
Update to Canada's
National
Implementation Plan
under the Stockholm
Convention on
Persistent Organic
Pollutants

APRIL 2013

GOVERNMENT OF CANADA

EXECUTIVE SUMMARY

The purpose of this Update to Canada's National Implementation Plan (NIP) is to inform the Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants, and the public, of Canada's plan for implementing its obligations with respect to the nine new persistent organic pollutants (POPs) added to the Convention in 2009. Each Party to the Stockholm Convention is required, under Article 7 of the Convention, to develop a National Implementation Plan (NIP) demonstrating how it will implement its obligations under the Convention. Canada submitted its first NIP to the Stockholm Convention Secretariat on May 17, 2006. In 2009, Annexes A, B and C of the Stockholm Convention were amended to list nine new substances. In accordance with Article 7(c) of the Convention, Canada has prepared this Update to its 2006 NIP outlining the plans and programs Canada has in place to meet its obligations under the Convention such as Canada's Chemicals Management Plan.

POPs are toxic substances, predominantly human-made, which persist in the environment and accumulate within living organisms, including humans. POPs can be transported great distances, and subsequently, deposited in the oceans and freshwater bodies of colder climates, such as the far North of Canada. In addition to those POPs known to have been present in Canada's North for some time, a number of "new" contaminants have more recently reached the Arctic, including two new POPs added to the Convention: polybrominated diphenyl ethers (PBDEs) and perfluorooctane sulfonic acid (PFOS). Domestic action alone cannot eliminate the impacts of POPs on Canadians and their environment. As POPs can be transported great distances, international management is also necessary in order to limit the amount of POPs found in the Canadian environment. International agreements like the Stockholm Convention help to reduce emissions from all countries, which can ultimately end up in Canada.

Canada's initiatives outlined in this update include legislation, regulations, voluntary programs and standards, policies, programs and other related measures, including actions by Canadians to manage and eliminate these new POPs in the environment. Canada has already taken significant steps to reduce domestic sources of the nine new POPs through its authorities under the Canadian Environmental Protection Act, 1999 and the Pest Control Products Act (among others); through action under the Chemicals Management Plan; and via regulations such as *Prohibition of Certain Toxic Substances Regulations*, *Polybrominated Diphenyl Ether Regulations* and the *Perfluorooctane Sulfonate and its Salts and Certain Other Compounds Regulations*. This update also outlines Canada's National Action Plan (NAP) for reducing total releases of by-product emissions of pentachlorobenzene from anthropogenic sources. Finally, Canada continues to lend its expertise and resources to support information exchange, public awareness and education, research and monitoring, technical assistance, capacity building and reporting.

The Update to Canada's NIP has been developed in consultation across federal departments and with provinces and territories. A draft of this document was also made available for comment by Aboriginal organizations, industry, businesses, environmental and health non-governmental organizations and the public. Canada remains committed to meeting its obligations under the Convention and continuing its contributions toward protecting human health and the environment from POPs.

TABLE OF CONTENTS

Chapter 1—Introduction

- National Implementation Plans
- Adoption of Amendments Listing New POPs
- Overview of the New POPs
- Why do POPs Continue to Be a Canadian Issue?

Chapter 2—Update on Canada’s Key Legislation and Policies Related to Stockholm Convention Obligations

- Chemicals Management Plan
- Canadian Environmental Protection Act, 1999
- Pest Control Products Act
- Food and Drugs Act
- Key provincial/territorial legislation and policies

Chapter 3— Measures to Reduce or Eliminate Releases from Production and Use, Import and Export

- Prohibition and /or Elimination of Chemicals Listed in Annex A
- Restriction of Production and Use of Chemicals Listed in Annex B
- Summary of Actions on Production and Use in Canada for the New Persistent Organic Pollutants
- Restrictions on Import and Export
- Preventing the Production and Use of Chemicals Exhibiting POPs Characteristics

Chapter 4—Chemicals Subject to Restricted Use: Specific Exemptions and Articles in Use

- Specific Exemptions
- Articles in Use Prior to the Date of Entry into Force

Chapter 5-National Action Plan on Unintentionally Produced POPs

- Measures to Reduce Total Releases from Unintentional Sources
- Current and Projected Releases of PeCB in Canada
- Evaluation of Efficacy of Laws and Policies
- Strategies to Reduce Releases of PeCB
- Use of Best Available Techniques and Best Environmental Practices
- Use of Substitute or Modified Materials, Products and Processes
- Education, Training and Awareness Building
- Implementation Schedule and Strategy Review

Chapter 6-Measures to Identify and Manage Stockpiles and Wastes

- Identifying and Managing Stockpiles and Wastes
- Environmentally Sound Handling, Collection, Transport, Storage and Disposal of Wastes
- Identifying and Managing Contaminated Sites

Chapter 7-Other Commitments

- Article 9: Information Exchange
- Article 10: Public Information, Awareness and Education
- Article 11: Research, Development and Monitoring
- Article 12: Technical Assistance
- Article 13: Financial Resources and Mechanisms
- Article 15: Reporting
- Article 16: Effectiveness Evaluation - Canada’s involvement in the Global Monitoring Plan

LIST OF ACRONYMS

AFFFs	Aqueous film forming foams
alpha-HCH	Alpha hexachlorocyclohexane
AMAP	Arctic Monitoring and Assessment Program
BAT	Best available techniques
BEP	Best environmental practices
beta-HCH	Beta hexachlorocyclohexane
CCME	Canadian Council of Ministers of the Environment
CEPA 1999	<i>Canadian Environmental Protection Act, 1999</i>
CMP	Chemicals Management Plan
COP	Conference of the Parties (to the Stockholm Convention)
EIHWHRMR	<i>Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations</i>
ESECLR	<i>Export of Substances on the Export Control List Regulations</i>
F&DA	<i>Food and Drugs Act</i>
gamma-HCH	Gamma hexachlorocyclohexane (lindane)
GAPS	Global Atmospheric Passive Sampling Network
GEF	Global Environment Facility
HBB	Hexabromobiphenyl
HCB	Hexachlorobenzene
hepta-BDE	Heptabromodiphenyl ether
hexa-BDE	Hexabromodiphenyl ether
IADN	Integrated Atmospheric Deposition Network
LRTAP	Convention on Long-range Transboundary Air Pollution
NAP	National Action Plan (on unintentionally produced POPs , under the Stockholm Convention)
NAPS	National Air Pollution Surveillance Program
NCP	Northern Contaminants Program
NIP	National Implementation Plan (under the Stockholm Convention)
NPRI	National Pollutant Release Inventory
Octa-BDE	Octabromodiphenyl ether
PBDEs	Polybrominated diphenyl ethers
PCBs	Polychlorinated biphenyls
PCPA	<i>Pest Control Products Act</i>
PeCB	Pentachlorobenzene
penta-BDE	Pentabromodiphenyl ether
PFOS	Perfluorooctane sulfonic acid (also used for this acid, its salts and PFOSF)
PFOSF	Perfluorooctane sulfonyl fluoride
PMRA	Pest Management Regulatory Agency
POPs	Persistent organic pollutants
tetra-BDE	Tetrabromodiphenyl ether
UPOPs	Unintentionally produced persistent organic pollutants

Chapter 1—INTRODUCTION

National Implementation Plans

Canada is a Party to the Stockholm Convention on Persistent Organic Pollutants, a global agreement that entered into force on May 17, 2004. The objective of the Stockholm Convention is to protect human health and the environment from persistent organic pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods of time, become widely distributed geographically, resist degradation, accumulate in the fatty tissue of humans and wildlife and have adverse effects on human health or the environment. By ratifying the Convention, Parties agreed to the management and control of POPs through a series of specific measures.

Each Party to the Stockholm Convention is required, under Article 7 of the Convention, to develop a National Implementation Plan (NIP) demonstrating how it will implement its obligations under the Convention. Canada submitted its NIP to the Stockholm Convention Secretariat on May 17, 2006¹, covering substances listed in 2004.

Note: Text that appears in blue shading (except that in square brackets) directly quotes the Stockholm Convention.

Article 7 (Implementation plans) states:

1. Each Party shall:

- (a) Develop and endeavour to implement a plan for the implementation of its obligations under this Convention;
- (b) Transmit its implementation plan to the Conference of the Parties within two years of the date on which this Convention enters into force for it; and
- (c) Review and update, as appropriate, its implementation plan on a periodic basis and in a manner to be specified by a decision of the Conference of the Parties.**
[Emphasis added]

2. The Parties shall, where appropriate, cooperate directly or through global, regional and subregional organizations, and consult their national stakeholders, including women's groups and groups involved in the health of children, in order to facilitate the development, implementation and updating of their implementation plans.

3. The Parties shall endeavour to utilize and, where necessary, establish the means to integrate national implementation plans for persistent organic pollutants in their sustainable development strategies where appropriate.

In 2009, the Stockholm Convention was amended to list nine new POPs. By Decision SC-2/7 of the Conference of the Parties (COP) to the Stockholm Convention in 2006, Parties are required to submit updates to their NIP within two years of the entry into force of any amendments. For Canada, the amendments to include the nine new POPs entered into force on April 4, 2011 (90 days after Canada deposited its instrument of ratification with the Depository to the Stockholm Convention, the UN Secretary General). In accordance with Article 7(c), Canada has prepared this update to its 2006 NIP to inform the COP and the public of Canada's plan for implementing its obligations with respect to the amendments to Annexes A, B and C that added the nine new POPs.

¹ Canada's 2006 NIP available at: <http://chm.pops.int/Countries/NationalImplementation/tabid/253/language/en-US/Default.aspx>

Adoption of Amendments Listing New POPs

The new POPs now listed under the annexes to the Convention include pesticides, industrial chemicals (including flame retardants) and unintentionally produced chemicals. Most of the new POPs are listed in Annex A of the Convention, meaning that Parties are required to eliminate all production and use of that substance (except in areas where specific exemptions have been claimed; please see Chapter 4). One new substance is listed in Annex B, whereby its production and use are allowed only for certain “acceptable purposes” in accordance with specific exemptions. Another new POP is listed in Annex C and Parties are therefore required to reduce unintentional releases through implementation of best available techniques (BAT) and to promote best environmental practices (BEP). An overview of the nine new POPs is provided in below, identifying the Annex in which each chemical is listed, describing the principal use of the POP, and noting any exemptions.

Overview of the new POPs²

Alpha hexachlorocyclohexane (Alpha-HCH)

- Listed in Annex A. No exemptions.
- Manufacturing by-product of lindane insecticide production.
- Non-active isomer in technical HCH insecticides, phased out globally.

Beta hexachlorocyclohexane (Beta-HCH)

- Listed in Annex A. No exemptions.
- Manufacturing by-product of lindane insecticide production.
- Non-active isomer in technical HCH insecticides, phased out globally.

Chlordecone

- Listed in Annex A. No exemptions.
- Organochlorine pesticide, chemically related to Mirex.
- Used in the 1950s but since phased out.

Hexabromobiphenyl (HBB)

- Listed in Annex A. No exemptions.
- Industrial chemical used as a flame retardant.
- Mainly used in the 1970s.

Hexabromodiphenyl ether (Hexa-BDE) and Heptabromodiphenyl ether (Hepta-BDE)

- Listed in Annex A with specific exemption for use in recycling of articles containing these substances. Registered parties can use these substances for this purpose until 2030.
- Components of commercial pentabromodiphenyl ether (Penta-BDE) and/or octabromodiphenyl ether (Octa-BDE).
- Brominated flame retardants.

² Adapted from the Stockholm Secretariat document *Step-by-step companion guide to the review and updating of the National Implementation Plans, 2011*.

Lindane (gamma-HCH)

- Listed in Annex A with a specific exemption for use as a human health pharmaceutical for control of head lice and scabies as a second line treatment. Registered Parties can continue using lindane for this purpose for five years from the date of entry into force of the amendment for them (for Canada, the exemption expires April 4th, 2016).
- Historical use as a broad-spectrum insecticide for seed and soil treatment, foliar applications, tree and wood treatment and against ectoparasites in both veterinary and human applications.

Pentachlorobenzene (PeCB)

- Listed in Annex A and C. No exemptions.
- Previously used in PCB products, in dyestuff carriers, as a fungicide and a flame retardant, chemical intermediate for production of quitozene.
- Could be produced or released unintentionally.

Tetrabromodiphenyl ether (tetra-BDE) and Pentabromodiphenyl ether (penta-BDE)

- Listed in Annex A with specific exemption for use in recycling of articles containing these substances. Registered Parties can use these substances for this purpose until 2030.
- Components of commercial pentabromodiphenyl ether (Penta-BDE).
- Brominated flame retardants.

Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)

- Listed in Annex B with acceptable purposes and specific exemptions for production and use.
- Current intentional uses of PFOS are widespread.
- Acceptable purposes that are allowed for registered parties to continue to use and produce are:
 - Photo-imaging, photo-resist and anti-reflective coatings for semi-conductors
 - Etching agent for compound semi-conductors and ceramic filters
 - Aviation hydraulic fluids
 - Metal plating (hard metal plating) only in closed-loop systems
 - Certain medical devices (such as ethylene tetrafluoroethylene copolymer layers and radio-opaque ethylene tetrafluoroethylene production, in-vitro diagnostic medical devices, and charge-coupled device colour filters)
 - Fire-fighting foam
 - Insect baits for control of leaf-cutting ants from *Atta* species and *Acromyrmex* species.
- Specific exemptions allowed for registered parties for five years from the date of entry into force are:
 - Photo masks in the semiconductor and liquid crystal display industries
 - Metal plating (hard metal plating)
 - Metal plating (decorative plating)
 - Electric and electronic parts for some colour printers and colour copy machines
 - Insecticides for control of red imported fire ants and termites
 - Chemically driven oil production
 - Carpets
 - Leather and apparel
 - Textiles and upholstery
 - Paper and packaging
 - Coatings and coating additives
 - Rubber and plastics

Why do POPs Continue to Be a Canadian Issue?

POPs are toxic substances, predominantly human-made, which persist in the environment and accumulate within living organisms, including humans. They can be introduced into humans through the food chain and, consequently, most are passed on from mother to child across the placenta and through breast milk. POPs can be transported great distances, and subsequently, deposited in the oceans and freshwater bodies of colder climates. Within these environments, POPs can concentrate in environmental media and biota.

The release, distribution and degradation of POPs into the environment are highly dependent on environmental conditions, among which climate change and increasing climate variability have the potential to affect POPs contamination via changes in emission sources, transport processes and pathways, and routes of degradation³.

As a northern country, Canada continues to be particularly impacted by POPs. While all Canadians are potentially exposed to POPs, inhabitants of the far North are at increased risk to POPs exposure due to a diet and culture that relies on foods harvested from their surrounding environment. Three groups of Aboriginal peoples are found in Canada's Arctic region: the Inuit, the Métis and the First Nations, which in the Arctic include the Dene and Yukon First Nations.⁴

The Inuit are the most highly exposed people in Canada's North, because their traditional foods include marine mammals with a high fat content, such as seal, narwhal whale, walrus and polar bear. In contrast, recent studies show that the Dene, Métis and Yukon First Nations of the western Arctic are thought to have a lower exposure to POPs as their traditional diet is based on freshwater fish (such as whitefish and trout) and terrestrial mammals (such as caribou and moose). These animals are typically less fatty and their diets are usually associated with shorter food chains, limiting the biomagnification of POPs. However, certain perfluorinated substances, such as PFOS, partition preferentially to proteins in liver and blood rather than to lipids (i.e. fatty tissue) and may accumulate in patterns unlike those normally associated with POPs, including in less fatty tissues¹.

Seal



©Environment Canada

In addition to those POPs known to have been present in Canada's North for some time, a number of "new" contaminants have more recently reached the Arctic, including brominated flame retardants, such as polybrominated diphenyl ethers (PBDEs) and perfluorinated compounds, such as PFOS. Studies of PBDE flame retardants (such as tetra-BDE, penta-BDE, hexa-BDE and hepta-BDE listed to Annex A of the Stockholm

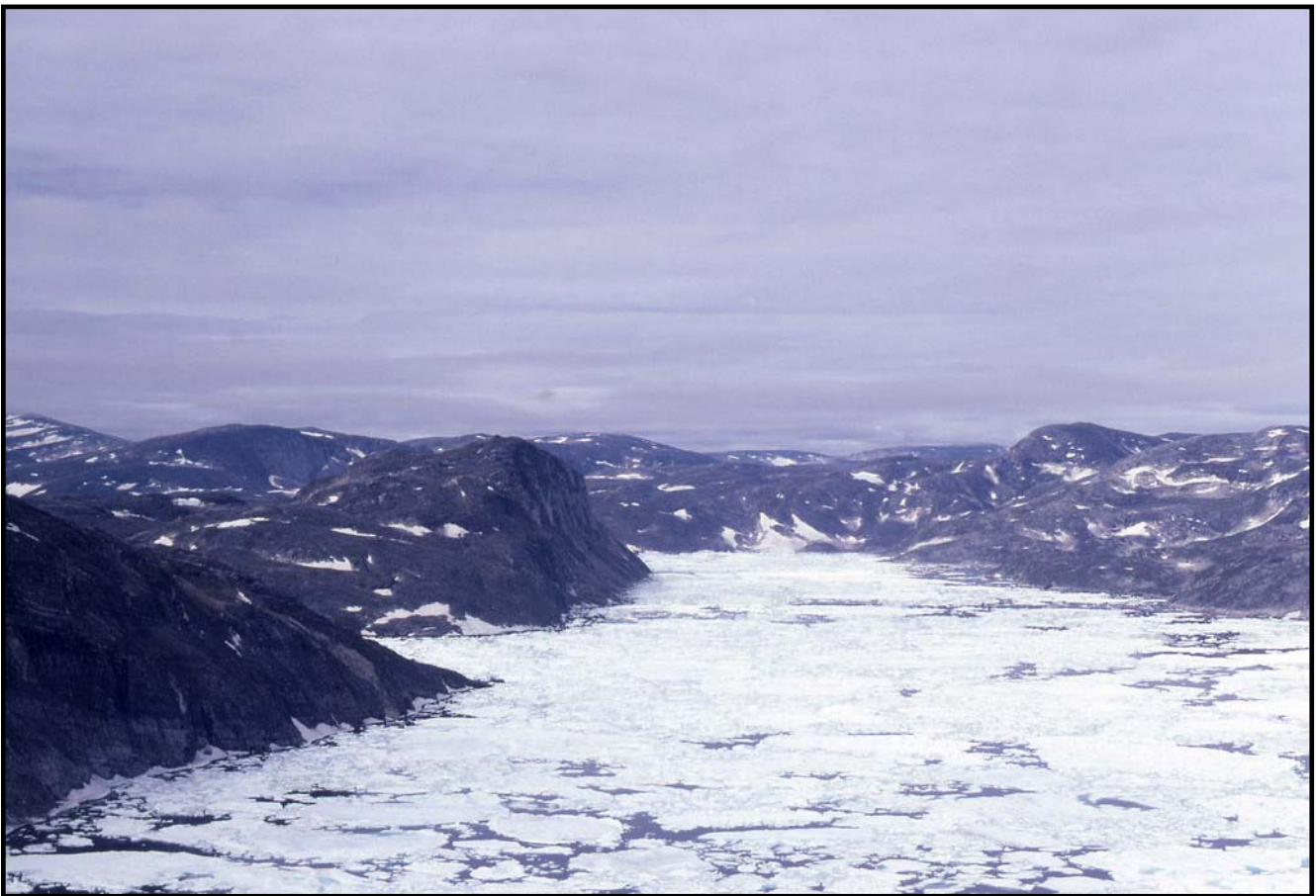
³ Climate change and POPs: predicting the impacts. Report of UNEP/AMAP expert group. Available at: <http://chm.pops.int/tabid/1580/language/en-US/Default.aspx>

⁴ Information regarding POPs exposure of Aboriginal peoples in Canada's Arctic is drawn from the Northern Contaminants Program (NCP). The NCP co-ordinates Canada's action on northern contaminants, and as such monitors environmental and human exposure to elevated levels of contaminants (including "new" or emerging POPs), particularly in wildlife species that are important to the traditional diets of northern Aboriginal peoples. See page 41 for more on the NCP.

Convention), have indicated that PBDE levels in Canadian biota have risen over the last two decades. Increasing incidence of these POPs in Arctic biota provides evidence of long-range transport of these compounds. PFOS is also an issue in Canada's North where it has been detected in higher trophic level biota such as fish, fish-eating birds, and Arctic marine mammals far from known sources or manufacturing facilities. In addition, compounds which degrade or transform into PFOS also contribute to the widespread occurrence of PFOS in Canada's North.

Domestic action alone cannot eliminate the impacts of POPs on Canadians and their environment. Because POPs can be transported great distances, international management is also necessary in order to limit the amount of POPs found in the Canadian environment. International agreements like the Stockholm Convention help to reduce emissions from all countries, which can ultimately end up in Canada.

Hoare Bay, Baffin Island, Nunavut



© Environment Canada

Chapter 2—Update on Canada’s Key Legislation and Policies Related to Stockholm Convention Obligations

Prior to entry into force of the amendments to the Stockholm Convention for Canada (amendments adding the nine new POPs), Canada had already taken significant steps to reduce domestic sources of all nine new POPs through federal actions under the Chemicals Management Plan, and using authorities under the *Canadian Environmental Protection Act, 1999*, the *Pest Control Products Act*, the *Food and Drugs Act* and related regulations.

Canada’s initiatives outlined in this update include legislation, regulations, voluntary programs and standards, policies, programs and other related measures, including actions by Canadians to manage and eliminate these new POPs in the environment. Continued domestic actions are important to further reduce levels of POPs in Canada and to address emerging chemical issues. At the same time, effective implementation by all Parties to the Stockholm Convention is of vital interest to Canada because it will reduce Canada’s exposure to foreign sources of POPs that are adversely impacting the human health and environment of Canadians, especially Aboriginal northerners and their children.

Chemicals Management Plan

Since the publication of Canada’s original 2006 National Implementation Plan, Canada launched its Chemicals Management Plan (CMP)^{5,6}, which sets out to improve the degree of protection against harmful chemicals, including a number of proactive measures to ensure that chemical substances are managed appropriately. The Chemicals Management Plan is the Government of Canada’s principal policy tool for the assessment and management of chemical substances of concern. In its first phase, the Chemicals Management Plan assessed high priority substances and initiated risk management actions to address key sources of exposure for substances found harmful to health or the environment.

In 2011, the Government of Canada announced the renewal of its Chemicals Management Plan. The second phase of the Chemicals Management Plan continues a focus on:

- Risk Assessment, Research, Monitoring and Surveillance - continuing the assessment, monitoring and surveillance of substances of concern (including POPs) to protect Canadians, including vulnerable populations, and their environment.
- Risk Management - taking risk management actions to address key sources of exposure for substances (including POPs) found harmful to health or the environment and managing risks using the most appropriate legislation: for example, the *Canadian Environmental Protection Act, 1999* (CEPA 1999), the *Pest Control Products Act (PCPA)* and the *Food and Drugs Act (F&DA)*.
- International Collaboration – including the participation as a Party in international treaties such as the Stockholm Convention.

⁵ The CMP can be found at <http://www.chemicalsubstanceschimiques.gc.ca/plan/index-eng.php>

⁶ The CMP has been applauded in many quarters, including the environmental nongovernmental organization community; for example by the Environmental Defence Fund at <http://environmentaldefence.ca/blog/new-phase-canadas-chemicals-management-plan>, and consumer product organizations, for example at <http://www.newswire.ca/en/story/852029/renewed-chemicals-management-plan-protects-canadians>.

Canadian Environmental Protection Act, 1999

The Government of Canada has many laws and programs dedicated to protecting human health and the natural environment from chemical risks⁷. Its primary legal tool for assessing and managing chemical substances in the environment is the *Canadian Environmental Protection Act, 1999* (CEPA 1999). Jointly administered by Environment Canada and Health Canada, CEPA 1999 is an important part of Canada's Chemicals Management Plan. The goal of CEPA 1999 is to contribute to sustainable development – development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs⁸.

CEPA 1999 provides means to manage chemical substances, such as POPs, in the following ways:

- makes pollution prevention the cornerstone of national efforts to reduce toxic substances in the environment;
- sets out processes to assess the risks to the environment and human health posed by substances in commerce;
- imposes timeframes for managing toxic substances;
- provides a wide range of tools to manage toxic substances, other pollution and wastes, including regulations respecting a wide range of requirements (e.g., prohibitions);
- ensures the most harmful substances are phased out or not released into the environment in any measurable quantity;
- includes provisions to regulate vehicle, engine and equipment emissions;
- contains strong measures for the enforcement of the Act and its regulations;
- provides opportunities for citizen input into decision-making; and
- allows for more effective cooperation and partnership with other governments and Aboriginal peoples.

Since Canada's original NIP was submitted in 2006, Schedule 1 of CEPA 1999, the *List of Toxic Substances* and Schedule 3, the *Export Control List*, have been updated to include the new POPS (where applicable) and consequently new domestic controls for these new POPs have been introduced under CEPA 1999 (such as the *Polybrominated Diphenyl Ether Regulations* and the *Export of Substances on the Export Control List Regulations*). For more information on CEPA 1999, please see the CEPA Registry website⁹.

Pest Control Products Act

The Pest Control Products Act (PCPA) is administered by Health Canada's Pest Management Regulatory Agency (PMRA) with the primary objective of preventing unacceptable risks to people and the environment from the use of pest control products. The PCPA and its regulations provide a comprehensive framework legislating pesticides imported into, sold, or used in Canada.

The PCPA provides for strong protection of human health and the environment. It includes additional protection for children and pregnant women and takes into account pesticide exposure from all sources, including food and water. The Act also supports pesticide risk reduction, for example, by ensuring that only pesticides that make a useful contribution to pest management are registered and by expediting the registration of lower-risk products. These activities are essential in protecting human health and the environment. The Act also requires that all pest control products be re-evaluated on a 15-year cycle;

⁷ Canadian provinces and territories have laws addressing these issues within their respective jurisdictions.

⁸ <https://www.ec.gc.ca/pollution/default.asp?lang=En&n=A24743CC-1>

⁹ <http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=D44ED61E-1>

increases the powers of inspection and fines to ensure compliance; and requires incident and sales reporting.

Food and Drugs Act

The Food and Drugs Act (F&DA) ("an Act respecting food, drugs, cosmetics and therapeutic devices") and its accompanying regulations are also administered by Health Canada and the Canadian Food Inspection Agency. Together they provide a legislative framework for Canada covering the production, use, import, export, and transport across provinces and sale of food, drugs, therapeutic devices, cosmetics and natural health products. While no changes have been made to the F&DA since the submission of Canada's original NIP in 2006, changes introduced in 2012 (under Bill C-38) will allow new tools, called Marketing Authorizations and Incorporation by Reference, which will streamline regulatory processes while maintaining the same rigorous pre-market safety assessments to support Health Canada decisions.

Key provincial/territorial legislation and policies

All provinces and territories have legislation and regulations to manage air quality, toxic substances and/or pesticides. Most provinces and territories have statutes dealing with environmental protection, with regulations and/or permitting or approvals systems for stationary point sources that discharge pollutants to the atmosphere.

Chapter 3—MEASURES TO REDUCE OR ELIMINATE RELEASES FROM PRODUCTION AND USE, IMPORT AND EXPORT

Article 3 of the Convention obligates Parties to prohibit and/or take the legal and administrative measures necessary to eliminate the production, use, import and export of POPs that are listed in Annex A of the Convention. It also obligates Parties to restrict the production, use, import and export of chemicals listed in Annex B. Annexes A and B include exemptions for use and/or production and articles in use – these are discussed in Chapter 4.

Prohibition and/or Elimination of Production and Use of Chemicals Listed in Annex A

Article 3.1 Each Party shall:

- (a) Prohibit and/or take the legal and administrative measures necessary to eliminate:
 - (i) Its production and use of the chemicals listed in Annex A subject to the provisions of that Annex

Alpha-HCH, Beta-HCH and Chlordane: The PCPA has no registered uses for these POPs; therefore, their production, use or sale in Canada as pesticides is prohibited. Since there are no uses of these POPs other than their historical use as pesticides, no additional measures other than those applied through the PCPA are required for Canada to meet its obligations under the Stockholm Convention for elimination of the production and use of these POPs.

Lindane: Lindane has never been manufactured in Canada. As of January 1, 2005, lindane was de-registered for agricultural pest control uses, including veterinary uses, under the PCPA thereby prohibiting production, import and use of lindane as a pesticide.

The only current allowable use of lindane in Canada is for control of head lice and scabies in human health pharmaceuticals under the *Food and Drugs Act* (see Chapter 4 for further discussion). Canada has claimed the five year exemption for this use and has notified for Articles in Use related to this pharmaceutical use. To ensure that Canada meets these obligations, the Government of Canada has been working with the two companies in Canada that produced lindane-based pharmaceuticals to phase out the use of lindane and lindane-containing products before the expiry of the exemption period (April 4th, 2016), and to ensure that any remaining stockpiles of lindane and products containing lindane are disposed of in an environmentally sound manner. The use of lindane in the production of lindane-containing products by the two companies ceased by January 2011 and February 2012, respectively. The sale of lindane-containing products ceased by May 2011 and December 2012, respectively.

PeCB: PeCB is not currently produced and used in its pure form in Canada. The manufacture, sale, offer for sale, and import of PeCB or any mixture or product containing it have been prohibited under the *Prohibition of Certain Toxic Substances Regulations* preventing the re-introduction of this POP into Canada. The use of PeCB in dyestuff carriers has been discontinued and the presence of PeCB in PCB transformers (in equipment containing PCBs at a concentration of 500ppm or higher), where it could be found in dielectric fluids used to top up transformers, is being phased out in accordance with Canada's *PCB Regulations* which were adopted in 2008.

The *PCB Regulations* set specific deadlines for eliminating all PCBs and equipment containing PCBs (including PCB transformers that may use PeCB-containing dielectric fluid):

- equipment containing 500mg/kg or more PCBs by December 31, 2009;
- in the case of equipment containing at least 50mg/kg but less than 500mg/kg of PCBs:
 - by December 31, 2009, if the equipment is located at a drinking water treatment plant or food or feed processing plant, in a child care facility, preschool, primary school, secondary school, hospital or senior citizens' care facility or on the property on which the plant or facility is located and within 100m of it, and
 - by December 31, 2025, if the equipment is located at any other place;
- specific equipment containing 50 mg/kg or more of PCBs by December 31, 2025.

PeCB may also be present as an impurity in some pesticides. Contaminants in pesticides are regulated as part of pest product control under the PCPA. The PMRA works with registrants to reduce/ eliminate microcontaminants of concern in line with best available technology. If the level of the microcontaminant remains unacceptable, the PMRA will work with registrants and other stakeholders to develop alternative products and/or pest control strategies, with the ultimate goal of virtual elimination. As a result of this strategy, since 2010, the level of PeCB in the pesticide quintonzene was reduced below <0.2 ppm, down significantly from the 100 ppm reported previously.

Tetra-BDE, Penta-BDE, Hexa-BDE and Hepta-BDE: These POPs are found in commercial flame retardant mixtures, such as Penta-BDE and Octa-BDE, but have never been produced in Canada. The *Polybrominated Diphenyl Ether (PBDE) Regulations*, adopted in 2008, prohibit the manufacture of all PBDE groups (including hexa-BDE and hepta-BDE, tetra-BDE and penta-BDE) and polymer resins and other mixtures that contain them. These Regulations also prohibit the use, sale, offer for sale and import of hexa-BDE, tetra-BDE and penta-BDE as well as mixtures, polymers and resins that contain them. As a result, the commercial mixtures containing these substances (Penta-BDE and Octa-BDE) are prohibited and therefore the use of hepta-BDE has also been effectively prohibited.

HBB: Production and use of HBB ceased in Canada by the late 1970s. Nonetheless, this chemical is subject to the *Prohibition of Certain Toxic Substances Regulations* to prevent the re-introduction of this POP into Canada. This regulation prohibits the manufacture, use, sale, offer for sale and import of all polybrominated biphenyls, which includes HBB.

Restriction of Production and Use of Chemicals Listed in Annex B

Article 3.1 Each Party shall: ...

(b) Restrict its production and use of the chemicals listed in Annex B in accordance with the provisions of that Annex.

PFOS: PFOS, its salts and its precursors are not manufactured in Canada. The primary producer of these substances in the United States voluntarily phased-out PFOS production in 2002, and annual imports by Canada dropped significantly due to this phase-out and to domestic actions restricting its import (further explained below).

PFOS, its salts and its precursors were added to Schedule 1, *List of Toxic Substances*, of CEPA 1999 on December 27, 2006. The manufacture, use, sale, offer for sale and import of PFOS or products containing PFOS is prohibited under the *Perfluorooctane Sulfonate and its Salts and Certain Other Compounds Regulations* (PFOS Regulations), adopted in 2008. The provisions of the PFOS Regulations and the exemptions identified under the Regulations are in line with the acceptable purposes and specific exemptions agreed to in the Stockholm Convention (*see Chapter 4*). In some cases the Regulations are more stringent with exemptions under the PFOS Regulations expiring prior to the expiration date of specific exemptions under the Stockholm Convention. The PFOS Regulations exempt the following:

- the use, sale, offer for sale and import of aviation hydraulic fluid;
- the manufacture, use, sale, offer for sale and import of
 - photo-resists or anti-reflective coatings for photolithography processes; and
 - photographic films, papers and printing plates;
- the use, until May 2013, of PFOS-based aqueous film forming foams (AFFFs) that were manufactured or imported before the coming into force of the PFOS Regulations;
- laboratory use;
- incidental presence;
- the use PFOS-containing products in use prior to the coming into force of the PFOS Regulations; and
- the use, sale, offer for sale and import, until 2013, of PFOS-based fume suppressants for:
 - chromium electroplating, chromium anodizing and reverse etching;
 - electroless nickel-polytetrafluoroethylene plating; and
 - etching of plastic substrates prior to their metallization.

PFOS-based fume suppression system



Source: Environment Canada, *Fact Sheet on Perfluorooctane Sulfonate and Its Salts and Certain Other Compounds Regulations*, 2012

Canada is actively promoting compliance with the PFOS Regulations and engaging regulatees to assist with the phase-out of those applications having upcoming exemption expiration dates.

Summary of actions on production and use in Canada for the new Persistent Organic Pollutants

Alpha hexachlorocyclohexane (alpha-HCH)

- Pesticide: registration discontinued in the early 1970s
- By-product of the production of lindane as a pesticide: registration of lindane as a pesticide was discontinued in 2005

Beta hexachlorocyclohexane (beta-HCH)

- Pesticide: registration discontinued in the early 1970s
- By-product of the production of lindane as a pesticide: registration of lindane as a pesticide was discontinued in 2005

Chlordecone

- Pesticide: registration discontinued in 2000

Hexabromobiphenyl (HBB)

- Flame retardant: manufacture, use, sale, offer for sale, and import prohibited under CEPA 1999 and the *Prohibition of Certain Toxic Substances Regulations*

Hexabromodiphenyl ether (hexa-BDE) and Heptabromodiphenyl ether (hepta-BDE)

- Flame Retardant: manufacture, use, sale, offer for sale, and import prohibited under CEPA 1999 and the *PBDE Regulations*

Lindane

- Pesticide: registration as a pesticide discontinued in 2005
- Human health pharmaceutical: Canada is working with industry to phase out this use by 2014

Pentachlorobenzene (PeCB)

- Pesticide: may be present as a contaminant in pesticides and regulated as such under the PCPA; never registered as a pesticide itself.
- Industrial chemical: use prohibited under CEPA 1999 and the *Prohibition of Certain Toxic Substances Regulations*, except for the presence of PeCB in some PCB equipment, which is covered in the *PCB Regulations*

Tetrabromodiphenyl ether (tetra-BDE) and Pentabromodiphenyl ether (penta-BDE)

- Flame Retardant: manufacture, use, sale, offer for sale, and import prohibited under CEPA 1999 and the *PBDE Regulations*

Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)

- Industrial chemical: manufacture, use, sale and offer for sale prohibited under the *PFOS Regulations*, with a limited number of exemptions (in line with Stockholm Convention - see Chapter 4)

Restrictions on the import and export of the new POPs

Article 3 also restricts import and export of POPs that are listed to both Annex A and Annex B of the Stockholm Convention.

3.1 Each Party shall:

(a) Prohibit and/or take the legal and administrative measures necessary to eliminate:

- (i) Its import and export of the chemicals listed in Annex A in accordance with the provisions of paragraph 2 [*as follows*]

3.2 Each Party shall take measures to ensure:

(a) That a chemical listed in Annex A or Annex B is imported only:

- (i) For the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6; or
- (ii) For a use or purpose which is permitted for that Party under Annex A or Annex B;

(b) That a chemical listed in Annex A for which any production or use specific exemption is in effect or a chemical listed in Annex B for which any production or use specific exemption or acceptable purpose is in effect, taking into account any relevant provisions in existing international prior informed consent instruments, is exported only:

- (i) For the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;
- (ii) To a Party which is permitted to use that chemical under Annex A or Annex B; or
- (iii) To a State not Party to this Convention which has provided an annual certification to the exporting Party. Such certification shall specify the intended use of the chemical and include a statement that, with respect to that chemical, the importing State is committed to:
 - a. Protect human health and the environment by taking the necessary measures to minimize or prevent releases;
 - b. Comply with the provisions of paragraph 1 of Article 6; and
 - c. Comply, where appropriate, with the provisions of paragraph 2 of Part II of Annex B.

The certification shall also include any appropriate supporting documentation, such as legislation, regulatory instruments, or administrative or policy guidelines. The exporting Party shall transmit the certification to the Secretariat within sixty days of receipt.

(c) That a chemical listed in Annex A, for which production and use specific exemptions are no longer in effect for any Party, is not exported from it except for the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;

(d) For the purposes of this paragraph, the term "State not Party to this Convention" shall include, with respect to a particular chemical, a State or regional economic integration organization that has not agreed to be bound by the Convention with respect to that chemical.

Import of the new POPs

Canada has taken the following measures regarding the import of the new POPs:

Annex A chemicals

Alpha-HCH, Beta-HCH and Chlordecone: These POPs are not registered under the PCPA and consequently cannot be imported as pesticides. Any pesticide not registered is refused entry and returned to the exporter. No additional measures other than those applied through the PCPA are required for Canada to meet its importing obligations under the Stockholm Convention.

HBB: The import of HBB is prohibited, with certain minor exceptions (e.g., laboratory use and incidental presence—in line with Stockholm Convention exceptions) under the *Prohibition of Certain Toxic Substances Regulations*, which prevents the re-introduction of this POP into Canada.

Lindane: The import of lindane as a pesticide is prohibited under the PCPA. During the five year exemption period for the use of lindane in Canada as a human health pharmaceutical for the control of head lice and scabies as a second line treatment, the import of lindane and lindane-containing products for this exclusive use is allowed; however, Canada has been working with the two companies in Canada that produced lindane-based pharmaceuticals to phase out the use of lindane and lindane-containing products before the expiry of the exemption period (April 4th, 2016). The import of lindane and of lindane-containing products by the two companies has ceased (in September 2010 and February 2012, respectively).

PeCB: The import of PeCB, used as an industrial chemical, is prohibited, with certain minor exceptions (e.g., laboratory use and incidental presence—in line with Stockholm Convention exceptions) by the *Prohibition of Certain Toxic Substances Regulations* preventing the re-introduction of this POP into Canada. As mentioned earlier, PeCB could be found at one time in dielectric fluids used to top up polychlorinated biphenyl (PCB) transformers. The management of PeCB as a component of dielectric fluids is addressed through the *PCB Regulations*.

Tetra-BDE, Penta-BDE, Hexa-BDE and Hepta-BDE: As mentioned earlier, the *PBDE Regulations*, adopted in 2008 prohibit the import of tetra-BDE, penta-BDE and hexa-BDE as well as mixtures, polymers and resins that contain them. As a result, the import of commercial mixtures (Penta-BDE and Octa-BDE) containing these substances is prohibited and therefore the import of hepta-BDE has also effectively been prohibited.

Annex B chemicals

PFOS: The import of PFOS and products containing PFOS is prohibited under the *PFOS Regulations* with certain exceptions (e.g., laboratory use and incidental presence—in line with Stockholm Convention exemptions and acceptable purposes). *Please see pages 14-15 for the list of the exemptions under the PFOS Regulation and chapter 4 for a discussion of acceptable purposes and specific exemptions under the Convention.*

Export of the new POPs

In Canada, the *Export of Substances on the Export Control List Regulations* (ESECLR)¹⁰ is the primary instrument assisting in implementing Canada's export obligations under the Stockholm Convention. The ESECLR applies to the export of substances listed on Schedule 3, the *Export Control List*, of the CEPA 1999. This list contains substances whose export is controlled because their use in Canada is prohibited or restricted, or because Canada has accepted, through an international agreement such as the Rotterdam Convention, to control their export. Certain provisions of the ESECLR help ensure that Canada meets its export obligations under the Stockholm Convention.

Annex A chemicals

Alpha-HCH, Beta-HCH and Chlordane: As these pesticides are not manufactured in Canada and there are no remaining stockpiles in Canada, the export of these substances cannot occur. These substances have been added to Schedule 3 of the *Export Control List*¹¹, and will be controlled under the *Export of Substances on the Export Control List Regulations* (ESECLR).

HBB: HBB is not manufactured in Canada and Canada has no known stockpiles. Therefore, the export of these substances cannot occur. Nevertheless, to provide additional certainty, polybrominated biphenyls (which include HBB) were added to Schedule 3 of CEPA 1999, the *Export Control List*, and are controlled by the ESECLR. Exports of this POP can only be for the purpose of destruction by Ministerial Order.

Lindane: Actions described below are expected to eliminate the export of lindane in advance of the expiry of Canada's claimed exemption; nevertheless, should any exports occur in the future, they will be permitted only under limited conditions in line with export obligations under the Stockholm Convention. For greater certainty, lindane is included in Schedule 3 of CEPA 1999, the *Export Control List*, and its export is controlled by the ESECLR.

During the five year exemption period for the use of lindane in Canada as a human health pharmaceutical for the control of head lice and scabies as a second line treatment, exports are permissible only to another Party to the Stockholm Convention that has also registered for the exemption or to a non-Party that provides certification of its environmental standards and for environmentally sound disposal. The Government of Canada has been working with the two companies in Canada that produced lindane-based pharmaceuticals to phase out the use of lindane and lindane-containing products. The export of lindane and of lindane-containing products by the two companies ceased by May 2011 and December 2012. This action will allow Canada to meet its obligations before the expiry of the exemption period (April 4th, 2016).

PeCB: PeCB was added to Schedule 3 of the *Export Control List*¹², and will be controlled by the ESECLR¹¹. This is for greater certainty, given that existing export controls for PCBs effectively control the exports of PeCB. Therefore, should there nevertheless be exports of this POP in the future they will only be permitted under limited conditions that are in line with the terms agreed upon in the Stockholm Convention.

¹⁰ Final Regulations expected in winter 2013. Publication of Proposed Regulations:
<http://www.gazette.gc.ca/rp-pr/p1/2011/2011-07-30/html/reg1-eng.html>

¹¹ Publication of Amendment to Schedule 3:
<http://www.gazette.gc.ca/rp-pr/p2/2012/2012-09-12/html/sor-dors164-eng.html>

As mentioned earlier, PeCB may be found in fluids used to top-up PCB transformers. Therefore in addition to the ESECLR, exports of PCB products¹² containing PeCB are controlled through the export controls which exist with respect to PCBs. The *PCB Waste Export Regulations*, adopted in 1996, apply to PCB liquids, PCB solids, PCB mixtures, PCB equipment, PCB-contaminated solid or electrical equipment, and packaging that held any of these materials. *The PCB Waste Export Regulations* establish strict controls on the export of PCB waste, and are an enhancement of similar controls already in place for hazardous waste under the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* (EIHWHMR). Under the *PCB Waste Export Regulations* export is only allowed for thermal or chemical destruction at authorized facilities capable of environmentally sound disposal of PCB waste and thus meets export obligations under the Stockholm Convention. Given that the only known application of PeCB in 2006 was in dielectric fluids containing PCBs, these measures in effect, control exports of PeCB.

(Note: *It is anticipated that by 2014, the PCB Waste Export Regulations, 1996 will be repealed and the provisions will be incorporated into the EIHWHMR. Exports of PCB waste destined for destruction purposes only will be maintained and expanded to include imports. Additionally, the requirements for notification, prior informed consent, obtaining a permit and tracking will be maintained.*)

Tetra-BDE, Penta-BDE, Hexa-BDE and Hepta-BDE: There are no exports of these substances as,

- these substances have never been produced in Canada;
- no known stockpiles of these substances exist in Canada;
- a mandatory use pattern survey for the year 2000 revealed that there were no exports of these substances from Canada;
- the commercial use of these substances has been phased out in Canada, and;
- the *PBDE Regulations*, published in 2008, banned the manufacture import, use, sale and offer for sale of these substances, and were designed to prevent the reintroduction of these substances into Canada.

Annex B chemicals

PFOS: There are no exports of these substances as PFOS is not manufactured in Canada and there are no stockpiles consisting of pure PFOS.

Canada does, however, have stockpiles of aqueous film forming foams (AFFFs) containing PFOS concentrations that were manufactured or imported *before* May 2008. Canada notified for this Article in Use (*please refer to Chapter 4*) and therefore export provisions under the Stockholm Convention do not apply. Nevertheless, PFOS has also been proposed for the addition to Schedule 3, the *Export Control List*¹³, and will be managed by the ESECLR. Therefore, should there be exports of this POP, they will only be permitted under limited conditions (i.e. for destruction or environmentally sound disposal) that are in line with the terms agreed upon in the Stockholm Convention.

¹² PCBs are also listed to the *Export Control List* and thereby subject to the *Export Control List Regulations*

¹³ Publication of Proposed Amendment to Schedule 3:

<http://www.gazette.gc.ca/rp-pr/p1/2011/2011-08-06/html/reg2-eng.html>

Rotterdam Convention

In addition, many Annex A and Annex B chemicals are listed under the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (the Rotterdam Convention). Canada uses the ESECLR under CEPA 1999 to meet its obligations under the Rotterdam Convention. Canadian exporters of substances on the *Export Control List* are subject to the provisions of these Regulations and are required:

- to apply for a permit to export the substance to countries that are Parties to the Rotterdam Convention. For substances on Annex III of the Rotterdam Convention, a permit is issued if the importing country consents to imports of the substance. The export permit specifies any conditions imposed by the importing Party. For substances not on Annex III, a permit is issued and the importing country is notified of the export under Article 12 of the Rotterdam Convention;
- to carry liability insurance for each export subject to the provisions of the regulations implementing the Rotterdam Convention;
- to provide health and environmental information with each export subject to the Rotterdam Convention provisions of the regulations, such as material safety data sheets and labels; and
- to be responsible for the removal of the substance from the country of destination and any relevant costs in the event that the exporter exports the substance in contravention of the conditions set out in the permit, or if the export takes place after the permit has expired.

Preventing the production and use of chemicals exhibiting POPs characteristics

Article 3.3 Each Party that has one or more regulatory and assessment schemes for **new** pesticides or **new** industrial chemicals shall take measures to regulate with the aim of preventing the production and use of new pesticides or new industrial chemicals which, taking into consideration the criteria in paragraph 1 of Annex D¹⁴, exhibit the characteristics of persistent organic pollutants.

Article 3.4 Each Party that has one or more regulatory and assessment schemes for pesticides or industrial chemicals shall, where appropriate, take into consideration within these schemes the criteria in paragraph 1 of Annex D⁴ when conducting assessments of pesticides or industrial chemicals **currently in use**.

Canada has assessment and regulatory schemes for both new and existing substances, including pesticides and industrial chemicals. Federal actions on chemical control are coordinated under the Chemicals Management Plan (CMP) and rely primarily on the PCPA, CEPA 1999, and related regulations.

“New” substances are those not on the Domestic Substances List (DSL), Canada’s inventory of chemicals in use. Since 1994, Canada has been assessing all new substances that have been notified for introduction into Canadian commerce at early stages of their manufacture or import.

“Existing” substances are those listed on the DSL. Canada has been assessing existing substance on a priority basis since the inception of CEPA 1999.

¹⁴ Annex D to the Convention details the information requirements and screening criteria for Parties wishing to submit a proposal to list a chemical under the Convention. This Annex lists criteria for persistence, bioaccumulation, long-range environmental transport and adverse effects.

A. New Substances

PCPA: The *Pest Control Products Act* (PCPA) and regulations are the comprehensive framework legislating pesticides imported into, sold, or used in Canada. The PCPA is administered by Health Canada's Pest Management Regulatory Agency (PMRA), with the specific mandate to protect human health, safety and the environment by minimizing risks associated with pesticides. The PMRA's key responsibilities are pre-market review of products proposed for registration and the re-evaluating of registered products.

Pre-market Review and Pesticide Registration:

Before making a registration decision regarding a new pest control product, the PMRA conducts a comprehensive assessment of the risk and value specific to the proposed use. Risk assessment considers the inherent toxicity, persistence and bioaccumulative nature of the pest control product. It addresses human health and environmental concerns and, for each of these, considers the possible hazards associated with the product as well as the degree to which humans and the non-target environment may be exposed. Only when there is sufficient evidence to show that a product does not pose unacceptable health or environmental risks and has a value will it be registered.

CEPA 1999: Under the New Substances Notification regime¹⁵ established under CEPA 1999, Canada's Minister of Environment and Minister of Health are obligated to assess all new substances to determine if they meet one or more criteria of section 64 of CEPA 1999. The *New Substances Notification Regulations* (Chemicals and Polymers) and the *New Substances Notification Regulations* (Organisms) specify the information to be submitted if a new substance is intended for import or manufacture. When Environment Canada receives a new substance notification from a company or individual proposing to import or manufacture a new substance, a joint assessment process is carried out by Environment Canada and Health Canada to determine the potential adverse effects of the substance on the environment and/or human health. This assessment takes into consideration the criteria of paragraph 1 of Annex D and the *Persistence and Bioaccumulation Regulations*. When this process identifies a new substance that may pose a risk to human health or the environment, CEPA 1999 provides the legal mechanism to intervene prior to or during the earliest stages of its introduction into Canada.

New substances suspected of being harmful to human health and/or the environment may be addressed by one of the measures laid out in CEPA 1999, including:

- conditions on import and manufacture;
- prohibition of import and manufacture;
- request for additional information, resulting in a prohibition pending submission and assessment of this information; or
- re-notification and assessment prior to a significant new activity involving the substance.

Canadian Research Scientist



© Environment Canada

¹⁵ New Substances Program, available at: <http://www.chemicalsubstanceschimiques.gc.ca/plan/approach-approche/new-subs-nouvelles-eng.php>

B. Existing Substances

CEPA 1999: With respect to existing substances, CEPA 1999 required the Ministers of the Environment and of Health to (i) categorize by September 2006 all 23,000 substances on the Domestic Substances List, and (ii) conduct screening assessments of substances that met the categorization criteria set out in the Act to determine whether or not such substances are harmful to human health and/or the environment. The first phase of the CMP included the screening assessment of approximately 200 chemical substances that were determined to be high priority substances based on their categorization criteria. The second phase of the CMP includes continued assessment of those substances that met the Government of Canada categorization criteria. Other actions, in addition to the categorization process, may result in the assessment of chemicals of concern. All screening assessments take into consideration the criteria of paragraph 1 of Annex D, and the *Persistence and Bioaccumulation Regulations*.

The purpose of a screening assessment is to determine the potential health and ecological risks associated with a chemical, and to determine whether a chemical meets one or more criteria of section 64 of CEPA 1999. Under section 64 of CEPA 1999, a substance is "toxic" if it is entering or may enter 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 it depends; or
- (c) constitute or may constitute a danger in Canada to human life or health

The screening assessment results in one of the following:

- no further action is taken at this time in respect of the substance, if the screening assessment indicates that the substance does not pose a risk to the environment or human health;
- the substance is added to the CEPA 1999 Priority Substances List¹⁶ in order to assess more comprehensively the risks associated with the release of the substance, if the substance is not already on the List; or
- it is recommended that the substance be added to the List of Toxic Substances¹⁷, Schedule 1, of CEPA 1999. Substances on Schedule 1 can be considered for regulatory actions or other controls.

PCPA: In addition to assessing new pesticides for registration, the PMRA is also responsible for the re-evaluation of pesticide products. The Pest Control Products Act requires that all registered pesticide products be re-evaluated on a 15-year cycle. However, re-evaluation of a pesticide product can be triggered before a pesticide is due for its 15 year re-evaluation. The re-evaluation provision of the Act provides the authority to remove a pesticide from the market if it poses unacceptable risk to human health or the environment.

¹⁶ Priority substances List, available at: <http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=C6C230D5-1>

¹⁷ List of Toxic Substances – Schedule 1, available at: <http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=0DA2924D-1&wsdoc=4ABEFFC8-5BEC-B57A-F4BF-11069545E434>

Chapter 4—CHEMICALS SUBJECT TO RESTRICTED USE: SPECIFIC EXEMPTIONS AND ARTICLES IN USE

Specific Exemptions

In order to enable Parties to the Stockholm Convention to take measures to reduce or eliminate releases of POPs from intentional production and use in conformity with Article 3, for which alternatives do not exist yet or are not readily available, the Convention allows Parties to obtain specific exemptions, e.g., exemptions that are specific to a chemical, a country and a use. These exemptions are included in the Convention to allow a phase-out period, during which time Parties can eliminate production and use, and introduce substitute substances and processes. The time period for an exemption is five years after the date of entry into force of the amendment for a Party for the particular chemical. Upon request and in special circumstances, the COP may choose to extend the expiry date of a specific exemption for a period of up to five years.

A public register¹⁸ of specific exemptions is maintained by the Secretariat. In conformity with the requirements of Article 4.2, the register includes:

- (a) a list of the types of specific exemptions reproduced from Annex A and Annex B;
- (b) a list of the Parties that have a specific exemption listed under Annex A or Annex B; and
- (c) a list of the expiry dates for each registered specific exemption.

Parties may, at any time, withdraw an entry from the Register if and when the POP is no longer used or produced in that country.

Canada's Registered Exemptions

Canada has registered a number of specific exemptions for use and/or production:

Annex A chemicals

Lindane: Although there is minimal use of lindane in Canada, Canada claimed a specific exemption permitting its use as a human health pharmaceutical for the control of head lice and scabies as a second line treatment. Second line treatment refers to when recommendations of public health authorities do not mention lindane in the first three recommended treatment options for lice. Canada's specific exemption expires on April 4th, 2016, although the use of lindane has now been phased out (as of December 2012) through cooperation with the two companies in Canada that produced lindane-based pharmaceuticals.

Tetra-BDE, Penta-BDE, Hexa-BDE and Hepta-BDE: While production and use have been phased out (*please refer to Chapter 3 for domestic actions*), materials or articles containing the C-OctaBDE and C-PentaBDE commercial mixtures may still be found in Canada and therefore, PBDEs may be present in articles that are recycled. As such, Canada has claimed the exemption for the recycling of articles and the use and disposal of articles manufactured from recycled materials. The Conference of the Parties will review the need for this exemption based on the progress made by Parties in removing these substances from their recycling activities. The exemption expires in 2030, unless the Conference of the Parties decides to amend the Convention to remove the exemption earlier.

¹⁸ The Register of Specific Exemptions is available at:
<http://chm.pops.int/Implementation/Exemptions/RegisterofSpecificExemptions/tabid/1133/Default.aspx>

Annex B chemicals

PFOS: Canada has notified the Secretariat¹⁹ of the intention to produce and/or use PFOS for the following acceptable purposes, in accordance with Part III of Annex B:

- photo imaging
- photo resist and anti-reflective coatings for semi-conductors
- etching agent for compound semi-conductors and ceramic filters
- aviation hydraulic fluids
- metal plating (hard metal plating) only in closed-loop systems
- fire fighting foam.

Canada also claimed specific exemptions permitting its use or as an intermediate in the production of chemicals with the following specific uses:

- as photo masks in the semiconductor and liquid crystal display industries,
- metal plating (hard metal plating) and
- metal plating (decorative plating).

In claiming the specific exemptions for the use of PFOS in metal plating, Canada noted that the exemption is only needed until 2013²⁰.

Articles in Use Prior to Date of Entry into Force

The Stockholm Convention also allows registration for Articles in Use exemptions²¹. Pursuant to note (ii) of Annexes A and B, Parties to the Stockholm Convention can notify the Secretariat that they wish to have specific Articles in Use (i.e. chemicals occurring as constituents of articles manufactured or already in use before or on the date of entry into force of the particular amendment for them; April 4th, 2011 for Canada) considered as not being listed in Annex A or B. Consequently, this would relieve that Party of the relevant Stockholm obligations.

(ii) This note shall not be considered as a production and use specific exemption for purposes of paragraph 2 of Article 3. Quantities of a chemical occurring as constituents of articles manufactured or already in use before or on the date of entry into force of the relevant obligation with respect to that chemical, shall not be considered as listed in this Annex, provided that a Party has notified the Secretariat that a particular type of article remains in use within that Party. The Secretariat shall make such notifications publicly available;

Canada has notified the Secretariat for Articles in Use for the following new POPs:

Annex A chemicals

Lindane: Canada notified and registered for human health pharmaceutical for the control of head lice and scabies as a second line treatment as Articles in Use.

Hexa-BDE, Hepta-BDE: Canada notified and registered for products containing acrylonitrile butadiene (ABS) plastics such as electronic equipment as Articles in Use. While manufacture, use,

¹⁹ Acceptable Purposes Register for PFOS and PFOSF is available at:

<http://chm.pops.int/Implementation/Exemptions/AcceptablePurposesPFOSandPFOSF/tabid/794/Default.aspx>

²⁰ Canada's domestic regulations allow the use of PFOS for fume suppressants in metal plating only until May 2013.

²¹ Notifications for Articles in Use are available at:

<http://chm.pops.int/Implementation/Exemptions/Articlesinuse/tabid/452/Default.aspx>

sale, offer for sale and import of Hexa-BDE is prohibited and the manufacture of Hepta-BDE is prohibited, articles containing these chemicals could still be in use in Canada.

Tetra-BDE, Penta-BDE: Canada has notified and registered for textile and foam-based products such as mattresses, furniture and carpet backing as Articles in Use. While manufacture, use, sale, offer for sale and import of Tetra-BDE and Penta-BDE is prohibited, articles containing these chemicals could still be in use in Canada.

Annex B chemicals

PFOS: Canada has notified and registered for aqueous film forming foams (AFFFs) as Articles in Use. As mentioned earlier (see Chapter 3), although the *Perfluorooctane Sulfonate and its Salts and Certain Other Compounds Regulations*, restricts the import, production and purchase of PFOS and products containing PFOS, the intent in notifying for this Article in Use is to allow stakeholders to use up remaining stockpiles of PFOS-based AFFFs. Under these regulations, remaining stockpiles of PFOS-based AFFFs will be phased out by 2013.

Demonstration of PFOS-based AFFFs



Source: Environment Canada, *Fact Sheet on Perfluorooctane Sulfonate and Its Salts and Certain Other Compounds Regulations*, 2012

Chapter 5: NATIONAL ACTION PLAN ON UNINTENTIONALLY PRODUCED POPs

This chapter constitutes Canada's update to its 2006 National Action Plan (NAP) on Unintentionally Produced Persistent Organic Pollutants (UPOPs)²². It identifies Canada's plans for meeting the obligations with respect to the new POP under Annex C, pentachlorobenzene (PeCB), as outlined in the Convention. The Plan presents information on current releases, laws and policies and the strategies that Canada has adopted in its domestic programs to reduce and virtually eliminate releases of unintentionally produced PeCB.

Measures To Reduce Total Releases from Unintentional Sources

Under Article 5 of the Stockholm Convention, Parties are required to take measures to reduce total releases of by-product emissions of Annex C chemicals from anthropogenic sources "with the goal of their continuing minimization and, where feasible, ultimate elimination".

Article 5 (a) requires the development of an action plan designed to identify, characterize and address the release of UPOPs and to facilitate implementation of other aspects of Article 5, as noted below. See Annex C of the Convention for a list of the sectors or categories that are generally identified as sources of the UPOPs.

Article 5

- (a) Develop an action plan or, where appropriate, a regional or subregional action plan within two years of the date of entry into force of this Convention for it, and subsequently implement it as part of its implementation plan specified in Article 7, designed to identify, characterize and address the release of the chemicals listed in Annex C and to facilitate implementation of subparagraphs (b) to (e). The action plan shall include the following elements:
 - (i) An evaluation of current and projected releases, including the development and maintenance of source inventories and release estimates, taking into consideration the source categories identified in Annex C;
 - (ii) An evaluation of the efficacy of the laws and policies of the Party relating to the management of such releases;
 - (iii) Strategies to meet the obligations of this paragraph, taking into account the evaluations in (i) and (ii);
 - (iv) Steps to promote education and training with regard to, and awareness of, those strategies;
 - (v) A review every five years of those strategies and of their success in meeting the obligations of this paragraph; such reviews shall be included in reports submitted pursuant to Article 15;
 - (vi) A schedule for implementation of the action plan, including for the strategies and measures identified therein;

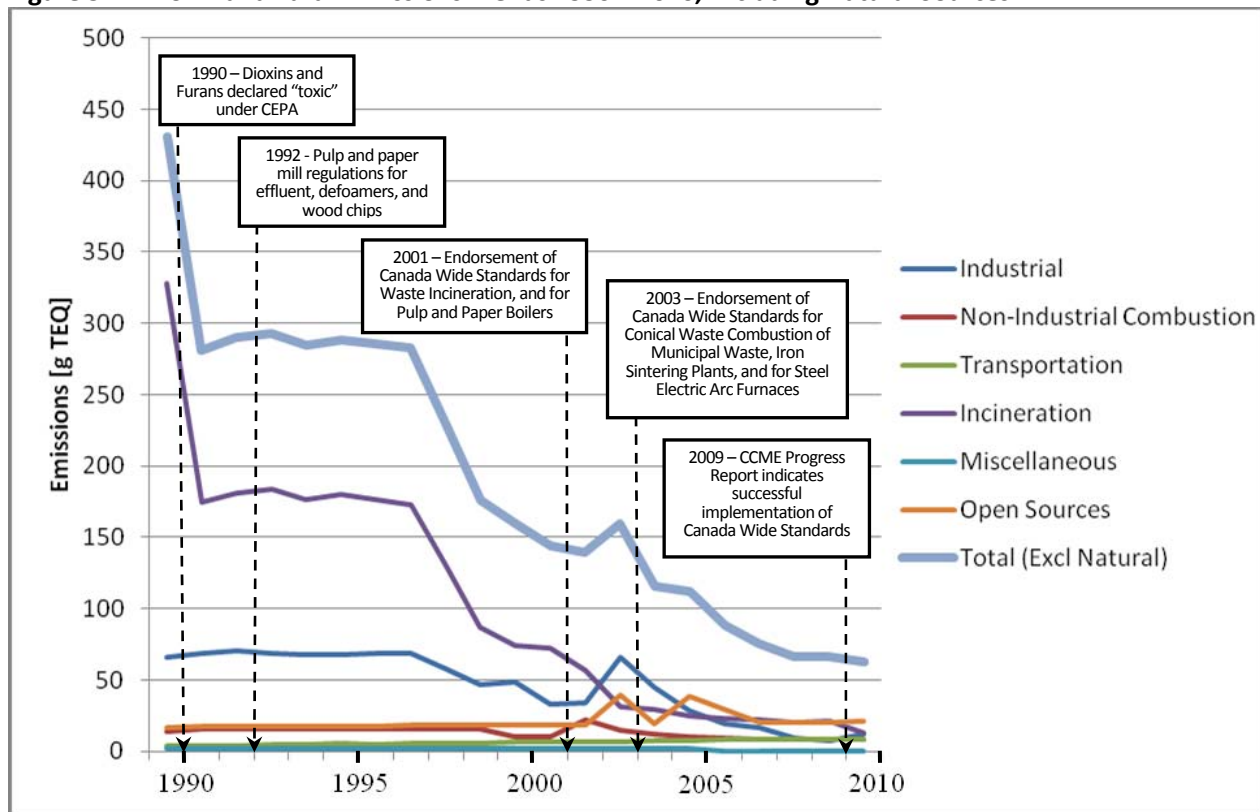
²²2006 NAP (Part II of Canada's 2006 NIP). Available at:
<http://chm.pops.int/Countries/NationalImplementation/tabid/253/language/en-US/Default.aspx>

Current and Projected Releases of PeCB in Canada

PeCB may be generated unintentionally when organic compounds are burned or exposed to a large source of energy in the presence of a chlorine source. Through these mechanisms, PeCB may be formed and released to the environment as a result of industrial processes, waste incineration and burning of household waste. Major sources of releases are further described in Canada's 2005 *Risk Management Strategy for Pentachlorobenzene and Tetrachlorobenzenes*²³.

The unintentional formation and release of PeCB are often associated with that of dioxins and furans²⁴. Most measures taken to reduce dioxin and furan releases, as described in the Stockholm Convention's BAT/BEP guidelines for incinerators and other thermal processes, will lead to a significant reduction of the releases of PeCB²⁵. Obligations to take these control measures for other unintentionally produced POPs under the Convention (dioxins, furans, PCBs and HCB) will also provide reductions in PeCB releases. It is anticipated that emission trends for PeCB will be similar to trends for dioxin and furan emissions in Canada, which are illustrated below in Figure 5-1.

Figure 5-1: Dioxin and Furan Emissions Trends 1990 – 2010, Excluding Natural Sources²⁶



²³ Risk Management Strategy for Pentachlorobenzene and Tetrachlorobenzenes, available at:

www.ec.gc.ca/Publications/default.asp?lang=En&xml=673EA3FD-0804-4A56-AA2D-0C2F3DF9D779

²⁴ The Persistent Organic Pollutants Review Committee of the Stockholm Convention concluded in the *Risk Management Evaluation of PeCB* that for PeCB formed as by-product in combustion processes, there is a clear relation to PCDD/F releases formed by combustion. Risk Management Evaluation for pentachlorobenzene available at:

<http://chm.pops.int/Convention/POPsReviewCommittee/POPRCMeetings/POPRC4/POPRC4ReportandDecisions/tabid/450/Default.aspx>

²⁵ Risk Management Evaluation for Pentachlorobenzene. See footnote 25 for web link.

²⁶ Source: Environment Canada – Pollution Inventories and Reporting Division. 2012.

Data on the annual release of dioxins and furans in Canada are available through the National Pollutant Release Inventory website²⁷. Reporting on releases of dioxins and furans, including a breakdown by source categories identified in Annex C, Part III of the Convention, is also included in Canada's 2010 National Report under Article 15 of Stockholm Convention²⁸. In addition, comprehensive inventories of dioxin/furan releases to the air are prepared annually by Environment Canada for reporting under the United Nations Economic Commission for Europe's LRTAP POPs Protocol²⁹.

Evaluation of Efficacy of Laws and Policies

The efficacy of Canada's legislation and policies related to chemicals is founded on the protection of the environment and human health. Federal, provincial, territorial and municipal laws provide the basis for management strategies and tools appropriate for a particular source sector:

- **CEPA 1999** is the key legislation of the Government of Canada for the management of toxic substances. This legislation contains provisions for the prevention, control and virtual elimination of persistent, bioaccumulative and toxic substances. CEPA 1999 is the statutory basis for federal actions on UPOPs.
- The **Compliance and Enforcement Policy**³⁰ for CEPA 1999, released in March 2001, outlines the guiding principles for enforcement of CEPA 1999, including the principles that compliance with the Act and its regulations is mandatory, and that enforcement officers should apply the Act in a fair, predictable and consistent manner. It also defines the roles of the various authorities responsible for implementing the Act and measures to promote compliance as a tool in securing conformity with the law. Federal and provincial laws related to **environmental assessment** provide for comprehensive consideration of new projects, which include potential new sources of UPOPs.
- Most provinces and territories have legislation or regulations requiring the owners/operators of industrial facilities to obtain operating **permits or approvals** that can contain emission limits or requirements for any atmospheric pollutant, including hazardous air pollutants such as UPOPs. In many cases, permits or approvals are issued for a set length of time and must be renewed. For new facilities, most provinces and territories require comprehensive environmental assessments and the equivalent of Best Available Techniques (BAT).
- The **Chemicals Management Plan** is the Government of Canada's program for the assessment, monitoring and surveillance of substances (including POPs) of concern and for taking risk management actions to address key sources of exposure for substances (including POPs) found harmful to health or the environment.
- The **Canadian Council of Ministers of the Environment (CCME)** is Canada's mechanism for federal-provincial-territorial government cooperation for the promotion and adoption of Canada-wide Standards on the control of releases of Dioxin and Furans releases to the environment. The 2009 Progress Report³¹ indicates that the Canada-wide Standards for dioxins and furans has been successfully implemented and achieved the desired outcome of reducing the release of dioxins and furans to the atmosphere.

²⁷ The National Pollutant Release Inventory (NPRI) is Canada's legislated, publicly accessible inventory of pollutant releases (to air, water and land), disposals and transfers for recycling, available at: www.ec.gc.ca/inrp-npri

²⁸ Canada's Second National Report to the Stockholm Convention pursuant to Article 15, available at: <http://chm.pops.int/Countries/NationalReports/SecondRoundofPartyReports/tabid/1315/Default.aspx>

²⁹ Convention on the Long-range Transboundary Air Pollution (LRTAP) and its Protocol on POPs

³⁰ The Compliance and Enforcement Policy for CEPA 1999, available at: <http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=5082BFBE-1&offset=5&toc=show>

³¹ The 2009 CCME Progress Report, available at: http://www.ccme.ca/ourwork/air.html?category_id=91

Strategies to Reduce Releases of PeCB

Management of UPOPs in Canada has focused largely on releases of dioxins and furans. Reductions in PeCB are expected to parallel reductions in dioxin/furan emissions since the unintentional formation and release of PeCB are often associated with that of dioxins and furans³². Most measures taken to reduce dioxin and furan releases, as described in the Stockholm Convention's BAT/BEP guidelines for incinerators and other thermal processes, will lead to a significant reduction of the releases of PeCB³³. Obligations to take these control measures for other unintentionally produced POPs under the Convention (dioxins, furans, PCBs and HCB) will also provide reductions in PeCB releases. In Canada, measures to reduce dioxins and furans from the main source categories identified under Annex C will also control by-product (unintentional) emissions of PeCB. For additional information on these measures, please see pages 17-23 of Canada's 2006 NAP³⁴.

Canada-wide Standards for dioxins and furans³⁵ have been implemented for five sectors – waste incineration (municipal solid waste, hazardous waste, sewage sludge and medical waste); burning salt laden wood in coastal pulp and paper boilers; iron sintering; electric arc furnace steel manufacturing; and conical municipal waste combustion. They are:

- Canada-wide Standards for Dioxins and Furans Emissions from Waste Incinerators and Coastal Pulp and Paper Boilers
- Canada-wide Standard for Dioxins and Furans from Iron Sintering Plants
- Canada-wide Standard for Dioxins and Furans from Steel Manufacturing Arc Furnaces
- Dioxin and Furan Emissions from Conical Waste Combustion of Municipal Waste

Emissions from residential wood combustion are addressed through Canada-wide Standards for Particulate Matter and Ozone.

The development and implementation of the Recommendations for the Design and Operation of Wood Preservation Facilities, 2004³⁶ and the supporting document Technical Guidelines for the Design and Operation of Wood Preservation Facilities address releases of dioxins/furans from the wood preservation sector (i.e., use of pentachlorophenol (PCP) as a wood preservative³⁷ and PCP-treated wood). Regulatory approaches by provinces, territories and municipalities to prohibit open burning, (including backyard and barrel burning of household waste) or permit it only under pre-approved conditions, also contribute to the reduction PeCB releases to the air. (See the 2005 *Risk Management Strategy for Pentachlorobenzene and Tetrachlorobenzenes* for additional details³⁸.)

³² The Persistent Organic Pollutants Review Committee of the Stockholm Convention concluded in the Risk Management Evaluation of PeCB that for PeCB formed as by-product in combustion processes there is a clear relation to PCDD/F releases formed by combustion. Risk Management Evaluation for pentachlorobenzene available at: <http://chm.pops.int/Convention/POPsReviewCommittee/POPRCMeetings/POPRC4/POPRC4ReportandDecisions/tabid/450/Default.aspx>

³³ Risk Management Evaluation for Pentachlorobenzene. See footnote above.

³⁴ Canada's 2006 NAP (a component of Canada's 2006 NIP); available at: <http://chm.pops.int/Countries/NationalImplementation/tabid/253/language/en-US/Default.aspx>

³⁵ Canada-wide Standard for Dioxins and Furans available at: www.ccme.ca/ourwork/air.html?category_id=91

³⁶ Recommendations for the Design and Operation of Wood Preservation Facilities, 2004 available at: www.ec.gc.ca/Publications/default.asp?lang=En&xml=639AD740-F9D5-4C2F-A385-76FE4264DF79

³⁷ PeCB can be found as an impurity in pentachlorophenol, a wood treatment chemical used (but not manufactured) in Canada. Pentachlorophenol is a registered pesticide in Canada, regulated under the PCPA.

³⁸ The Risk Management Strategy for Pentachlorobenzene and Tetrachlorobenzene, available at: www.ec.gc.ca/Publications/default.asp?lang=En&xml=673EA3FD-0804-4A56-AA2D-0C2F3DF9D779

Unintentional releases of PeCB to water are controlled through the CCME's interim chronic exposure water quality guideline at 0.006 mg/L for PeCB. In addition, movement of wastes containing more than 8 parts per million of chlorobenzenes is controlled under the *Export and Import of Hazardous Wastes Regulations* (1992) and the *Interprovincial Movement of Hazardous Waste Regulations* (2002).

Use of Best Available Techniques and Best Environmental Practices

Canadian federal and provincial/territorial environmental legislation and policies embody overarching best environmental practices (BEP), including Best Available Techniques (BAT), pollution prevention and the precautionary principle. BAT is, in general, taken into consideration during the development of instruments to address pollutant releases, such as regulations, environmental codes of practice, Canada-wide Standards, etc., in addition to other factors, such as socioeconomics, and environmental co-benefits and impacts.

Environmental assessment processes for projects that could have significant impact on the environment, such as new industrial facilities or significant modifications to existing facilities, will also provide opportunity for the consideration of the application or requirement of BAT. The environmental assessment process may require project proponents to find ways to minimize negative impacts resulting from the undertaking and to review alternatives. The outcome of an environmental assessment process is often a decision to issue or deny approval of the project. When approval is issued, conditions are often applied to reduce the environmental impact of the undertaking.

Measures requiring BAT to control unintentional emissions of dioxins and furans from industrial and waste incineration sources are already in place (i.e. emission limits set out in the Incineration related Canada-wide Standards for Dioxins and Furans are based on BAT environmental performance). Given the frequent association between unintentional production of dioxins and furans and PeCB, BAT requirements for dioxins and furans will also reduce emissions of PeCB. These BAT requirements for controlling releases of dioxins and furans currently cover the main source categories identified under Annex C of the Convention. In particular, environmental assessments and permitting processes require the use of BAT where possible. In addition, BAT is also incorporated through provincial and territorial licensing and assessment processes.

Use of Substitute or Modified Materials, Products and Processes

Pollution prevention as embodied in Canada's domestic laws and policies promotes the development and "use of substitute or modified materials, products and processes" to prevent the formation and release of chemicals listed in Annex C" (from Article 5 (c) of the Stockholm Convention).

A key principle of CEPA 1999 is pollution prevention. The CCME, its Canada-wide Accord on Environmental Harmonization, and the CCME Canada-wide Standards for Dioxins and Furans are also guided by this principle. Sector strategies for waste incineration, pulp and paper boilers burning salt-laden wood, iron sintering plants and steel manufacturing electric arc furnaces present recommended options and tools for minimizing air pollutants for consideration by jurisdictions³⁹.

Education, Training and Awareness Building

Information materials on legislation, regulations, policies, management strategies and the effects of substances that are harmful to human health and/or the environment, continue to be made available to

³⁹ The CCME website for the Canada-wide Standards on Dioxins and Furans provides links to pollution prevention strategies for these sectors, e.g. Waste Incineration Pollution Prevention Strategy, available at: www.ccme.ca/ourwork/air.html?category_id=97

members of the public and other stakeholders such as industry, through various media, including the Internet. Promotional materials have been made available to the regulated community as tools to help support compliance with published regulations. Education and training programs are used to inform and influence individual behaviour in specific areas where individual citizens can contribute to the avoidance or minimization of toxic substance releases (e.g., onsite residential waste combustion).

Awareness continues to be built through the development and implementation of management strategies. The Canada-wide Standards process employs multi-stakeholder advisory groups, including representatives of industry, environmental non-governmental organizations, labour groups and provincial, territorial and federal governments, to provide input and advice on the targets and substance of each standard.

Implementation Schedule and Strategy Review

Schedules for implementation have been established where appropriate through the strategies to reduce releases. Canada will continue to review its strategies for reducing and eliminating unintentional releases of PeCB on a five-year basis and to report on those reviews through its National Report (as per Article 15).

Chapter 6—MEASURES TO IDENTIFY AND MANAGE STOCKPILES AND WASTES

Article 6 of the Convention relates to:

- chemicals listed in Annexes A and B (POPs that are intentionally produced); and
- wastes (including products and articles upon becoming wastes) that consist of, contain or are contaminated by chemicals listed in Annexes A and B and Annex C (UPOPs).

It obligates Parties to:

- develop appropriate strategies for identifying stockpiles, wastes and products and articles in use;
- identify, to the extent practicable, stockpiles consisting of or containing chemicals listed in Annex A or B, on the basis of the above strategies;
- manage stockpiles, as appropriate, and in a safe, efficient and environmentally sound manner;
- apply environmentally sound handling, collection, transport, storage and disposal measures to wastes and articles and products upon becoming waste; and
- develop appropriate strategies for identifying sites contaminated by POPs, and, if remediation is undertaken, perform it in an environmentally sound manner.

Identifying and Managing Stockpiles and Wastes

Parties to the Convention are required to develop and implement strategies to identify and manage stockpiles and wastes in a safe, efficient and environmentally sound manner.

Specifically, Article 6.1 states that Parties are obligated to:

- (a) Develop appropriate strategies for identifying:
 1. Stockpiles consisting of or containing chemicals listed either in Annex A or Annex B; and
 2. Products and articles in use and wastes consisting of, containing or contaminated with a chemical listed in Annex A, B or C;
- (b) Identify, to the extent practicable, stockpiles consisting of or containing chemicals listed either in Annex A or Annex B on the basis of the strategies referred to in subparagraph (a);
- (c) Manage stockpiles, as appropriate, in a safe, efficient and environmentally sound manner. Stockpiles of chemicals listed either in Annex A or Annex B, after they are no longer allowed to be used according to any specific exemption specified in Annex A or any specific exemption or acceptable purpose specified in Annex B, except stockpiles which are allowed to be exported according to paragraph 2 of Article 3, shall be deemed to be waste and shall be managed in accordance with subparagraph (d);

Substances used as pesticides

None of the newly listed pesticides were ever manufactured in Canada, and their use as pesticides has been discontinued for many years pursuant to the PCPA⁴⁰. Any stocks that existed at the time that registration was discontinued or withdrawn were to be sold, used or disposed of (between 1981 and 2005, depending on the chemical), after which their sale or use became a violation of the PCPA. Therefore, no known stockpiles exist.

⁴⁰ Please see Chapter 1 or visit the PCPA website, available at:
<http://www.hc-sc.gc.ca/cps-spc/pubs/pest/fact-fiche/pcpa-lpa/index-eng.php>

Although there is no Stockholm Convention obligation to do so, federal, provincial and territorial hazardous waste programs address small quantities of retired material in the possession of consumers and have collected and safely disposed of pesticide products that are no longer registered. For example, operation CleanFARMS, an agricultural waste management program in Canada, is a collaboration of industry and the agricultural community, which collects and safely disposes of obsolete or otherwise unwanted agricultural pesticides. From the inception of the program in 1998 until 2011, over 1.5 million kilograms of obsolete pesticides has been collected through this program⁴¹.

Lindane: There are no known stockpiles of lindane as a pest control product in Canada. For the use of lindane as a human health pharmaceutical (*see Chapters 3 and 4*), the Government of Canada is working with industry to phase out the use of lindane and lindane-containing products before the expiry of the exemption period (April 4th, 2016). Any remaining stocks of lindane and lindane-containing products (as human health pharmaceuticals) will be disposed of in an environmentally sound manner before this date. No wastes containing lindane should exist in Canada after April 4, 2016.

Substances used as Industrial Chemicals

HBB: Canada has no known stockpiles of HBB. Production and use of HBB in North America ceased in the late 1970s and the manufacture, use, sale, offer for sale and import of all polybrominated biphenyls (including HBB) are prohibited under the *Prohibition of Certain Toxic Substances Regulations*.

PeCB: The *Prohibition of Certain Toxic Substances Regulations* prohibit the manufacture, use, sale, offer for sale and import of PeCB, excluding use in PCB transformers. The use of PeCB in dyestuff carriers has been discontinued and there are no known no stockpiles or wastes in Canada associated with this use. As mentioned in Chapter 3, at one time, PeCB could be found in dielectric fluids used to top up polychlorinated biphenyl (PCB) transformers. The management of PeCB as a component of dielectric fluids is addressed through the *PCB Regulations*.

Tetra-BDE, Penta-BDE, Hexa-BDE and Hepta-BDE: Tetra-BDE, Penta-BDE, Hexa-BDE and hepta-BDE have never been manufactured in Canada and the import of tetra-, penta- and hexa-BDE was prohibited in 2008 through the *PBDE Regulations* (*See Chapter 3*). Accordingly, there are no stockpiles of these substances.

PFOS: Existing stockpiles of PFOS within Canada are limited to aqueous film forming foams (AFFFs) used for fighting fuel-based fires that were manufactured or imported before May 2008. With the exception to the domestic exemptions listed in Chapter 3 (in line with the claimed exemptions under the Stockholm Convention; refer to Chapter 4), the import of PFOS or any product containing PFOS is prohibited by the *PFOS Regulations*.

⁴¹ CleanFARMS, available at: www.cleanfarms.ca.

Environmentally Sound Handling, Collection, Transport, Storage and Disposal of Wastes

Under Article 6, paragraph 1 (d) of the Convention, each Party is required to “take appropriate measures” so that wastes containing POPs, including products and articles upon becoming wastes, are:

- (i) Handled, collected, transported and stored in an environmentally sound manner;
- (ii) Disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic pollutant content is low, taking into account international rules, standards, and guidelines, including those that may be developed pursuant to paragraph 2, and relevant global and regional regimes governing the management of hazardous wastes;
- (iii) Not permitted to be subjected to disposal operations that may lead to recovery, recycling, reclamation, direct reuse or alternative uses of persistent organic pollutants; and
- (iv) Not transported across international boundaries without taking into account relevant international rules, standards and guidelines;

Canada implements obligations in respect of Article 6 of the Stockholm Convention through existing domestic legislation and regulations including those aimed at meeting obligations under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal⁴² (the Basel Convention), and recognizing Basel as the appropriate body for setting criteria, standards and other provisions for environmentally sound management including recycling, storage and disposal operations. The Basel Convention defines environmentally sound management as “taking all practicable steps to ensure hazardous wastes and other wastes are managed in a manner which will protect human health and the environment against adverse effects which may result from such wastes.” It refers to the way in which hazardous wastes are managed from their point of generation through storage, transport, treatment, reuse, recycling, recovery and ultimate disposal.

Over the years, the Conference of the Parties to the Basel Convention has adopted several technical guidelines⁴³ on the environmentally sound management of specific wastes streams, including those related to POPs. To date, five technical guidelines on the environmentally sound management of waste consisting of, containing or contaminated by POPs have been adopted by the Basel Conference of the Parties. Recent amendments to the Stockholm Convention require that the current POPs technical guidelines be updated or new ones be developed under the Basel Convention for the environmentally sound management of wastes containing the new POPs (recently listed in annexes A, B and C of the Stockholm Convention). The tenth Conference of the Parties to the Basel Convention expanded the mandate of the Small Intersessional Working Group on POPs, with Canada as Chair, to monitor and assist in the review and updating of POPs technical guidelines⁴⁴.

⁴² The Basel Convention, available at: www.basel.int

⁴³ The Basel Convention Technical Guidelines and the Updated General Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants (POPs), available at: www.basel.int/TheConvention/Publications/TechnicalGuidelines/tabid/2362/Default.aspx

⁴⁴ Decision BC-10/9 regarding technical guidelines on the environmentally sound processing of wastes consisting of, containing or contaminated with persistent organic pollutants.

To that effect, the Basel Convention continues to update existing POPs technical guidelines, develop new ones and adopt these to ensure the environmentally sound management of POPs wastes. Under the Basel Convention, Canada is involved in the technical work on POPs and is leading the update and development of two technical guidelines: 1) updating the *General technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants*; and 2) development of *Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride*.

Handling and disposal

In Canada, hazardous waste management facilities are primarily a provincial and territorial responsibility. Provinces and territories regulate the management and control of treatment facilities and disposal operations, including landfill sites. As part of the federal export and import of hazardous waste regime, the provinces and territories provide consent for the disposal or recycling of imported hazardous wastes within their jurisdictions. Most provinces and territories have established programs to control or restrict the storage, use and disposal of hazardous substances in an environmentally sound manner. The provinces and territories also grant authorizations (i.e., permits, licences and certificates) for carriers that transport hazardous wastes. The federal government works together with the provincial/territorial governments in developing the national hazardous waste management system and establishing national objectives and standards.

Waste Handling and Disposal



© Environment Canada

There are also other elements to Canada's approach to POPs and waste management policies, including pollution prevention. Pollution prevention is a cornerstone of federal and national policies and legislation addressing POPs and waste management policies. Pollution prevention promotes continuous improvement through the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and wastes at the source. While incineration and non-incineration technologies continue to be viewed as environmentally sound methods for the destruction of waste (including POPs waste) in Canada, the use of pollution prevention techniques is advocated wherever they are applicable and effective.

Transboundary Movement

Further to the discussion in Chapter 3 on measures to control exports and imports, Canada controls and tracks the export and import of hazardous wastes and hazardous recyclable material as required by the Basel Convention, through the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* (EIHWHRMR). The EIHWHRMR require that the Canadian exporter or importer of hazardous waste or hazardous recyclable material notify the Minister and receive a permit before any transboundary shipments can take place. As part of the notification process, an exporter or importer is required to identify POPs contained in the hazardous waste or hazardous recyclable material consistent with the requirements of the technical guidelines on POPs wastes, adopted by the Conference of the Parties to the Basel Convention⁴⁴. The actual shipments are tracked through a movement document.

The following chemicals are controlled under the EIHWHRRM: Alpha-HCH, Beta-HCH, Chlordecone, HBB, Lindane, and PeCB. Tetra-BDE, Penta-BDE, Hexa-BDE and Hepta-BDE, along with PFOS are not controlled under the EIHWHRRM (however, as discussed in Chapter 3 other regulations are in place to prevent exports of these substances).

As discussed earlier, Canada is also contributing to the technical guidelines for the new POPs under the Basel Convention, including leading the development of the new technical guidelines for PFOS, specifically. These guidelines will assist Canada (and other Parties) in developing controls for transboundary wastes and their disposal in an environmentally sound manner.

Identifying and Managing Contaminated Sites

Under Article 6, paragraph 1 (e), Parties to the Convention agree to:

Endeavour to develop appropriate strategies for identifying sites contaminated by chemicals listed in Annex A, B or C; if remediation of those sites is undertaken it shall be performed in an environmentally sound manner.

Canada began the identification and management of contaminated sites many years ago. Regulation and management of contaminated sites in Canada are primarily provincial/territorial responsibilities; the federal government is primarily responsible for federal lands.

The CCME *National Classification System for Contaminated Sites*⁴⁵ (NCSCS), published in 1992 and revised in 2008 and 2010, presents a method for evaluating contaminated sites according to their current or potential adverse impact on human health and the environment. It was developed to establish a rational and scientifically defensible system for comparable assessment of contaminated sites across Canada. The new POPs now under the Stockholm Convention would be classified as high-concern contaminants.

In addition to the classification system and a number of other technical and scientific documents, the CCME published a comprehensive *Guidance Document on the Management of Contaminated Sites in Canada*⁴⁶. The guidance document sets out a strategy for contaminated site management, including site identification and assessment, and development and implementation of remediation action.

In 2005, the federal government established the Federal Contaminated Sites Action Plan (FCSAP)⁴⁷, a 15-year program with funding of \$3.5 billion from the Government of Canada. The primary objective of this program is to reduce environmental and human health risks from known federal contaminated sites and associated federal financial liabilities. In Phase I (2005-2011), the federal departments, agencies and consolidated Crown corporations responsible for contaminated sites (also referred to as custodians) made significant progress in assessing and remediating sites. Custodians conducted remediation activities at 1,400 sites, and completed remediation at 650 sites. Assessment activities were conducted on over 9,400 sites and completed on 6,400. FCSAP Phase II (2011-2016) allows this work to continue, with a focus on remediating the highest priority sites. Sites that are contaminated with POPs, pose a human health or environmental risk, and are classified as high priority for action, are among the sites being funded for risk management/remediation.

⁴⁵ CCME National Classification System for Contaminated Sites, available at: www.ccme.ca/ourwork/soil.html?category_id=68

⁴⁶ CCME Guidance Document on the Management of Contaminated Sites in Canada, available at: www.ccme.ca/ourwork/soil.html?category_id=68

⁴⁷ The Federal Contaminated Sites Action Plan, available at: <http://www.federalcontaminatedsites.gc.ca/index-eng.aspx>

Between 2000 and 2002, the Treasury Board of Canada approved a policy framework for the management of federal contaminated sites⁴⁸. The framework was a collection of policies and best practices to guide custodians in the management of federal contaminated sites and was accompanied by the public release of the Federal Contaminated Sites Inventory⁴⁹. Currently, policy direction for the management of federal contaminated sites is contained in the Treasury Board *Policy on the Management of Real Property*⁵⁰, in effect since November 2006. The objective of the policy is to ensure that federal real property is managed in a sustainable and financially responsible manner throughout its life cycle to support the cost-effective and efficient delivery of government programs. The policy outlines a number of requirements related to environmental considerations in the management of federal real property, including the management of federal contaminated sites.

⁴⁸ Publications on the program and approach are available at: www.federalcontaminatedsites.gc.ca/publications/index-eng.aspx and the Federal Contaminated Sites Management Framework is available at : www.tbs-sct.gc.ca/pubs_pol/dcgpubs/realproperty/fcsmp-gscf1_e.asp

⁴⁹ The Federal Contaminated Sites Inventory, available at: www.tbs-sct.gc.ca/fcsi-rscf/home-accueil-eng.aspx

⁵⁰ The Treasury Board Policy on the Management of Real Property, available at: www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12042

Chapter 7—OTHER COMMITMENTS

Article 9: Information Exchange

Under Article 9 of the Convention, Parties are required to facilitate or undertake the exchange of information among Parties, relevant to:

1. (a) The reduction or elimination of the production, use and release of persistent organic pollutants; and
(b) Alternatives to persistent organic pollutants, including information relating to their risks as well as to their economic and social costs.
2. The Parties shall exchange the information referred to in paragraph 1 directly or through the Secretariat.
3. Each Party shall designate a national focal point for the exchange of such information.
4. The Secretariat shall serve as a clearing-house mechanism for information on persistent organic pollutants, including information provided by Parties, intergovernmental organizations and nongovernmental organizations.
5. For the purposes of this Convention, information on health and safety of humans and the environment shall not be regarded as confidential. Parties that exchange other information pursuant to this Convention shall protect any confidential information as mutually agreed.

Since the Convention's entry into force, Canada has shared information with other countries and has responded to requests for information from them, and from the Secretariat, and will continue to do so with respect to the nine new chemicals. Canada has programs and initiatives in place that address the exchange of information between national governments and can readily comply with this obligation through continuation of existing strategies.

In addition, CEPA 1999 specifically allows for the exchange of information with the government of a foreign state or an international organization with the condition that the information be kept confidential. The PCPA similarly allows the sharing of information, including confidential test data and confidential business information, with another government provided that there is an agreement in place relating to the exchange of information about pesticides. Under both Acts, the responsible Minister must be satisfied that the law of the jurisdiction to which the information would be communicated enables the recipient of the information to prevent public disclosure of the information and the unfair use of the information by third parties for commercial purposes. Such a law would have to be consistent with the provisions of the PCPA, which prohibit public disclosure of confidential business information, prevent third parties from obtaining copies of confidential test data and establish a data protection policy governing the use of or reliance on such test data by third parties.

Under the Chemicals Management Plan, the Government of Canada has established a Chemical Substances website⁵¹ and works through other communication tools (for example, social media) to educate and support information sharing with stakeholders and the public. An email subscription service is available to keep stakeholders and the public informed of new information and actions being taken by the Government of Canada to assess and manage chemicals under the CMP⁵².

⁵¹ Chemical Substances website, available at: www.chemicalsubstanceschimiques.gc.ca

⁵² CMP subscription service, available at: www.chemicalsubstanceschimiques.gc.ca/listserv/index-eng.php

Canada also provides information and supports demonstration projects that illustrate practical methods to control POPs (such as pollution abatement technologies) and to find alternatives to their use (such as integrated pest management). These programs are sponsored and delivered by Canadian government agencies, often in partnership with Canada's academic and private sectors. Canada also provides information and services on the internet (e.g. through the Environment Canada website⁵³) and makes available relevant government databases to other governments and to the public.

Article 10: Public Information, Awareness and Education

Under Article 10, each Party is required, within its capabilities, to promote and facilitate public awareness, education and training activities and to ensure public access to updated information. Each Party is to give "sympathetic consideration" to developing mechanisms for the collection and dissemination of quantitative information on annual releases and disposal of POPs.

Canada makes environmental and human health information on POPs available to the public through a variety of other sources, including federal, provincial and territorial Internet sites. The Chemicals Substances website provides, among other things, information on the POPs being managed under the CMP⁵⁴. Substance assessments under CEPA 1999 and the CMP are made available to the public through the publication of these assessments⁵⁵ along with risk management scopes, approaches and strategies⁵⁶ developed and implemented for those substances posing a hazard to human health and/or the environment are also publicly available through the Chemical Substances website. The Northern Contaminants Program (NCP) also conducts education and awareness activities to ensure that individuals and communities in the North receive the information needed to assist informed decision making in their food use.

Information is also shared with the public through the Chemicals Management Plan Stakeholder Advisory Council⁵⁷, which includes representatives from industry, academia, Aboriginal groups, consumer groups, health and environmental sector professionals and non-government organizations. Members of this council are responsible for sharing information with their respective stakeholders.

Information is also received by the Government of Canada through the public comment process associated with the Chemicals Management Plan. Additionally, another source of information on Canada's approach to managing chemicals is Pollution Probe's *Primer on Toxic Substances*⁵⁸.

Article 11: Research, Development and Monitoring

Under Article 11 of the Convention, Parties agree to, within their capabilities (and among other actions):

- encourage and/or undertake, at the national and international levels, appropriate research, development, monitoring and cooperation pertaining to POPs, to their alternatives and to candidate POPs;
- support international research programs; and
- strengthen research capabilities in developing countries and countries with economies in transition.

⁵³ Environment Canada website, available at: www.ec.gc.ca

⁵⁴ Chemical Substances website, available at: www.chemicalsubstanceschimiques.gc.ca/plan/index-eng.php

⁵⁵ Completed assessments of existing substances, available at: www.chemicalsubstanceschimiques.gc.ca/about-afpropos/assess-aval/caes-ecse/index-eng.php

⁵⁶ Risk management documents, available at: <http://www.chemicalsubstanceschimiques.gc.ca/about-afpropos/management/index-eng.php>

⁵⁷ CMP Stakeholder Advisory Council, available at: www.chemicalsubstanceschimiques.gc.ca/plan/council-conseil/index-eng.php

⁵⁸ Pollution Probe *Primer on Toxic Substances*, available at: www.pollutionprobe.org/whatwedo/chemicals/toxicprimer/

Canada has a number of domestic programs dealing with research, development and monitoring of POPs, which also contribute to international knowledge. Among these are POPs research and monitoring activities carried out by Environment Canada laboratories and in relation to Canada's National Pollutant Release Inventory⁵⁹. Monitoring is also an important element of Canada's Chemicals Management Plan and the Northern Contaminants Program.

In addition, Canada supports international POPs research and monitoring activities and assists capacity building in developing countries and countries with economies in transition. For example, Canada provides support for the Global Environment Facility (GEF), which has carried out a number of projects to manage chemicals and hazardous chemical wastes in developing and transitioning countries. Canada also participates in POPs related work conducted by the Arctic Council's Arctic Monitoring and Assessment Program (AMAP) through its involvement in the NCP, and participates in work of the Commission on Environmental Cooperation, an agency under the North American Free Trade Agreement, and its Sound Management of Chemicals program.

Alert Global Atmosphere Watch Laboratory Operator Loading Samples on a High Volume Sampler



Photo: Cecilia McKittrick, 2012 © Environment Canada

The Northern Contaminants Program⁶⁰ co-ordinates Canada's action on northern contaminants, including POPs, both nationally and internationally. The NCP was established in 1991 and is coordinated by Aboriginal Affairs and Northern Development Canada. The program monitors environmental and human exposure to elevated levels of contaminants, particularly in wildlife species that are important to the traditional diets of northern Aboriginal peoples. Early studies found a wide variety of substances, many of which had no Arctic or Canadian sources, but which were, nevertheless, reaching unexpectedly high levels in the Arctic ecosystem. The Northern Contaminants Program allocates funds for trend monitoring and research and related activities in five main areas:

- Environmental Monitoring and Research
- Human Health Research⁶¹
- Community Based Monitoring and Knowledge Integration
- Communication, Capacity and Outreach
- National/Regional coordination and Aboriginal Partnerships

Under NCP, long-term air monitoring at Environment Canada's Dr. Neil Trivett Global Atmosphere Watch (GAW) Observatory in Alert, Nunavut, includes measurements of PBDEs, alpha-HCH, beta-HCH, lindane and precursor substances of PFOS.

⁵⁹ National Pollutant Release Inventory, available at: <http://www.ec.gc.ca/inrp-npri/>

⁶⁰ Northern Contaminants Program: <http://www.aadnc-aandc.gc.ca/eng/1100100035611/1100100035612>

⁶¹ Human Health Research in the areas of exposure, epidemiology, toxicology, and benefits/risk management, to better assess, understand and manage the health risks in Northern Canada related to the long-range transport of contaminants.

During the International Polar Year (IPY) 2007-2009, a sub-Arctic station was established in Canada's Yukon to measure PBDEs, alpha-HCH, beta-HCH and lindane in air in western Canada. In addition, during IPY, collaboration was established with Russia, USA (Alaska), China, Vietnam and Japan to measure these same chemicals and assess their circulation in the atmosphere around the Pacific Rim. Canada coordinated air monitoring of POPs at eight stations in these countries and contributed to transferring technology on POPs air monitoring to stations in Russia, China and Vietnam.

Changing Sampling Media on High Volume Air Sampler



Photo: Tom Harner, 2010 © Environment Canada

Canadian air monitoring programs that have provided temporal and spatial information on legacy POPs have begun to address monitoring and surveillance needs for the newly listed POPs and CMP priority chemicals. From 2008 to 2011, PBDEs used as flame retardants in a variety of commercial and industrial products were monitored and analyzed in air samples collected across Canada as part of the National Air Pollution Surveillance (NAPS) program. In the Great Lakes region, the Integrated Atmospheric Deposition Network (IADN) has been monitoring PBDEs, alpha-HCH, beta-HCH and lindane, among other chemicals.

Canada also continues to operate the only global-scale air monitoring network for POPs, the Global Atmospheric Passive Sampling (GAPS) Network. Since 2005, GAPS has been operating at more than 50 sites on all seven continents, using technology that was pioneered at Environment Canada. Canada assists in the transfer of this technology to other countries and regions as a cost-effective and simple approach for monitoring POPs in air. Improvement to the passive sampling approach under GAPS has led to the first global-scale data sets of many of the new POPs including PeCB, PFOS precursors and related chemicals, and PBDEs. These data sets are unique as they allow for the testing of regional and global transport models for POPs. Data from the GAPS network are also being reported for new priority chemicals which will aid risk assessment and consideration of these chemicals as candidate POPs.

GAPS Network Sampling Equipment



Source: Environment Canada, <http://www.ec.gc.ca/rs-mn/default.asp?lang=En&n=6AA18234-1>

Article 12: Technical Assistance

Under Article 12, Parties shall:

2. ...cooperate to provide timely and appropriate technical assistance to developing country Parties and Parties with economies in transition, to assist them, taking into account their particular needs, to develop and strengthen their capacity to implement their obligations under this Convention.
3. ... include, as appropriate and as mutually agreed, technical assistance for capacity-building relating to implementation of the obligations under this Convention. Further guidance in this regard shall be provided by the Conference of the Parties.
4. ... establish, as appropriate, arrangements for the purpose of providing technical assistance and promoting the transfer of technology to developing country Parties and Parties with economies in transition relating to the implementation of this Convention. These arrangements shall include regional and subregional centres for capacity-building and transfer of technology to assist developing country Parties and Parties with economies in transition to fulfil their obligations under this Convention. Further guidance in this regard shall be provided by the Conference of the Parties.
5. ... in the context of this Article, take full account of the specific needs and special situation of least developed countries and small island developing states in their actions with regard to technical assistance.

Canada continues to provide technical assistance to developing countries and countries with economies in transition for capacity building in the fields of chemical management and alternatives to POPs use. Support for these activities is provided through the GEF.

Article 13: Financial Resources and Mechanisms

Article 13.1 Each Party undertakes to provide, within its capabilities, financial support and incentives in respect of those national activities that are intended to achieve the objective of this Convention in accordance with its national plans, priorities and programmes.

...

Canada continues to participate in the financial provisions of the Convention on an ongoing basis through its financial contribution to the GEF. Canada, through the Canadian International Development Agency, is contributing approximately CDN \$60 million annually to the GEF. About 9% percent of this supports work specifically on POPs.

Article 15: Reporting

1. Each Party shall report to the Conference of the Parties on the measures it has taken to implement the provisions of this Convention and on the effectiveness of such measures in meeting the objectives of the Convention.
2. Each Party shall provide to the Secretariat:
 - (a) Statistical data on its total quantities of production, import and export of each of the chemicals listed in Annex A and Annex B or a reasonable estimate of such data; and
 - (b) To the extent practicable, a list of the States from which it has imported each such substance and the States to which it has exported each such substance.
3. Such reporting shall be at periodic intervals and in a format to be decided by the Conference of the Parties at its first meeting.

Canada reports under Article 15 in the format and at intervals decided by the Conference of the Parties. In accordance with its obligations, Canada submitted its first National Report on March 15, 2007, and its second National Report on November 8, 2010⁶². Canada's next National Report, which will address the obligations for the 9 new POPs, is to be completed by August 31, 2014.

Article 16: Effectiveness Evaluation - Canada's involvement in the Global Monitoring Plan

As a party to the Convention, and as called for under Article 16, Canada will cooperate in evaluating the effectiveness of the Convention. The Global Monitoring report is one of three elements that contribute to the Effectiveness Evaluation of the Convention (Article 16). The other two elements include national reports submitted pursuant to Article 15 and compliance information submitted pursuant to Article 17.

The first global monitoring plan (GMP) report of the Stockholm Convention on POPs was completed in 2009 and provided a baseline for POPs concentrations in core media - air and human tissues (milk and blood). Canadian monitoring program data (e.g. NCP, IADN, NAPS and GAPS) and expertise were prominent in the implementation of the GMP. Canada is the coordinator of the regional organizational group for the Western Europe and Others Group and also serves on the global coordination group. The regional working groups and global coordination group are responsible for implementation for the GMP and reporting.

Capacity building efforts under the GAPS Network continue to address data gaps in several UN regions identified in the first GMP report. Canadian scientists are also actively involved in the revision of UNEP's Guidance Document for the GMP and the development of new sampling and analytical methods for addressing the newly listed POPs and other priority chemicals (e.g. candidate POPs).

Canadian experts will continue to support the next stage of the GMP process, with the second GMP report due in 2015. The 2015 report will begin to explore temporal trends of POPs in core media and the association of these trends to effectiveness of control measures implemented as a result of the Convention. Canadian long-term data sets for legacy and new POPs are unique and will contribute to this process.

⁶² Canada's second National Report available at:

<http://chm.pops.int/Countries/NationalReports/SecondRoundofPartyReports/tabid/1315/Default.aspx>