Resource Recycling and Reuse Act (2002))

FEDERAL DATA QUALITY ACT

- New tool to challenge the quality - objectivity, utility, and integrity – of information disseminated by federal departments/agencies
- Virtually all agencies/information
- OMB/agency-specific guidelines; program effective October 1, 2002

FEDERAL DATA QUALITY ACT

- Pre-dissemination review procedures
  - "Objectivity" – accurate, complete, and unbiased – is key
  - Heightened quality standards for "influential" information (Safe Drinking Water Act "best available science" standards for human health and environmental risk information)

FEDERAL DATA QUALITY ACT

- **Administrative Correction Mechanisms**
  - **initial information correction request**
  - **appeal to independent decisionmaker**
  - **timely resolution of challenges**
  - **correction of flawed information**
  - **prohibition on use of flawed data**
- **Judicial review of adverse administrative determinations?**

