**Environment Accounts and Statistics Division** 

# **Survey of Environmental Protection Expenditures,** 2000

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

Confidential when completed

Si vous préférez ce questionnaire en français, veuillez cocher

### Establishment name M Operating name M C/OМ М Address M City M M Province/Territory Postal code $\Theta$ M M

# 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

Correct as required

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) 1-800-755-5514 (within Canada) Fax: enviro.oid.exp@statcan.ca E-mail address:

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				
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4-2300-2.1: 2001-07-30 STC / NAD - 475-04244



Statistics Canada

Statistique Canada



# 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.

Day	Month	Year
010	020	030

Day	Month	Year
040	050	060

to

# 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

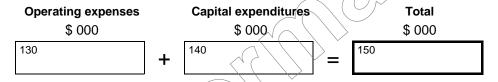
**From** 

# 3. Environmental assessment and audits

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

### Include

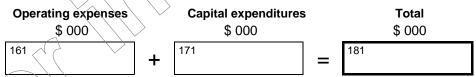
- ◆ Expenditures for reviews of current operations for compliance with regulations (audits)
- Expenditures to evaluate the environmental impact of proposed programs or projects (assessments)
- Expenditures for associated legal and consulting costs



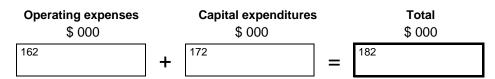
# 4. Site reclamation and decommissioning

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



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



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		Capital expenditures	5	Total
\$ 000		\$ 000		\$ 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

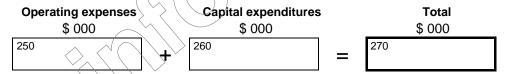
If the expenditure is zero, please write "0" in corresponding box.

## 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)



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



Mhat 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	to	Substances released surface wate		On-site ontained soli liquid waste/ underground injection	1	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 extentions; 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 \$ 000 \$ 000 \$ 000 \$ 500 \$ 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?

contained solid/ **Substances Substances** liquid waste/ Noise. released released to underground vibration to air surface waters injection or radiation Other 530 540 550 560 570 100 %

On-site

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M	ease 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 it was achieved by checking the appropriate box(es). Please include all projects regard required by regulation, convention or voluntary agreement.		
		Yes	No
	Product design or reformulation	810	
	Equipment or process modifications (integrated process)	830	
	Recirculation, on-site recycling or reuse or recovery of materials or substances 1	850	
	Energy conservation	860	$\overline{A}$
	Materials or feedstock substitution, solvent reduction, elimination or substitution	870	
	Improved inventory management or purchasing techniques	875	
	Prevention of leaks and spills	880	
	Good operating practices or training	885	
	Other (please specify)	890	
			<del>-</del> -
			=
	<ol> <li>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.</li> <li>Examples: vapour recovery, recovery of sludge, water recirculation, reuse of water for refrigeration condenser operation.</li> </ol>		
8.	Environmental charges	\$ 000	
	If the expenditure is zero, please write "0" in corresponding box.	·	7
	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 ex	stablishment	
9.>	Other environmental protection expenditures  If the expenditure is zero, please write "0" in corresponding box.		
$\langle \langle$	Include	\$ 000	<b>¬</b>
	◆ The costs of administration for an environmental affairs division		
	Training and information programs		
	◆ Any other additional expenditures that are required to comply with environmental regulation	ns 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 Capital expenditures **Total** \$ 000 \$ 000 \$ 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? \$ 000 a) Waste management services or sewerage services performed 240 by contractors or a government 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) \$ 000 805 b) Environment-related construction performed by contractors 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 \$ 000 environmental assets performed by contractors 815 \$ 000 Other environmental services performed by contractors not already 804 reported 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

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	-	
	nted, abated or controlled pollution in fiscal year 2000 resultir riate boxes. If you used a process not already specified, pleas	
a) Energy conservation and efficien	псу	
Did you use one or more of the following of the specific state of	ng energy conservation methods?	
Cogeneration		1282
Energy efficient equipment		1283
Fuel substitution		1284
Clean fuel system		1286
Waste energy recovery/reuse (from non-renew	vable energy sources)	1285
Renewable energy source:		$\rightarrow$
Solar		1288
Wind power		1289
Geothermal		1290
Biomass energy	ıl; municipal; forestry wastes) and energy crops)	1291
Othor (descended)		1292
Other (please specify)		<u>L</u>
b) Solid waste management		
Did you use one or more of the following	ng solid waste management processes?	
Did you use one or more of the following yes, please check the appropriate box(es).		1312
Did you use one or more of the following the second		1312
Did you use one or more of the following the second		1313
Did you use one or more of the following figures, please check the appropriate box(es).  Container		1313
Did you use one or more of the following yes, please check the appropriate box(es).  Container	e treatment sites	1313 1314 1315
Did you use one or more of the following fryes, please check the appropriate box(es).  Container		1313
Did you use one or more of the following frees, please check the appropriate box(es).  Container	e treatment sites	1313
Did you use one or more of the following frees, please check the appropriate box(es).  Container	e treatment sites	1313
Did you use one or more of the following freely please check the appropriate box(es).  Container	e treatment sites	1313
Did you use one or more of the following frees, please check the appropriate box(es).  Container.  Dehydration  Packaging  Modification or preparation for landfill or waste Compacting  Shredding  Grinding  Crushing	e treatment sites	1313
Did you use one or more of the following of the specific place of the appropriate box(es).  Container.  Dehydration  Packaging  Modification or preparation for landfill or waster Compacting  Shredding  Grinding  Crushing  Screening	e treatment sites	1313
Did you use one or more of the following from the f	e treatment sites	1313
Did you use one or more of the following from the f	e treatment sites	1313
If yes, please check the appropriate box(es).  Container.  Dehydration  Packaging  Modification or preparation for landfill or waste Compacting  Shredding  Grinding  Crushing  Screening  Degritting.  On and off-site recycling	e treatment sites	1313

Did y If yes Reform Under Excave Solve Vapor Geom Injecti Soil w Redur Incine Othe  d) Er Did y norm Yes If yes Microl Phyto Biorer	ite reclamation and decommissioning (including treatment of soils)  you use one or more of the following processes for site reclamation or decommissioning in please check the appropriate box(es).  restation/revegetation  reground storage tanks handling.  vation.  ent extraction system  ur extraction systems.  nembrane.  ion grouting technology  vashing  iction.  err (please specify)	1301
Reformunder Under Excave Solve Vapore Geom Injecti Soil we Reduct Incine Othe  d) Er  Did y norm Yes If yes Microl Phyto Biorei	restation/revegetation reground storage tanks handling. vation. ent extraction system ur extraction systems. nembrane. ion grouting technology vashing retion.	1301
Under Excav Solve Vapor Geom Injecti Soil w Reduc Incine Othe  d) Er  Did y norm Yes  Microl Phyto Biorer	erground storage tanks handling.  vation.  ent extraction system  ur extraction systems.  nembrane.  ion grouting technology  vashing  eration.	1293
Solve Vapor Geom Injecti Soil w Reduct Incine Othe  d) Er  Did y norm Yes  If yes  Microl Phyto Biorei	vation. ent extraction system  ur extraction systems.  nembrane.  cion grouting technology  vashing  uction.  eration.	1294
Solve Vapor Geom Injecti Soil w Redu Incine Othe  d) Er  Did y norm Yes  Microl Phyto Biorei	ent extraction system  our extraction systems.  nembrane.  cion grouting technology  vashing  oution.  eration.	1295 1296 1297 1298 1299 1300 1310
Vapor Geom Injecti Soil w Redu- Incine Othe d) Er Did y norm Yes Microl Phyto Biorel	rur extraction systems.  nembrane.  rion grouting technology  vashing  retion.	1297 1298 1299 1300 1310
Geom Injecti Soil w Redu Incine Othe  d) Er Did y norm Yes If yes Microl Phyto Biorei	nembrane.  cion grouting technology  vashing  cition.  eration.	1297 1298 1299 1300 1310
Injectii Soil w Reduction Incine Other  Did y norm Yes  If yes Microl Phyto Biorei	vashing	1298
Soil w Reductions Incine Othe  d) Er  Did y norm  Yes  Microl Phyto Biorei	vashing	1299 1300 1310
Other  Other  Did y norm  Yes  Microl Phyto Biorei	eration.	1300
d) Er Did y norm Yes Microl Phyto Biorel	eration.	1310
d) Er Did y norm Yes If yes Microl Phyto Biorei		_
d) Er Did y norm Yes If yes Microl Phyto Biorel	er (please specify)	1311
d) Er Did y norm Yes If yes Microl Phyto Biorel	at (please specify)	
Did y norm Yes If yes Microl Phyto Biorel		
Did y norm Yes If yes Microl Phyto Biorel		
Microl Phyto Biore	you use biotechnology to abate, prevent or manage pollution or waste resulting from nal production in fiscal year 2000?  No Go to Question 13	
Phyto Biore	s, please indicate which biotechnology was used by checking the appropriate box(es).	
Biore	obiologically enhanced recovery of material(s).	1401
	premediation	1402
Biofilt	emediation	1403
	tration	1404
Natur	ral or constructed wetland	1405
		1406
		<u> </u>
Bio-pi	aching	1407
Bio-bl		1408
Biode	aching	1400
Othe	achingulping.	1409
	ulping	<u> </u>
	achingulping	1409

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	vironmental management practices			
thi	ease indicate the environmental management practices adopted or utilised by s establishment in fiscal year 2000 to avoid or minimise pollution or to nserve resources.	Y	′es	No
a)	Did this establishment use an environmental management system?	951		
b)	Did this establishment use Life Cycle Management, Life Cycle Assessment or Design for Environment (DfE) for decision making?	965		
c)	Was this establishment ISO 14000 certified?	953		
	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)	955		
	or Voluntary Challenge and Registry (VCR).  If yes, please list programs, accords or agreements.			
_		>		
_				
e)	Did this establishment have a "green" procurement policy?	957		
	Were any of the goods produced by this establishment certifed by an environmental program, such as the "Enviro Choice Program" operated by Terrachoice Inc.?	959		
g)	Did this establishment publish or contribute to annual or other reports on its environmental performance or sustainable development?	963		
	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		
i)	Other (please specify)	967		
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	Certification					
l ce is c	ertify that, to the best of my kn correct and complete.	owledge, the information p	rovio	ded in this questionna	aire	
900	Signature	Date (D / M / Y)	910	Title		
	X					
905	Name of person completing this question	onnaire (Type or print)	915	Telephone No.	920	Fax No.
925	E-mail address		930	Web Site Address		
Но	ow long did it take to collect the d	ata and to complete this form	?	935		hours
C	ommonts					

our environmental protection			
		<u> </u>	
	$\checkmark$		

If you have any questions, please contact us. Telephone (toll free) 1-800-255-7726 (within Canada) 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

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# **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 Producers Accelerated Chemical Association; the 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 hox

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.