



Survey of Environmental Protection Expenditures, 2000

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

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M
M
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M
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M M

Correct as required

Establishment name

Operating name

C / O

Address

City

Province/Territory

Postal code



Please read before completing

PURPOSE OF SURVEY

This survey provides a measure of the cost imposed on industry by environmental protection in Canada through 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.

The results of this survey will be published in the Statistics Canada publication *Environmental Protection Expenditures in the Business Sector, 2000*, 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.

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 contact:

**Operations and Integration Division
Statistics Canada
Ottawa, ON, Canada, K1A 0T6**

Telephone (toll-free): **1-800-255-7726 (within Canada)**

Fax: **1-800-755-5514 (within Canada)**

E-mail address : **enviro.oid.exp@statcan.ca**

The questionnaire is available in an electronic spreadsheet 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 Definitions and concepts on page 11 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 30 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.	D	M	Y
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Ed.	D	M	Y
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Coll.	
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FSC	
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Please report in thousands of Canadian dollars

1. Reporting year

Report must cover your fiscal year ending between **April 1, 2000** and **March 31, 2001**.

From

Day	Month	Year
010	020	030

to

Day	Month	Year
040	050	060

2. 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

\$ 000

\$ 000

\$ 000

100	+	110	=	120
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3. 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

\$ 000

\$ 000

\$ 000

130	+	140	=	150
-----	---	-----	---	-----

4. Site reclamation and decommissioning

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

a) Expenditures on site reclamation made during the fiscal year 2000 for any active site belonging to your establishment

Operating expenses

Capital expenditures

Total

\$ 000

\$ 000

\$ 000

161	+	171	=	181
-----	---	-----	---	-----

b) Expenditures on site decommissioning made during the fiscal year 2000 following the closing down of a site (even if closing occurred before 2000)

Operating expenses

Capital expenditures

Total

\$ 000

\$ 000

\$ 000

162	+	172	=	182
-----	---	-----	---	-----

A list of processes and technologies associated with site reclamation and decommissioning is provided in Question 12c.

Exclude

- ◆ Fines or compensation for environmental damage (this is to be reported in Question 8)
- ◆ Provisions for future environmental liability

Please report in thousands of Canadian dollars

5. 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 4
- ◆ Expenditures for aesthetic purposes

Operating expenses \$ 000	Capital expenditures \$ 000	Total \$ 000
190	200	210

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

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

a) 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
- ◆ Expenditures related to waste collection, removal and treatment done by your establishment's or company's employees not already reported in Question 4 or 5
- ◆ Purchases of waste services not already reported in Question 4 or 5. Any sewerage management services or any other purchase of services reported in Question 11

Exclude

- ◆ Expenditures specific to workers' health and safety
- ◆ Expenditures on waste management or services reported in Question 4 or 5
- ◆ Expenditures for on-site recycling (Question 7)

Operating expenses \$ 000	Capital expenditures \$ 000	Total \$ 000
250	260	270

b) Did you report capital expenditures in Question 6a?

1 Yes 2 No ► *Go to Question 7*

1. What proportion of capital expenditures reported in cell 260 was spent on machinery and equipment imported from outside Canada? %

275

2. What proportion of capital expenditures reported in cell 260 was spent on reducing or abating each of the following?

Substances released to air %	Substances released to surface waters %	On-site contained solid/liquid waste/underground injection %	Noise, vibration or radiation %	
280	290	300	310	= 100%

Please report in thousands of Canadian dollars

7. 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 - 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.

a) Expenditures on pollution prevention

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

Include

- ◆ Expenditures for equipment or facilities integrated to 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

Exclude

- ◆ Expenditures specific to worker's health and safety
- ◆ Expenditures already included in Questions 2 to 6

Operating expenses	Capital expenditures	Total
\$ 000	\$ 000	\$ 000
500	510	520

b) Did you report capital expenditures in Question 7a?

1 Yes 2 No ► *Go to Question 7c*

1. What proportion of capital expenditures reported in cell 510 was spent on machinery and equipment imported from outside Canada?

%

525

2. What proportion of capital expenditures reported in cell 510 was spent on preventing or minimizing each of the following?

Substances released to air	Substances released to surface waters	On-site contained solid/liquid waste/underground injection	Noise, vibration or radiation	Other
%	%	%	%	%
530	540	550	560	570

= 100 %

Please report in thousands of Canadian dollars

7. Pollution prevention - Concluded

c) Pollution prevention methods

If you have prevented or reduced waste, pollutants or conserved resources in fiscal year 2000, please indicate how it was achieved by checking the appropriate box(es). Please include all projects regardless of whether they are required by regulation, convention or voluntary agreement.

	Yes	No
Product design or reformulation	810 <input type="checkbox"/>	<input type="checkbox"/>
Equipment or process modifications (integrated process)	830 <input type="checkbox"/>	<input type="checkbox"/>
Recirculation, on-site recycling or reuse or recovery of materials or substances ¹	850 <input type="checkbox"/>	<input type="checkbox"/>
Energy conservation	860 <input type="checkbox"/>	<input type="checkbox"/>
Materials or feedstock substitution, solvent reduction, elimination or substitution	870 <input type="checkbox"/>	<input type="checkbox"/>
Improved inventory management or purchasing techniques	875 <input type="checkbox"/>	<input type="checkbox"/>
Prevention of leaks and spills	880 <input type="checkbox"/>	<input type="checkbox"/>
Good operating practices or training	885 <input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	890 <input type="checkbox"/>	<input type="checkbox"/>

1. Recirculation, recovery, reuse or recycling: recirculation, reuse, recovery or recycling of water, materials or substances generated during production, **excluding materials transferred or recycled off-site.**
 Examples: vapour recovery, recovery of sludge, water recirculation, reuse of water for refrigeration condenser operation.

8. Environmental charges

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

\$ 000

760

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

9. Other environmental protection expenditures

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

\$ 000

770

Include

- ◆ The costs of administration for an environmental affairs division
- ◆ Training and information programs
- ◆ Any other additional expenditures that are required to comply with environmental regulations or conventions

Exclude

- ◆ Research and development expenditures

Please report in thousands of Canadian dollars

10. 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 9.
 Cell 802: includes total from capital expenditures reported in questions 2 to 7.
 They should also include all data for which breakdowns were not available.

Operating expenses \$ 000	Capital expenditures \$ 000	Total \$ 000
801	802	803

11. Purchase of environmental services *If the expenditure is zero, please write "0" in corresponding box.*

From the total environmental protection expenditures reported in Question 10, what was the amount of environmental services purchased from a private contractor or a government?

a) **Waste management services or sewerage services performed by contractors or a government** \$ 000

240

Include

- ◆ Expenditures related to the use of a waste collection, disposal or treatment service, or an off-site recycling service provided by a private contractor or federal, provincial or local government body
- ◆ Expenditures related to the use of a sewerage service provided by a federal, provincial or local government body

Exclude

- ◆ Expenditures for waste management activities done by your establishment's or company's employees (own-account work) (Question 4, 5 or 6)
- ◆ Expenditures for recycling on-site (Question 7)

b) **Environment-related construction performed by contractors** \$ 000

805

Include

- ◆ Installation of new and used environment-related construction assets that have been capitalized
- ◆ Renovation, retrofit, refurbishing, overhauling and rehabilitation that have been capitalized
- ◆ Environment-related machinery and equipment that have been capitalized

Exclude

- ◆ Expenditures for own-account environmental construction work
- ◆ Non-capital repair and maintenance expenditures on environmental assets

c) **Non-capital repair and maintenance expenditures on environmental assets performed by contractors** \$ 000

815

d) **Other environmental services performed by contractors not already reported** \$ 000

804

Examples:

- ◆ Purchase of services for environmental monitoring
- ◆ Purchase of environmental assessment and audit services
- ◆ Purchase of services for site reclamation and decommissioning
- ◆ Purchase of services associated with wildlife and habitat protection and restoration

e) **Total environmental services performed by contractors** \$ 000

806

Include

- ◆ Sum of cells 240, 805, 815 and 804

Exclude

- ◆ Expenditures for environmental services provided by the employees of your establishment or your company

12. Environmental processes and technologies

Indicate how this establishment has prevented, abated or controlled pollution in fiscal year 2000 resulting from normal production by checking the appropriate boxes. If you used a process not already specified, please report it next to the "Other" category.

a) Energy conservation and efficiency

Did you use one or more of the following energy conservation methods?

If yes, please check the appropriate box(es).

- | | | |
|---|------|--------------------------|
| Cogeneration | 1282 | <input type="checkbox"/> |
| Energy efficient equipment | 1283 | <input type="checkbox"/> |
| Fuel substitution | 1284 | <input type="checkbox"/> |
| Clean fuel system | 1286 | <input type="checkbox"/> |
| Waste energy recovery/reuse (from non-renewable energy sources) | 1285 | <input type="checkbox"/> |

Renewable energy source:

- | | | |
|---|------|--------------------------|
| Solar | 1288 | <input type="checkbox"/> |
| Wind power | 1289 | <input type="checkbox"/> |
| Geothermal | 1290 | <input type="checkbox"/> |
| Biomass energy | 1291 | <input type="checkbox"/> |
| <i>(e.g. waste-to-energy (industrial; agricultural; municipal; forestry wastes) and energy crops)</i> | | |

Other *(please specify)* 1292

b) Solid waste management

Did you use one or more of the following solid waste management processes?

If yes, please check the appropriate box(es).

- | | | |
|---|------|--------------------------|
| Container | 1312 | <input type="checkbox"/> |
| Dehydration | 1313 | <input type="checkbox"/> |
| Packaging | 1314 | <input type="checkbox"/> |
| Modification or preparation for landfill or waste treatment sites | 1315 | <input type="checkbox"/> |
| Compacting | 1317 | <input type="checkbox"/> |
| Shredding | 1318 | <input type="checkbox"/> |
| Grinding | 1319 | <input type="checkbox"/> |
| Crushing | 1320 | <input type="checkbox"/> |
| Screening | 1321 | <input type="checkbox"/> |
| Degritting | 1322 | <input type="checkbox"/> |
| On and off-site recycling | 1323 | <input type="checkbox"/> |
| Incineration | 1326 | <input type="checkbox"/> |

Other *(please specify)* 1331

12. Environmental processes and technologies - Concluded

c) Site reclamation and decommissioning (including treatment of soils)

Did you use one or more of the following processes for site reclamation or decommissioning?

If yes, please check the appropriate box(es).

- | | | |
|--|------|--------------------------|
| Reforestation/revegetation | 1301 | <input type="checkbox"/> |
| Underground storage tanks handling | 1293 | <input type="checkbox"/> |
| Excavation | 1294 | <input type="checkbox"/> |
| Solvent extraction system | 1295 | <input type="checkbox"/> |
| Vapour extraction systems | 1296 | <input type="checkbox"/> |
| Geomembrane | 1297 | <input type="checkbox"/> |
| Injection grouting technology | 1298 | <input type="checkbox"/> |
| Soil washing | 1299 | <input type="checkbox"/> |
| Reduction | 1300 | <input type="checkbox"/> |
| Incineration | 1310 | <input type="checkbox"/> |
| Other (please specify) _____ | 1311 | <input type="checkbox"/> |

d) Environmental biological treatment

Did you use biotechnology to abate, prevent or manage pollution or waste resulting from normal production in fiscal year 2000?

Yes 1400 No Go to Question 13

If yes, please indicate which biotechnology was used by checking the appropriate box(es).

- | | | |
|--|------|--------------------------|
| Microbiologically enhanced recovery of material(s) | 1401 | <input type="checkbox"/> |
| Phytoremediation | 1402 | <input type="checkbox"/> |
| Bioremediation | 1403 | <input type="checkbox"/> |
| Biofiltration | 1404 | <input type="checkbox"/> |
| Natural or constructed wetland | 1405 | <input type="checkbox"/> |
| Bioleaching | 1406 | <input type="checkbox"/> |
| Bio-pulping | 1407 | <input type="checkbox"/> |
| Bio-bleaching | 1408 | <input type="checkbox"/> |
| Biodesulphurization | 1409 | <input type="checkbox"/> |
| Other (please specify) _____ | 1410 | <input type="checkbox"/> |

13. Environmental management practices

Please indicate the environmental management practices adopted or utilised by this establishment in fiscal year 2000 to avoid or minimise pollution or to conserve resources.

- | | Yes | No |
|--|------------------------------|--------------------------|
| a) Did this establishment use an environmental management system? | 951 <input type="checkbox"/> | <input type="checkbox"/> |
| b) Did this establishment use Life Cycle Management, Life Cycle Assessment or Design for Environment (DfE) for decision making? | 965 <input type="checkbox"/> | <input type="checkbox"/> |
| c) Was this establishment ISO 14000 certified? | 953 <input type="checkbox"/> | <input type="checkbox"/> |
| d) Did this establishment implement any environmental voluntary agreement, or did it participate in any voluntary environmental program?
Examples include ARET (Accelerated Reduction/Elimination of Toxics) or Voluntary Challenge and Registry (VCR).
If yes, please list programs, accords or agreements. | 955 <input type="checkbox"/> | <input type="checkbox"/> |

- | | | |
|---|------------------------------|--------------------------|
| e) Did this establishment have a "green" procurement policy? | 957 <input type="checkbox"/> | <input type="checkbox"/> |
| f) Were any of the goods produced by this establishment certified by an environmental program, such as the "Enviro Choice Program" operated by Terrachoice Inc.? | 959 <input type="checkbox"/> | <input type="checkbox"/> |
| g) Did this establishment publish or contribute to annual or other reports on its environmental performance or sustainable development? | 963 <input type="checkbox"/> | <input type="checkbox"/> |
| h) Did this establishment experience any cost savings as a result of implementing any of the environmental management practices outlined in this question or pollution prevention methods outlined in Question 7? | 969 <input type="checkbox"/> | <input type="checkbox"/> |
| i) Other (please specify) | 967 <input type="checkbox"/> | <input type="checkbox"/> |

Definitions and concepts

Environmental protection expenditures are defined in this survey 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 and expenditures for restoring wildlife and habitat, expenditures for environmental monitoring, environmental assessments and audits, and expenditures for reclamation and decommissioning of sites. Expenditures to improve employee health, workplace safety and site beautification are 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 National Packaging Protocol (reduction of packaging by 50 percent by the year 2000); the Montreal Protocol (elimination of CFCs by 1998); the Canada-U.S. Air Quality Agreement; the "Responsible Care" program from the Canadian Chemical Producers Association; the Accelerated Reduction/Elimination of Toxics (ARET) Program; the Voluntary Challenge and Registry (VCR) Program on climate change; etc.

Environmental regulations refer to any current Canadian federal, provincial, 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**. If, for certain categories, no expenditures have been incurred, **please write "0" in the corresponding box**.

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

Report expenditures made during the 2000 fiscal year.

Include all relevant outlays for machinery and equipment and their installation and repair, 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 construction fees), any materials supplied to construction contractors for installation and any costs associated with the purchase of land that are neither amortised nor depreciated.

Exclude any provisions for future environmental liability.

TO REPORT OPERATING EXPENSES

Include all cash expenses, rather than accruals, incurred during your 2000 fiscal year for labour, fuel and electricity, materials and supplies, maintenance and repair, and purchased services.

FOR LOGGING ACTIVITIES

Use Question 5 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 6 or 11a 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 9 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.