

**A STRATEGY TO FULFIL THE  
CCME COMMITMENT TO  
POLLUTION PREVENTION**



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The Canadian Council of Ministers of the Environment (CCME) is the major intergovernmental forum in Canada for discussion and joint action on environmental issues of national, international and global concern. The 13 member governments work as partners in determining national environmental priorities and developing national guidelines and codes of practice.

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## **Introduction**

In November 1993, the Canadian Council of Ministers of the Environment (CCME) published its commitment to pollution prevention in which a series of principles were laid out to guide pollution prevention in Canada. To elaborate on this commitment, the Environmental Protection Committee established a task group, in January 1995, to gather information on the state of pollution prevention across the country, examine the definitional and other strategic issues and report findings. This strategy is the result of their work.

The strategy which follows reflects a consensus within CCME. It outlines a vision, mission and goal for environment departments, and society at large, to pursue in improving environmental management, and provides a series of options for governments to choose from to implement the commitment to pollution prevention. An on-going sharing of insights, experiences and ideas is essential if our thinking on pollution prevention is to continue to evolve. We welcome comments which will help keep this strategy meaningful and productive.

## **Pollution Prevention and Environmental Protection**

Minimizing or avoiding the creation of pollutants and wastes can be less costly and more effective in protecting the environment than treating them, or cleaning them up after they have been created. Environmental protection activities can be seen as a hierarchy of practices, arranged in order of preference, with pollution prevention at the top. Approaches that anticipate and prevent the creation of pollutants and waste are preferred to other methods such as treatment, re-use and recycling. While these methods are still important elements in our overall environmental protection efforts, even the best waste management practices are not the same as avoiding its creation in the first place.

## **THE STRATEGY**

Ministers have developed a vision, as to where pollution prevention will take us, as well as a pollution prevention mission and goal for Canada.

### **Vision**

An environmentally responsible society that anticipates and prevents pollution.

### **Mission**

To collectively shift Canada from being a society that attempts to manage pollutants and waste after they have been created toward one that does not create them in the first place; and

To have pollution prevention principles and practices incorporated into decisions made at all levels of Canadian society.

## **Goal**

To make pollution prevention the strategy of choice for protecting the environment and improving economic competitiveness.

## **BENEFITS**

Pollution prevention is particularly beneficial, when effectively applied, because it:

- minimizes or avoids the creation of pollutants;
- prevents the transfer of pollutants from one medium to another;
- accelerates the reduction and/or elimination of pollutants;
- minimizes health risks;
- promotes the development of source reduction technologies;
- uses energy, materials and resources more efficiently;
- reduces the need for costly enforcement;
- limits future liability with greater certainty;
- recognizes that waste is a cost that can be reduced;
- avoids costly clean-up in the future; and
- promotes a more competitive economy.

## **DEFINITION**

Building on the concept of pollution prevention described in The Canadian Council of Ministers of the Environment (CCME) *National Commitment to Pollution Prevention* (1993) and considering definitions in place or in progress in several jurisdictions, the following definition for pollution prevention is adopted:

*The use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and wastes, at the source.*

*Pollution prevention promotes continuous improvement through operational and behavioural changes. Pollution prevention is a shared responsibility among governments and individuals, industrial, commercial, institutional, and community sectors. It focuses on areas such as:*

- *substances of concern*
- *efficient use and conservation of natural resources*
- *operating practices*
- *clean production processes which create less waste*
- *training*
- *equipment modifications*

- *process changes*
- *materials and feedstock substitution*
- *product design and reformulation*
- *product life-cycle*
- *purchasing practices*

Pollution prevention is the preferred strategy for protecting the environment. Pollution prevention does not include measures such as diluting constituents to reduce hazard or toxicity, or transferring hazardous or toxic contaminants from one medium to another or to the work place.

## **CONTEXT**

The long-term goal of environmental protection and a competitive economy is to prevent the creation of pollutants and waste and to produce durable, recyclable, less hazardous goods. As awareness in society has grown regarding the ecological impacts and economic costs of environmental damage, emphasis in many jurisdictions has shifted from controlling pollutants and wastes once they have been created to preventing their creation in the first place. Avoiding or minimizing pollutants and waste will likely reduce the necessity for costly control and clean-up efforts, and the loss of raw materials and unnecessary processing activities. While all environmental protection activities provide some benefits, opportunities for reducing environmental or health risks and associated costs are greater at the top of the hierarchy. The hierarchy of practices includes: pollution prevention; reuse and recycling; treatment/control; disposal/destruction; and remediation/clean-up.

Pollution prevention seeks to eliminate the causes of pollution rather than treating the symptoms, reflecting a major shift in emphasis from “control” to “prevent”. It encourages the kinds of changes that are likely to lead to lower production costs, increased efficiencies and more effective protection of the environment. Pollution prevention avoids or decreases:

- risk to workers;
- technical problems associated with storage of toxic materials and wastes;
- the need for assuring that toxic materials and wastes are effectively handled without causing environmental impact; and
- dependency on stable markets for recycled materials.

Reuse is the re-employment of products or materials, in their original form or in new applications, with refurbishing to original or new specifications as required. A continuous improvement focus may assist in strengthening the view that wastes are residuals and new uses need to be found for them.

Recycling is the extension of the effective life span of renewable and non-renewable resources through changes to processes, practices and the addition of energy inputs. When it is conducted in an environmentally sound manner, recycling is preferable to end-of pipe treatment.

Pollution control or treatment is the addition of processes, practices, materials, products or energy to waste streams to reduce the risk posed by pollutants and waste before their release to the environment. By limiting the release of pollutants and waste into the environment, pollution control makes an important contribution to environmental protection. However, treatment technology can be expensive and cannot always keep pace with the environmental concerns that are identified. As well, pollution control/treatment can result in the transfer of environmental risk from one medium to another since pollutants and wastes have already been created.

Disposal/destruction refers to secure placement, or breakdown by thermal, chemical or other processes. Best efforts should be made to only apply disposal/destruction to those pollutants and wastes that are not amenable to prevention/reduction, re-use/recycling or treatment.

Remediation and clean-up activities are “last resort” elements of environmental protection, since the need for remediation is the legacy of a lack of knowledge, preparation, planning or implementation regarding measures required to protect the environment. Remediation is defined as the use of processes, practices, materials, products or energy to restore to a healthy state ecosystems that have been damaged by human activity. It is often the most expensive and least efficient method of environmental protection. Remediation will be necessary as long as it is needed to redress past mistakes, new accidents and failure to sufficiently prevent the generation of pollutants and waste.

## **GUIDING PRINCIPLES**

The Canadian Council of Ministers of the Environment has developed the following principles to guide pollution prevention.

- All Canadians are individually and collectively responsible for the quality of the environment, and should be involved in pollution prevention wherever they have the opportunity to do so.
- Prevention activities and associated costs should be borne by the producers of pollutants and waste.
- All jurisdictions should cooperate to harmonize their individual approaches to prevention.
- Voluntary action, regulation and economic instruments all have important, and often complementary, roles to play in pollution prevention. All approaches for prevention should be considered, with a view to using the most effective approach, or combination of approaches. Voluntary actions will be encouraged.
- Prevention should be considered at the earliest possible point in the development of any concepts, plans, policies, products, projects or processes.
- Pollution prevention planning should be a continuing process, incorporating opportunities for improvement on an ongoing basis, such as new scientific and technological developments.

- Prevention should apply throughout the entire life-cycle of a product.
- There should be an ongoing effort to ensure that prices better reflect the *full* costs of pollution, in order to understand the *real benefit* of prevention.
- Full use should be made of pollution prevention to achieve greater domestic and international competitiveness.

## **STRATEGIES**

The attached table gives specific guidance for actions to advance pollution prevention under four broad strategic categories. This guidance is provided to enable the governments of Canada to work together to ensure that barriers and disincentives to pollution prevention are removed and to provide opportunities to promote pollution prevention. The four strategic categories and key action items are:

### **Leadership**

- incorporating pollution prevention into government programs, policies or legislation
- reviewing legislation, regulations, market-based instruments and policy as appropriate, and harmonizing approaches to pollution prevention
- refocusing research and development and undertaking demonstration projects

### **Partnerships**

- strengthening partnerships among governments and with the private sector
- enhancing the capabilities of small- and medium-sized enterprises to apply pollution prevention
- encouraging innovative approaches to pollution prevention
- sharing experience and lessons learned

### **Practical Tools**

- developing practical tools, such as guidelines, accounting systems that incorporate all environmental costs, and codes of practice, to enable people to deliver pollution prevention at an operational level
- promoting information and technology transfer
- providing education and training to relevant groups

- supporting the development and adoption of national and international standards (e.g., CSA, ISO)

## **Incentives**

- recognizing and promoting successful pollution prevention initiatives
- encouraging consumers to use their purchasing power to promote pollution prevention
- promoting pollution prevention with industry as a means for improving efficiency and competitiveness

## **IMPLEMENTATION**

Implementation of this strategy by each Environment Minister should promote, among other things:

- the use of the definition and principles of pollution prevention contained here to provide a consistent meaning for the concept across the country;
- the advancement of pollution prevention, through the implementation of plans specific to each jurisdiction, which use one or more of the strategic options from this strategy;
- the periodic reporting on their actions, progress and successes in implementing pollution prevention; and
- the development of a CCME recognition and award program to encourage and acknowledge leadership in pollution prevention across the country.

## STRATEGIES FOR ADVANCING POLLUTION PREVENTION

STRATEGY/options	COMMENTS
<b>Strategy 1: LEADERSHIP</b>	
<b>1.1 Incorporate pollution prevention into government programs, policies or legislation</b>	This activity is essential to government credibility; Other government departments must carry it out, but the pollution prevention function is to ensure this is pursued and supported
Develop and implement "Green" policies	Minimize pollution generated by government operations, Example: transportation
Procurement activity	Government purchasing policies and practices
Authorize and/or require pollution prevention activities to be carried out (e.g. planning, notification, execution, reporting)	Voluntary and/or regulatory pollution prevention. Examples: BC's pollution prevention planning process, Ontario's voluntary pollution prevention program, and Quebec's clean technologies program
<b>1.2 Review legislation, regulations and policy as appropriate, and harmonize approaches to pollution prevention</b>	Minimize duplication and simplify procedures across governments
Review of legislation, regulations, policy to identify inconsistencies or barriers and to prepare alternatives	Eliminate barriers/disincentives to pollution prevention; role here is to identify options
Develop and implement market-based instruments and other policy alternatives to "command and control"	The development of instruments could be carried out in partnership with all governments.
<b>1.3 Refocus research and development and undertake demonstration projects</b>	Encourage development and application of clean technology and clean production
Research and development	Fund and sponsor applied research
Undertaking demonstration projects	Demonstration of clean technology/clean production application with industry.

## STRATEGIES FOR ADVANCING POLLUTION PREVENTION

STRATEGY/options	COMMENTS
<b>Strategy 2: PARTNERSHIPS</b>	
<b>2.1 Strengthen partnerships among governments and with the private sector</b>	Improve efficiency and effectiveness to achieve overall goal of pollution prevention.
Within federal government	
Within other orders of government	
Industry (including small business)	
International community	
Development of sectoral partnerships (e.g., MOUs)	Agreements focused on pollution prevention planning
<b>2.2 Enhance the capabilities of small and medium-sized enterprises to apply pollution prevention</b>	Small and medium sized businesses pose a significant challenge and require a concerted effort by government.
<b>2.3 Encourage innovative approaches to pollution prevention</b>	
Facilitate on-site application of pollution prevention practices	Application of pollution prevention tools, management practices, materials, guidelines for facilities and sectors. See also Strategy 3 (Practical Tools)
Facilitate on-site technical assistance	Hands-on technical assistance for facilities.
<b>2.4 Share experience and lessons learned</b>	Share successes and failures, i.e., what to do and what <u>not</u> to do.
Adopt coordinated approaches to apply new pollution prevention strategies	Example: Ozone depleting substances c/o the Montreal Protocol
Organize support for local/regional application of pollution prevention	Community based pollution prevention, Example: Remedial Action Plans, Green Communities

## STRATEGIES FOR ADVANCING POLLUTION PREVENTION

STRATEGY/options	COMMENTS
<b>Strategy 3: PRACTICAL TOOLS</b>	
<b>3.1 Develop practical tools to enable people to deliver pollution prevention at an operational level</b>	
Through partnerships with industry associations develop tools & applications	Ideally would encompass stakeholders nationally, although not necessarily applicable in each province
Verify reductions	This includes verification and release of information through tools such as National Pollution Release Inventory (NPRI)
Develop guidelines and codes of practice	Produce and make available for application across the country.
<b>3.2 Promote information and technology transfer</b>	Make pollution prevention information accessible for those who need to know
National clearinghouse	Possible to implement through an existing organization such as the Great Lakes Pollution Prevention Centre or the CCME
Transfer information to local/regional operations	Government role is to facilitate information transfer
<b>3.3 Provide education and training to relevant groups</b>	Develop necessary knowledge and skills for those who need to implement pollution prevention
Develop/assemble training materials	Training materials developed at provincial and federal levels and assembled for the National Clearing House
Train government officers	In-house training to shift emphasis from pollution control/remediation to pollution prevention
Develop materials for educational curricula	Integrate pollution prevention into professional/ technical curricula such as engineering, science, management, accounting
Conduct training in industry sectors	Ideally through industry partners
<b>3.4 Support the development and adoption of Canadian and international codes of practice (e.g., CSA, ISO)</b>	Integrate pollution prevention into the management systems and practices used by industry and governments
Participate in development and adoption of international standards	Example: ISO 14000
Develop, adopt, and promote Canadian codes of practice	Example: CCME NO <sub>x</sub> /VOC reduction strategy

## STRATEGIES FOR ADVANCING POLLUTION PREVENTION

STRATEGY/options	COMMENTS
<b>Strategy 4: INCENTIVES</b>	
<b>4.1 Recognize and promote successful pollution prevention initiatives</b>	Provide exposure and positive reinforcement for those who are applying and reporting their pollution prevention initiatives
Establish and promote recognition program	Examples include Quebec's Mérite Environnementale and Mercuriade programs, Ontario's Pollution Prevention Pledge Program and the multistakeholder ARET program
<b>4.2 Encouraging consumers to use their purchasing power to promote pollution prevention</b>	This could be implemented through partnerships with consumer associations and other NGOs
Promote awareness of the environmental implications of goods and services and encourage industry to use pollution prevention through purchasing practices	Examples: Federal Environmental Choice program; corporate green procurement policies
Promote application of accounting systems that incorporate all environmental costs, reporting and life-cycle analysis	This analysis is necessary to allow consumers to make informed choices and to assess the benefits of clean products.
<b>4.3 Promote pollution prevention with industry as a means for improving efficiency and competitiveness</b>	Governments could use this approach in concert with industry development strategies. Tax incentives and other economic instruments can be used to encourage green industry and clean production.