



Item 16F0006PIE

Environment Accounts and Statistics Division

# Environmental Protection Expenditures in the Business Sector, 1996

Preliminary Data



**Econnections**  
Linking the environment and the economy

**Éconnexions**  
Pour lier l'environnement et l'économie



Statistics  
Canada

Statistique  
Canada

Canada

## **Environmental Protection Expenditures in the Business Sector, 1996 Preliminary Data**

Statistics Canada - Item 16F0006PIE

February 1999  
Ottawa

### **How to obtain more information**

Inquiries about this publication and related statistics or services should be directed to:

System of National Accounts  
Environment Accounts and Statistics Division  
Statistics Canada  
Ottawa, ON  
K1A 0T6

Telephone: 1-613-951-0297  
Fax: 1-613-951-0634  
E-mail: [environ@statcan.ca](mailto:environ@statcan.ca)

Une version française de ce rapport est disponible sur demande.

---

## Table of Contents

<b>Preface</b> .....	<b>iii</b>
<b>Annex: Statistical Tables</b> .....	<b>1</b>
Table A.1 Distribution of Expenditures on Environmental Protection by Industry, 1996 .....	3
Table A.2 Capital Expenditures on Environmental Protection by Industry, 1996 .....	4
Table A.3 Capital Expenditures on Environmental Protection by Industry and Type of Activity, 1996 .....	4
Table A.4 Capital Expenditures on Environmental Protection by Province, 1996 .....	5
Table A.5 Capital Expenditures on Environmental Protection by Province and Type of Activity, 1996 .....	5
Table A.6 Distribution of Capital Expenditures for Pollution Abatement and Control by Medium and by Industry, 1996 .....	6
Table A.7 Distribution of Capital Expenditures for Pollution Abatement and Control by Medium and by Province, 1996 .....	6
Table A.8 Distribution of Capital Expenditures on End-of-Pipe Processes (for Pollution Abatement and Control) by Medium and Industry, 1996 .....	7
Table A.9 Distribution of Capital Expenditures on End-of-Pipe Processes (for Pollution Abatement and Control) by Medium and Province, 1996 .....	7
Table A.10 Distribution of Capital Expenditures on Integrated Processes for Pollution Abatement and Control by Medium and Industry, 1996 .....	8
Table A.11 Distribution of Capital Expenditures on Integrated Processes for Pollution Abatement and Control by Medium and Province, 1996 .....	8
Table A.12 Operating Expenditures on Environmental Protection by Industry, 1996 .....	9
Table A.13 Operating Expenditures on Environmental Protection by Industry and Type of Activity, 1996 .....	9
Table A.14 Operating Expenditures on Environmental Protection by Province, 1996 .....	10
Table A.15 Operating Expenditures on Environmental Protection by Type of Activity and Province, 1996 .....	10
Table A.16 Purchase of Environmental Services by Industry, 1996 .....	11
Table A.17 Purchase of Environmental Services by Province, 1996 .....	11



# Preface

This publication presents the results of the *Survey of Environmental Protection Expenditures, 1996*. The survey covers capital and operating expenditures made in 1996 by primary and manufacturing industries in order to anticipate or to respond to an environmental regulation or agreement.

Environmental regulations, current and anticipated, play a major role in the evolution of industry spending on environmental protection. For the past decade, governments in Canada have imposed various environmental regulations regarding the prevention or reduction of air emissions, effluents, solid waste, as well as the protection of wildlife and habitat. However, industry spending on environmental protection may also be affected by environmental conventions and voluntary agreements between governments and industry representatives. These are increasingly important and include specific actions on pollution prevention or abatement (see Text Box A.1).

The *Survey of Environmental Protection Expenditures, 1996* does not cover all sectors of economic activity (i.e. it does not cover agriculture, services or the government sector). A group of core industries was selected based on results from Statistics Canada's related surveys and from surveys conducted in other countries (see Text Box A.2). In addition, a sample of the rest of the manufacturing sector was drawn in order to identify other industries that may have faced expenditures on environmental protection. Overall some 2,494 establishments were surveyed. In most cases the sample included establishments with more than 49 employees.

The *Survey of Environmental Protection Expenditures* tries to fill gaps in the data regarding the cost to industry of environmental protection and the demand for associated environmental products and services. It is part of a major project to develop a national statistics database on the "environment industry". The database will provide information allowing the identification and measurement of the supply of goods, services and technologies that are produced by the environment industry, as well as the markets for Canadian companies active in the environment industry. Information on the demand for environmental protection goods and services also includes environment-related research and development expenditures as well as government expenditures on environmental protection.

A complete report will be forthcoming. It will include a comparative analysis of business environmental protection expenditures from 1994 to 1996 as well as a description of the Survey methodology.

## Text Box A.1

### Environmental Protection Expenditures

Environmental protection expenditures are defined as all operating and capital expenditures incurred in order to comply with or anticipate environmental regulations or conventions that apply to Canada. Environmental conventions include any formal multi-party commitment to meet specific targets relating to habitat protection and waste and pollution abatement, such as the Canada-U.S. Air Quality Agreement, the National Packaging Protocol, the "Responsible Care" Program adopted by the Canadian Chemical Producers Association, etc.

Environmental protection expenditures consist of expenditures undertaken with the intention of preventing, reducing and remedying environmental degradation or preserving the environment. Expenditures to improve employee health, workplace safety and site beautification are excluded. Environmental protection expenditures are broken down according to the following categories:

**Environmental monitoring:** includes expenditures related to equipment, supplies, labour and purchased services required for the monitoring of pollutant emissions that would affect air, water or soil quality.

**Environmental assessments and audits:** includes expenditures for reviews of current operations for compliance with regulations, and expenditures to evaluate the environmental impact of proposed projects.

**Site reclamation and decommissioning:** includes expenditures to clean up environmental damage and expenditures related to the closure of a site.

**Wildlife and habitat protection:** includes expenditures made to protect wildlife and habitat from the effects of economic activity, or to restore stocks that have been adversely affected by such activity.

**Purchase of waste management and sewerage services**

**Expenditures on end-of-pipe processes for pollution abatement and control:** Their sole purpose is to abate or to control undesirable substances emitted during normal production activities; end-of-pipe processes do not affect the production process itself.

**Expenditures on integrated processes for pollution abatement and control:** These expenditures lead to a new or significantly modified production process in order to prevent or reduce waste generated.

**Environmental fees, fines and licences**

**Other environmental protection expenditures:** the costs of administering environmental projects, training, etc.

---

Text Box A.2

**List of Surveyed Industries and Standard Industrial Classification (SIC) Codes**

- Logging (SIC 041)
- Mining (SIC 061, 062, 063)
- Crude Petroleum and Natural Gas (SIC 071)
- Food (SIC 10)
- Beverage (SIC 11)
- Pulp and Paper (SIC 271)
- Primary Metals (SIC 29)
- Non-Metallic Mineral Products (SIC 35)
- Refined Petroleum and Coal Products (SIC 36)
- Chemicals and Chemical Products (SIC 37)
- Electric Power Systems (SIC 491)
- Oil and Gas Pipeline Transport (SIC 461)
- Gas Distribution Systems (SIC 492)
- Other manufacturing (SIC 12, 15-19, 24-28 (excl. 271), 30-33, 39)

## Acknowledgments

This report was prepared by the Environment Accounts and Statistics Division under the direction of Claude Simard, Director. Data collection for the survey was conducted by the Operations and Integration Division under the supervision of Colette Brassard, Maureen Publow and Paul Pignat.

Major contributions to the project were made at various times by:

Anik Lacroix  
Alice Born  
Wendy Gibbard  
Marc Lavergne  
Hélène Trépanier

The contributions of respondents themselves were critical to this undertaking and are also gratefully acknowledged.

---

## **Annex: Statistical Tables**

---

## Symbols

The following standard symbols are used in Statistics Canada publications:

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- amount too small to be expressed
- x confidential to meet secrecy requirements of the *Statistics Act*



Table A.1

**Distribution of Expenditures on Environmental Protection by Industry, 1996**

Industry	Capital expenditures		Operating expenditures	
	million dollars	percent	million dollars	percent
Logging	11.4	9.6	107.3	90.4
Mining	71.7	22.2	251.7	77.8
Crude Petroleum and Natural Gas	218.5	49.1	226.9	50.9
Food	42.9	39.8	64.8	60.2
Beverage	6.6	27.5	17.5	72.5
Pulp and Paper	592.2	60.9	380.9	39.1
Primary Metals	231.8	34.0	449.3	66.0
Transportation Equipment	40.5	32.6	83.8	67.4
Non-Metallic Mineral Products	32.5	57.5	24.0	42.5
Refined Petroleum and Coal Products	91.8	30.9	205.4	69.1
Chemical Products	77.1	29.5	184.2	70.5
Other manufacturing	80.8	27.9	208.4	72.1
Oil and Gas Transport and Gas Distribution <sup>1</sup>	45.0	56.0	35.4	44.0
Electric Power	96.1	24.6	294.1	75.4
<b>Total</b>	<b>1 638.9</b>	<b>40.1</b>	<b>2 533.6</b>	<b>59.9</b>

**Notes:**

Figures may not add due to rounding.

1. Includes the following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.2  
**Capital Expenditures on Environmental Protection by Industry, 1996**

Industry	Pollution abatement and control expenditures <sup>2</sup>	Other environmental protection expenditures <sup>3</sup>	Total	Share of total percent
	million dollars			
Logging	8.7	2.7	11.4	0.7
Mining	59.1	12.6	71.7	4.4
Crude Petroleum and Natural Gas	150.1	68.4	218.5	13.3
Food	42.4	0.5	42.9	2.6
Beverage	5.9	0.7	6.6	0.4
Pulp and Paper	577.1	15.1	592.2	36.1
Primary Metals	229.6	2.2	231.8	14.1
Transportation Equipment	37.8	2.8	40.5	2.5
Non-Metallic Mineral Products	31.3	1.1	32.5	2.0
Refined Petroleum and Coal Products	86.5	5.3	91.8	5.6
Chemical Products	71.7	5.4	77.1	4.7
Other manufacturing	71.8	9.0	80.8	4.9
Oil and Gas Transport and Gas Distribution <sup>1</sup>	32.6	12.4	45.0	2.7
Electric Power	51.3	44.7	96.1	5.9
<b>Total</b>	<b>1 456.0</b>	<b>182.8</b>	<b>1 638.9</b>	<b>100.0</b>

**Notes:**

Figures may not add due to rounding.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

2. Capital expenditures on pollution abatement and control (PAC) include expenditures on PAC end-of-pipe construction and equipment, expenditures on PAC integrated processes and environmental monitoring expenditures.

3. Other capital expenditures on environmental protection include expenditures on environmental assessments and audits, on site reclamation and decommissioning, and expenditures on wildlife protection and habitat.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.3  
**Capital Expenditures on Environmental Protection by Industry and Type of Activity, 1996**

Industry	Environmental monitoring	Environmental assessments and audits	Reclamation and decommissioning	Wildlife and habitat protection	PAC end-of-pipe processes	PAC integrated processes	Total
	million dollars						
Logging	0.3	0.2	1.0	1.4	7.5	0.9	11.4
Mining	1.5	1.4	10.8	0.4	45.0	12.5	71.7
Crude Petroleum and Natural Gas	5.3	3.0	62.5	2.9	130.4	14.5	218.5
Food	1.0	0.3	0.2	--	23.3	18.1	42.9
Beverage	1.7	0.1	0.6	-	2.9	1.3	6.6
Pulp and Paper	15.0	2.0	11.9	1.2	280.7	281.4	592.2
Primary Metals	4.9	x	0.6	x	58.3	166.4	231.8
Transportation Equipment	0.5	0.2	2.1	0.5	16.8	20.4	40.5
Non-Metallic Mineral Products	1.5	x	0.9	x	25.2	4.6	32.5
Refined Petroleum and Coal Products	2.0	2.3	3.0	-	54.1	30.4	91.8
Chemical Products	19.1	x	5.0	x	39.0	13.6	77.1
Other manufacturing	..	..	..	..	..	..	80.8
Oil and Gas Transport and Gas Distribution <sup>1</sup>	0.8	2.8	7.3	2.3	20.4	11.4	45.0
Electric Power	6.9	x	6.2	x	36.8	7.7	96.1
<b>Total excluding other manufacturing</b>	<b>60.5</b>	<b>36.4</b>	<b>112.1</b>	<b>25.4</b>	<b>740.5</b>	<b>583.3</b>	<b>1 558.0</b>
<b>Total</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>1 638.9</b>

**Notes:**

Figures may not add due to rounding.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.4  
**Capital Expenditures on Environmental Protection by Province, 1996**

Province/Territory	Pollution abatement and control expenditures <sup>1</sup>	Other environmental protection expenditures <sup>2</sup>	Total	Share of total
	million dollars			percent
Newfoundland	x	x	38.9	2.4
Prince Edward Island	1.8	-	1.8	0.1
Nova Scotia	25.9	2.8	28.7	1.7
New Brunswick	68.5	3.5	72.0	4.4
Quebec	379.8	52.2	431.9	26.4
Ontario	368.1	21.5	389.5	23.8
Manitoba	x	x	18.0	1.1
Saskatchewan	35.5	19.8	55.4	3.4
Alberta	226.3	65.4	291.7	17.8
British Columbia	292.4	14.0	306.4	18.7
Yukon and Northwest Territories	x	x	4.6	0.3
<b>Canada</b>	<b>1 456.0</b>	<b>182.8</b>	<b>1 638.9</b>	<b>100.0</b>

**Notes:**

Figures may not add due to rounding.

1. Capital expenditures on pollution abatement and control (PAC) include expenditures on PAC end-of-pipe processes, expenditures on PAC integrated processes and environmental monitoring expenditures.

2. Other capital expenditures on environmental protection include expenditures on environmental assessments and audits, on site reclamation and decommissioning, and expenditures on wildlife protection and habitat.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.5  
**Capital Expenditures on Environmental Protection by Province and Type of Activity, 1996**

Province/Territory	Environmental monitoring	Environmental assessments and audits	Reclamation and decommissioning	Wildlife and habitat protection	PAC end-of-pipe processes	PAC integrated processes	Total
	million dollars						
Newfoundland	0.2	x	x	x	x	1.3	38.9
Prince Edward Island	x	-	--	--	0.3	x	1.8
Nova Scotia	0.7	--	x	x	23.4	1.3	27.9
New Brunswick	1.0	1.1	2.0	0.3	62.4	3.1	70.0
Quebec	19.1	x	21.6	x	130.7	210.3	410.7
Ontario	13.2	8.1	7.8	1.4	222.0	98.1	350.5
Manitoba	0.9	1.5	0.9	x	x	2.7	16.2
Saskatchewan	1.5	0.8	x	x	15.8	17.8	54.9
Alberta	18.0	5.7	52.3	7.0	174.3	30.2	287.5
British Columbia	3.9	2.0	5.4	4.2	61.6	218.0	295.1
Yukon and Northwest Territories	x	x	0.4	--	x	x	4.6
<b>Canada<sup>1</sup></b>	<b>60.5</b>	<b>36.4</b>	<b>112.1</b>	<b>25.4</b>	<b>740.5</b>	<b>583.3</b>	<b>1 558.0</b>

**Notes:**

Figures may not add due to rounding.

1. Excludes the other manufacturing industries category.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.6

### Distribution of Capital Expenditures for Pollution Abatement and Control by Medium and by Industry, 1996

Industry	Air	Surface water	Soil and	Noise and	Total
			groundwater	radiation	
			percent		
Logging	13.5	10.1	76.4	-	100
Mining	16.0	62.9	20.8	0.4	100
Crude Petroleum and Natural Gas	89.7	3.1	6.8	0.4	100
Food	20.3	55.1	24.2	0.5	100
Beverage	31.2	52.0	16.1	0.8	100
Pulp and Paper	46.8	49.6	3.6	0.0	100
Primary Metals	66.2	27.7	5.5	0.6	100
Transportation Equipment	63.1	17.8	17.7	1.3	100
Non-Metallic Mineral Products	97.2	1.6	1.2	0.1	100
Refined Petroleum and Coal Products	35.9	23.8	40.2	-	100
Chemical Products	53.9	32.2	11.2	2.8	100
Other manufacturing	54.2	24.7	18.0	3.1	100
Oil and Gas Transport and Gas Distribution <sup>1</sup>	59.5	6.6	26.5	7.3	100
Electric Power	27.1	28.5	19.2	25.3	100
<b>Total</b>	<b>53.2</b>	<b>35.4</b>	<b>9.8</b>	<b>1.6</b>	<b>100</b>

**Notes:**

Figures may not add due to rounding.

The table includes reported expenditure shares only. For all industries except the Other manufacturing industries group, this table includes expenditures on end-of-pipe processes and integrated processes.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.7

### Distribution of Capital Expenditures for Pollution Abatement and Control by Medium and by Province, 1996

Province/Territory	Air	Surface water	Soil and	Noise and	Total
			groundwater	radiation	
			percent		
Newfoundland	x	x	x	x	100
Prince Edward Island	x	x	x	x	100
Nova Scotia	3.9	84.7	11.4	0.0	100
New Brunswick	42.7	47.5	9.7	-	100
Quebec	63.6	26.4	8.7	1.3	100
Ontario	53.5	29.4	13.3	3.8	100
Manitoba	26.0	66.7	6.0	1.3	100
Saskatchewan	32.4	52.3	14.4	0.8	100
Alberta	77.6	7.8	12.9	1.8	100
British Columbia	42.8	50.8	6.4	0.1	100
Yukon and Northwest Territories	8.5	82.8	8.6	0.1	100
<b>Canada</b>	<b>53.2</b>	<b>35.4</b>	<b>9.8</b>	<b>1.6</b>	<b>100</b>

**Notes:**

Figures may not add due to rounding.

The table includes reported expenditure shares only. For all industries except the Other manufacturing industries group, this table includes expenditures on end-of-pipe processes and integrated processes.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.8

### Distribution of Capital Expenditures on End-of-Pipe Processes (for Pollution Abatement and Control) by Medium and Industry, 1996

Industry	Air	Surface water	Soil and	Noise and	Total
			groundwater	radiation	
			percent		
Logging	9.2	9.8	81.0	-	100
Mining	8.5	70.3	20.7	0.5	100
Crude Petroleum and Natural Gas	89.3	3.1	7.2	0.4	100
Food	27.7	60.2	11.8	0.3	100
Beverage	15.9	60.1	23.3	0.7	100
Pulp and Paper	49.5	45.2	5.3	0.1	100
Primary Metals	59.4	31.4	6.9	2.3	100
Transportation Equipment	45.1	17.2	35.0	2.7	100
Non-Metallic Mineral Products	98.9	0.6	0.3	0.1	100
Refined Petroleum and Coal Products	22.5	27.8	49.7	-	100
Chemical Products	55.3	28.9	12.2	3.7	100
Oil and Gas Transport and Gas Distribution <sup>1</sup>	37.7	10.3	40.6	11.4	100
Electric Power	27.8	28.6	18.3	25.3	100
<b>Total</b>	<b>51.4</b>	<b>32.8</b>	<b>13.3</b>	<b>2.5</b>	<b>100</b>

**Notes:**

Figures may not add due to rounding.

Estimates of expenditures on end-of-pipe processes are not available for the rest of the manufacturing sector.

The table includes reported expenditure shares only.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.9

### Distribution of Capital Expenditures on End-of-Pipe Processes (for Pollution Abatement and Control) by Medium and Province, 1996

Province/Territory	Air	Surface water	Soil and	Noise and	Total
			groundwater	radiation	
			percent		
Newfoundland	x	x	x	x	100
Prince Edward Island	x	x	x	x	100
Nova Scotia	3.4	84.9	11.6	--	100
New Brunswick	44.3	47.7	8.0	-	100
Quebec	54.6	31.1	12.8	1.5	100
Ontario	47.9	32.9	14.0	5.2	100
Manitoba	24.1	69.2	5.0	1.7	100
Saskatchewan	49.9	19.3	29.0	1.7	100
Alberta	78.2	5.7	14.1	2.1	100
British Columbia	52.7	27.4	19.6	0.3	100
Yukon and Northwest Territories	5.7	88.3	5.9	0.1	100
<b>Canada</b>	<b>51.4</b>	<b>32.8</b>	<b>13.3</b>	<b>2.5</b>	<b>100</b>

**Notes:**

Figures may not add due to rounding.

The table includes reported expenditure shares only and does not cover the rest of the manufacturing sector.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.10

### Distribution of Capital Expenditures on Integrated Processes for Pollution Abatement and Control by Medium and Industry, 1996

Industry	Air	Surface water	Soil and	Noise and radiation	Total
			groundwater		
			percent		
Logging	47.3	12.6	40.0	-	100
Mining	42.5	36.6	20.9	-	100
Crude Petroleum and Natural Gas	93.4	2.6	3.7	0.2	100
Food	10.6	48.4	40.2	0.7	100
Beverage	65.3	33.8	-	0.9	100
Pulp and Paper	44.5	53.4	2.1	-	100
Primary Metals	68.5	26.4	5.1	-	100
Transportation Equipment	78.0	18.3	3.6	0.2	100
Non-Metallic Mineral Products	87.8	6.5	5.8	-	100
Refined Petroleum and Coal Products	76.1	11.9	12.0	-	100
Chemical Products	49.7	42.1	8.2	-	100
Oil and Gas Transport and Gas Distribution <sup>1</sup>	98.8	-	1.2	-	100
Electric Power	23.5	27.8	23.4	25.3	100
<b>Total</b>	<b>55.2</b>	<b>39.3</b>	<b>5.0</b>	<b>0.4</b>	<b>100</b>

**Notes:**

Figures may not add due to rounding.

Estimates of expenditures on end-of-pipe processes are not available for the rest of the manufacturing sector.

The table includes reported expenditure shares only.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.11

### Distribution of Capital Expenditures on Integrated Processes for Pollution Abatement and Control by Medium and Province, 1996

Province/Territory	Air	Surface water	Soil and	Noise and radiation	Total
			groundwater		
			percent		
Newfoundland	x	x	x	x	100
Prince Edward Island	x	x	x	x	100
Nova Scotia	22.8	77.2	-	-	100
New Brunswick	15.6	67.5	16.9	-	100
Quebec	69.9	24.3	4.8	1.0	100
Ontario	66.5	20.1	13.3	0.2	100
Manitoba	x	x	x	x	100
Saskatchewan	18.3	79.1	2.6	-	100
Alberta	73.6	22.7	3.5	0.1	100
British Columbia	40.1	57.1	2.8	-	100
Yukon and Northwest Territories	x	x	x	x	100
<b>Canada</b>	<b>55.2</b>	<b>39.3</b>	<b>5.0</b>	<b>0.4</b>	<b>100</b>

**Notes:**

Figures may not add due to rounding.

The table includes reported expenditure shares only and does not cover the rest of the manufacturing sector.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.12  
**Operating Expenditures on Environmental Protection by Industry, 1996**

Industry	Pollution abatement and control expenditures <sup>2</sup>	Waste management and sewerage services	Other environmental protection expenditures <sup>3</sup>	Total	Share of total percent
	million dollars				
Logging	x	6.2	x	107.3	4.2
Mining	144.1	6.2	101.4	251.7	9.9
Crude Petroleum and Natural Gas	97.5	36.7	92.8	226.9	9.0
Food	22.4	30.9	11.4	64.8	2.6
Beverage	2.7	10.2	4.6	17.5	0.7
Pulp and Paper	286.7	33.4	60.8	380.9	15.0
Primary Metals	275.5	100.6	73.2	449.3	17.7
Transportation Equipment	27.2	44.9	11.6	83.8	3.3
Non-Metallic Mineral Products	8.7	5.9	9.4	24.0	0.9
Refined Petroleum and Coal Products	174.8	16.6	13.9	205.4	8.1
Chemical Products	96.7	35.4	52.1	184.2	7.3
Other manufacturing	68.6	78.3	61.6	208.4	8.2
Oil and Gas Transport and Gas Distribution <sup>1</sup>	10.3	2.4	22.6	35.4	1.4
Electric Power	x	18.4	x	294.1	11.6
<b>Total</b>	<b>1 382.0</b>	<b>426.1</b>	<b>725.5</b>	<b>2 533.6</b>	<b>100.0</b>

**Notes:**

Figures may not add due to rounding.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

2. Operating expenditures on pollution abatement and control include expenditures on PAC end-of-pipe construction and equipment, expenditures on PAC integrated processes and environmental monitoring expenditures. Purchase of waste and sewerage management services is shown separately.

3. Other operating expenditures on environmental protection include expenditures on environmental assessments and audits, expenditures on site reclamation and decommissioning, expenditures on wildlife protection and habitat, etc.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.13  
**Operating Expenditures on Environmental Protection by Industry and Type of Activity, 1996**

Industry	Environmental monitoring	Environmental assessments and audits	Reclamation and decommissioning	Wildlife and habitat protection	Waste	PAC end-of-pipe processes	PAC integrated processes	Fees, fines and licences	Other	Total
					management and sewerage services					
million dollars										
Logging	2.8	6.3	18.5	63.1	6.2	4.5	x	x	1.4	107.3
Mining	27.3	6.8	63.6	5.1	6.2	103.1	13.7	4.9	21.0	251.7
Crude Petroleum and Natural Gas	12.4	3.5	58.2	5.2	36.7	82.7	2.4	2.5	23.4	226.9
Food	5.9	1.6	3.0	0.9	30.9	14.6	1.9	3.1	2.8	64.8
Beverage	1.0	0.3	0.3	-	10.2	1.7	0.1	2.0	2.0	17.5
Pulp and Paper	83.5	11.1	6.7	15.7	33.4	175.6	27.5	8.5	18.8	380.9
Primary Metals	30.8	4.9	37.7	6.3	100.6	171.0	73.7	6.2	18.1	449.3
Transportation Equipment	3.5	1.4	3.2	0.1	44.9	21.3	2.4	0.5	6.4	83.8
Non-Metallic Mineral Products	3.3	1.1	3.9	0.1	5.9	5.2	0.2	1.9	2.5	24.0
Refined Petroleum and Coal Products	9.8	1.0	2.2	x	16.6	147.4	17.6	x	9.6	205.4
Chemical Products	30.6	7.3	30.2	0.4	35.4	55.9	10.2	1.6	12.6	184.2
Other manufacturing	..	..	..	..	78.3	..	..	..	..	208.4
Oil and Gas Transport and Gas Distribution <sup>1</sup>	1.4	2.6	5.6	x	2.4	8.9	-	x	12.5	35.4
Electric Power	8.5	22.4	13.2	x	18.4	76.4	x	41.0	23.0	294.1
<b>Total excluding other manufacturing</b>	<b>220.8</b>	<b>70.4</b>	<b>246.3</b>	<b>114.5</b>	<b>347.8</b>	<b>868.2</b>	<b>224.4</b>	<b>78.5</b>	<b>154.2</b>	<b>2 325.2</b>
<b>Total</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>426.1</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2 533.6</b>

**Notes:**

Figures may not add due to rounding.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.14  
**Operating Expenditures on Environmental Protection by Province, 1996**

Province/Territory	Pollution abatement and control expenditures <sup>1</sup>	Waste management and sewerage services	Other environmental protection expenditures <sup>2</sup>	Total	Share
	million dollars				total
					percent
Newfoundland	x	x	x	10.5	0.4
Prince Edward Island	x	x	x	0.9	0.0
Nova Scotia	27.5	4.7	5.5	37.7	1.5
New Brunswick	40.2	7.1	13.5	60.7	2.4
Quebec	286.7	115.6	123.7	526.0	20.8
Ontario	588.4	190.1	203.0	981.5	38.7
Manitoba	16.7	7.1	16.4	40.1	1.6
Saskatchewan	64.6	19.3	39.9	123.8	4.9
Alberta	197.4	48.5	151.2	397.0	15.7
British Columbia	146.3	32.3	166.8	345.4	13.6
Yukon and Northwest Territories	7.8	x	x	9.9	0.4
<b>Canada</b>	<b>1 382.0</b>	<b>426.1</b>	<b>725.5</b>	<b>2 533.6</b>	<b>100.0</b>

**Notes:**

Figures may not add due to rounding.

1. Operating expenditures on pollution abatement and control (PAC) include expenditures on PAC end-of-pipe processes, expenditures on PAC integrated processes and environmental monitoring expenditures. Purchase of waste and sewerage management services is shown separately.

2. Other operating expenditures on environmental protection include expenditures on environmental assessments and audits, expenditures on site reclamation and decommissioning, expenditures on wildlife protection and habitat, etc.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.15  
**Operating Expenditures on Environmental Protection by Type of Activity and Province, 1996**

Province/Territory	Environmental monitoring	Environmental assessments and audits	Reclamation and decommissioning	Wildlife and habitat protection	Waste	PAC end-of-pipe processes	PAC integrated processes	Fees, fines and licences	Other	Total
					management and sewerage services					
million dollars										
Newfoundland	1.3	0.3	x	0.5	x	4.2	x	0.9	1.0	10.3
Prince Edward Island	0.1	--	0.1	x	x	0.3	x	--	--	0.8
Nova Scotia	1.2	0.3	0.6	1.3	3.5	25.1	0.3	0.7	1.9	35.0
New Brunswick	8.4	1.3	2.9	4.2	6.2	30.4	0.6	0.6	3.3	58.0
Quebec	79.6	11.9	38.0	13.1	96.8	141.2	48.6	24.4	24.5	478.1
Ontario	61.8	28.4	71.3	17.5	147.9	366.3	125.2	16.7	47.8	882.9
Manitoba	3.5	1.0	3.1	1.0	4.2	10.6	1.4	4.0	6.5	35.4
Saskatchewan	10.0	8.0	9.2	1.0	18.4	47.8	6.5	12.8	8.5	122.1
Alberta	29.7	11.2	79.0	12.7	45.1	153.4	11.8	5.0	40.6	388.5
British Columbia	24.7	7.8	41.0	62.0	24.4	81.7	29.5	13.4	19.8	304.1
Yukon and Northwest Territories	0.5	0.1	x	x	x	7.4	-	0.1	0.3	9.9
<b>Canada<sup>1</sup></b>	<b>220.8</b>	<b>70.4</b>	<b>246.3</b>	<b>114.5</b>	<b>347.8</b>	<b>868.2</b>	<b>224.4</b>	<b>78.5</b>	<b>154.2</b>	<b>2 325.2</b>

**Notes:**

Figures may not add due to rounding.

1. Excludes the other manufacturing industries category.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.



Table A.16  
Purchase of Environmental Services by Industry, 1996

Industry	Total purchase of environmental services			Purchase of environmental services as a percentage of		
	Operating expenditures	Capital expenditures	Total	Operating expenditures	Capital expenditures	Total
	million dollars			percent		
Logging	38.3	3.3	41.6	35.7	29.1	35.0
Mining	43.2	46.5	89.6	17.1	64.9	27.7
Crude Petroleum and Natural Gas	115.4	193.8	309.2	50.9	88.7	69.4
Food	35.9	12.9	48.8	55.5	30.1	45.3
Beverage	11.3	5.5	16.8	64.3	83.1	69.5
Pulp and Paper	72.7	323.2	396.0	19.1	54.6	40.7
Primary Metals	153.0	86.7	239.7	34.1	37.4	35.2
Transportation Equipment	54.6	35.2	89.8	65.2	86.8	72.2
Non-Metallic Mineral Products	11.5	6.7	18.2	48.1	20.5	32.3
Refined Petroleum and Coal Products	19.8	12.6	32.4	9.6	13.7	10.9
Chemical Products	61.1	25.0	86.1	33.2	32.4	33.0
Other manufacturing	104.2	28.6	132.9	50.0	35.4	45.9
Oil and Gas Transport and Gas Distribution <sup>1</sup>	15.3	17.8	33.0	43.1	39.5	41.1
Electric Power	91.3	47.3	138.6	31.0	49.3	35.5
<b>Total excluding other manufacturing</b>	<b>723.3</b>	<b>816.5</b>	<b>1 539.8</b>	<b>31.1</b>	<b>52.4</b>	<b>39.7</b>
<b>Total</b>	<b>827.6</b>	<b>845.1</b>	<b>1 672.7</b>	<b>32.7</b>	<b>51.6</b>	<b>40.1</b>

**Notes:**

Figures may not add due to rounding.

1. Includes the two following industries: Crude Oil and Natural Gas Pipeline Transport and Gas Distribution Systems.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.17  
Purchase of Environmental Services by Province, 1996

Province/Territory	Total purchase of environmental services			Purchase of environmental services as a percentage of		
	Operating expenditures	Capital expenditures	Total	Operating expenditures	Capital expenditures	Total
	million dollars			percent		
Newfoundland	2.0	x	x	19.1	x	x
Prince Edward Island	0.4	x	x	43.1	x	x
Nova Scotia	6.9	18.0	24.9	18.3	62.8	37.5
New Brunswick	11.6	14.4	26.0	19.2	19.9	19.6
Quebec	207.7	254.0	461.7	39.5	58.8	48.2
Ontario	274.3	156.4	430.7	27.9	40.2	31.4
Manitoba	11.4	6.6	18.0	28.5	36.6	31.0
Saskatchewan	56.2	44.4	100.6	45.4	80.1	56.1
Alberta	158.5	209.2	367.7	39.9	71.7	53.4
British Columbia	97.6	108.3	205.9	28.3	35.3	31.6
Yukon and Northwest Territories	1.0	1.1	2.1	9.9	24.5	14.5
<b>Canada</b>	<b>827.6</b>	<b>845.1</b>	<b>1 672.7</b>	<b>32.7</b>	<b>51.6</b>	<b>40.1</b>

**Note:**

Figures may not add due to rounding.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.