



Survey of Environmental Protection Expenditures, 2006

Confidential when completed.

Collected under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S19.

Si vous préférez ce questionnaire en français, veuillez cocher

Correct as required

Company name

Establishment name

C / O

Address

City

Province/Territory

Postal code

Please read before completing

PURPOSE OF THE SURVEY

This survey provides a measure of the expenditures made by industry for environmental protection in Canada in response to Canadian and international environmental regulations, conventions and voluntary agreements. The survey also aims at identifying environmental management practices and technologies used in Canadian industry for the purpose of preventing or abating pollution. These data will be aggregated with information from other sources to produce official estimates of environmental protection expenditures.

The results of this survey will be published in the Statistics Canada publication *Environmental Protection Expenditures in the Business Sector, 2006*, Catalogue No. 16F0006XIE.

CONFIDENTIALITY

Statistics Canada is **prohibited by law** from publishing any statistics which would divulge information obtained from this survey that relates to any identifiable respondent, without the previous written consent of that respondent. The data reported will be treated in strict confidence, used for statistical purposes and published in aggregate form only. The confidentiality provisions of the *Statistics Act* are not affected by either the Access to Information Act or any other legislation.

FAX OR OTHER ELECTRONIC TRANSMISSION DISCLOSURE

Statistics Canada advises you that there could be a risk of disclosure during the facsimile or other electronic transmission. However, upon receipt, Statistics Canada will provide the guaranteed level of protection afforded to all information collected under the authority of the *Statistics Act*.

AUTHORITY

This survey is conducted under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S19. **COMPLETION OF THIS QUESTIONNAIRE IS A LEGAL REQUIREMENT UNDER THE STATISTICS ACT.**

INQUIRIES

If you require assistance in completing this questionnaire or if you have any questions or comments regarding this survey, please refer to the Guide to Definitions and Classification Details found at the end of this questionnaire or contact:

**Operations and Integration Division
Statistics Canada
Ottawa, ON, Canada, K1A 0T6
Telephone (toll-free): 1-800-255-7726
Fax: 1-800-755-5514
Email: enviro.oid.exp@statcan.ca**

The questionnaire is available in an electronic format. Please contact the Operations and Integration Division if you prefer to use this reporting option.

In all correspondence concerning this questionnaire, please quote the identification number that appears on the address label.

Important : Please read the Guide to Definitions and Classification Details included at the end of this form before answering. If your response for an item is zero, please write "0" in the corresponding box rather than leaving the cell blank.

Please return this questionnaire within 45 days of receipt.

If you are unable to do so, kindly inform the Operations and Integration Division of the expected completion date.

For Statistics Canada use only

Rec.
Y M D

Ed.
Y M D

Kyd.
Y M D

Bat.

Coll.

FSC

How to report expenditure figures:

Expenditures reported should be rounded to thousands of Canadian dollars

If the operating expense is \$1,456,728 Report: \$ 1, 4, 5, 7, X X X
Millions Thousands

If the operating expense is \$253,023 Report: \$, 2, 5, 3, X X X
Millions Thousands

If the expenditure is zero "0",
 or less than \$500 Report: \$, 0, X X X
Millions Thousands

1. Reporting year

Report must cover your most recent fiscal year that **ended** any time between **April 1, 2006** and **March 31, 2007**.

Year Month Day
Year Month Day

From ⁰¹⁰
to ⁰⁴⁰

If the reporting period is less than 12 months, please indicate the circumstances in the Comments section at the end of the questionnaire.

2. Hazardous and non-hazardous waste and sewage collection, treatment, storage, disposal and recycling. Refer to page 14 of this questionnaire for more information.

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ All expenditures related to waste collection, treatment, storage and disposal, including recycling done by your establishment's employees and services provided by a private contractor or a federal, provincial or local government body
- ◆ All expenditures related to the installation of sewage infrastructure and expenditures related to the use collection, treatment and disposal of sewage
- ◆ All expenditures on sewerage services provided by a federal, provincial or local government body

Exclude:

- Expenditures on on-site recycling (to be included in Question 4)

Operating expenses	Capital expenditures	TOTAL
²²⁰ \$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> X X X <small>Millions Thousands</small>	²³⁰ \$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> X X X <small>Millions Thousands</small>	²⁴⁰ \$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> X X X <small>Millions Thousands</small>

3. Pollution abatement and control (end-of-pipe) processes

Abatement and control of pollution are performed by using end-of-pipe equipment or installations.

These end-of-pipe processes treat pollution after they are produced and are not an integral part of production; their sole purpose is to abate or to control undesirable substances resulting from normal production. *Refer to page 14 of this questionnaire for more information.*

Do not include waste management or sewerage-related expenditures reported in Question 2.

3.1 Pollution abatement and control expenditures

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ Expenditures for equipment or facilities that are separately identifiable and that have been installed exclusively to reduce or eliminate pollutants resulting from production

Exclude:

- Expenditures specific to workers' health and safety
- Expenditures on waste management already reported in Question 2
- Expenditures on sewage treatment or services already reported in Question 2

Operating expenses	Capital expenditures	TOTAL
²⁵⁰ \$ [][][][][][] , [][][][] X X X <small>Millions Thousands</small>	²⁶⁰ \$ [][][][][][] , [][][][] X X X <small>Millions Thousands</small>	²⁷⁰ \$ [][][][][][] , [][][][] X X X <small>Millions Thousands</small>
+ =		

3.2 Did you report capital expenditures in Question 3.1 (cell 260)?

²⁷⁵ 1 Yes 3 No → Go to Question 4
 ↓

What proportion of capital expenditures reported in Question 3.1 (cell 260) was spent on reducing or abating each of the following? *Refer to page 14 of this questionnaire.*

Substances released to air	Substances released to surface waters	On-site releases to land/underground injection	Noise, vibration or radiation
²⁸⁰ [][][][] %	²⁹⁰ [][][][] %	³⁰⁰ [][][][] %	³¹⁰ [][][][] %
+ + + = 1 0 0 %			

4. Pollution prevention

“Pollution prevention is the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and waste, and reduce overall risk to human health or the environment. Pollution prevention is the elimination or minimization of pollutants and waste before they are created.”

Pollution Prevention - A Federal Strategy for Action, Government of Canada (1995)

This question identifies expenditures and methods used for the purpose of preventing or minimizing pollution and waste, or promoting resource conservation. **Refer to page 14 of this questionnaire for more information.**

4.1 Pollution prevention methods

If you prevented or reduced waste, pollutants or conserved resources in your fiscal year 2006, please indicate how it was achieved by checking the appropriate box(es). Please include all projects whether or not they are required by regulation, convention or voluntary agreement. Refer to page 15 of this questionnaire for a description of each method.

		Yes	No
Product design or reformulation	810	1 <input type="radio"/>	3 <input type="radio"/>
Equipment or process modifications (integrated process).....	830	1 <input type="radio"/>	3 <input type="radio"/>
Recirculation, on-site recycling or reuse or recovery of materials or substances.....	850	1 <input type="radio"/>	3 <input type="radio"/>
Materials or feedstock substitution, solvent reduction, elimination or substitution	870	1 <input type="radio"/>	3 <input type="radio"/>
Improved inventory management or purchasing techniques	875	1 <input type="radio"/>	3 <input type="radio"/>
Prevention of leaks and spills	880	1 <input type="radio"/>	3 <input type="radio"/>
Good operating practices or pollution prevention training	885	1 <input type="radio"/>	3 <input type="radio"/>
Other (Please specify) <input type="text"/>	890	1 <input type="radio"/>	3 <input type="radio"/>
<input type="text"/>			
<input type="text"/>			
<input type="text"/>			

4.2 Expenditures on pollution prevention

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ Expenditures for equipment or facilities integrated in a production process that avoid or minimize the production of pollutants and waste
- ◆ Expenditures for equipment or facilities related to leak and spill prevention. They may include expenditures on the following: spill containments; dyke extensions; and accessories (valves, pumps)
- ◆ Expenditures for equipment or facilities used for conserving energy or water
- ◆ Expenditures for equipment or facilities associated with recirculation, recovery, reuse and on-site recycling of materials or substances
- ◆ Expenditures related to operational or process changes aimed at pollution prevention. Examples include product re-design (e.g., feedstock/raw material substitution), good operating practices (e.g., modification of process, staff training), etc.

Exclude:

- Expenditures specific to workers' health and safety
- Expenditures already included in Question 2

Operating expenses				Capital expenditures				TOTAL																								
500	\$,				X	X	X	+	\$,				X	X	X	=	\$,				X	X	X
		Millions			Thousands									Millions			Thousands									Millions			Thousands			

4.3 Did you report capital expenditures in Question 4.2 (cell 510)?

525 1 Yes 3 No → Go to Question 5

↓

What proportion of capital expenditures reported in Question 4.2 (cell 510) was spent on preventing or minimizing each of the following? Refer to page 14 of this questionnaire.

Substances released to air	Substances released to surface waters	On-site releases to land/underground injection	Noise, vibration or radiation	Other							
530	540	550	560	570							
%	+	%	+	%	+	%	+	%	=	100	%

5. Environmental monitoring

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ Expenditures related to equipment, supplies, labour and purchased services required for monitoring pollutants emitted by this establishment. Expenditures associated with participation in the National Pollutant Release Inventory (NPRI) and other similar programs are to be included

Operating expenses			Capital expenditures			TOTAL		
100			110			120		
\$			\$			= \$		
		X X X			X X X			X X X
Millions	Thousands		Millions	Thousands		Millions	Thousands	

6. Environmental assessment and audits

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ Expenditures for reviews of current operations for compliance with regulations (audits)
- ◆ Expenditures to evaluate the environmental impact of proposed programs or projects (assessments)
- ◆ Expenditures for associated legal and consulting costs

Operating expenses			Capital expenditures			TOTAL		
130			140			150		
\$			\$			= \$		
		X X X			X X X			X X X
Millions	Thousands		Millions	Thousands		Millions	Thousands	

7. Site reclamation and decommissioning

If the expenditure is zero, please write "0" in corresponding box.

Expenditures on site reclamation and decommissioning made during your fiscal year 2006 for any active or inactive site belonging to your establishment. Please include expenditures on site decommissioning even if site closed before 2006.

Exclude:

- Fines or compensation for environmental damage (this is to be reported in Question 9)
- Provisions for future environmental liability

Operating expenses			Capital expenditures			TOTAL		
160			170			180		
\$			\$			= \$		
		X X X			X X X			X X X
Millions	Thousands		Millions	Thousands		Millions	Thousands	

8. Protection and restoration of wildlife and habitat

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ Expenditures made to protect or restore wildlife and habitat that could be or have been adversely affected by this establishment's operations

Exclude:

- Expenditures for site reclamation and decommissioning which are already reported in Question 7
- Expenditures for aesthetic purposes

Operating expenses	Capital expenditures	TOTAL
190 \$ <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> , <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> , X X X <small style="display: flex; justify-content: space-around; width: 100%;">Millions Thousands</small>	+ \$ <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> , <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> , X X X <small style="display: flex; justify-content: space-around; width: 100%;">Millions Thousands</small>	= \$ <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> , <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> , X X X <small style="display: flex; justify-content: space-around; width: 100%;">Millions Thousands</small>

9. Environmental charges

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ Permits, fees, levies, special assessment and related fees
- ◆ Any fines, penalties, or damage awards paid to government agencies or to individuals
- ◆ Other charges paid to regulating bodies in order to allow operations to take place at this establishment

Operating expenses

760
 \$, , X X X
Millions Thousands

10. Other environmental protection expenditures

If the expenditure is zero, please write "0" in corresponding box.

Include:

- ◆ The operating costs of administrating your environmental program not included elsewhere
- ◆ Environmental training and information programs not included elsewhere
- ◆ Any other additional expenditures not specified elsewhere that are required to comply with environmental regulations, conventions or voluntary agreements

Exclude:

- Research and development expenditures

Operating expenses

770
 \$, , X X X
Millions Thousands

11. Total expenditures on environmental protection

If the expenditure is zero, please write "0" in corresponding box.

Cell 801: includes total from operating expenses reported in questions 2 to 10.

Cell 802: includes total from capital expenditures reported in questions 2 to 8.

They should also include all data for which breakdowns were not available.

Operating expenses			Capital expenditures			TOTAL		
801	\$		+	\$		=	\$	
		, X X X			, X X X			, X X X
	Millions	Thousands		Millions	Thousands		Millions	Thousands

11.1 In order to help us reduce the need for further follow-up inquiries, please provide a **brief explanation to account for significant changes in environmental protection expenditures made by your establishment (either increased or decreased compared to previous reporting periods).** (e.g., "We installed low-NO_x burners in 2006 - Question 4")

For information only

12. Environmental technologies

12.1 Did you use one or more of the following systems or equipment in your fiscal year 2006?

Please check all that apply. Refer to page 15 of this questionnaire for a description of each technology or process.

		Yes	No
1. Cogeneration	1282	1 <input type="radio"/>	3 <input type="radio"/>
2. Alternative fuel systems or equipment	2006	1 <input type="radio"/>	3 <input type="radio"/>
3. Fuel substitution	1284	1 <input type="radio"/>	3 <input type="radio"/>
4. Waste energy recovery/reuse (e.g., heat recovery)	2031	1 <input type="radio"/>	3 <input type="radio"/>
5. Use of energy management or monitoring system(s) to improve efficiency....	2032	1 <input type="radio"/>	3 <input type="radio"/>
6. Performed energy audit in the last three years (2004-2006)	2033	1 <input type="radio"/>	3 <input type="radio"/>
7. Other systems, equipment or employee training that improved energy efficiency. Please specify most important			
<input type="text"/>	1292	1 <input type="radio"/>	3 <input type="radio"/>

Renewable energy source:

8. Small, mini- or micro-hydroelectric facility	2004	1 <input type="radio"/>	3 <input type="radio"/>
9. Solar energy systems or equipment	1288	1 <input type="radio"/>	3 <input type="radio"/>
10. Wind energy systems or equipment	1289	1 <input type="radio"/>	3 <input type="radio"/>
11. Biomass energy (e.g., energy crops and waste-to-energy)	1285	1 <input type="radio"/>	3 <input type="radio"/>
12. Geothermal	1290	1 <input type="radio"/>	3 <input type="radio"/>
13. Other renewable energy systems or equipment Please specify most important			
<input type="text"/>	2005	1 <input type="radio"/>	3 <input type="radio"/>

12.2 Did you answer "Yes" to any part of Question 12.1?

2007 1 Yes 3 No → Go to Question 12.4

12.3 What were your operating expenses and capital expenditures in fiscal year 2006 on the systems or equipment reported in Question 12.1?

If the expenditure is zero, please write "0" in the corresponding box.
Your best estimate is acceptable. Please exclude fuel costs.

Operating expenses				Capital expenditures				TOTAL																										
2008	\$	<input type="text"/>	<input type="text"/>	,	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X	X	+	\$	<input type="text"/>	<input type="text"/>	,	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X	X	=	\$	<input type="text"/>	<input type="text"/>	,	<input type="text"/>	<input type="text"/>	<input type="text"/>	X	X	X		
		Millions	Thousands		Millions	Thousands		Millions	Thousands			Millions	Thousands		Millions	Thousands		Millions	Thousands		Millions	Thousands		Millions	Thousands		Millions	Thousands		Millions	Thousands		Millions	Thousands

12.4 What proportion of your total capital expenditures in fiscal year 2006 on machinery and equipment was spent to improve energy efficiency?

If the proportion is zero, please write "0" in the corresponding box.

Your best estimate is acceptable.

2011

%

12.5 During the last three years, 2004 to 2006, did this establishment put into operation new or significantly improved systems or equipment that improved energy efficiency?

Refer to page 16 of this questionnaire for a description of "new or significantly improved".

2012

1 Yes

3 No → Go to Question 12.6



Rank the overall impact of these new or significantly improved systems or equipment that improved energy efficiency. Please check the appropriate box.

2013 Low

2014 Moderate

2015 High

12.6 Obstacles and drivers

During the last three years, 2004 to 2006, which of the following factors were obstacles or drivers to the adoption of new or significantly improved systems or equipment to improve energy efficiency? Please check all that apply.

Possible obstacles

Indicate the obstacles even if the system or equipment was not adopted.

- 1. Lack of information or knowledge related to new or significantly improved systems or equipment 2016
- 2. Lack of available new or significantly improved systems or equipment 2017
- 3. Lack of skilled personnel to put new or significantly improved systems or equipment into operation 2018
- 4. High cost of equipment 2019
- 5. Lack of financing (internal, private or government) 2020
- 6. Regulatory/policy barriers 2021
- 7. Other (Please specify) 2022
- 8. None 2023

Possible drivers

- 1. Sufficient return on investment. 2024
- 2. Regulations 2025
- 3. Voluntary agreement 2026
- 4. Public relations 2027
- 5. Corporate policy/culture/awareness 2028
- 6. Other (Please specify) 2029
- 7. None 2030


13. Environmental management practices

Please indicate the environmental management practices adopted or utilized by this establishment in your fiscal year 2006 to avoid or minimize pollution or to conserve resources. Refer to page 16 of this questionnaire for a description of each practice.

		Yes	No
1. Did this establishment use an environmental management system?	951	1 <input type="radio"/>	3 <input type="radio"/>
2. Did this establishment use Life Cycle Management, Life Cycle Assessment or Design for Environment for decision making?	965	1 <input type="radio"/>	3 <input type="radio"/>
3. Was this establishment ISO 14000 certified?	953	1 <input type="radio"/>	3 <input type="radio"/>
4. Is this establishment planning to obtain ISO 14064 certification within the next 2 years?	971	1 <input type="radio"/>	3 <input type="radio"/>
5. Did this establishment develop and implement a pollution prevention plan?	970	1 <input type="radio"/>	3 <input type="radio"/>
6. Did this establishment implement any environmental voluntary agreement, or did it participate in any voluntary environmental program?	955	1 <input type="radio"/>	3 <input type="radio"/>
<p>Examples include Environmental Performance Agreements (EPAs), Canadian GHG Reductions Registry© or Canadian Industry Program for Energy Conservation. <i>If yes, please list programs, accords or agreements.</i></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>			
7. Did this establishment have a "green" procurement policy?	957	1 <input type="radio"/>	3 <input type="radio"/>
8. Were any of the goods produced by this establishment certified by an environmental program, such as the "Enviro Choice Program" and Ecologo? ...	959	1 <input type="radio"/>	3 <input type="radio"/>
9. Did this establishment publish or contribute to annual or other reports on its environmental performance or sustainable development?	963	1 <input type="radio"/>	3 <input type="radio"/>
10. Did this establishment experience any cost savings as a result of implementing any of the environmental management practices outlined in this question or environmental technologies outlined in Question 12 or pollution prevention methods outlined in Question 4?	969	1 <input type="radio"/>	3 <input type="radio"/>
11. Other (Please specify)	967	1 <input type="radio"/>	3 <input type="radio"/>

Certification

I certify that to the best of my knowledge, the information provided in this questionnaire is correct and complete.

Signature 0015 	Date Year Month Day 0015 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Name of person completing this questionnaire (type or print) 0013 <input type="text"/>	Telephone 0017 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Ext. 0027 <input type="text"/> <input type="text"/> <input type="text"/>
Title 0014 <input type="text"/>	Fax 0016 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Website address 0020 <input type="text"/>	Email address 0018 <input type="text"/>
Approximately how long did it take to collect the data and complete this survey? 935 <input type="text"/> <input type="text"/> Hour(s)	936 <input type="text"/> <input type="text"/> Minutes
In the future, would you prefer to receive this survey in electronic format? 862 1 <input type="radio"/> Yes	3 <input type="radio"/> No

Comments

We invite your comments or suggestions on the following or any other topics related to the Survey of Environmental Protection Expenditures. We appreciate your assistance.

- Questionnaire content
- New questions of interest to your industry
- Clarity of questions and provision of sufficient examples
- Order and flow of questions
- Timing of receipt of questionnaire and the period given for response
- Alternative sources of information to further reduce response burden
- Potential for electronic data reporting

For information only

If you have any questions, please contact us.
Telephone (toll free) 1-800-255-7726
Fax: 1-800-755-5514 (within Canada)
Email: enviro.oid.exp@statcan.ca

Please return this questionnaire in the envelope provided

Thank you for your cooperation !

Guide to Definitions and Classification Details

Establishment

An establishment is defined as the most homogeneous unit of production for which a business maintains accounting records. From these accounting records, it is possible to assemble all the data elements required to compile the total sales or shipments, inventories, cost of materials and services, labour and capital used in production.

Environmental protection expenditures

Environmental protection expenditures are defined as all operating expenses and capital and repair expenditures that are incurred in order to anticipate or to comply with Canadian or international environmental regulations, conventions or voluntary agreements. They consist of expenditures for pollution prevention, abatement and control, expenditures for protecting and restoring wildlife and habitat, expenditures for environmental monitoring, environmental assessments and audits, and expenditures for reclamation and decommissioning of sites. **Environmental protection expenditures incurred that are not in response to current or anticipated Canadian or international regulations, conventions or voluntary agreements should be excluded. In addition, expenditures to improve employee health, workplace safety and site beautification should also be excluded.**

Expenditures to produce pollution prevention, abatement and control equipment for sale are also excluded as they would appear twice in the expenditure data produced by Statistics Canada. Expenditures for environment-related research and development are also excluded since they are collected elsewhere in Statistics Canada.

Environmental conventions or voluntary agreements refer to any formal, multi-party commitment by an industry or an industry association for instance, to meet specific targets in terms of habitat protection, waste reduction, or the elimination or reduction of specific materials that are considered to be harmful or toxic to the natural environment in Canada. Examples include the following: the Canada-U.S. Air Quality Agreement; the "Responsible Care" program from the Canadian Chemical Producers Association; the Canadian GHG Reductions Registry® ; etc.

Environmental regulations refer to any current Canadian federal, provincial or municipal law or international legislation that is intended to protect or to restore the environment in Canada. Expenditures related to anticipated legislation may be included as long as its provisions are known.

How to report

Please report expenditures in **thousands of Canadian dollars for your 2006 fiscal year**. If, for certain categories, no expenditures have been incurred, **please write "0" in the corresponding box. Do not leave the box blank**. Where precise data are not available, your best estimate is acceptable. If additional information is available in an annual report or an environmental performance report, **please include a copy** when you return the questionnaire.

To report capital expenditures

Include all relevant outlays for machinery and equipment and their installation and repair that have been capitalized, as well as for the construction of non-residential facilities (contractors or own employees). For construction, include all costs associated with demolition, planning and design (such as engineering and consulting fees), any materials supplied to construction contractors for installation and any costs associated with the purchase of land that are neither amortized nor depreciated.

Exclude any provisions for future environmental liability.

To report operating expenses

Include all expenses related to environmental protection incurred for labour, materials and supplies, maintenance and repair, and purchased services (include fuel and electricity expenses for machinery and equipment whose sole purpose is to protect the environment).

Exclude depreciation on machinery and equipment.

For logging activities

Use Question 8 to report additional expenditures for logging caused by environmental regulation or convention. **Include** the extra cost of any practice that would not otherwise be followed in the absence of environmental regulation or convention. **Exclude** the foregone revenues resulting from regulations or conventions that reduce the allowable harvest.

For mining activities

Use Question 3 to report any expenditures that are related to the handling and treatment of mine tailings and that are required by environmental regulation. Even if some of these activities are now considered to be "standard practice", include related expenditures if they are required by regulation or convention. Use Question 10 to report imputed interest on funds held in trust against future environmental liabilities. Report only actual expenditures.

For petroleum operations

Please report separately, if possible, environmental protection expenditures associated with different petroleum operations: exploration, refining, chemical products, pipeline transportation.

Question 2) Hazardous and non-hazardous waste and sewage collection, treatment, storage, disposal and recycling

What is waste?

There have been several definitions of waste proposed in recent years. One common thread among these definitions is the concept that waste is a material that is unwanted by its producer. The unwanted materials may be by-products of a production process - fly ash from a furnace, for example. Alternatively they might be products, the inherent value of which has been consumed from the perspective of the current holder - for example, a newspaper that has been read, a package that has been opened and emptied of its contents or an apple eaten to the core are all similar insofar as they have lost their original inherent value from the consumers perspective.

Hazardous waste

Includes all materials that may be hazardous to human health or the environment, due to their nature or quantity, and which require special handling techniques as specified by the Transportation of Dangerous Goods Regulations (1985), The Canadian Environmental Protection Act (1988), The Basel Convention (1989), or the Export and Import of Hazardous Waste Regulations (1992).

Question 3) Pollution abatement and control

3.1 Pollution abatement and control (end-of-pipe processes) can be described as equipment and processes that treat pollution and wastes *after* they have been created. Examples of these types of equipment or processes include scrubbers at the end of emission stacks, biological and chemical systems for treating water (such as a water treatment plant), filtration systems, cyclones or other barrier systems. These end-of-pipe processes are not an integral part of production; their sole purpose is to abate or to control undesirable substances resulting from normal production.

3.2 **Substances released to air** - emissions of pollutants (including greenhouse gases) to the atmosphere.

Substances released to surface waters - releases of pollutants to water bodies.

On-site releases to land/underground injection - releases of pollutants to land and/or injected into the ground within the boundaries of your establishment.

Noise, vibration or radiation - control of noise, vibration or radiation.

Question 4) Pollution prevention

Pollution prevention is technologies, equipment or processes that reduce or eliminate pollution and waste at the source instead of at the end-of-pipe or stack before the pollution or waste is created. Examples include the installation of more efficient processes that consume less energy or inputs, the redesign or reformulation of the production process to reduce pollution or emissions, reuse, recirculation or recycling of materials on-site (does not include materials sent off-site for recycling).

4.1 Pollution prevention methods

Examples are listed for each category of pollution prevention. *Note:* lists are not exhaustive.

Product design or reformulation - changing product specifications to reduce or eliminate the use of toxic substances; modifying product design or composition to make them more environmentally friendly; modify packaging.

Equipment or process modifications (integrated process) - instituting recycling within a process; switching from the use of solvents to mechanical paint-stripping devices; modified or installed rinse systems; improved rinse equipment design; improved rinse equipment operation; modifying equipment, layout or piping; use of a different process catalyst; institute better controls on operating bulk containers or changing from small volume containers to bulk containers to minimize discarding of empty containers.

Recirculation, on-site recycling or reuse or recovery of materials or substances generated during production - such as using a small distillation unit to reclaim solvents on-site; vapour recovery; recovery of sludge; water recirculation; reuse of water for refrigeration condenser operation. *Excludes materials transferred or recycled off-site.*

Materials or feedstock substitution, solvent reduction, elimination or substitution - the use of aqueous-based rather than solvent-based cleaners; increased purity of raw materials; substituted raw materials; other raw material modifications.

Improved inventory management or purchasing techniques - avoiding the unnecessary generation of waste by ensuring that materials do not stay in inventory beyond shelf life; eliminate shelf-life requirements for stable materials; instituting better labelling procedures; instituting a clearinghouse to exchange materials that would otherwise be discarded.

Prevention of leaks and spills - taking measures to prevent releases such as installing splash guards and drip trays around equipment; modified containment procedures for cleaning units; improved draining procedures; improved storage or stacking procedures; improved procedures for loading, unloading and transfer operations; installed overflow alarms or automatic shut-off valves; installed vapour recovery systems; implemented inspection or monitoring program of potential spill or leak sources.

Good operating practices or pollution prevention training - changing production schedules to minimize equipment and feedstock changeovers; improved maintenance scheduling, record keeping or procedures; training staff to recognize and implement pollution prevention opportunities.

Other, *specify* - please specify your pollution prevention activities if they are not listed in the preceding categories.

Question 12) Environmental technologies

Examples are listed for each of the technologies and processes found in Question 12. *Note:* lists are not exhaustive.

12.1 Description of the systems and equipment listed in Question 12.1:

- 1. Cogeneration** - systems and equipment used to produce both heat and electricity from biomass (organic matter from forest and agricultural sources), waste and industrial residues, and other fuel sources.
- 2. Alternative fuel systems or equipment** - process equipment for production or use of biofuels (ethanol, biodiesel); clean fuel systems (reformulated fuel and oxygenated fuels); fuel cell technologies; hydrogen (production, storage, distribution and use, infrastructure); and advanced batteries. Also included are industrial equipment and engine systems that use alternative fuels.
- 3. Fuel substitution** - switching from a carbon fuel such as coal or petroleum to a lower carbon (such as natural gas) or carbon-free fuel.
- 4. Waste energy recovery/reuse (e.g., heat recovery)** - a conservation system whereby some space heating or water heating is done by actively capturing byproduct heat that would otherwise be ejected into the environment.
- 5. Use of energy management or monitoring systems** - an energy conservation feature that uses computers, instrumentation, control equipment and software to manage a building's energy use for heating, ventilation, air-conditioning, lighting and for business-related processes.

6. **Performed energy audit in the last three years (2004-2006)** - an analysis of the energy consuming systems within a facility and the identification of potential areas for reducing energy consumption.
7. **Other systems, equipment or employee training that improved energy efficiency** - please specify any other equipment or systems not listed in Question 12.1 that improved energy efficiency or energy conservation. Examples include: installation of more efficient process equipment such as boilers, turbines and furnaces; process control equipment; energy efficient engines and motors; low NO_x burners.
8. **Small, mini- or micro-hydroelectric facility** - Micro-hydro = less than 100 kW; Mini-hydro = 100 kW to 1 000 kW (1MW); Small hydro = 1 MW to 25 MW (50 MW in British Columbia).
9. **Solar energy systems or equipment** - active and passive solar systems; photovoltaics; solar thermal generators; solar water and space heating systems.
10. **Wind energy systems or equipment** - horizontal and vertical axis turbines; towers and other types of equipment used to generate energy and electricity.
11. **Biomass energy** - systems and equipment (turbines, boilers, process equipment) that use organic matter such as forest and agricultural residues to produce electricity, steam, or heat.
12. **Geothermal** - hot water or steam extracted from the Earth's interior and used for geothermal heat pumps, water heating or electricity generation.
13. **Other renewable energy systems or equipment** - please specify your renewable energy systems and equipment if they are not listed in the preceding categories (e.g., systems and equipment for energy production from wave, tidal, and ocean thermal energy conversion systems).

12.5 New or significantly improved systems or equipment to improve energy efficiency:

A new system or piece of equipment is one that is new to the establishment and whose characteristics or intended uses differ significantly from those systems or equipment previously used by the establishment. *A significantly improved system or piece of equipment* is an existing system or piece of equipment whose performance has been significantly enhanced or upgraded. Excludes maintenance, repair and replacement in kind.

Question 13) Environmental management practices

1. An **environmental management system** is a management structure that allows an organization to assess and control the environmental impact of its activities.
2. **Life Cycle Management, Life Cycle Assessment** refer to tools that identify and measure direct and indirect environmental, energy and resource impacts associated with a product, process or service through its design, production, usage and final disposal. **Design for Environment** is the integration of environmental considerations into the design, production, distribution, use and end-of-life of products.
3. **ISO 14000** is an internationally recognized set of standards and guidelines primarily concerned with environmental management systems developed by the International Organization for Standardization.
4. **ISO 14064** are new international standards and guidelines recognized by the Canadian Standards Association developed by the International Organization for Standardization. The standard is meant for private sector organizations and governments to measure, report and verify greenhouse gas emissions through internationally-approved best practices.
5. A **pollution prevention plan** establishes a plan to meet or exceed compliance and improve the efficiency and environmental performance of an establishment, a specific operation or a particular product.
6. **Voluntary actions** include codes of environmental practice, guidelines, emission and waste reduction targets, as well as agreements with governments.
7. **Green procurement** describes the procurement of goods and services that minimize environmental impacts compared with goods and services with similar performance requirements. The costs and environmental impacts of a product at various stages of its life cycle are taken into consideration, such as the process used to manufacture the product (including raw materials), transportation, storing, handling and operating and disposal of the product.
8. **Eco-labelling programs** such as Enviro Choice (operated by TerraChoice Environmental Services Inc. for Environment Canada) are designed to encourage manufacturers and suppliers to develop environmentally preferable products and services. These eco-labelling programs are meant to help consumers identify products and services that are less harmful to the environment.
9. Your establishment can either publish its own **environmental report** or be a contributor to the parent company's environmental report or annual report that includes a section dealing with its environmental performance or sustainable development.