



CANADA

National Reporting to CSD-18/19

Thematic Profile on Chemicals

1 Canada's Approach to the Management of Chemicals

Canada continues to be a world leader in the safe management of chemical substances and products, and supports the *Strategic Approach to International Chemicals Management* (SAICM) through its [Chemicals Management Plan](#). Designed to meet the 2020 goals set by the World Summit on Sustainable Development for sound management of chemicals, Canada's risk-based approach relies on sound science, assessment, and monitoring, combined with a variety of tools to manage the potential risks posed by chemicals. Canada's goal is to safeguard human health and our environment while supporting economic growth - the essence of sustainable development.

Municipalities, the provinces and territories, and the federal government each have roles in protecting against risks from chemical substances. The federal government makes laws and develops guidelines and objectives that apply to all of Canada, leads scientific research on human health and environmental issues, and acts with other countries to collaborate on the assessment and effective management of chemicals. While most federal chemicals initiatives are led jointly by Environment Canada and Health Canada, several other federal departments and agencies contribute to a range of activities to promote a life cycle approach to the sound management of chemicals. Canada's approach strives to be transparent – and all stakeholders – including industry, academia, health and environmental organizations, Aboriginal organizations, community groups, and other non-government organizations are given opportunities to provide input into the implementation of the Chemicals Management Plan.

1.1 Canada's Legislative Framework for Managing Chemicals

The [Canadian Environmental Protection Act, 1999 \(CEPA 1999\)](#) is one of Canada's most important laws respecting pollution prevention and the protection of the environment and human health in order to contribute to sustainable development. *CEPA 1999* supports a 'precautionary approach' and makes pollution prevention the cornerstone of national efforts to reduce risks of toxic substances. *CEPA 1999* covers a range of activities to address any pollution issues that may not be covered by other federal laws, it: establishes information-collection authorities; mandates environmental and human health research activities; sets out processes to assess risks posed by substances in commerce; imposes timeframes for managing certain toxic substances; provides a wide range of instruments to manage substances, pollution and wastes; and requires that the most harmful substances are phased out or not released into the environment in any measurable quantity (virtual elimination). The Act and its administration must be reviewed by Parliament every five years, providing an opportunity for Canadians to provide feedback on how well they feel it is protecting the environment and human health.

Other key pieces of legislation governing the use of chemical substances include:

- The [Hazardous Products Act](#) – establishes standards for chemical classification and hazard communication and the authority to regulate or prohibit consumer products and workplace chemicals which pose a risk to their users;
- The [Pest Control Products Act](#) – ensures the protection of human health, safety and the environment by regulating products used for the control of pests;

- The [Food and Drugs Act](#) – governs foods, drugs, natural health products, cosmetics and medical devices sold in Canada;
- The [Transportation of Dangerous Goods Act](#) – promotes public safety in the transportation of dangerous goods;
- The [Fisheries Act](#) – prohibits the deposit of toxic or harmful substances into fish-frequented waters;
- The [Canada Labour Code](#) – regulates issues related to [Occupational Safety and Health](#); and
- various regulations made under these Acts.

Several amendments have been made – and others are in progress – to strengthen and improve these pieces of legislation since Canada’s last report to the Commission (CSD-5).

1.2 Canada’s Policy Framework for Managing Chemicals

Building on Canada’s [Toxic Substances Management Policy](#), and guided by revisions to *CEPA* in 1999, the [Chemicals Management Plan](#) (CMP) was launched in 2006 to bring all existing federal programs together into a single strategy. The CMP is a science-based approach which aims to protect human health and the environment through:

- setting priorities and government-imposed administrative timelines for action on chemicals of concern;
- integrating chemicals management activities across federal departments and choosing the best placed federal statute under which to take action;
- enhancing research, monitoring and surveillance;
- increasing industry stewardship and responsibility for substances;
- collaborating internationally on chemicals assessment and management; and
- communicating to Canadians the potential risks of chemical substances.

The CMP intensifies [timelines](#) for action on chemical substances, setting ambitious objectives to assess and where required, develop risk management strategies for all Categorized (see section 2) existing substances in Canada by 2020. This will be accomplished by accelerating activities, reinvesting in science, and developing new and innovative partnerships with industry and with other countries to work collectively towards common goals.

2 Expanding and Accelerating the Assessment of Chemical Risks

The *Canadian Environmental Protection Act*, 1999 (*CEPA* 1999) specifies that [new substances](#) manufactured or imported into Canada above certain thresholds since 1994 must undergo government-led human health and environmental assessments. If a substance is found to have the potential to pose risks to the environment or human health, control measures may be put in place before it is allowed into the Canadian marketplace. If the risks are judged to be too great, or if it is determined that they cannot be adequately managed, the substance may be prohibited in Canada. The Government of Canada assesses approximately 600 substances new to the Canadian marketplace each year.

Canada’s [Domestic Substance List](#) (DSL) forms the basis for distinguishing new substances from the inventory of ‘existing substances’ that were manufactured, imported or used in Canada on a commercial scale in the mid 1980’s. As a first step in scientifically assessing all existing chemical substances known to be in commerce in Canada, *CEPA 1999* required that the approximately 23,000 existing substances be examined to determine if they were potentially harmful to human health or

the environment, and to identify which ones warranted further attention. This resulted in a large-scale priority-setting exercise called “[Categorization](#)” wherein Government of Canada scientists worked with their partners to identify substances that were:

- inherently toxic (harmful, by its very nature, to humans or to the environment);
- persistent (take a very long time to break down);
- bioaccumulative (collect in living organisms and end up in the food chain); and
- substances to which people might have the greatest potential for exposure.

With the completion of [Categorization](#) in 2006, Canada became the first country to have systematically examined all substances known to be in commerce domestically. This process identified approximately 4,300 substances as needing further attention. In 2007, Canada used a [Rapid Screening](#) approach to assess approximately 1,200 substances considered to be of **low ecological concern**, resulting in approximately 750 being identified as potentially not of concern.

As substances can have different effects on human health and the environment, Environment Canada conducts [ecological assessments](#) using different but [complementary criteria](#) to Health Canada, which considers factors such as the [Greatest Potential for Human Exposure](#) and protecting vulnerable populations. For example, substances that are likely to be used as colourants in food and dyes in clothing, flame retardants, fragrances and deodorizers, fabric softeners, lotions, and paint and coating additives were identified during categorization because of the likelihood that children would come into contact with them.

New assessment tools were developed, using a series of qualitative and quantitative steps to efficiently evaluate the likelihood that a substance may cause harm to human health or the environment, given conservative (worst-case) estimates of exposure. Simple exposure and hazard tools were applied first, to generate a preliminary list of substances identified for further consideration in categorization. A discriminating complex hazard tool was used in the following stages to refine the list, and to identify true priorities for testing and assessment. The development and application of these tools were based on conservative assumptions in the absence of data, always erring on the side of protecting human health and the environment.

The [200 chemical substances](#) categorized as representing the **highest priorities** for risk assessment and appropriate controls, were termed ‘[Challenge](#)’ *substances* as the Government of Canada uses mandatory information gathering instruments under *CEPA 1999* to require new information from stakeholders about the use and management of these substances. Industry is required to complete and submit a survey, and interested stakeholders may also submit voluntary questionnaires or additional information that may be used to inform risk assessment and to develop and benchmark best practices for risk management and product stewardship. Starting in 2007, the Challenge process began launching a new ‘batch’ or group of substances [every three months](#), signalling a 6 month period for industry and stakeholder groups to provide information. Screening Assessments are drafted, based on the most current information available, and involve a more in-depth analysis of substance properties, uses, and releases to determine whether the [substance requires additional risk management](#). A [Challenge Advisory Panel](#) was formed to provide advice to Government on the use of the precautionary principle and weight of evidence during this process.

As the Challenge process is completed, Canada will continue to assess the approximately 3,000 remaining substances identified by the Categorization process. In 2010, new information will be

collected on 550 substances as part of a broader effort to [update Canada's Domestic Substance List \(DSL\)](#), and to help inform appropriate activities on the next group of substances.

The Canadian government is working closely with stakeholders to complete the human health and environmental assessments of more than 9,000 substances used in products regulated under the *Food and Drugs Act*. Appropriate [Environmental Assessment Regulations](#) for new substances contained in these products are also being developed. Canada's [Food and Consumer Safety Action Plan](#) proposes a comprehensive set of measures designed to strengthen and modernize the regulation of food, human health and consumer products, including additional tools for the management of chemicals. This includes new legislation governing consumer products under the proposed [Canada Consumer Product Safety Act \(CCPSA\)](#). The CCPSA would replace Part 1 of the Hazardous Products Act and enhance the federal government's ability to take action when consumer products pose or are likely to pose a danger to human health or safety.

The [Pest Management Regulatory Agency \(PMRA\) Re-evaluation Program](#) was launched in 2001, to examine the health and environmental risks associated with 401 pesticide active ingredients registered before 1995. Older pesticides that no longer meet modern standards are removed from the Canadian market, and the use instructions on product labels are updated to best protect users, bystanders, and the environment. CMP commitments under the *Pest Controls Products Act* included accelerating the re-evaluation of the remaining active ingredients that were registered before 1995. Canada has also [streamlined processes to accelerate the registration of new and potentially safer pesticide products](#) to replace products and/or uses no longer considered acceptable. Canada has also established a pesticide [sales information database](#) as well as a [mandatory incident reporting system](#), which allows PMRA to assess health and the environmental trends and take regulatory action, when applicable.

2.1 Research, Monitoring and Surveillance

CEPA 1999 mandates the federal government to conduct research on the presence of chemical substances in, and their effects on, humans and their environment. Research disciplines include analytical chemistry, toxicology, and epidemiology to address data needs along a continuum that begins with exposure assessment, then hazard identification and mechanism of action (effects), and finally, population studies. Priority research areas under the Chemicals Management Plan include endocrine disrupting compounds, metals, mixtures, perfluorinated alkyl compounds, and studies to generate new information on substances of concern for which limited data is available.

Monitoring and surveillance are essential to provide the basis for making sound and effective policies and interventions, and help to gauge the efficacy of control measures. Building on Canada's existing environmental monitoring programs, the CMP's [Environmental Monitoring and Surveillance Program](#) has established new initiatives in collaboration with external partners and researchers. The national program tracks chemicals in multiple environmental media, including: air, water, sediment, non-human biota (fish and wildlife); as well as source monitoring (wastewater treatment plant effluents and sludge, landfill leachate, incineration and biogas).

[Human health biomonitoring](#) and surveillance activities inform priorities and policies for the management of chemicals needed to protect children and adults from the consequences of exposure to chemicals. Canada's activities in this area include the nationally representative [Canadian Health Measures Survey](#) which incorporates a comprehensive biomonitoring component, and the Canada-

wide [Maternal-Infant Research on Environmental Chemicals Study](#) which monitors the exposure of pregnant women and their babies to environmental chemicals. A complementary biomonitoring program of Aboriginal populations on first nations reserves is being developed in partnership with Canada's Assembly of First Nations. Under the Commission for Environmental Cooperation, Canada has partnered with the USA and Mexico on a study that will provide a North American tri-national profile of metals and persistent organic pollutants (POPs) in maternal blood samples.

Canada's [Total Diet Study](#) (also referred to as a Market Basket Surveys) estimates levels of exposure of Canadians in different age-sex groups to chemicals in the food supply. This type of study is recommended by the World Health Organization as an important activity for its member nations to undertake, as it provides reliable estimates of dietary intakes of contaminants.

The [Northern Contaminants Program](#) was established in response to concerns about human exposure to elevated levels of contaminants in wildlife species that are important to the traditional diets of northern Aboriginal peoples. The program monitors contaminants, most of which are the result of long range atmospheric transport, across all regions of the Canadian Arctic in a wide variety of wildlife species, looking for spatial and temporal trends in contaminant levels. It also funds significant work in human health biomonitoring, including the recent [Inuit Health Survey](#). Canada also participates in the [Arctic Monitoring and Assessment Programme](#) (AMAP), one of six working groups under the Arctic Council, which has produced a series of high quality scientifically-based [assessments](#) of the pollution status of the Arctic.

2.2 Classification and Labelling of Chemicals

Canada has worked with other countries to develop a single, [Globally Harmonized System of Classification and Labelling of Chemicals](#) (GHS), an integral component of SAICM. Canada is currently undertaking stakeholder consultations in order to implement the GHS.

Under the *Food and Drugs Act*, Canada's [Cosmetic Regulations were amended](#) in 2006 to require ingredient labelling on all cosmetic products. The *Consumer Chemicals and Containers Regulations, 2001* under Canada's *Hazardous Products Act* require [labelling](#) using a criteria-based system by which products are regulated on the basis of the scientifically assessed hazards that they pose to users, such as toxicity, flammability, or corrosivity. Scientific data is used to identify the types of inherent hazards and the possible routes of exposure to the product in order to appropriately classify the product and determine if a child resistant container is required. These regulations address acute exposure situations resulting from reasonably foreseeable use of the product. After classification, the regulated products must display hazard symbols, warning statements, instructions, and first-aid treatment(s), in both of Canada's official languages (English and French). The label must also disclose all hazardous ingredients when present at specified concentrations.

The [Workplace Hazardous Materials Information System](#) (WHMIS) is the cornerstone of workers' right-to-know legislation in Canada, and mandates the provision of material safety data sheets (MSDSs), labelling, and the provision of worker education programs for hazardous chemicals intended for occupational use. The WHMIS requirements of the *Hazardous Products Act* and the [Controlled Products Regulations](#) do not restrict or otherwise limit the use of any chemicals in the workplace. Federal, provincial and territorial government partnerships have been established to protect Canadian workers, and an information service, including a web-based searchable collection

of WHMIS hazard classification information is provided by the [Canadian Centre for Occupational Health and Safety](#).

3 Information Exchange on Chemicals and Chemical Risks

Canada's approach to chemicals management promotes an open and transparent information exchange between parties. To keep Canadians and key stakeholders apprised of the work being carried out under the Chemicals Management Plan, the Government of Canada created the Chemical Substances website (<http://www.chemicalsubstanceschimiques.gc.ca>) which provides up-to-date information on the progress being made, as well as links to key initiatives in related program areas. The [CEPA Environmental Registry](#), and [Chemicals Management Plan](#) websites provide searchable or downloadable lists of existing chemical substances, results of rapid screening and prioritization exercises, detailed substance assessments, and proposed risk management activities. This information is available for use by international parties and other jurisdictions across Canada to inform their chemicals assessment and risk management activities.

Canada has created a website particular to [Mercury and the Environment](#) to provide scientific background information and to outline current policies, programs, and practical guidance related to mercury. Information submitted by facilities subject to Pollution Prevention Planning Notices under *CEPA 1999* is made publicly available via the [P2 Planning Database](#), searchable by substance, location and facility. The federal government also maintains a list of substances that are restricted and prohibited in cosmetics called the [Cosmetic Ingredients Hotlist](#). This administrative list is intended to help manufacturers avoid these substances, in order to satisfy the requirements for sale in Canada.

The federal government works with key civil society organizations to strengthen their ability to fully participate in CMP-related consultative processes, and provides funding for the creation of stakeholder networks which are used to disseminate information. A [CMP Stakeholder Advisory Council](#) draws from multiple sectors, including Aboriginal organizations, consumer groups, environmental and health non-government organizations, industry, and labour. The involvement of stakeholders at [key milestones](#) has also helped to improve the accuracy of information and to improve data quality.

CEPA 1999 provides the legislative basis for annual industrial reporting to Canada's [National Pollutant Release Inventory](#) (NPRI) on pollutant releases (to air, water and land), disposals and transfers for recycling by facilities that are above specified thresholds. [NPRI data](#) is made publicly available in a variety of formats, including an online data search, downloadable databases, files for use with Google Earth, and online summary information. The NPRI is a key resource for identifying pollution prevention priorities, supporting the assessment and risk management of chemicals, and air quality modelling, encouraging actions to reduce the release of pollutants into the environment, helping develop targeted regulations for reducing releases of toxic substances and air pollutants, and improving public understanding of releases to the environment. Canada works proactively, with a number of industry sectors as well as with provincial and territorial governments, to enhance the consistency and accuracy of reporting. This work involves developing and providing enhanced training for facilities and conducting onsite measurements to improve the accuracy of the release information reported. For 2008, the last reporting year for which information is available, over 8 500 facilities reported to the NPRI on more than [300 listed substances](#). Comprehensive [air pollutant emission summaries and trends](#), based on facility-reported data and emission estimates for other sources such as motor vehicles, residential heating, forest fires and agriculture, are compiled for

pollutants contributing to smog and acid rain, as well as selected heavy metals and persistent organic pollutants.

Canada's [One Window to National Environmental Reporting System](#) (OWNERS) is an on-line reporting mechanism created by the federal government, which is also used by provincial and municipal governments and private sector organizations to collect environmental data from industry. This on-line database was developed in response to industry requests to streamline and simplify environmental reporting requirements. OWNERS provides a platform for government to collect environmental information in a more timely, efficient and cost-effective manner, and to improve the quality and accuracy of data. In response to increasing demand, OWNERS is currently being redeveloped to update technology and improve functionality; the new application is expected to be launched in 2010.

A comprehensive information service related to prevention of hazardous workplace chemical exposures is provided by the [Canadian Centre for Occupational Health and Safety](#) (CCOHS), including a range of web-based chemical databases. CCOHS, in collaboration with the World Health Organization and the [International Programme on Chemical Safety](#) (IPCS), provides a software system used in poison centres around the world to support the collection, evaluation and reporting of human toxic exposure data. CCOHS also hosts the authoritative [IPCS INCHEM data service](#) which provides free public access to internationally peer-reviewed, chemical safety-related publications and database records via the [eChemPortal](#) website. Additional information on Canada's collaboration with other jurisdictions, including the exchange of information and expertise to improve the basis for assessment decisions and risk management measures, is outlined in section 6.

4 Strengthening National Capacities for Risk Reduction and the Management of Chemicals

The Government of Canada implements different risk management tools, ranging from regulatory activity, voluntary actions and public engagement to address current and emerging issues related to risks from chemical substances. The most appropriate approach is chosen based on a number of human health, environmental, social and economic considerations in consultation with key stakeholders. Risk managers also consider existing federal laws and programs, as well as laws in provinces and territories, international commitments, and actions taken in other countries. Risk management tools may be used to control any aspect of the life cycle of a substance of concern - from the design and development stage to its manufacture, use, handling, storage, import, export, transport and ultimate disposal. Frequently, more than one measure is used in order to control different aspects of the risks posed by a substance of concern.

4.1 Risk management under the Chemicals Management Plan

Under the CMP, when the proposed conclusions of a draft screening assessment report are released and the substance is determined to pose risks to human health or the environment, the Government of Canada publishes a preliminary outline of the risk management options being considered for public comment. Industry and other interested stakeholders are invited to submit comments, or to provide other information that would help inform decision making as Canada moves forward with the development of more detailed risk management approaches after the publication of the final screening assessment report. These proposed risk management actions - including the proposed choice of regulation or instrument - are also subject to public comment.

Improving Regulatory Efficiencies

[Canada's Chemicals Management Plan](#) recognises the need to manage chemicals under the most appropriate law, depending on what activity or part of the chemical lifecycle provides the best opportunities for successful control. A suite of Regulatory options to control chemicals are available under [CEPA 1999](#), the [Food and Drugs Act](#), the [Hazardous Products Act](#), and the [Pest Control Products Act](#). Specific provisions within [CEPA 1999](#) compel the Government to identify substances to be [virtually eliminated](#) if they are considered to be toxic, persistent, bioaccumulative, are predominantly anthropogenic in source, and not a naturally occurring radionuclide or inorganic substance. If certain substances are found "[toxic](#)" under the criteria set out in [CEPA 1999](#), a proposed risk management instrument must be published in the [Canada Gazette](#) within two years of the recommendation that the substance be added to [Schedule 1](#) of the Act. A final risk management instrument or regulation must be published within the following 18 months, specifying the period of time that affected parties have to implement the required measures. Schedule 1 of [CEPA 1999](#) currently contains 85 individual or families of [substances](#), representing over 1000 discrete chemical substances.

Canada has learned to increase efficiencies by building flexibility into regulations which can manage a number of different substances with targeted regulatory controls. For example, the [Prohibition of Certain Toxic Substances Regulations, 2005](#) prohibits the manufacture, use, sale, offer for sale and import of substances as listed in Schedules to the Regulations. Schedule 1 of these regulations lists substances subject to *total prohibition* (with the exception of incidental presence), while Schedule 2 of these regulations specifies substances that are subject to prohibitions of *concentration or use*. This facilitates more flexible management of the scheduled substances, and also facilitates the addition of new substances to the two schedules in the future.

Canada has used the [Significant New Activity](#) (SNAc) provisions set out under [CEPA 1999](#) for approximately 300 high concern substances. This approach provides an efficient instrument for a number of substances found not to be in commerce in Canada, or for which current uses are responsibly managed. These provisions restrict any new or increased use of the listed substance without informed assessment and appropriate controls.

Cooperation with Provinces and Territories

[Canada-wide Standards](#) (CWS) are developed by the [Canadian Council of Ministers of the Environment](#) (CCME), which consists of federal, provincial, and territorial environment ministers, under the [Canada-Wide Accord on Environmental Harmonization](#). CWSs address key environmental protection and environmental health risk issues, and may include agreements to target specific substances from sectors within a defined timeframe, or may be very broad control management strategies covering a number of sectors, sources, and substances. The standards are based on science, but also take into consideration technical feasibility and socio-economic factors. This approach establishes nationally unified environmental objectives while allowing participating jurisdictions to implement complementary plans in a way that suits their individual circumstances.

Some Canadian legislation allows for [administrative agreements](#) with provincial and territorial governments in the implementation of risk reduction programs or [equivalency agreements](#) that recognise a provincial or territorial regulation as equivalent to a federal one. This becomes a useful option when risk management activities for a particular substance are limited to one facility or one geographical area and do not require a national program to be managed effectively.

Enhancing the role of Industry and Sector-based Approaches

The launch of the CMP introduced a targeted [Petroleum sector](#) approach for managing approximately 160 high priority petroleum substances with unique and complex characteristics. Canada has continued to expand this approach to engage other commercial/industrial sectors as a way to manage large groups of substances within an industry, and to develop and codify sound management practices which, in some situations, reduces the need for regulation. Industry recognizes the necessity of these actions and in many cases has been moving proactively to find solutions.

Risk management options, including voluntary approaches outside of *CEPA 1999*, may also be used to engage with industry constructively. After consideration of economic and social impacts, instead of banning the use of mercury for dental amalgams, voluntary [Best Management Practices](#) were first established with the Canadian Dental Association, followed by a [Notice Regarding Pollution Prevention Planning in Respect of Mercury Releases from Dental Amalgam Waste](#) under *CEPA 1999* that sets out factors to be considered for dental facilities to limit mercury releases from dental amalgam waste. Canada's [Policy Framework for Environmental Performance Agreements](#) provides key principles and design criteria to inform negotiations with industry on voluntary actions. Several [Environmental Performance Agreements](#) are in place, and additional agreements are in the process of being negotiated to encourage innovation and product stewardship. A Memorandum of Understanding (MOU) was established from 2001-2005 between the Government of Canada, the provincial governments of Alberta and Ontario and the Canadian Chemical Producers' Association (CCPA) which resulted in voluntary reductions of volatile organic compounds (VOCs) by 25%. The [Canadian Chemical Producers' Association](#) has played an important role in advancing some aspects of greener chemistry through its creation of the [Responsible Care®](#) code of practice, an internationally-recognized approach which promotes stewardship of products throughout their lifecycle.

Encouraging Innovation

Under the Chemicals Management Plan, Canada is transforming its approach to the management of chemical substances through the use of innovative risk management measures and early engagement of stakeholders. Consultations are underway to establish a process to assess and manage the remaining existing substances identified in the Categorization process by 2020.

Canada is exploring approaches to encourage the promotion of safer alternatives including investments in green chemistry, and improved engineering processes. Where appropriate, non-legislative Best Management Practices, designed to reduce the environmental release of substances or products regulated under the *Food and Drugs Act*, are being developed. Canada has published numerous [Pollution Prevention planning support tools](#) to help build industry capacity, and has provided support to organizations such as the [Canadian Centre for Pollution Prevention](#) (C2P2). Information and expertise is made available through the [Canadian Pollution Prevention Information Clearinghouse](#) (CPPIC), an internet accessible central repository of practical information on pollution prevention. C2P2 also administers the [CCME P2 Award program](#) that recognizes leadership in P2, nationally. Additional information on pollution prevention activities and [Extended Producer Responsibility](#) can be found in Canada's Waste thematic profile.

The Government of Canada has made recent investments to strengthen research and to promote advancements in the area of Green Chemistry. Announced under Canada's [Science and Technology Strategy](#), [GreenCentre Canada](#) will be the first entity of its kind in North America to bring together

leading Green Chemistry researchers, industry partners, and commercialization professionals in a common goal of developing cleaner, less energy-intensive solutions for traditional chemical and manufacturing processes. The centre will create new economic opportunities, by helping to bring new environmental technologies to market.

Canada is currently working to modernise and strengthen legislation governing consumer and health products. Modernized requirements for information and labelling will provide Canadians with better information about ingredients and the safe use and disposal of products such as pharmaceuticals and personal care products. The risks posed by chemicals in products can also be managed through the application of product standards and recognition of a growing market demand for environmentally responsible products. Canada's [EcoLogo™](#) presents a market-based approach to reducing use of harmful chemicals, and label standards promote improved environmental performance of companies and products. Founded in 1988 by the Government of Canada, and now delivered by a third party, the EcoLogo™ has developed criteria for approximately 120 categories of products and services and is North America's leading third-party verified environmental standard and certification mark. Currently over 7000 products are EcoLogo certified, such as paint, insulation, flooring, cleaning products, paper, tissue, electricity, printing inks, office furniture and equipment. Additional information related to sustainable products initiatives can be found in Canada's Sustainable Consumption and Production profile.

4.2 Initiatives to reduce overdependence on the use of agricultural chemicals

As a member of the [Food and Agricultural Organization](#) (FAO), Canada is guided by the [International Code of Conduct on the Distribution and Use of Pesticides](#). Federal departments work together to facilitate information exchange and advice to enhance the effectiveness of programs, services and decisions in pest control and environmental sustainability. Programs delivered by the [Pest Management Centre](#) of Agriculture and Agri-Food Canada in cooperation with Canada's [Pest Management Regulatory Agency](#) aim to improve growers' access to reduced-risk pesticides and production approaches that reduce reliance on pesticides (use of decision support systems, mechanical and cultural practices, resistant varieties, biological controls, biopesticides, and other products in an integrated approach). Research conducted by government scientists explores alternative technologies in pest control including classical biological control approaches.

Canada strives to integrate the principles of sustainability into the regulatory regime under the *Pest Control Products Act*: to protect human health and the environment by minimizing risks associated with pesticides, while providing Canadians access to the [pest management tools](#) they require for agriculture, forestry, industry and personal use. In 2002, investments in a [renewed approach to pesticide management](#) were announced, providing support to integrated pest management (IPM) approaches to reduce the use of chemical pesticides on crops while maintaining crop productivity and enhance environmental sustainability. The new [Growing Forward](#) policy framework includes agri-environmental programming through which Canadian farmers can access incentive payments for the adoption of beneficial management practices including the use of IPM techniques and tools.

Canada's [International Development Research Centre](#) (IDRC) has provided funding to less developed countries on several projects related to agricultural production systems and the environmental and human health impacts caused by the intensive use of chemicals. Several studies relate to the severe ecological, social, economic and health impacts of tobacco production, covering a broad geographical area including Kenya, Nigeria, Vietnam, Bangladesh, Ecuador, Costa Rica, and

the Caribbean. Projects have ranged in scope from monitoring, experiments with alternative agricultural practices, education, and the development of community action plans to reduce dependence on pesticide-intensive activities such as horticulture, floriculture, and bananas.

4.3 Policies and Frameworks for Prevention of Accidents, Preparedness and Response

Canada's [Emergency Management Act, 2007](#) sets out clear roles and responsibilities for all federal Ministers across the full spectrum of emergency management, including prevention/mitigation, preparedness, response and recovery. In preparation for emergencies, federal departments work in close partnership with other levels of government, industry, and communities to identify potential risks, to develop and exercise contingency plans and to train personnel. Transport Canada develops safety and security regulations, means of containment standards, provides oversight and expert advice on dangerous goods safety and security incidents to promote public safety in the transportation of dangerous goods by all modes of transport in Canada. Canada's [National Environmental Emergencies Contingency Plan](#), provides a framework to identify a variety of environmental hazards and to guide appropriate responses to hazards and emergencies. When the need arises to access a wide variety of expertise and resources, a Regional Environmental Emergencies Team can be activated. Canada's Health Portfolio Chemical Emergency Response Plan also provides an operational framework to support the provinces and territories in the event of chemical emergencies, including the provision of scientific advice and risk assessments regarding the public health impacts of exposure to chemicals, consequence management advice, analytical support, medical assistance and supplies, advisories, alerts and warnings to the Canadian public.

Canadian laws support the principle of polluter responsibility, which means industry is accountable for taking adequate preventive actions and for having effective response plans in place. For example, under the *Transportation of Dangerous Goods Act*, when a shipper transports dangerous goods that require an emergency response assistance plan (ERAP), the plan must be approved by Transport Canada prior to the shipment taking place. Under *CEPA 1999*, [Environmental Emergency Regulations](#) require facilities that manufacture, store, use or dispose of toxic or other hazardous materials in quantities beyond specified thresholds to prepare and implement environmental emergency plans.

The amount of hazardous and noxious substances (HNS) that are currently being transported in and around Canada has expanded rapidly in recent years. The related risks are managed under [Canada's Marine Oil Spill Preparedness and Response Regime](#), which administers policies, regulations and programs to protect the marine environment, to mitigate the impact on the environment of marine pollution incidents in Canadian waters, and to protect the safety of the general public. This includes the development of a [Hazardous and Noxious Substances Program](#) for preparing and responding to marine HNS incidents. The [National Aerial Surveillance Program](#) serves to detect pollution violations in Canadian waters and to collect evidence for use in the prosecution of offenders.

Internationally, Canada works with several partners and in multi-lateral fora to advance and share knowledge in the area of emergency prevention, preparedness and response. Canada maintains a significant working relationship with organizations such as the Joint United Nations Environment Programme (UNEP)/Office for the Coordination of Humanitarian Affairs (OCHA) Environment Unit. Canada has several agreements with the United States to deal with environmental disasters on common borders, including the [Canada-United States Joint Inland Pollution Contingency Plan](#) and the [Canada-United States Joint Marine Pollution Contingency Plan](#). Canada is party to the

[International Maritime Organization](#)'s Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC Convention) and the International Convention for the Prevention of Pollution from Ships (MarPol). Canada has implemented Annexes I, II and III which set carriage rules for oil, noxious liquid substances and packaged dangerous goods; this includes hull design, discharge controls, designs for transfer conduits and connections and operational procedures to promote safety and prevent pollution from spills and accidents. Canada is also an active member of the [Arctic Council](#), a high-level forum for cooperation regarding the prevention, preparedness and response to environmental emergencies in the Arctic that are a result of human activities or natural disasters.

Canada's [Food and Consumer Safety Action Plan](#), proposes measures to support better identification of risks in the food supply, the establishment of preventative risk mitigation approaches, and targeted oversight to verify that industry's preventative approaches are effective and that there is a rapid response when problems do occur. Canada has a long history of cooperation regarding food safety with international regulatory counterparts to leverage resources and knowledge, and to apply sound regulatory practices and standards which are consistent with international norms. Canada collaborates and coordinates many of its risk management efforts with key food regulatory partners in the United States, Europe, Australia, New Zealand, and Japan. Engagements range from informal information exchanges to multilateral harmonization initiatives through international organisations such as [Food and Agriculture Organization of the United Nations](#), [Codex Alimentarius Commission](#), and the [World Health Organization \(WHO\)](#).

5 Prevention of Illegal International Traffic in Toxic and Dangerous Products

Through the enforcement of its own laws, and participation in international initiatives such as the [Basel](#), [Rotterdam](#) and [Stockholm](#) Conventions, Canada reduces the likelihood that it is a source of or repository for illegal toxic and dangerous products.

[The Canada Border Services Agency](#) (CBSA) supports the import-safety elements of the [Hazardous Products Act](#) for consumer products through a [written Service Agreement](#), an arrangement that has been particularly effective in preventing prohibited products from entering Canada and also in facilitating additional targeted inspections of both particular kinds of products and of shipments from companies with histories of poor compliance. The CBSA's [Single Window Interface](#) (SWI), currently under development, will also facilitate access to electronic commercial import data, to help efficiently clear shipments of low risk products from low risk suppliers or, alternatively, tag suspicious ones before they have left their point of export.

Instruments such as the [Export of Substances Under the Rotterdam Convention Regulations](#) have been developed under *CEPA 1999*, to reduce illegal international traffic. These regulations enable Canada to implement the [Rotterdam Convention](#) which prevents those chemicals and pesticides, subject to the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade from being exported to parties to the Convention unless the importing Party has provided its "prior informed consent" to the shipment.

Additional information related to the [Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations](#) is available in Canada's thematic profile on Waste Management.

6 Canada's Collaboration with International Partners to Advance the Strategic Approach to International Chemicals Management (SAICM)

Further to domestic implementation of SAICM goals through the Chemicals Management Plan, Canada is party to a number of international conventions, protocols, and a contributor to a number of strategic programmes and activities in collaboration with other jurisdictions. While the Chemicals Management Plan is focused on achieving results in Canada, it is recognized that coordinated, global efforts are essential to provide effective management of chemical substances. The sharing of research, information (data) and knowledge between jurisdictions helps to increase efficiencies in the global management of chemicals, while supporting international trade.

Multilateral Initiatives

Canada contributes to and benefits from collective efforts under the [Organisation for Economic Co-operation and Development \(OECD\)](#) and other international bodies to develop standards and guidelines that help avoid unnecessary duplication and accelerate the management of chemicals globally. Canadian scientists have contributed to a number of OECD initiatives, including the [OECD Joint Meeting on of the Chemicals Committee and Working Party on Chemicals, Pesticides and Biotechnology](#) and the [Working Party on Manufactured Nanomaterials](#).

Canada is party to a number of multi-lateral agreements [as mentioned in preceding text] and recognized for its contributions on [Ozone Depleting Substances](#) under [the Montreal Protocol](#), the [Convention on Long-range Transboundary Air Pollution](#) (LRTAP), and [Stockholm Convention](#) on Persistent Organic Pollutants (POPs). Canada is actively involved in work to develop a legally binding instrument under the United Nations Environment Programme that will reduce [mercury](#) emissions from all countries.

Canada participates in the six working groups of the [Arctic Council](#), which encourages national and Arctic State governments to take remedial and preventive actions related to contaminants and other releases of pollutants to reduce the associated risks. The Arctic Council is a high level intergovernmental forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic. The Arctic Council includes eight member states: Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the USA; and six indigenous Peoples groups as Permanent Participants: the Inuit Circumpolar Council, the Saami Council, the Russian Association of Indigenous Peoples of the North, the Aleut International Association, the Arctic Athabaskan Council and the Gwich'in Council International.

North American Regional Initiatives

Canada supports a North American approach for the implementation of SAICM, to strengthen national and regional risk-based chemicals assessment and management efforts. In establishing the [Commission for Environmental Cooperation](#) (CEC), Canada, Mexico and the United States acknowledged the growing environmental, social and economic linkages, and agreed to promote sustainable development based on cooperation and mutually supportive policies. CEC's [Sound Management of Chemicals](#) Working Group provides a framework for regional cooperation on chemical substances of mutual concern. A [Statement of Intent on North American Chemicals Cooperation](#) signed in 2008 reaffirms the tri-partite (Canada, Mexico and the United States) intention to work collaboratively, and puts forward a framework for regulatory cooperation in the area of chemicals that outlines priorities and commitments.

Canada has engaged with its Great Lakes partners in the USA and Ontario through the [Great Lakes Binational Toxics Strategy \(GLBTS\)](#) and the [Canada-Ontario Agreement respecting the Great Lakes Basin Ecosystem](#), respectively. Canada will continue to explore opportunities to improve the management of chemicals within the Great Lakes Basin through the 2010 renewal of the [Great Lakes Water Quality Agreement](#).

Bilateral cooperation

The Consultations on Substance Management (COSM) between Canada and the United States are informal discussions to facilitate bilateral cooperation in the area of chemicals management with the goal of strengthening our national and regional risk-based chemical assessment and management efforts through increased sharing of resources and technical expertise.

In June 2007 Canada signed the [EC-Canada Regulatory Cooperation Roadmap](#) to promote cooperation between the European Commission and Canada regarding the regulation of substances and the effective implementation of their respective regulatory frameworks. Areas of cooperation include: the examination of potential options for the secure exchange of data and assessment outcomes; and increased cooperation in the sound management of chemicals by encouraging cooperation and promoting mutual recognition of the outcomes of assessments of chemicals; and regular consultations about risk assessment/management regulatory priorities and approaches.

In August 2007, the health departments of Australia and Canada signed a [Statement of Intent](#) to collaborate on the risk assessment and management of existing chemicals. In addition, a [Cooperative Arrangement](#) between the Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS) and the Canadian Departments of the Environment and Health focussed on the sharing of information on new industrial chemicals. Australia has also formally recognized Canada's risk assessment regime for new chemicals as a competent authority under their new substances programme.

Canada is also engaged in a number of less formal bilateral initiatives and will continue to work with other countries to promote capacity building, sharing of technical expertise, information and data, as well as specific agreements regarding environmental considerations, product safety, and pharmaceuticals.