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Environment Accounts and Statistics Division

# Environment Industry Survey

## Business Sector, 1998



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## Preface

This report presents estimates pertaining to businesses in the environment industry, obtained from the *Environment Industry Survey, 1998* as well as a number of other surveys carried out by Statistics Canada. The data from these sources have been combined in order to provide a more complete picture of businesses that, in 1998, produced environmental goods, provided environmental services or undertook environment-related construction activities in Canada.

The data presented in this report do not reflect the **1999 Nunavut boundaries** since all data refer to the period before April 1, 1999. Therefore, where data on the Northwest Territories are shown, these data refer to the Northwest Territories (including Nunavut), as defined before April 1, 1999.<sup>1</sup>

## Acknowledgements

The cooperation of survey respondents and industry groups were critical to the successful completion of this project and are gratefully acknowledged.

This report was prepared by the Environment Accounts and Statistics Division, under the direction of Claude Simard, Director and Alice Born, Chief, Environmental Protection Accounts and Surveys. Data collection for the surveys was conducted by the Operations and Integration Division (Mel Jones, Director) and the Environment Accounts and Statistics Division. Other data were supplied by Services Division (Janice McMechan, Director).

Rowena Orok, Analyst, Environmental Protection Accounts and Surveys, managed the survey.

Major contributions to this report were made at various times by:

Diane Beauchamp  
Alice Born  
Jeff Fritzsche  
Wendy Gibbard  
Anik Lacroix  
Marc Lavergne  
John Marshall  
Hélène Trépanier

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1. On April 1, 1999 the Territory of Nunavut was officially established through the **Nunavut Land Claim Agreement** and the **Nunavut Act**.

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## 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*

# 1 Highlights and Introduction

## 1.1 Highlights

- Revenues derived from environment-related activities reached \$14.3 billion in 1998, representing 58% of the total revenues reported by firms that made up Canada's environment industry.
- Accounting for 44% of total environmental revenues, environmental services led all product categories, surpassing the goods category (40%) which had been the industry's top performer in previous years. Environment-related construction services made up the remaining share.
- Four industry groups led Canada's environment industry, posting a combined share of nearly three-quarters of business sector total environmental revenues: Wholesale Trade (22%); Waste Management and Remediation Services (21%); Construction (16%); and Engineering Services (15%).
- In general, environmental firms in each province experienced an increase in environmental revenues in 1998, with most of the growth fuelled by environmental services. As in the previous years, businesses in Ontario and Quebec were the biggest earners of revenues from environment-related activities. Ontario's environmental revenues were \$6 billion in 1998 and those of Quebec were estimated at \$3.3 billion.
- Small and medium-sized establishments continued to dominate the Canadian environment industry. In particular, the number of small establishments made up 96% of all establishments in the industry during the period.
- Environmental goods, specifically recyclable materials, were supplied mainly by small establishments while environment-related construction services were provided mostly by large establishments. Both small and medium-sized establishments provided over three-quarters of total environmental services.
- Export markets represented 8% of environmental revenues in 1998. Total environmental export revenues reached \$1.2 billion, mostly in the form of environmental goods (\$973.4 million).
- With environmental export revenues of \$857.8 million, the United States remained the biggest export market for Canada's environment industry, followed by Asia (\$139.2 million) and Europe (\$65.7 million).

- Total employment of businesses that reported environment-related activities reached 164,341 in 1998. This total includes all workers who performed environmental and non-environmental activities.

## 1.2 Introduction

### *Why is there a need to collect information on the environment industry?*

The importance of environmental issues generates a parallel interest in evaluating the relationship between environmental efforts (done through regulations or voluntary actions) and economic activity. Governments and businesses, for example, look at the impacts of these environmental efforts on trade opportunities, both domestic and international (see Text Box 1.1).

#### Text Box 1.1

#### **Environment Industry: Changing Conditions and Industry Responses**

The environment industry is a beneficiary of the increasing pressure on firms in all sectors to achieve higher standards of environmental performance. Firms are feeling pressure, not only from concerned citizens and governments, but also from lenders and investors who are worried about possible liability for environmental damage. As a result, there is a growing demand for pollution control technologies and processes that will help firms efficiently improve their environmental performance.

The increasing pressure on industry to demonstrate its commitment to sustainable development - development that meets the needs of the present without compromising the ability of future generations to meet their own needs - presents growth opportunities for the evolving environment industry.

Canada's environment industry has been characterized as an *enabling sector*, that is, a sector helping make other industries more efficient and productive while also helping them meet environmental standards and regulations. By developing efficient solutions to environmental problems, the industry can make an important contribution to improving the performance of many industrial sectors of the Canadian economy.

**Source:** Industry Canada, 2000, <<http://strategis.ic.gc.ca/>>, (accessed August 29, 2000), Ottawa.

Tracing its roots from the "command and control" regimes of the 1970s that spurred the demand for environmental goods and services, the environment industry has evolved into a complex and rapidly changing industry. Environmental goods are no longer limited to "end-of-pipe" equipment used to treat pollutants that have been released in air, water and soil. The past decade has seen the continued development of more "integrated process" equipment that prevent the release of pollutants and also reuse materials and energy during the production process. Similarly, the array of environmental services has gone beyond waste management and wastewater treatment services. An extensive variety of engineering, analytical and design services are now available in the market to help businesses incorporate environmental considerations into their production processes.

construction activities. A more extensive description of these goods and services is found in Section 2 - Definitions.

Table 1.1

### Total supply of environmental goods and services, 1997 and 1998

Category of supplier	1997 <sup>1</sup>	1998
	million dollars	
Business sales	11 476.6	14 278.3
Business own account <sup>2</sup>	2 865.9	2 897.4
Government	5 105.7	5 164.7
Imports	2 909.1	3 488.5
<b>Total</b>	<b>22 357.3</b>	<b>25 828.9</b>

Note:

Figures may not add up to totals due to rounding.

1. Revised data.

2. Business own account refers to ancillary activities which are undertaken within an establishment and the output of which is not intended for use outside the establishment.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Both governments and businesses supply environmental goods and services. Governments, for example, produce environmental services related to water supply, wastewater treatment as well as environmental assessment and monitoring. Businesses, on the other hand, provide a wider variety of environmental goods and services, ranging from the traditional equipment for air pollution control, wastewater treatment and waste management to the more recently developed pollution prevention systems and technologies. The production of environmental goods and services by these two sectors, as well as imports, comprise the **total supply of environmental goods and services of the Canadian economy**. Table 1.1 shows the total supply of environmental goods and services in 1998, estimated at \$25.8 billion. Approximately two-thirds of the total came from business sales and business own account.

This report presents the 1998 estimates for Canada's **business sector environment industry**. It covers all businesses operating in Canada (at the establishment level) that either produced environmental goods, provided environmental services or undertook environment-related



## 2 Definitions

There are several sets of criteria that define an environmental good or service. This report defines the environment industry as “. . .all companies operating in Canada that are involved in whole or in part in the production of environmental goods, the provision of environmental services and the undertaking of environment-related construction activities.”<sup>1</sup> The statistical unit used in this report is the establishment.<sup>2</sup>

Environmental goods and services are goods and services that are used or can potentially be used to measure, prevent, limit or correct environmental damage (both natural or by human activity) to water, air, soil as well as problems related to waste, noise and ecosystems. They also include clean or resource-efficient (“eco-efficient”) technologies that decrease material inputs, reduce energy consumption, recover valuable by-products, reduce emissions and/or minimise waste disposal problems.

This definition focuses on the *end-use* instead of the physical attributes of goods and services. It also addresses the core question: “Does a particular good or service exist in the market either **solely or partly** because of its environmental component?” The detailed lists of environmental goods and services are shown in text boxes 2.1, 2.2 and 2.3. These lists were developed using Canadian and international sources.<sup>3</sup> The major categories presented in the statistical tables are based on the condensed versions of the detailed lists.

### Industry classification

The environment industry is composed of establishments operating in a variety of industries that produce environmental goods and services. Thus, this industry is not classified as one specific industry under Statistics Canada’s official classification of industries.<sup>4</sup> Beginning with reference year 1998, statistical tables on the different industry groups that comprise the environment industry are based on the North American Industry Classification System (NAICS) instead of the 1980 Standard Industrial

Classification System (SIC) used in the reports for previous years.

Developed in coordination with the statistical agencies of Mexico and the United States, NAICS is based on the premise that “economic units that have similar production processes are classified in the same industry, and the lines drawn between industries demarcate, to the extent practicable, difference in the production processes.”<sup>5</sup> This production-oriented classification system was also designed to reflect technological changes and diversification of services that industries have undergone in recent years. Through NAICS, there is an improved representation of the wide range of industries that undertake environment-related activities. Various examples are described below.

First, the Waste Management and Remediation Services industry, formerly classified in Other Utility Industries, n.e.c. under the 1980 SIC, is currently a separate industry under NAICS (NAICS 562). Having its own industry code allows for a clearer description of waste management activities as well as a detailed breakdown of activities such as waste treatment and disposal, remediation and other waste management services. Another new environment-related industry under NAICS is the Environmental Consulting Services industry (NAICS 54162) which includes environmental and sanitation consulting services. Third, Recyclable Material Wholesalers now have a separate NAICS code (NAICS 4181), in contrast with a much broader classification under the 1980 SIC (SIC 5919, Other Waste Materials, Wholesale).

The above groups are some of the most prominent industries that engage in environment-related activities. Improvements in the classification brought about by NAICS have resulted in better estimates for Canada’s environment industry. Text box 2.4 presents the profile of the NAICS industry groups used in the statistical tables.

1. Definition based on the *Environment Industry Survey, 1998*.

2. An establishment is defined as “the smallest operating entity which produces as homogeneous a set of goods and services as possible and for which records provide data on the value of output together with the cost of materials used and cost of quantity of labour resources employed to produce the output.” Refer to Statistics Canada, 1980, *Standard Industrial Classification 1980*, Catalogue 12-501E, Ottawa.

3. For a more detailed discussion on environmental goods and services, refer to OECD and Eurostat, 1999, *The Environmental Goods and Services Industry: Manual for Data Collection and Analysis*, Paris.

4. Industry classification systems arrange producing units into industries, i.e. groups of establishments whose production represents a homogeneous set of goods or services or groups of establishments engaged in the same or similar kind of economic activity. Until recently, the Standard Industrial Classification System (SIC) was the standard classification used by Statistics Canada. This has been replaced by the North American Industry Classification System (NAICS).

5. Statistics Canada, 1997, *North American Industry Classification System*, Catalogue No. 12-501-XPE, Ottawa.

## Text Box 2.1

**Environmental Goods****Water**

**Water Supply and Conservation** - potable water; water handling goods and equipment (pumps, pipes, valves); and water conservation products (low-flow toilets, shower heads).

**Wastewater Management** - aeration systems; chemical recovery systems; biological recovery systems; gravity sediment systems; oil/water separation systems; screens/strainers; sewage treatment; water pollution control, wastewater reuse equipment; water treatment chemicals; water treatment equipment; clarifiers, filters and filter media; water purification equipment.

**Air**

**Air Pollution Control (Indoor or Outdoor)** - air handling equipment; catalytic converters; chemical recovery systems, dust collectors, separators/precipitators; incinerators, scrubbers; and odour control equipment.

**Waste**

**Solid and Hazardous Waste Management** - hazardous waste storage/treatment equipment; waste collection equipment; waste disposal machinery and equipment; waste handling equipment; waste separation equipment; recycling equipment; and incineration equipment

**Remediation and Treatment of Soil and Groundwater** - absorbents; bioremediation equipment; soil vapour extraction equipment; spill equipment; and containment systems.

**Renewable Energy**

**Energy Efficient Products** - energy management equipment; energy recovery equipment; alternate energy systems and equipment; insulation and sealing products; and energy efficient lighting, motors, etc.

**Solar Energy Systems and Equipment** - active and passive solar systems; photovoltaics; and solar-thermal generators.

**Biomass Energy Systems and Equipment** - forest and agricultural biomass, including plantations, harvesting and conversions; and landfill gas collection systems.

**Other renewable Energy Systems and Equipment** - hydraulic energy such as ocean energy systems; waves, tides and rivers; geothermal; peat; and wind.

**Alternative Fuel Systems**

**Alternative Fuel Systems** - clean fuel systems (reformulated fuels and oxygenated fuels); fuel cell technologies; hydrogen systems; and advanced batteries.

**Clean Technologies, Eco-efficient Technologies and Related Components** - integrated process technology; and materials recovery technology.

**Analytical**

**Environmental Monitoring, Analysis and Assessment** -measuring and monitoring equipment; sampling systems; process and control equipment; data acquisition equipment; other instruments/machines; environment information systems and/or analytical software such as laboratory, remote sensing, and GIS management software

**Other**

**Noise and Vibration Abatement** - mufflers/silencers; noise deadening equipment; noise and vibration control systems; and highway barriers.

**Recyclable materials** - metals (ferrous and non-ferrous scrap metal, including automobiles for scrap), paper and paperboard and other recyclable materials (plastic, glass, textiles, liquids and sludges).

**Others, specify** - specified by respondents.

## Text Box 2.2 Environmental Services

### Water

**Water supply and conservation** - water purification; water delivery; water handling systems; and consulting engineering and analytical services.

**Wastewater management** - sewage treatment systems; wastewater reuse systems; operation of water treatment facilities; storm water management; water and wastewater system assessment; planning and design management; and related consulting and analytical services.

### Air

**Air pollution control (Indoor or Outdoor)** - emission monitoring; assessment/ evaluation, design and planning; and related consulting engineering and analytical services.

### Waste

**Solid and hazardous waste management** - emergency response and spills cleanup; water handling, collection, transport, transfer stations and disposal; operation of sites, ownership/management of sites; recycling (sorting, baling, cleaning); operation of recycling plants (materials recovery facilities); hazardous waste management; medical waste management; nuclear waste management; and related consulting engineering and analytical services.

**Remediation and treatment of soil and groundwater** - cleanup; industrial services (cleaning for facilities and tanks); groundwater monitoring and remediation services; soil remediation services; hydrogeological services; site reclamation and remedial action services; and related consulting engineering and analytical services.

### Research and development

**Environmental research and development** - development, evaluation and implementation of clean process technologies and/or end-of-pipe pollution abatement and control technologies; related consulting engineering and analytical services; and related research to improve knowledge on ecosystems and the impact of human activities on the environment.

### Renewable energy

**Energy efficiency and renewable energy** - energy audit; energy resource management; alternative energy system design; renewable energy services (site assessment, project development, installation); services related to renewable energy production (solar energy, biomass, hydraulic, geothermal, peat and wind); and related consulting engineering and analytical services.

### Engineering

**Other Environmental Consulting Engineering Services** - other environmental advisory and/or design, services not listed in the preceding categories.

### Analytical

**Other Analytical services, Data Collection and Analysis** - other analysis services not listed in the preceding categories.

### Other

**Noise and Vibration Abatement** - assessment and monitoring; design and management services for acoustic and soundproof screens and street covering; and related consulting engineering and analytical services.

**Environmental education and training, information** - environmental education and training; environmental information searching services; environmental data management and analysis; ISO 9000/14000 support services; and related consulting engineering and analytical services.

**Others, specify** - specified by respondents.

## Text Box 2.3 Environment-related Construction

### **Air pollution control ( Indoor or Outdoor)**

### **Water supply and conservation**

**Wastewater management** - sewer systems; water treatment plants.

**Solid and hazardous waste management** - hazardous waste management; solid waste treatment, storage and disposal; recycling.

### **Remediation and Treatment of Soil and Groundwater**

**Noise/Vibration Abatement** - highway barriers.

**Others, specify** - specified by respondents.

**Text Box 2.4**  
**Profile of Industry Groups**  
**based on the North American Industry Classification System (NAICS)**

<b>Industry</b>	<b>NAICS code</b>
Agriculture, forestry, fishing and hunting	11
Mining and oil and gas extraction	21
Utilities	22
Construction	23
Chemical manufacturing	325
Plastics and rubber products manufacturing	326
Non-metallic mineral product manufacturing	327
Primary metal manufacturing	331
Fabricated metal product manufacturing	332
Machinery manufacturing	333
Computer and electronic product manufacturing	334
Electrical equipment, appliance and component manufacturing	335
Rest of manufacturing sector	312, 314, 321, 322, 324, 336, 339
Wholesale trade	41
Retail trade	44, 45
Finance and insurance services	52
Legal services	5411
Architectural services and landscape architectural services	54131, 54132
Engineering services	54133
Surveying and mapping (including geophysical) services	54136, 54137
Testing laboratories	54138
Computer systems design and related services	5415
Management, scientific and technical consulting services	5416
Scientific research and development services	5417
All other professional, scientific and technical services	541212, 541215, 541340, 541350, 541420, 541810, 541820, 541910, 541940, 541990
Management of companies and enterprises	55
Administrative and support services	561
Waste management and remediation services	562
Other services	482, 484, 488, 493, 511, 513, 514, 531, 532, 621, 624, 711, 712, 722, 811

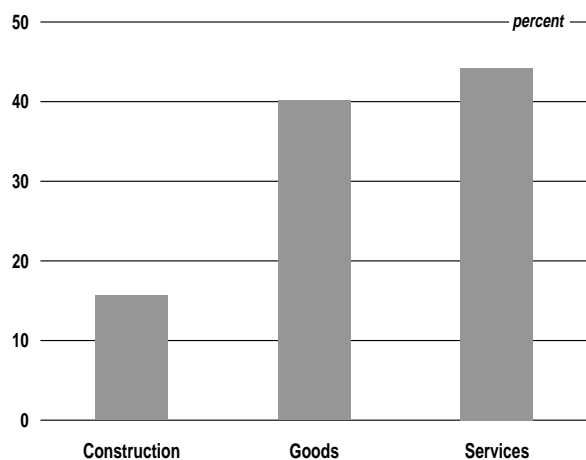
## 3 Survey Results

### 3.1 Environmental revenues

Revenues derived from the sale of environmental goods and services reached \$14.3 billion in 1998 (Table A.1), compared with \$11.5 billion reported in 1997.<sup>1</sup> Overall, the 1998 environmental revenues represented 58% of the total revenues reported by establishments that made up Canada's environment industry.

Among the major categories of goods and services, environmental services accounted for 44% of total environmental revenues, surpassing the goods category which represented 40% of these revenues (Figure 3.1). This result corresponds with the faster growth in the Canadian economy's overall demand for services relative to goods between 1997 and 1998.<sup>2</sup> Environment-related construction services made up the remaining share at almost \$2.3 billion in 1998.

Figure 3.1  
Environmental Revenues by Major Categories of Goods and Services, 1998



Source:  
Statistics Canada, Environment Accounts and Statistics Division.

Total environmental services revenues were \$6.3 billion (Table A.3). Most of the revenues originated from the waste

1. The year-over-year growth calculation shows an environmental revenue growth of 25% between 1997 and 1998. However, it should be noted that 6% of this growth was due to improved coverage in the 1998 survey.

2. Statistics Canada, CANSIM Matrix 6548.

services category (\$3.4 billion) and engineering services category (\$2 billion). Together, these two categories made up 85% of environmental services revenues. Revenues from "other" services category placed third, reaching \$365 million in 1998. Environmental assessments, audits, risk management, emergency response planning, and environmental legal services were the most common types of services covered in this category.

Of the \$5.7 billion in environmental goods revenues, the "other" goods category posted the top environmental revenues in 1998 (\$2.9 billion), owing mainly to the revenues from buying, breaking up, sorting and selling recyclable materials (Table A.2). The water and air categories also had significant environmental revenues during the period (\$1.5 billion and \$460 million, respectively).

With \$2.3 billion in revenues, environment-related construction services grew strongly in 1998 relative to the \$1.5 billion revenues reported in 1997. The period was characterized by a general increase in both business and government construction activities. Government infrastructure projects including those for water supply and conservation; sewage collection and disposal; and wastewater treatment stimulated the market for environment-related construction activities.

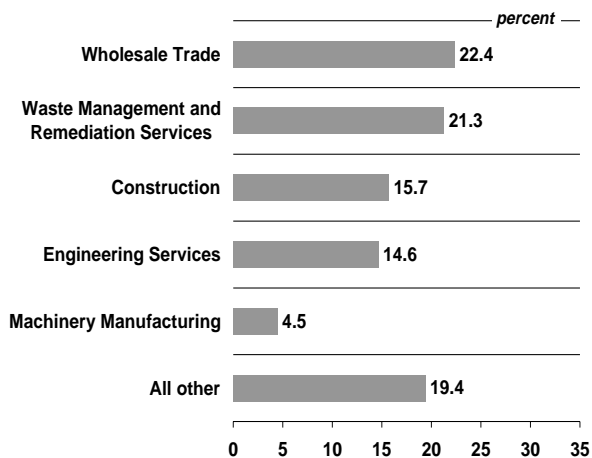
### Industry profile<sup>3</sup>

In 1998, four industry groups continued to lead Canada's environment industry: Wholesale Trade<sup>4</sup>; Waste Management and Remediation Services; Construction; and Engineering Services. The combined share of these industries was close to 75% of business sector total environmental revenues (Figure 3.2).

3. The discussion on industry profiles makes reference to an *industry* or *industry group*. This report defines an *industry* or *industry group* as a combination of various industries classified under the North American Industry Classification System (NAICS). The NAICS codes that constitute each industry group are listed in Section 2, text box 2.4.

4. The following wholesale industries are included in the Wholesale Trade industry group: Farm Product (NAICS 411), Petroleum Product (NAICS 412), Food, Beverage and Tobacco (NAICS 413), Personal and Household Goods (NAICS 414), Motor Vehicle and Parts (415), Building Material and Supplies (NAICS 416), Machinery, Equipment and Supplies (NAICS 417), Miscellaneous (NAICS 418), and Wholesale Agents and Brokers (NAICS 419).

Figure 3.2  
**Distribution of Environmental Revenues, Top Industry Groups, 1998**



Source:  
 Statistics Canada, Environment Accounts and Statistics Division.

The Wholesale Trade industry reported \$3.2 billion in environmental revenues in 1998 (Table A.1), a substantial portion of which was generated by Recyclable Materials Wholesalers.<sup>1</sup> Classified under the “other” goods category, the processing and sale of scrap metals, plastic, glass, textiles, liquids as well as used newspaper and paperboard earned the Wholesale Trade industry \$2.6 billion in environmental revenues (Table A.2).

Waste Management and Remediation Services industry posted 1998 environmental revenues of \$3.0 billion, practically matching those of the Wholesale Trade industry. Being a more homogeneous industry, Waste Management and Remediation Services undoubtedly derives a significantly larger proportion of its total revenues from environment-related activities relative to all other industries. Most establishments in this industry specialise in one category of environmental service rather than provide multiple types of goods/services (Tables A.2 and A.3).

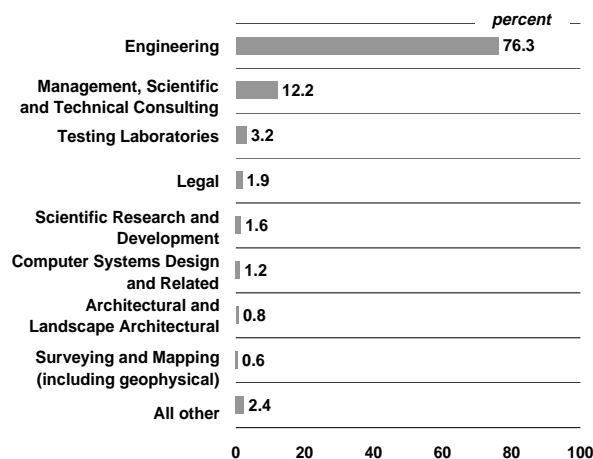
Environmental revenues of the Construction industry reached \$2.2 billion (Table A.1), most of which were obtained from government contracts. The environment-related activities of this industry are closely linked, for example, with contracted local government infrastructure projects on water supply and conservation, sewage management (including wastewater treatment plants), waste management and other environmental expenditures.

In the Professional, Scientific and Technical Services sector<sup>2</sup>, Engineering Services led the way, accounting for 76% of the sector’s environmental revenues, followed by Management, Scientific and Technical Consulting Services (12%). Each of the sector’s remaining industry groups had

1. The Recyclable Materials Wholesalers covered in this report pertain to those establishments that fall under NAICS 418.  
 2. Industries classified under the 2-digit NAICS code 54 comprise the professional, scientific and technical services sector.

a share of less than 5% of total environmental revenues (Figure 3.3). Engineering services firms had total environmental revenues of \$2.1 billion (Table A.1) which may be attributed to the generally strong market for engineering services in 1998.<sup>3</sup>

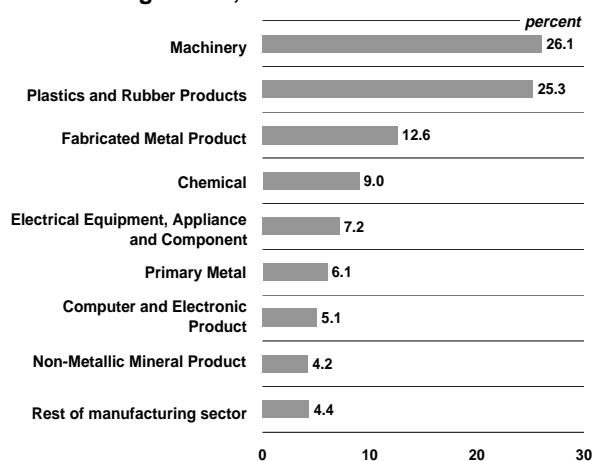
Figure 3.3  
**Distribution of Environmental Revenues, Professional, Scientific and Technical Services Sector, 1998**



Source:  
 Statistics Canada, Environment Accounts and Statistics Division.

The Manufacturing sector’s overall contribution was \$2.5 billion (17% of total) in 1998. Firms in the Machinery; Plastic and Rubber Products; and Fabricated Metal Products industries reported this sector’s most significant environmental revenues (Figure 3.4). The bulk of revenues was in the water category for both the Machinery industry and Plastic and Rubber Products industry (Table A.3).

Figure 3.4  
**Distribution of Environmental Revenues Manufacturing Sector, 1998**



Source:  
 Statistics Canada, Environment Accounts and Statistics Division.

3. Consulting engineering services price indexes for environmental services rose from 107.1 in 1997 to 109.6 in 1998. Statistics Canada, CANSIM Matrix 2047.

## Environmental goods and services by province or territory

As in the previous years, environmental businesses in Ontario and Quebec continued to lead Canada's environment industry, although these two provinces obtained a lower combined share of environmental revenues (65% in 1998 compared to 70% in 1997). Ontario's environmental revenues were \$6.0 billion in 1998 and those of Quebec were estimated at \$3.3 billion (Table A.5). Environmental service activities fuelled the revenue growth in both provinces although the bulk of revenues still originated from the sale of environmental systems and equipment. Other top performers were Alberta (\$1.9 billion) and British Columbia (\$1.8 billion). Overall, all provinces experienced an increase in environmental revenues except Manitoba.

The split among major categories of goods and services in most of the provinces followed the same pattern as the national level distribution where the services category led in environment industry revenues. In fact, the shares of environmental services in most provinces were higher than the Canada level share (Tables A.5 and A.7). For example, Manitoba, Yukon and Northwest Territories, Newfoundland and British Columbia acquired more than half of their environmental revenues from the provision of environmental services.

In contrast, the product distribution for Ontario and Quebec remained unchanged from the previous year, with the goods category accounting for a higher share of environmental revenues (Table A.5). These two provinces showed a higher proportion of goods sold in the "other" and water categories (Table A.6). "Other" environmental goods revenues were primarily from the sales of recyclable materials. Systems and equipment for wastewater management or water supply and conservation ranked second, representing over one quarter of environmental goods revenues in both provinces. Unlike in 1997, Ontario's environmental revenues from the water category surpassed the air category, as revenues from air pollution control systems and equipment dropped by almost 30% in 1998 (\$314.1 million), while systems and equipment for wastewater management/water supply and conservation nearly doubled to \$810.1 million.

## Environmental goods and services by establishment size

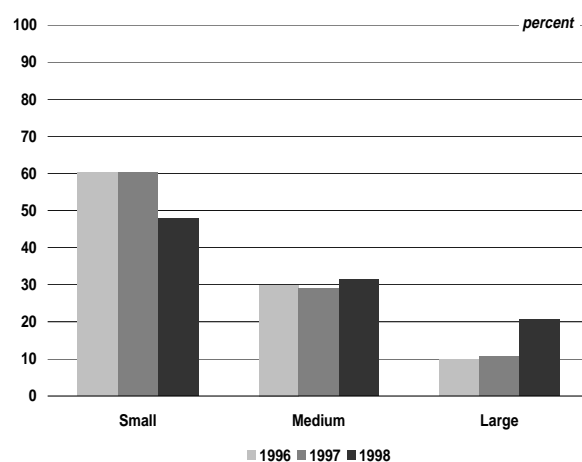
In 1998, there were 6,294 business establishments engaged, in whole or in part, in environment-related activities (Table A.9).<sup>1</sup> Small and medium-sized establishments

1. Of the additional number of establishments in 1998, 165 establishments were part of increased coverage.

continued to dominate the Canadian environment industry.<sup>2</sup> Small establishments, in particular, made up 96% of all establishments in the Canadian environment industry and accounted for 41% of total employment (Table A.9).

The period, however, saw a shift in the distribution of environmental revenues among the three size groups (Figure 3.5).<sup>3</sup> The share of large establishments more than doubled in 1998, generating 21% of total environmental revenues. Overall, large firms experienced an increase in the proportion of total revenues generated from environment-related activities between 1997 and 1998. The reverse was true in the case of small establishments where the 1998 share decreased to 48% (Figure 3.5). For example, the proportion of small establishments that obtained at least three-quarters of their total revenues from environment-related activities fell from 89% in 1997 to 84% in 1998. The share of medium-sized establishments (31%), on the other hand, only had a slight increase compared with the previous year.

Figure 3.5  
Distribution of Environmental Revenues by Establishment Size, 1996-1998



Source:  
Statistics Canada, Environment Accounts and Statistics Division.

## Client base

Environmental goods and services exist because they cater to the needs and requirements of markets that are, by and large, driven by regulatory compliance or voluntary actions.

Clients varied widely across the different industry groups. Nevertheless, aggregate level estimates show that governments were one of the environment industry's top clients in 1998 (Table A.13). Approximately 21% of environmental revenues were associated with local government projects

2. Small establishments are often described as businesses having fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

3. The 1998 shares used in Figure 3.5 have been adjusted to illustrate comparable data sets for all three years.

and another 10% were linked with federal/provincial environment-related undertakings.

Other key buyers of environmental goods and services were firms in the manufacturing and business services industries. For instance, various types of wholesalers (recyclable metals, chemicals, industrial machinery and equipment) sold a large portion of their environmental goods to manufacturing industries. Business services, on the other hand, were cited as prominent clients for suppliers of environment-related management services, legal services, and fabricated metal products.

## 3.2 Trade

### Domestic markets

Domestic market earnings represented 92% of environmental revenues in 1998 (Table A.14). The relatively smaller environmental industries of Prince Edward Island and Yukon and Northwest Territories generated virtually all of their environmental revenues from domestic markets.

As in the previous years, environmental business establishments in all the provinces catered mostly to clients located within their own province. In general, this may be attributed to factors such as the predominance of small establishments as well as the characteristics of leading industry groups. The highest ratios of *within-province clients* were found in Manitoba (90%), Newfoundland (88%), and Prince Edward Island (82%). New Brunswick and Saskatchewan, on the other hand, posted the highest ratios of *out-of-province clients* (48% and 42%, respectively) compared with all the other provinces (Table A.14).

### International markets

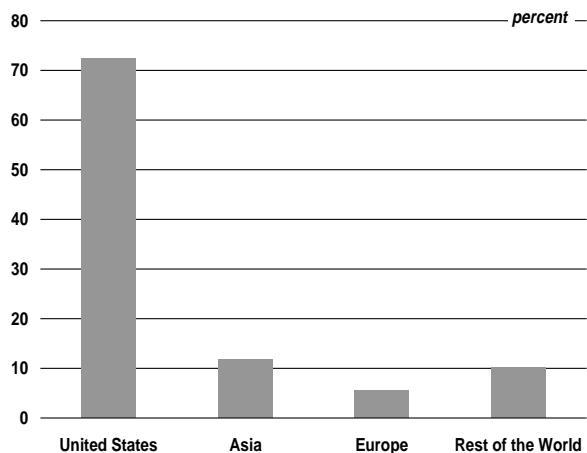
International markets accounted for 8% of environmental revenues (Table A.14 and A.15). With an estimated 598 exporting establishments in 1998,<sup>1</sup> Canada's environmental exports reached \$1.2 billion. Of this amount, \$973.4 million was in the form of environmental goods. The top industry exporters were Machinery; and Plastic and Rubber Products manufacturers. Approximately \$17 out of every \$100 worth of Canadian environmental exports were goods produced by the Machinery industry. This industry earned \$205.4 million from environmental exports in 1998. The Wholesale Trade industry also had significant environmental export revenues of \$152.5 million (Table A.15).

1. The estimated number of exporters refers specifically to those establishments that **earned** environmental export revenues in 1998. Environmental exports for Engineering Construction (NAICS 2313), Recyclable Materials Wholesalers (NAICS 4181), and Waste Management Services (NAICS 5621 and 5622) are not available due to the methodology used to derive the estimates.

Service industries such as Engineering Services; and Management, Scientific and Technical Consulting Services also had notable environmental export revenues throughout the period. With \$133.5 million in exports, the Engineering Services industry was, by far, the leader in providing environmental services abroad.

As in the previous years, the United States remained the biggest market for Canada's environment industry in 1998 (Figure 3.6). Total environmental exports to the United States were valued at \$857.8 million, or 72% of total environmental export revenues, mainly from the Machinery industry (Table A.16). The remaining shares of exports were distributed among Asia (12%), Europe (6%) and the rest of the world (10%).

Figure 3.6  
Distribution of Environmental Exports, by Export Destination, 1998



Source:  
Statistics Canada, Environment Accounts and Statistics Division.

At the provincial level, over three-quarters of total environmental exports originated from environmental firms in Ontario and British Columbia (Table A.17). Ontario's environmental exports totalled \$739.3 million, mostly exports to the United States and Europe. British Columbia's environmental exports surged to \$145.8 million, a significant increase over the previous year's level of \$68.4 million. The growth was spurred, in part, by the economic expansion in the United States and China during 1998. These countries were British Columbia's top export markets in 1998 (Table A.18).

Moreover, 1998 saw an overall increase in the share of environmental revenues resulting from export market sales (Table A.14). Provincial comparisons of the proportion of environmental exports to total environmental revenues showed that while all other provinces posted shares of less than 10%, a higher proportion of environmental revenues was earned from foreign markets in New Brunswick (13%) and Ontario (12%) (Figure 3.7).

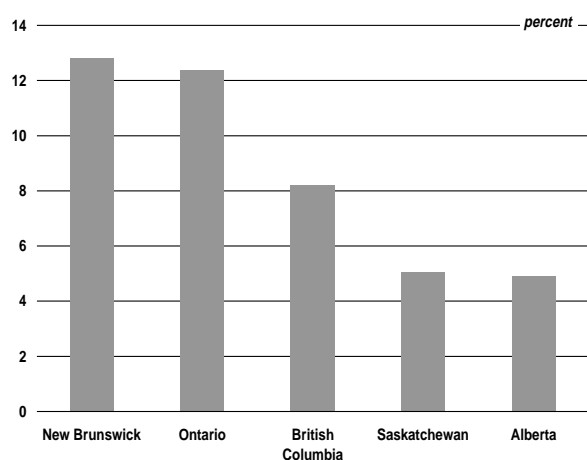
Out of the 598 establishments that reported environmental export revenues in 1998, 583 were small and medium-sized



establishments. These two groups conducted most of the export activities, earning 77% of environmental export revenues (Table A.19). Medium-sized establishments sold \$506.9 million worth of environmental goods and services while small establishments ranked second with \$400.8 million environmental export revenues in 1998. Looking at the proportion of environmental revenues earned abroad, large establishments with 500-999 employees and medium-sized establishments with 100-499 employees both posted a higher share (13% and 11%, respectively) whereas exports represented a relatively lower proportion of environmental revenues in the case of all small establishments.

Figure 3.7

### Share of Total Environmental Exports to Total Environmental Revenues, Selected Provinces, 1998



Source:  
Statistics Canada, Environment Accounts and Statistics Division

## 3.3 Total employment

Respondents had difficulty in estimating the number of workers directly involved in environment-related activities. This was a similar problem encountered in the previous survey cycles. In 1998, the question asked for total environmental employees only. The detailed breakdown on the types of environmental employees was removed from the questionnaire, in order to ease the response burden. Despite these efforts, however, there was still high non-response to this particular question (over 50% non-response). Thus, only **total employment** of those businesses producing environmental goods and services are presented in this report.

In 1998, reporting business establishments employed a total of 164,341 workers.<sup>1</sup> Surpassing all other industry groups, Engineering Services was the top employer with

1. Total employment includes full-time, part-time and contract workers, including working proprietors and/or principals of unincorporated businesses.

39,073 workers, followed by Waste Management and Remediation Services; Construction; and Wholesale Trade industries (Table A.1). Undoubtedly, the top-performing industries in terms of environmental revenues also made up bigger employment proportions.

Ontario and Quebec businesses had the largest number of workers, accounting for about 60% of total employment (Table A.5). Environmental establishments in Alberta and British Columbia also made significant employment contributions (16% and 13%, respectively).

Small establishments employed a total of 67,220 workers, representing 41% of overall employment in the Canadian environment industry. The remaining shares were split almost equally between medium-sized establishments and large establishments (Table A.9).

## 3.4 Work-in-progress

The following survey updates and refinements were carried out for the 1998 survey:

- classifying industries on the basis of the North American Industrial Classification System;
- presenting more detailed estimates of environmental goods and services, particularly on revenues from alternative fuel systems, environmental research and development services and environmental services related to renewable energy;
- producing a product breakdown for environmental export revenues (i.e., goods, services and construction), by industry, province and establishment size;
- publishing more details on country destinations of environmental exports;
- improving survey coverage through the extensive research on additional reference data sources on the Canadian environment industry;
- establishing the linkage between the Environment Industry Survey and other Statistics Canada surveys that collect environment-related information; and
- achieving a more timely release of survey results.

Beginning reference year 1998, the *Environment Industry Survey* has been changed from an annual to a biennial survey, partly in an effort to reduce respondent burden. In preparation for the next survey cycle, reference year 2000, efforts are targeted towards the following areas:

- continued improvement in survey response rates through improved data collection and follow-up procedures;

- evaluation of administrative information that could be used as supplements to the survey data;
- enhancements to the methodology used in estimating the revenues from environment-related activities of the construction engineering industry.

## 4 Methodology

### 4.1 Overall approach

To minimise response burden and at the same time to produce a more complete set of estimates for the environment industry, the results of the *Environment Industry Survey 1998* were integrated with other existing Statistics Canada surveys that asked for information on environmental revenues and activities. These surveys included:

- Waste Management Industry Survey: Business Sector;
- Annual Survey of Engineering Services;
- Annual Survey of Service Industries: Management, Scientific and Technical Consulting;
- Annual Survey of Service Industries: Geomatics Services; and
- Annual Survey of Service Industries: Testing Laboratories.

There were 1,673 establishments from the Waste Management Industry Survey: Business Sector and 211 establishments from all the other services industries surveys listed above.

Estimates of environment-related construction activities were derived from two demand-side estimates: government expenditures on environmental protection and business sector expenditures on environmental protection (*Survey of Environmental Protection Expenditures*). Estimates for recyclable materials wholesalers were obtained from Statistics Canada Business Register (2,167 establishments).

Financial, employment and other relevant data from all of the above-mentioned sources were consolidated to produce a combined data set for firms that produced environmental goods and/or provided environmental services. The combined data set was used to produce the final statistical tables for the industry. Thus, the estimates in this report present, to our best knowledge, a comprehensive coverage of Canada's environment industry.

### 4.2 Environment Industry Survey

#### Objective

The *Environment Industry Survey 1998* collected data on the environmental goods and services revenues, total expenses on wages and salaries and total employment. In addition to the *Environment Industry Survey* questionnaire, data from other existing Statistics Canada surveys that collected information on environment-related revenues and activities were also used.

#### Coverage and data collection

The *Environment Industry Survey 1998* covered all establishments operating in Canada that were involved either in whole or in part in the production of environmental goods, the provision of environmental services and the undertaking of environment-related construction activities.

The survey frame was developed in consultation with key public and private sector groups that have an in-depth knowledge of the environment industry. Industry directories and thorough research conducted on specific companies also helped in updating and improving the survey frame.

For the reference year 1998, respondents were asked to report the following information:

- total revenues and revenues realised from the sale of environmental goods or services (environmental revenues);
- specific types of environmental activities conducted by the establishment;
- breakdown of environmental revenues by client base and by customer location;
- environmental export revenues by region;
- anticipated environmental revenues for the year 2000 and how much of these revenues will be generated outside of Canada;
- total expenses on wages and salaries;
- total employment; and
- total environmental employment (i.e. employees who spent time on environmental activities).

Frame completion as well as must-firm identification<sup>1</sup> was carried out during the first quarter of 1999. Extensive research was conducted for each establishment in the frame in order to identify the firm's environment-related

1. *Must firms* refer to top contributor establishments in terms of total revenues and total environmental revenues, by industry group and by province. Identification of must firms is essential in order to prioritize data collection and follow-up efforts for the survey.

activities and markets served. The mailing list for the 1998 survey was developed from the *Environment Industry Survey 1996 and 1997*, various industry directories and supplementary information from the Statistics Canada Business Register. The mail-out took place in July, 1999.

Survey questionnaires were mailed to 2,674 establishments identified in the frame and the responses were returned by mail. The surveys were addressed to a contact person who was either responsible for, or had knowledge of, the environment-related operations of the firm. In the case of some multi-establishment firms, the survey was mailed to the head office which either forwarded the questionnaire to the appropriate establishment or provided a combined report for all targeted establishments.

Data collection and processing took place from September to December, 1999. Follow-ups by fax and/or telephone were carried out after the due date to remind respondents to return their surveys. During this time, queries to respondents and review of edit rejects were also done on an ongoing basis.

Questionnaires were edited in two steps. First, validity edits were applied to ensure that responses to particular questions fell within a limited range of possible values. Second, consistency edits were then applied. Cases where responses in one section of the questionnaire were inconsistent with those given in other sections were identified and edited. These edits were done throughout the data collection phase. Additional follow-ups were carried out to collect missing data and to resolve inconsistencies. The survey closed in December, 1999.

## In-scope establishments

For this survey cycle, a total of 1,680 fully-completed and partially-completed questionnaires were returned. Approximately 4% of these questionnaires came from establishments that did not earn any revenues from the environmental good or service they offered/marketed in 1998. On the other hand, the number of non-response questionnaires that were considered to be within the scope of the survey frame were 569. Thus, a total of 2,249 were considered to be *in scope* for the purposes of the survey.

## Closures, mergers and acquisitions, out-of-scope establishments

A brief note on closures, mergers and acquisitions and out-of-scope establishments also provides an indication of changes occurring within Canada's environment industry. There were 23 mergers and acquisitions among the surveyed establishments in 1998. Another 161 surveyed establishments were previously engaged in some form of environment-related activity but went out-of-business in 1998. Finally, 251 establishments were confirmed to be out-of-scope for the purposes of the survey. These were mostly

attributed to changes in business activities, wherein the establishments no longer provide the environmental good or service they used to offer.

## Data quality

Many factors affect the reliability of the data produced in a survey. For example, respondents may have made errors in interpreting questions, answers may have been incorrectly entered on the questionnaires, and errors may have been introduced during the data capture or tabulation process. Every effort was made to reduce the occurrence of such errors in the survey. These efforts included a complete verification of keyed data, validity and consistency edits and extensive follow-up with the key businesses that are heavily involved in providing environmental goods and services.

There was also a continued improvement in the coverage of the universe in 1998, particularly the non-specialist establishments (those that perform both environmental and non-environmental activities). Extensive research on individual firms resulted in better identification of environment-related activities, client base and export markets. In addition, the industry classifications based on the North American Industry Classification System improved the accuracy of industry groups within the environment industry.

## Response rates

The overall response rate for the *Environment Industry Survey 1998*, based on the ratio of the number of fully and partially completed questionnaires to the total number of in-scope questionnaires, was 75% in 1998. Table 4.1 illustrates alternative calculations of response rates based on the following variables:

- total employment; and
- total revenues.

Table 4.1

### Response Rates: Environment Industry Survey 1998<sup>1</sup>

	Response as a percentage of total
According to number of reporting establishments	74.7
According to total employment	77.0
According to total revenues	81.3

**Note:**

1. Response rates are calculated based on the percentage of responses from fully-completed and partially-completed questionnaires to total in-scope questionnaires. Out-of-scope establishments, mergers, closed and/or sold establishments, etc. are excluded.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

## Imputation rates

Given the complexity in reporting financial information on environment-related activities, extensive follow-ups were made to respondents in order to obtain the necessary information. However, there remained instances when a respondent could not provide the details requested in the questionnaire because the information was not reported separately in the firm's financial records.

In cases where values were missing from survey cells after follow-up, the information was imputed based on the mean values by industry and by province. Imputed values were then carefully evaluated and compared with values from the Business Register, other Statistics Canada survey results and other sources (annual reports, for example). Imputation for non-response was not carried out on the records coming from the other Statistics Canada surveys discussed in Section 4.3. The final micro-data on environment-related revenues and activities from these surveys were obtained and incorporated into the combined file. Hence, the imputation rates for selected categories shown in Table 4.2 were calculated based on the *Environment Industry Survey 1998* only.

Table 4.2

### Imputation Rates, Selected Categories, 1998

Category	Imputation rate <sup>1</sup>
	1998 percent
Total revenues	-
Total employment	-
Total environmental revenues	24.4
Environmental goods revenues	17.7
Environmental services revenues	37.3
Environment-related construction services revenues	4.2
Total environmental export revenues	10.0

**Note:**

1. The proportion of the total value of the category that is imputed.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

In 1998, the question asked for total environmental employees only. The detailed breakdown on the types of environmental employees was removed from the questionnaire, in order to ease the response burden. Despite these efforts, however, there was still high non-response to this particular question (over 50% non-response). Thus, only **total employment** of those businesses producing environmental goods and services are presented in this report. Labour productivity analysis specifically for the environment industry is, therefore, not possible.

The total environmental revenues from environment-related construction services were demand-side estimates based on information provided by government and business purchasers of environmental goods and services. Consequently, there is no estimate for the total number of firms.

Revenues presented in this report pertain to **gross revenues**. As a rule, revenues will be double counted to the extent that goods and services produced by an establishment in the environment industry are purchased by another one in the same industry. For this reason, it would be incorrect to compare the aggregate environmental revenues to gross domestic product (GDP) which is the sum of the unduplicated production of all industries. Thus, readers should not express the revenues presented in this report as percentage of GDP. At this stage of the project, it would be difficult to estimate the unduplicated value of production (value added) without placing excessive response burden on environmental businesses.

Understanding the above-mentioned caveats helps the reader make informed decisions before conducting further research and analysis using the estimates in this report.

## Data limitations

Improved coverage of the universe continued during the third cycle of the survey. In general, respondents were able to classify their environmental activities according to the detailed lists illustrated in text boxes 2.1, 2.2 and 2.3.

Export revenues and key export markets were also identified. At the industry level, export estimates were not available for the following industries: Engineering Construction; Recyclable Materials Wholesalers; and Waste Management and Remediation Services.

In terms of employment data, however, respondents had difficulty in estimating the number of workers directly involved in environment-related activities. This was a similar problem encountered in the previous survey cycles.

ELECTRONIC PUBLICATIONS AVAILABLE AT  
**[www.statcan.ca](http://www.statcan.ca)**



## **Annex A: Statistical Tables**

ELECTRONIC PUBLICATIONS AVAILABLE AT  
**[www.statcan.ca](http://www.statcan.ca)**





Table A.1  
**Total and Environmental Revenues by Industry, 1998**

Industry <sup>1</sup>	Establishments <sup>2</sup>	Total	Total	Environmental	Environmental	Environment-	Total
		Employment	revenues	goods	services	related construction <sup>3</sup>	environmental revenues
	number		million dollars				
Agriculture, forestry, fishing and hunting	22	465	38.9	4.8	8.8	-	13.6
Mining and oil and gas extraction	26	2 009	626.4	x	x	x	x
Utilities	18	3 140	32.4	10.4	8.8	-	19.2
Construction	98	19 801	2 636.0	22.0	74.4	2 146.7	2 243.1
Chemical manufacturing	48	3 884	1 229.2	205.8	15.9	-	221.7
Plastic and rubber products manufacturing	51	4 715	857.8	614.0	x	x	620.1
Non-metallic mineral product manufacturing	14	1 005	180.9	103.9	-	-	103.9
Primary metal manufacturing	12	1 254	315.3	145.1	x	x	148.9
Fabricated metal product manufacturing	41	2 832	633.4	306.6	3.4	-	310.0
Machinery manufacturing	137	6 873	1 156.4	585.0	x	x	640.0
Computer and electronic product manufacturing	53	2 310	425.1	113.0	x	x	124.9
Electrical equipment, appliance and component manufacturing	13	3 906	784.7	x	x	-	177.1
Rest of manufacturing sector	35	1 763	221.3	105.5	1.3	-	106.8
Wholesale trade	2 436	18 142	4 083.8	3 005.5	180.7	7.4	3 193.6
Retail trade	15	650	131.6	54.0	2.5	-	56.5
Finance and insurance services	19	318	32.8	x	x	-	17.7
Legal services	49	5 818	732.8	x	x	-	51.1
Architectural and landscape architectural services	33	447	30.7	x	20.7	x	21.1
Engineering services	770	39 073	5 104.7	86.8	1 960.1	35.3	2 082.1
Surveying and mapping (including geophysical) services	25	560	56.4	x	x	-	16.9
Testing laboratories	106	3 129	224.9	7.4	78.8	--	86.2
Computer systems design and related services	34	1 713	147.9	9.7	23.5	-	33.3
Management, scientific and technical consulting services	342	5 741	476.8	40.2	290.4	1.2	331.8
Scientific research and development services	33	974	68.9	x	29.5	x	42.8
All other professional, scientific and technical services	28	2 626	318.2	x	63.5	x	65.1
Management of companies and enterprises	25	6 466	664.2	x	71.4	x	110.0
Administrative and support services	47	1 967	224.6	47.1	42.5	3.1	92.7
Waste management and remediation services	1 701	20 739	3 042.0	x	3 036.3	x	3 039.3
Other services	63	2 021	211.3	x	x	x	x
<b>Canada</b>	<b>6 294</b>	<b>164 341</b>	<b>24 689.4</b>	<b>5 708.2</b>	<b>6 317.0</b>	<b>2 253.1</b>	<b>14 278.3</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Industry groups are based on the North American Industry Classification System (NAICS). Refer to Text Box 2.4 in Section 2 for a profile of these industry groups.

2. The total number of establishments does not include engineering construction establishments (NAICS 2313) due to the methodology used to derive the estimates.

3. Revenues from environment-related construction services were derived from demand-side estimates of environmental protection expenditures.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.2**  
**Revenues of Environmental Goods by Industry, 1998**

Industry <sup>1</sup>	Environmental goods								Total environmental goods revenues	Environmental goods' share of total environmental revenues percent
	Total environmental revenues	Water	Air	Renewable energy systems				Other		
				Waste	Alternative fuel	Analytical				
	million dollars									
Agriculture, forestry, fishing and hunting	13.6	x	x	x	x	-	x	x	4.8	35.1
Mining and oil and gas extraction	x	x	x	x	x	x	x	x	x	x
Utilities	19.2	6.1	x	x	x	-	-	-	10.4	54.3
Construction	2 243.1	10.3	5.8	4.1	0.7	x	x	x	22.0	1.0
Chemical manufacturing	221.7	158.0	1.2	6.7	-	2.2	0.3	37.4	205.8	92.8
Plastic and rubber products manufacturing	620.1	432.8	4.8	x	x	x	-	22.9	614.0	99.0
Non-metallic mineral product manufacturing	103.9	54.4	x	1.5	x	-	-	6.4	103.9	100.0
Primary metal manufacturing	148.9	x	-	-	-	-	-	x	145.1	97.4
Fabricated metal product manufacturing	310.0	37.5	x	23.6	x	0.2	x	x	306.6	98.9
Machinery manufacturing	640.0	352.4	105.4	82.7	10.6	x	x	x	585.0	91.4
Computer and electronic product manufacturing	124.9	31.0	13.1	x	x	x	x	23.6	113.0	90.5
Electrical equipment, appliance and component manufacturing	177.1	x	x	x	x	x	x	x	x	x
Rest of manufacturing sector	106.8	8.6	25.3	50.8	x	x	x	10.9	105.5	98.8
Wholesale trade	3 193.6	213.9	100.9	46.0	51.8	5.8	30.5	2 556.6	3 005.5	94.1
Retail trade	56.5	x	0.2	x	-	-	0.1	x	54.0	95.6
Finance and insurance services	17.7	x	x	x	x	x	x	x	x	x
Legal services	51.1	x	x	x	x	x	x	x	x	x
Architectural and landscape architectural services	21.1	x	x	x	x	x	x	x	x	x
Engineering services	2 082.1	x	13.1	0.9	9.8	x	10.4	2.1	86.8	4.2
Surveying and mapping (including geophysical) services	16.9	x	x	x	x	x	x	x	x	x
Testing laboratories	86.2	-	x	x	x	x	x	x	7.4	8.6
Computer systems design and related services	33.3	x	x	x	-	-	3.6	x	9.7	29.3
Management, scientific and technical consulting services	331.8	4.2	x	0.9	x	x	3.1	x	40.2	12.1
Scientific research and development services	42.8	x	x	x	x	x	x	x	x	x
All other professional, scientific and technical services	65.1	x	x	x	x	x	x	x	x	x
Management of companies and enterprises	110.0	x	x	x	x	x	x	x	x	x
Administrative and support services	92.7	x	x	1.8	x	x	x	39.4	47.1	50.8
Waste management and remediation services	3 039.3	x	x	x	x	x	x	x	x	x
Other services	x	x	x	x	x	x	x	x	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>1 493.9</b>	<b>460.0</b>	<b>388.4</b>	<b>284.0</b>	<b>63.2</b>	<b>103.8</b>	<b>2 915.0</b>	<b>5 708.2</b>	<b>40.0</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Industry groups are based on the North American Industry Classification System (NAICS). Refer to Text Box 2.4 in Section 2 for a profile of these industry groups.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.3  
**Revenues of Environmental Services by Industry, 1998**

Industry <sup>1</sup>	Environmental services									Total environmental services revenues	Environmental services' share of total environmental revenues percent
	Total environmental revenues	Water	Air	Waste	Research development and Renewable energy	Engineering	Analytical	Other			
	million dollars										
Agriculture, forestry, fishing and hunting	13.6	x	x	1.6	x	x	x	x	3.2	8.8	64.9
Mining and oil and gas extraction	x	x	x	x	x	x	x	x	x	x	x
Utilities	19.2	2.2	-	x	-	x	x	-	x	8.8	45.7
Construction	2 243.1	13.7	10.8	26.8	x	3.1	1.6	3.7	x	74.4	3.3
Chemical manufacturing	221.7	x	-	6.9	x	x	0.4	x	1.1	15.9	7.2
Plastic and rubber products manufacturing	620.1	x	x	x	x	x	x	x	x	x	x
Non-metallic mineral product manufacturing	103.9	-	-	-	-	-	-	-	-	-	-
Primary metal manufacturing	148.9	x	x	x	x	x	x	x	x	x	x
Fabricated metal product manufacturing	310.0	x	-	x	-	-	x	-	x	3.4	1.1
Machinery manufacturing	640.0	x	x	x	x	x	x	x	x	x	x
Computer and electronic product manufacturing	124.9	x	x	x	x	x	x	x	x	x	x
Electrical equipment, appliance and component manufacturing	177.1	x	x	x	x	x	x	x	x	x	x
Rest of manufacturing sector	106.8	x	x	x	x	-	-	-	x	1.3	1.2
Wholesale trade	3 193.6	x	1.4	103.8	x	x	7.6	x	24.1	180.7	5.7
Retail trade	56.5	x	x	x	-	-	-	x	1.2	2.5	4.4
Finance and insurance services	17.7	x	x	x	x	x	x	x	x	x	x
Legal services	51.1	x	x	x	x	x	x	x	x	x	x
Architectural and landscape architectural services	21.1	x	x	x	x	x	2.7	0.2	1.8	20.7	98.1
Engineering services	2 082.1	169.3	20.4	130.4	5.2	9.4	1 553.0	16.5	55.9	1 960.1	94.1
Surveying and mapping (including geophysical) services	16.9	x	x	x	x	x	x	x	x	x	x
Testing laboratories	86.2	13.7	3.6	x	0.4	x	4.2	28.2	8.7	78.8	91.4
Computer systems design and related services	33.3	x	-	-	x	x	x	x	8.9	23.5	70.7
Management, scientific and technical consulting services	331.8	20.8	8.1	55.0	8.1	9.5	94.6	23.1	71.1	290.4	87.5
Scientific research and development services	42.8	2.4	x	1.3	0.2	x	1.7	4.9	x	29.5	68.8
All other professional, scientific and technical services	65.1	x	x	0.6	x	-	x	x	9.9	63.5	97.6
Management of companies and enterprises	110.0	4.7	1.0	x	1.9	x	27.3	x	x	71.4	64.9
Administrative and support services	92.7	7.0	1.5	x	x	0.4	2.5	x	x	42.5	45.8
Waste management and remediation services	3 039.3	x	x	3 023.6	x	-	x	x	x	3 036.3	99.9
Other services	x	x	x	x	x	x	x	x	x	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>306.6</b>	<b>67.3</b>	<b>3 434.2</b>	<b>40.9</b>	<b>31.2</b>	<b>1 954.6</b>	<b>117.2</b>	<b>365.0</b>	<b>6 317.0</b>	<b>44.2</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Industry groups are based on the North American Industry Classification System (NAICS). Refer to Text Box 2.4 in Section 2 for a profile of these industry groups.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.4  
**Revenues of Environment-related Construction Services by Industry, 1998**

Industry <sup>1</sup>	Environment-related construction services		
	Total environmental revenues	Total environment-related construction services revenues	Environment-related construction services' share of total environmental revenues
	million dollars		percent
Agriculture, forestry, fishing and hunting	13.6	-	-
Mining and oil and gas extraction	x	x	x
Utilities	19.2	-	-
Construction	2 243.1	2 146.7	95.7
Chemical manufacturing	221.7	-	-
Plastic and rubber products manufacturing	620.1	x	x
Non-metallic mineral product manufacturing	103.9	-	-
Primary metal manufacturing	148.9	x	x
Fabricated metal product manufacturing	310.0	-	-
Machinery manufacturing	640.0	x	x
Computer and electronic product manufacturing	124.9	x	x
Electrical equipment, appliance and component manufacturing	177.1	-	-
Rest of manufacturing sector	106.8	-	-
Wholesale trade	3 193.6	7.4	0.2
Retail trade	56.5	-	-
Finance and insurance services	17.7	-	-
Legal services	51.1	-	-
Architectural and landscape architectural services	21.1	x	x
Engineering services	2 082.1	35.3	1.7
Surveying and mapping (including geophysical) services	16.9	-	-
Testing laboratories	86.2	--	--
Computer systems design and related services	33.3	-	-
Management, scientific and technical consulting services	331.8	1.2	0.4
Scientific research and development services	42.8	x	x
All other professional, scientific and technical services	65.1	x	x
Management of companies and enterprises	110.0	x	x
Administrative and support services	92.7	3.1	3.4
Waste management and remediation services	3 039.3	x	x
Other services	x	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>2 253.1</b>	<b>15.8</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Industry groups are based on the North American Industry Classification System (NAICS). Refer to Text Box 2.4 in Section 2 for a profile of these industry groups.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.5  
**Total and Environmental Revenues by Province and Territory, 1998**

Province/Territory	Establishments <sup>1</sup> number	Total employment	Total revenues	Environmental goods	Environmental services	Environment- related construction	Total environmental revenues
Newfoundland	145	2 354	202.0	16.4	62.4	35.9	114.7
Prince Edward Island	37	781	94.3	x	12.6	x	66.6
Nova Scotia	330	4 744	562.6	83.1	130.7	58.0	271.9
New Brunswick	270	3 719	640.8	101.6	91.1	72.0	264.7
Quebec	1 591	35 463	5 431.4	1 493.7	1 465.9	382.5	3 342.0
Ontario	1 988	63 961	10 881.5	2 977.1	2 380.7	604.8	5 962.6
Manitoba	190	3 255	459.3	62.4	192.4	43.3	298.1
Saskatchewan	252	3 606	329.7	71.3	96.8	52.9	221.0
Alberta	612	25 076	3 185.1	378.0	926.0	621.3	1 925.3
British Columbia	840	20 910	2 851.6	514.4	938.7	322.5	1 775.6
Yukon and Northwest Territories	39	472	51.2	x	19.8	x	35.7
<b>Canada</b>	<b>6 294</b>	<b>164 341</b>	<b>24 689.4</b>	<b>5 708.2</b>	<b>6 317.0</b>	<b>2 253.1</b>	<b>14 278.3</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. The total number of establishments does not include engineering construction establishments (NAICS 2313) due to the methodology used to derive the estimates.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.6  
**Revenues of Environmental Goods by Province and Territory, 1998**

Province/Territory	Environmental goods								Total environmental goods revenues	Environmental goods' share of total environmental revenues percent
	Total environmental revenues	Water	Air	Waste	Alternative			Other		
					Renewable energy	fuel systems	Analytical			
	million dollars									
Newfoundland	114.7	x	x	x	-	x	0.8	11.9	16.4	14.3
Prince Edward Island	66.6	x	x	x	x	x	x	x	x	x
Nova Scotia	271.9	7.6	2.6	x	9.5	1.0	3.3	x	83.1	30.6
New Brunswick	264.7	33.3	0.8	4.0	6.3	-	1.5	55.7	101.6	38.4
Quebec	3 342.0	413.1	104.8	153.0	21.8	1.6	13.6	785.7	1 493.7	44.7
Ontario	5 962.6	810.1	314.1	184.9	181.7	11.0	53.3	1 422.1	2 977.1	49.9
Manitoba	298.1	12.7	x	x	x	x	x	45.5	62.4	20.9
Saskatchewan	221.0	4.4	x	0.3	x	x	x	45.4	71.3	32.3
Alberta	1 925.3	x	x	33.0	x	x	7.0	176.7	378.0	19.6
British Columbia	1 775.6	85.9	15.2	x	30.0	x	x	x	514.4	29.0
Yukon and Northwest Territories	35.7	x	x	x	x	x	x	x	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>1 493.9</b>	<b>460.0</b>	<b>388.4</b>	<b>284.0</b>	<b>63.2</b>	<b>103.8</b>	<b>2 915.0</b>	<b>5 708.2</b>	<b>40.0</b>

**Note:**

Figures may not add up to totals due to rounding.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.7**  
**Revenues of Environmental Services by Province and Territory, 1998**

Province/Territory	Environmental services									Total environmental services revenues	Environmental services' share of total environmental revenues
	Total environmental revenues	Water	Air	Waste	Research and development			Analytical	Other		
	million dollars				energy	Engineering	Renewable				
Newfoundland	114.7	x	0.6	25.3	x	x	25.1	x	x	62.4	54.4
Prince Edward Island	66.6	x	x	11.5	x	x	0.6	x	x	12.6	18.8
Nova Scotia	271.9	9.1	2.7	75.1	1.3	0.5	24.5	5.6	12.0	130.7	48.1
New Brunswick	264.7	8.6	0.6	56.3	1.7	3.5	15.0	0.6	4.8	91.1	34.4
Quebec	3 342.0	56.2	7.3	686.3	18.2	2.1	635.1	14.9	45.7	1 465.9	43.9
Ontario	5 962.6	144.3	30.5	1 552.3	10.2	15.7	461.4	32.4	134.0	2 380.7	39.9
Manitoba	298.1	x	0.7	150.3	x	x	23.6	x	x	192.4	64.5
Saskatchewan	221.0	x	x	59.9	x	x	12.0	x	x	96.8	43.8
Alberta	1 925.3	28.0	9.2	388.4	2.6	5.7	409.1	25.8	57.2	926.0	48.1
British Columbia	1 775.6	44.5	7.5	423.1	4.6	2.3	336.0	33.1	87.8	938.7	52.9
Yukon and Northwest Territories	35.7	x	x	5.7	-	-	12.2	x	x	19.8	55.3
<b>Canada</b>	<b>14 278.3</b>	<b>306.6</b>	<b>67.3</b>	<b>3 434.2</b>	<b>40.9</b>	<b>31.2</b>	<b>1 954.6</b>	<b>117.2</b>	<b>365.0</b>	<b>6 317.0</b>	<b>44.2</b>

**Note:**

Figures may not add up to totals due to rounding.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.8**  
**Revenues of Environment-related Construction Services by Province and Territory, 1998**

Province/Territory	Environment-related construction services		
	Total environmental revenues	Total environment-related construction services revenues	Environment-related construction services' share of total environmental revenues
	million dollars		percent
Newfoundland	114.7	35.9	31.3
Prince Edward Island	66.6	x	x
Nova Scotia	271.9	58.0	21.3
New Brunswick	264.7	72.0	27.2
Quebec	3 342.0	382.5	11.4
Ontario	5 962.6	604.8	10.1
Manitoba	298.1	43.3	14.5
Saskatchewan	221.0	52.9	23.9
Alberta	1 925.3	621.3	32.3
British Columbia	1 775.6	322.5	18.2
Yukon and Northwest Territories	35.7	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>2 253.1</b>	<b>15.8</b>

**Note:**

Figures may not add up to totals due to rounding.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.9  
**Total and Environmental Revenues by Establishment Size,<sup>1</sup> 1998**

Establishments (employees)	Establishments <sup>2</sup> number	Total employment	Total revenues	Environmental goods	Environmental services	Environment- related construction	Total environmental revenues
0-4	3 270	4 726	883.5	x	229.1	x	810.2
5-9	897	5 996	821.4	324.7	329.8	10.5	664.9
10-24	1 055	16 256	2 496.7	1 019.1	772.8	59.7	1 851.7
25-49	494	17 091	2 718.8	888.6	709.8	83.6	1 682.0
50-99	322	23 151	3 068.0	845.1	816.5	169.7	1 831.3
100-499	219	49 044	8 066.6	1 700.2	1 981.1	801.9	4 483.2
500-999	26	25 050	3 773.4	431.6	424.1	1 019.5	1 875.2
>999	11	23 027	2 861.1	x	1 053.9	x	1 079.8
<b>Canada</b>	<b>6 294</b>	<b>164 341</b>	<b>24 689.4</b>	<b>5 708.2</b>	<b>6 317.0</b>	<b>2 253.1</b>	<b>14 278.3</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Small establishments have fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

2. The total number of establishments does not include engineering construction establishments (NAICS 2313) due to the methodology used to derive the estimates.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.10  
**Revenues of Environmental Goods by Establishment Size,<sup>1</sup> 1998**

Establishments (employees)	Environmental goods								Total environmental goods revenues	Environmental goods' share of total environmental revenues percent
	Total environmental revenues	Alternative						Other		
		Water	Air	Waste	Renewable energy	fuel systems	Analytical			
	million dollars									
0-4	810.2	x	x	x	x	x	x	x	x	x
5-9	664.9	50.0	8.5	21.7	7.0	2.6	11.8	223.2	324.7	48.8
10-24	1 851.7	81.1	23.2	23.1	25.6	3.2	37.9	825.1	1 019.1	55.0
25-49	1 682.0	196.6	80.7	45.7	15.0	6.2	22.9	521.4	888.6	52.8
50-99	1 831.3	234.9	35.6	119.3	23.9	5.0	24.4	402.1	845.1	46.2
100-499	4 483.2	738.6	223.5	162.0	80.0	x	x	446.7	1 700.2	37.9
500-999	1 875.2	x	x	x	x	-	x	x	431.6	23.0
>999	1 079.8	x	x	x	x	x	x	x	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>1 493.9</b>	<b>460.0</b>	<b>388.4</b>	<b>284.0</b>	<b>63.2</b>	<b>103.8</b>	<b>2 915.0</b>	<b>5 708.2</b>	<b>40.0</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Small establishments have fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.11**  
**Revenues of Environmental Services by Establishment Size,<sup>1</sup> 1998**

Establishments (employees)	Environmental services										Environmental services' share of total environmental revenues percent
	Total environmental revenues	Water	Air	Waste	Research and development	Renewable energy	Engineering	Analytical	Other	Total environmental services revenues	
	million dollars										
0-4	810.2	5.8	3.0	174.0	1.8	1.6	21.5	3.4	18.0	229.1	28.3
5-9	664.9	20.4	5.0	225.5	2.4	3.1	28.8	8.7	36.0	329.8	49.6
10-24	1 851.7	33.2	9.7	530.1	3.7	5.4	109.6	29.4	51.8	772.8	41.7
25-49	1 682.0	102.1	18.4	384.4	19.3	12.7	117.2	18.0	37.7	709.8	42.2
50-99	1 831.3	41.3	4.8	474.9	x	x	195.6	x	71.9	816.5	44.6
100-499	4 483.2	71.9	14.2	967.2	4.4	4.8	780.2	36.7	101.7	1 981.1	44.2
500-999	1 875.2	x	x	x	x	x	106.6	x	9.2	424.1	22.6
>999	1 079.8	x	x	x	-	-	595.2	x	38.7	1 053.9	97.6
<b>Canada</b>	<b>14 278.3</b>	<b>306.6</b>	<b>67.3</b>	<b>3 434.2</b>	<b>40.9</b>	<b>31.2</b>	<b>1 954.6</b>	<b>117.2</b>	<b>365.0</b>	<b>6 317.0</b>	<b>44.2</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Small establishments have fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.12**  
**Revenues of Environment-related Construction Services by Establishment Size,<sup>1</sup> 1998**

Establishments (employees)	Environment-related construction services		
	Total environmental revenues	Total environment-related construction services revenues	Environment-related construction services' share of total environmental revenues percent
	million dollars		
0-4	810.2	x	x
5-9	664.9	10.5	1.6
10-24	1 851.7	59.7	3.2
25-49	1 682.0	83.6	5.0
50-99	1 831.3	169.7	9.3
100-499	4 483.2	801.9	17.9
500-999	1 875.2	1 019.5	54.4
>999	1 079.8	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>2 253.1</b>	<b>15.8</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Small establishments have fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.



Table A.13  
**Client Base Distribution of Environmental Revenues, 1998**

Client Base	percent
Local government	21.2
Federal/provincial governments	9.8
Agriculture and agri-food products	1.1
Forestry and pulp and paper	6.0
Fish and fish products	0.4
Mining and related products, metal and mineral products	4.1
Crude petroleum and natural gas, refined petroleum and related products	5.3
Manufacturing	20.1
Business services	8.3
Gas distribution and electric power systems	2.7
Individuals and households	6.8
All other industries	14.3
<b>Total</b>	<b>100.0</b>

**Note:**

Figures may not add up to totals due to rounding.

These estimates were based on reported data from the *Environment Industry Survey, 1998*.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.14  
**Client Location by Province and Territory, 1998**

Province/Territory	Client location				Total (a+b+c)
	Within the province (a)	Other provinces (b)	Total domestic market (a+b)	Outside Canada (c)	
	percent				
Newfoundland	88.1	9.4	97.5	2.5	100.0
Prince Edward Island	82.4	17.0	99.5	.5	100.0
Nova Scotia	78.3	19.0	97.4	2.6	100.0
New Brunswick	39.4	47.8	87.2	12.8	100.0
Quebec	69.0	26.8	95.7	4.3	100.0
Ontario	62.4	25.2	87.6	12.4	100.0
Manitoba	90.4	7.6	98.0	2.0	100.0
Saskatchewan	53.2	41.7	94.9	5.1	100.0
Alberta	57.0	38.0	95.1	4.9	100.0
British Columbia	61.7	30.0	91.8	8.2	100.0
Yukon and Northwest Territories	77.1	22.7	99.8	.2	100.0
<b>Canada</b>	...	...	<b>91.7</b>	<b>8.3</b>	<b>100.0</b>

**Note:**

Figures may not add up to totals due to rounding.

These estimates were based on reported data from the *Environment Industry Survey, 1998*.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.15  
**Environmental Exports by Industry, 1998**

Industry <sup>1</sup>	Establishments <sup>2</sup> number	Total environmental revenues	Environmental goods	Environmental services	Environment- related construction	Total environmental export revenues	Share of total environmental revenues percent
		million dollars					
Agriculture, forestry, fishing and hunting	4	13.6	x	x	-	0.4	3.0
Mining and oil and gas extraction	x	x	x	x	x	x	x
Utilities	x	19.2	x	x	x	x	x
Construction <sup>3</sup>	15	2 243.1	x	x	x	3.1	0.1
Chemical manufacturing	16	221.7	11.5	2.0	-	13.5	6.1
Plastic and rubber products manufacturing	29	620.1	178.8	x	x	183.4	29.6
Non-metallic mineral product manufacturing	7	103.9	17.2	-	-	17.2	16.6
Primary metal manufacturing	4	148.9	5.7	x	x	7.0	4.7
Fabricated metal product manufacturing	14	310.0	89.9	-	-	89.9	29.0
Machinery manufacturing	66	640.0	199.9	5.5	--	205.4	32.1
Computer and electronic product manufacturing	28	124.9	50.4	--	--	50.6	40.5
Electrical equipment, appliance and component manufacturing	x	177.1	x	x	x	x	x
Rest of manufacturing sector	10	106.8	39.6	0.1	-	39.7	37.2
Wholesale trade <sup>4</sup>	80	3 193.6	138.6	13.9	-	152.5	4.8
Retail trade	4	56.5	x	x	-	2.9	5.1
Finance and insurance services	3	17.7	x	x	-	0.1	0.4
Legal services	x	51.1	x	x	x	x	x
Architectural and landscape architectural services	x	21.1	x	x	x	x	x
Engineering services	115	2 082.1	54.5	76.0	3.0	133.5	6.4
Surveying and mapping (including geophysical) services	4	16.9	-	1.1	-	1.1	6.4
Testing laboratories	26	86.2	x	x	-	8.7	10.1
Computer systems design and related services	12	33.3	x	x	-	6.0	17.9
Management, scientific and technical consulting services	85	331.8	24.4	31.8	--	56.2	16.9
Scientific research and development services	x	42.8	x	x	x	x	x
All other professional, scientific and technical services	x	65.1	x	x	-	10.2	15.6
Management of companies and enterprises	x	110.0	x	x	x	x	x
Administrative and support services	10	92.7	x	x	x	5.8	6.3
Waste management and remediation services <sup>5</sup>	x	3 039.3	x	x	x	x	x
Other services	x	x	x	x	x	x	x
<b>Canada</b>	<b>598</b>	<b>14 278.3</b>	<b>973.4</b>	<b>188.1</b>	<b>22.6</b>	<b>1 184.1</b>	<b>8.3</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Industry groups are based on the North American Industry Classification System (NAICS). Refer to Text Box 2.4 in Section 2 for a profile of these industry groups.

2. Total number of establishments that reported environmental export revenues in 1998.

3. Environmental exports for engineering construction establishments (NAICS 2313) are not available due to the methodology used to derive the estimates.

4. Environmental exports for recyclable material wholesalers (NAICS 4181) are not available due to the methodology used to derive the estimates.

5. Environmental exports for waste management services (NAICS 5621) are not available due to the methodology used to derive the estimates.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.16  
**Environmental Exports by Industry and by Destination, 1998**

Industry <sup>1</sup>	Environmental exports													
	Total	Other											Total	
	environmental	United	South	Central		Middle		Other			All	environmental		
revenues	States	America	Mexico	America	Europe	East	Africa	China	Japan	Asia	Australia	Other	export	
	million dollars													
Agriculture, forestry, fishing and hunting	13.6	x	-	-	-	x	-	-	-	x	-	-	-	0.4
Mining and oil and gas extraction	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Utilities	19.2	x	x	x	x	x	x	x	x	x	x	x	x	x
Construction <sup>2</sup>	2 243.1	1.9	x	-	x	x	x	x	x	-	-	-	x	3.1
Chemical manufacturing	221.7	10.5	x	x	x	1.0	-	x	-	x	x	x	x	13.5
Plastic and rubber products manufacturing	620.1	159.3	2.0	4.0	--	6.6	1.9	0.2	0.3	1.9	6.8	0.4	-	183.4
Non-metallic mineral product manufacturing	103.9	16.0	x	x	x	x	x	-	x	x	x	-	x	17.2
Primary metal manufacturing	148.9	7.0	-	-	-	-	-	-	-	-	-	-	-	7.0
Fabricated metal product manufacturing	310.0	86.5	x	x	-	x	x	x	x	-	x	x	x	89.9
Machinery manufacturing	640.0	168.6	2.0	2.1	0.2	x	2.7	x	x	1.9	9.7	0.4	0.4	205.4
Computer and electronic product manufacturing	124.9	28.4	0.9	0.7	--	10.9	0.1	x	x	x	4.2	1.1	x	50.6
Electrical equipment, appliance and component manufacturing	177.1	x	x	x	x	x	x	x	x	x	x	x	x	x
Rest of manufacturing sector	106.8	35.9	x	x	x	1.5	x	x	-	x	0.3	x	-	39.7
Wholesale trade <sup>3</sup>	3 193.6	94.8	x	7.6	x	12.5	9.8	0.7	10.6	x	2.5	0.5	1.6	152.5
Retail trade	56.5	2.9	-	-	-	-	-	-	-	-	-	-	-	2.9
Finance and insurance services	17.7	x	x	-	-	x	x	x	-	x	-	x	x	0.1
Legal services	51.1	x	x	x	x	x	x	x	x	x	x	x	x	x
Architectural and landscape architectural services	21.1	x	x	x	x	x	x	x	x	x	x	x	x	x
Engineering services	2 082.1	39.4	13.5	1.7	0.9	7.7	0.8	2.5	2.8	1.6	59.7	1.5	1.4	133.5
Surveying and mapping (including geophysical) services	16.9	0.7	x	x	x	x	-	x	x	x	x	-	-	1.1
Testing laboratories	86.2	3.2	1.2	x	--	0.7	x	x	x	x	0.7	x	x	8.7
Computer systems design and related services	33.3	4.3	0.3	x	x	0.3	x	0.1	x	x	0.3	x	x	6.0
Management, scientific and technical consulting services	331.8	37.2	2.3	x	0.9	1.2	x	1.2	1.1	0.3	5.6	0.7	1.3	56.2
Scientific research and development services	42.8	x	x	x	x	x	x	x	x	x	x	x	x	x
All other professional, scientific and technical services	65.1	x	-	x	x	x	x	-	-	x	x	-	-	10.2
Management of companies and enterprises	110.0	x	x	x	x	x	x	x	x	x	x	x	x	x
Administrative and support services	92.7	4.2	x	x	-	x	x	x	x	-	x	x	x	5.8
Waste management and remediation services <sup>4</sup>	3 039.3	x	x	x	x	x	x	x	x	x	x	x	x	x
Other services	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Canada</b>	<b>14 278.3</b>	<b>857.8</b>	<b>36.4</b>	<b>24.3</b>	<b>3.4</b>	<b>65.7</b>	<b>21.3</b>	<b>9.1</b>	<b>24.0</b>	<b>20.0</b>	<b>95.2</b>	<b>17.5</b>	<b>9.5</b>	<b>1 184.1</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Industry groups are based on the North American Industry Classification System (NAICS). Refer to Text Box 2.4 in Section 2 for a profile of these industry groups.

2. Environmental exports for engineering construction establishments (NAICS 2313) are not available due to the methodology used to derive the estimates.

3. Environmental exports for recyclable material wholesalers (NAICS 4181) are not available due to the methodology used to derive the estimates.

4. Environmental exports for waste management services (NAICS 5621 and 5622) are not available due to the methodology used to derive the estimates.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.17  
**Environmental Exports by Province and Territory, 1998**

Province/Territory	Establishments <sup>1</sup> number	Total environmental revenues	Environmental goods	Environmental services	Environment- related construction	Total environmental export revenues	Share of total environmental revenues percent
Newfoundland	8	114.7	x	x	-	2.8	2.5
Prince Edward Island	3	66.6	x	x	-	0.3	0.5
Nova Scotia	28	271.9	4.4	2.8	-	7.2	2.6
New Brunswick	16	264.7	13.5	x	x	33.9	12.8
Quebec	90	3 342.0	106.5	x	x	143.1	4.3
Ontario	274	5 962.6	648.8	86.5	3.9	739.3	12.4
Manitoba	14	298.1	4.0	1.9	-	5.9	2.0
Saskatchewan	18	221.0	9.5	x	x	11.2	5.1
Alberta	57	1 925.3	75.6	x	x	94.6	4.9
British Columbia	87	1 775.6	110.2	35.4	0.1	145.8	8.2
Yukon and Northwest Territories	3	35.7	-	x	x	0.1	0.2
<b>Canada</b>	<b>598</b>	<b>14 278.3</b>	<b>973.4</b>	<b>188.1</b>	<b>22.6</b>	<b>1 184.1</b>	<b>8.3</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Total number of establishments that reported environmental export revenues in 1998.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.18  
**Exports by Province and Territory and by Destination, 1998**

Province/Territory	Environmental exports													Total environmental export revenues	
	Total environmental revenues	United States	South America	Other			Middle			Other			All Other		
				Mexico	Central America	Europe	East	Africa	China	Japan	Asia	Australia			
	million dollars														
Newfoundland	114.7	1.1	0.1	x	-	x	x	x	x	x	-	x	x	x	2.8
Prince Edward Island	66.6	0.3	x	-	-	x	x	-	x	-	-	-	-	-	0.3
Nova Scotia	271.9	3.7	0.2	x	x	0.8	x	0.0	0.2	x	x	x	x	0.5	7.2
New Brunswick	264.7	21.4	0.7	x	x	1.1	0.3	0.1	0.1	0.2	1.2	x	0.0	33.9	
Quebec	3 342.0	93.1	5.8	1.1	x	11.2	x	x	x	x	20.5	0.4	1.2	143.1	
Ontario	5 962.6	586.6	17.2	18.7	1.8	41.5	15.5	3.4	9.2	13.2	22.1	6.7	3.4	739.3	
Manitoba	298.1	5.6	x	x	x	x	-	x	x	-	x	x	x	5.9	
Saskatchewan	221.0	7.9	x	x	x	0.6	x	x	x	x	1.4	x	x	11.2	
Alberta	1 925.3	75.3	3.0	2.8	x	3.1	1.0	x	x	x	3.3	0.3	x	94.6	
British Columbia	1 775.6	62.8	8.7	0.8	0.4	x	1.9	0.3	12.4	3.0	x	1.9	x	145.8	
Yukon and Northwest Territories	35.7	-	x	-	-	x	-	x	x	-	x	x	x	0.1	
<b>Canada</b>	<b>14 278.3</b>	<b>857.8</b>	<b>36.4</b>	<b>24.3</b>	<b>3.4</b>	<b>65.7</b>	<b>21.3</b>	<b>9.1</b>	<b>24.0</b>	<b>20.0</b>	<b>95.2</b>	<b>17.5</b>	<b>9.5</b>	<b>1 184.1</b>	

**Note:**

Figures may not add up to totals due to rounding.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.19  
**Environmental Exports by Establishment Size<sup>1</sup>, 1998**

Establishments (employees)	Establishments <sup>2</sup> number	Total environmental revenues	Environmental goods	Environmental services	Environment- related construction	Total environmental export revenues	Share of total environmental revenues
		million dollars					percent
0-4	86	810.2	x	3.0	x	8.3	1.0
5-9	99	664.9	x	10.2	x	32.7	4.9
10-24	137	1 851.7	x	11.5	x	64.0	3.5
25-49	104	1 682.0	x	30.5	x	125.9	7.5
50-99	86	1 831.3	138.8	25.4	5.7	169.9	9.3
100-499	71	4 483.2	x	60.8	x	506.9	11.3
500-999	10	1 875.2	225.9	9.7	-	235.6	12.6
>999	5	1 079.8	3.8	37.0	-	40.8	3.8
<b>Canada</b>	<b>598</b>	<b>14 278.3</b>	<b>973.4</b>	<b>188.1</b>	<b>22.6</b>	<b>1 184.1</b>	<b>8.3</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Small establishments have fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

2. Total number of establishments that reported environmental export revenues in 1998.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.20  
**Exports by Establishment Size<sup>1</sup> and by Destination, 1998**

Establishments (employees)	Total environmental revenues	Environmental exports											Total environmental export revenues	
		United States	South America	Mexico	Other Central America	Europe	Middle East	Africa	China	Japan	Other Asia	Australia		All Other
million dollars														
0-4	810.2	4.3	0.2	x	x	0.3	0.2	0.2	0.3	x	0.8	--	1.1	8.3
5-9	664.9	20.9	0.4	x	x	2.2	1.4	0.1	x	x	1.6	0.5	1.0	32.7
10-24	1 851.7	42.4	2.0	0.7	0.8	6.3	0.6	0.6	0.3	4.9	3.1	0.4	1.9	64.0
25-49	1 682.0	85.8	5.4	1.4	x	5.7	6.0	1.2	x	1.9	7.9	1.3	0.4	125.9
50-99	1 831.3	131.0	2.6	1.8	0.6	3.3	9.0	3.3	2.0	3.3	8.7	4.1	0.1	169.9
100-499	4 483.2	341.3	16.2	10.9	1.3	42.9	x	x	x	8.8	55.2	10.5	x	506.9
500-999	1 875.2	218.3	2.6	x	x	x	x	x	x	x	x	x	x	235.6
>999	1 079.8	13.8	7.0	0.1	x	x	-	x	x	-	x	x	-	40.8
<b>Canada</b>	<b>14 278.3</b>	<b>857.8</b>	<b>36.4</b>	<b>24.3</b>	<b>3.4</b>	<b>65.7</b>	<b>21.3</b>	<b>9.1</b>	<b>24.0</b>	<b>20.0</b>	<b>95.2</b>	<b>17.5</b>	<b>9.5</b>	<b>1 184.1</b>

**Note:**

Figures may not add up to totals due to rounding.

1. Small establishments have fewer than 100 employees. Medium-sized establishments have 100 to 499 employees. Large establishments have 500 or more employees.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

ELECTRONIC PUBLICATIONS AVAILABLE AT  
**[www.statcan.ca](http://www.statcan.ca)**



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## **Annex B: Questionnaires**

ELECTRONIC PUBLICATIONS AVAILABLE AT  
**[www.statcan.ca](http://www.statcan.ca)**







Environment Accounts and Statistics Division

# Environment Industry Survey, 1998

Confidential when completed  
Collected under authority of Statistics Act, Revised Statutes of Canada, 1985, Chapter S19.

*Français au verso*

### Correct as required

Company Name

Operating Name

C/O

Street Address

City

Province/Territory

Postal Code



## Please read before completing

### SURVEY OBJECTIVE

This survey collects data on the revenues of environmental goods and services. These data will be aggregated with information from other sources to produce official estimates of national and provincial economic activity of the environment industry. Information from the survey can be used by businesses for market analysis, by trade associations to study the performance of the Environment Industry, by governments to develop national and regional policies, and by other users involved in research and policymaking.

The results of this survey will be published in the Statistics Canada publication, *Environment Industry 1998*, Catalogue No. 16F0008XPE.

### 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 previously written consent. The data reported will be treated in strict confidence, used for statistical purposes only and published in aggregate form. 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.**

### INFORMATION

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, Ontario K1A 0T6**

Telephone (toll-free): **1-800-387-0479 (within Canada)**  
Fax: **1-800-755-5514 (within Canada)**  
Email: **enviro.oid.ind@statcan.ca**

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

**Please return this questionnaire within 30 days of receipt.**

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

**Important:** Please read the **General Instructions** and **Definition** before answering.

*Statistics Canada use only*

Rec.			
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4-2300-51: 1999-04-08 STC/NAD-291-75084

## General Instructions

1. Please complete and return this form in the envelope provided.
2. If your company is involved in a combination of environmental activities (producing environmental goods, providing environmental services or undertaking environment-related construction), please ensure that the relevant portion(s) of Section B are completed.
3. **Reasonably accurate estimates are acceptable.**
4. **Please report all amounts in CANADIAN DOLLARS.**

## SECTION A - Company Information

**A1.** This questionnaire should be completed for your company's operation in one province/territory only. If you operate in more than one province/territory, you should file separate reports for the other provinces/territories in which you operate. You may wish to photocopy this questionnaire or you may call us toll-free at 1-800-387-0479 to request additional questionnaires.

**Province/territory for which this report applies:**

400

**A2. Did your company operate in more than one province/territory in 1998?**

401  Yes      402  No ➤ *Go to question A4.*

**A3. Please indicate the other provinces/territories in which you operate.**

403

**A4. Reporting year:**

Report must cover your most recent financial year ending between April 1, 1998 and March 31, 1999.

Day	Month	Year
404	405	406

**From:**

Day	Month	Year
407	408	409

**To:**

## Definition

### What are Environmental Goods and Services?

Environmental goods and services are quite diverse in nature. These are goods and services that are used or can potentially be used to measure, prevent, limit, or correct environmental damage (both natural or by human activity) to water, air, soil as well as problems related to waste, noise and ecosystems. The markets for these goods and services are generally driven either by regulatory compliance or voluntary actions. In addition, environment-related construction projects are also included in this survey.

Also included are clean or resource-efficient ("eco-efficient") technologies that decrease material inputs, reduce energy consumption, recover valuable by-products, reduce emissions or minimise waste disposal problems.

Unlike traditional industries that produce more easily identifiable goods and services, the "ENVIRONMENT INDUSTRY" consists of various types of industries that provide environmental goods and services. For the purposes of this survey, all companies operating in Canada that are involved IN WHOLE or IN PART in the production of environmental goods, the provision of environmental services and the undertaking or environment-related construction activities make up what is called the "ENVIRONMENT INDUSTRY."

## SECTION B - Revenues and Classification

### Revenues

	Canadian Dollars (omit cents)
<b>B1. What were your company's total revenues in 1998?</b>	101
<b>B2. Of your company's total revenues reported in B1, please indicate the revenues from the sale of environmental goods or services, or environment-related construction services.</b>	102

### Classification

The purpose of this section is to measure the revenues generated by your organisation by types of products or services provided. Please classify the environmental revenues reported in B2 according to the following goods/services category(ies). **Examples for each category are provided on the insert entitled "Classification Details" enclosed with this form.**

#### Environmental Goods

**B3. Did your company ship environmental goods in 1998?**

<sup>103</sup>  Yes    <sup>104</sup>  No ➤ *Go to question B7.*

**B4. Please indicate your company's 1998 environmental revenues from the production of environmental goods, including installation, where applicable. If your company's shipments do not fall in any stated category, please use the 'Other, specify' category.**

	Canadian Dollars (omit cents)
1. Air Pollution Control (Indoor or Outdoor)	105
2. Water Supply and Conservation	106
3. Wastewater Management	107
4. Solid and Hazardous Waste Management	108
5. Remediation/Treatment of Soil and Groundwater	109
6. Noise/Vibration Abatement	110
7. Environmental Monitoring, Analysis and Assessment	111
8. Energy Efficient Products	112
9. Solar Energy Systems and Equipment	113
10. Biomass Energy Systems and Equipment	114
11. Other Renewable Energy Systems and Equipment	115
12. Alternative Fuel Systems	116
13. Clean Technologies, Eco-efficient Technologies and Related Components	117
14. Other, <i>specify</i> <sup>120</sup> _____	118
<b>Total Environmental Goods</b>	119

**B5. Is your company a reseller or distributor?**

<sup>121</sup>  Yes    <sup>122</sup>  No ➤ *Go to question B7.*

	Percent (%)
<b>B6. Of the total environmental goods reported in B4, what was the percentage of goods purchased for resale?</b>	123

## Environmental Services

**B7. Did your company provide environmental services in 1998? (For additional information, please refer to the insert entitled "Classification Details.")**

<sup>124</sup>  Yes

<sup>125</sup>  No ➤ Go to question B9.

**B8. Please indicate your company's 1998 environmental revenues from environmental services, where applicable. If your company's activities do not fall in any stated category, please use the 'Other, specify' category.**

	Canadian Dollars (omit cents)
15. Air Pollution Control (Indoor or Outdoor)	126
16. Water Supply and Conservation	127
17. Wastewater Management	128
18. Solid and Hazardous Waste Management	129
19. Remediation/Treatment of Soil and Groundwater	130
20. Noise/Vibration Abatement	131
21. Environmental Research and Development	132
22. Energy Efficiency and Renewable Energy	133
23. Environmental Education, Training, and Information	134
24. Other Environmental Consulting Engineering Services	135
25. Other Analytical Services, Data Collection and Analysis	136
26. Other, <i>specify</i>   <sup>139</sup>	137
<b>Total Environmental Services</b>	138

## Environment-related Construction Services

**B9. Did your company provide environment-related construction services in 1998? (For additional information, please refer to the insert entitled "Classification Details.")**

<sup>140</sup>  Yes

<sup>141</sup>  No ➤ Go to question C1

**B10. Please indicate your company's 1998 environmental revenues from environment-related construction services, including repair and maintenance. If your company's activities do not fall in any stated category, please use the 'Other, specify' category.**

	Canadian Dollars (omit cents)
27. Air Pollution Control (Indoor or Outdoor)	142
28. Water Supply and Conservation	143
29. Wastewater Management	144
30. Solid and Hazardous Waste Management	145
31. Remediation/Treatment of Soil and Groundwater	146
32. Noise/Vibration Abatement	147
33. Other, <i>specify</i>   <sup>150</sup>	148
<b>Total Environment-related Construction Services</b>	149

<b>SECTION C - Client Base</b>	<b>SECTION D - Client Location</b>																																																								
<b>C1. Please estimate your company's environmental revenues reported in B2 according to the following client base breakdown.</b>	<b>D1. Please estimate your company's environmental revenues reported in B2 according to the following client location breakdown.</b>																																																								
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## SECTION E - Environmental Export Revenues

**E1. Please provide a breakdown of the environmental revenues from OUTSIDE CANADA (foreign exports) reported in D1, by region.**

**Exports to the United States:** Please refer to the insert entitled "Classification Details" for a list of states in each region of the United States.

	Canadian Dollars (omit cents)
1. Northeast	178
2. Midwest	179
3. South	180
4. West	181

**E1.1 Environmental Exports to the United States (sum of items 1 to 4)** 182

**Exports to the Rest of the World:**

	Canadian Dollars (omit cents)
5. Mexico	183
6. Other Central America	184
7. South America	185
8. Europe	186
9. Middle East	187
10. Africa	188
11. China	189
12. Japan	190
13. Other Asia	191
14. Australia	192
15. Other foreign (specify)	193
196	

**E1.2 Environmental Exports to the Rest of the World (sum of items 5 to 15)** 194

**Total Environmental Exports (sum of E1.1 and E1.2)** 195

## SECTION F - Anticipated Revenues

**F1. What are your anticipated environmental revenues for the year 2000?**

Canadian Dollars (omit cents)
197

**F2. Of the environmental revenues reported in F1, how much will be generated outside of Canada?**

198
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## SECTION G - Wages and Salaries

**G1. Please estimate your company's total expenses on wages, salaries and employee benefits in 1998.**

	Canadian Dollars (omit cents)
Wages and salaries	199
Employee benefits (including training and education)	200
<b>Total Expenses on Wages, Salaries and Employee Benefits</b>	201

## SECTION H - Employment

**H1. Please report the total number of persons usually employed during the reporting period.**

	Number
Working proprietors and/or principals of unincorporated businesses	202
<b>Full-time Employees</b> - Regular employees who worked the standard work week as observed by the business	203
<b>Part-time Employees</b> - Those who worked regularly but for fewer than the standard work week hours observed by the business	204
<b>Contract employees</b> - Those who were engaged only for the duration of a specific project or term	205
<b>Total Employment</b>	206

**H2. Of the total employment reported in H1, please estimate the number of employees who spent time in the production/provision of environmental goods and services, or environment-related construction services EXCLUDING CONTRACT EMPLOYEES.**

	Number
<b>Total Environmental Employees</b>	207

**SECTION I - Certification and Comments****Certification**

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

Signature  ✍️		Date Day    Month    Year   _      _      _      _      _
Name of person completing this questionnaire (type or print)		Telephone   _      _      _      _      _      _      _
Title		Fax   _      _      _      _      _      _      _
Year Company Established	Ownership Content:  Canadian Ownership _____ %	Email Address

**Comments**


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If you have any questions, please contact us.  
**Telephone (toll free) 1-800-387-0479 (within Canada)**  
**Fax: 1-800-755-5514 (within Canada)**  
**Email: [enviro.oid.ind@statcan.ca](mailto:enviro.oid.ind@statcan.ca)**

Please return this questionnaire in the envelope provided

**Thank you for your cooperation !**



Environment Accounts and Statistics Division

**Environment Industry Survey,  
1998**

*Français au verso*

## **Classification Details**



### **Section B. Company Revenues and Classification**

This survey targets establishments engaged in the provision of a) environmental goods, b) environmental services, and c) environment-related construction services. Following are examples for each of the classifications listed in Section B.

#### **a) Environmental Goods**

1. **Air Pollution Control (Indoor or Outdoor)** – air handling equipment; catalytic converters; chemical recovery systems, dust collectors, separators/precipitators; incinerators, scrubbers; and odour control equipment.
2. **Water Supply and Conservation** – potable water; water handling goods and equipment (pumps, pipes, valves); and water conservation products (low-flow toilets and shower heads).
3. **Wastewater Management** – aeration systems; chemical recovery systems; biological recovery systems; gravity sediment systems; oil/water separation systems; screens/strainers; sewage treatment equipment; water pollution control, wastewater reuse equipment; water treatment chemicals; water treatment equipment; clarifiers, filters and filter media; and water purification equipment.
4. **Solid and Hazardous Waste Management** – hazardous waste storage/treatment equipment; waste collection equipment; waste disposal machinery and equipment; waste handling equipment; waste separation equipment; recycling equipment; and incineration equipment.
5. **Remediation/Treatment of Soil and Groundwater** – absorbents; bioremediation equipment; soil vapour extraction equipment; spill equipment; and containment systems.
6. **Noise/Vibration Abatement** – mufflers/silencers; noise deadening equipment; noise and vibration control systems; and highway barriers.
7. **Environmental Monitoring, Analysis and Assessment** – measuring and monitoring equipment; sampling systems; process and control equipment; data acquisition equipment; other instruments/ machines; environment information systems and/or analytical software such as laboratory, remote sensing, and GIS management software.
8. **Energy Efficient Products** – energy management equipment; energy recovery equipment; alternate energy systems and equipment; insulation and sealing products; and energy efficient lighting, motors, etc.;
9. **Solar Energy Systems and Equipment** – active and passive solar systems; photovoltaics; and solar-thermal generators.

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**Canada**



10. **Biomass Energy Systems and Equipment** – forest and agricultural biomass, including plantations, harvesting and conversions; and landfill gas collection systems.
11. **Other Renewable Energy Systems and Equipment** – hydraulic energy such as ocean energy systems; waves, tides and rivers; geothermal; peat; and wind.
12. **Alternative Fuel Systems** – clean fuel systems (reformulated fuels and oxygenated fuels); fuel cell technologies; hydrogen systems; and advanced batteries.
13. **Clean Technologies, Eco-efficient Technologies and Related Components** – integrated process technology; and materials recovery technology.
14. **Other, specify** – please specify your goods if they are not listed in the preceding categories.

**b) Environmental Services**

15. **Air Pollution Control (Indoor or Outdoor)** – emission monitoring; assessment/evaluation, design and planning; and related consulting engineering and analytical services.
16. **Water Supply and Conservation** – water purification; water delivery; water handling systems; and related consulting engineering and analytical services.
17. **Wastewater Management** – sewage treatment systems; wastewater reuse systems; operation of water treatment facilities; storm water management; water and wastewater system assessment; planning and design management; and related consulting and analytical services.
18. **Solid and Hazardous Waste Management** – emergency response and spills cleanup; waste handling, collection, transport, transfer stations and disposal; operation of sites, ownership/management of sites; recycling (sorting, baling, cleaning); operation of recycling plants (materials recovery facilities); hazardous waste management; medical waste management; nuclear waste management; and related consulting engineering and analytical services.
19. **Remediation/Treatment of Soil and Groundwater** – cleanup systems; industrial services (cleaning for facilities and tanks); groundwater monitoring and remediation services; soil remediation services; hydrogeological services; site reclamation and remedial action services; and related consulting engineering and analytical services.
20. **Noise/Vibration Abatement** – assessment/monitoring; design and management services for acoustic and soundproof screens and street covering; and related consulting engineering and analytical services.
21. **Environmental Research and Development** – development, evaluation and implementation of clean process technologies and/or end-of-pipe pollution abatement control technologies; related consulting engineering and analytical services; and related research to improve knowledge on ecosystems and the impact of human activities on the environment.

22. **Energy Efficiency and Renewable Energy** – energy audit; energy resource management; alternative energy system design; renewable energy services (site assessment, project development, installation); services related to renewable energy production (solar energy, biomass, hydraulic, geothermal, peat and wind); and related consulting engineering and analytical services.
23. **Environmental Education, Training, and Information** – environmental education and training; environmental information searching services; environmental data management and analysis; ISO 9000/14000 support services; and related consulting engineering and analytical services.
24. **Other Environmental Consulting Engineering Services** – other environmental advisory and/or design services not listed in the preceding categories.
25. **Other Analytical Services, Data Collection and Analysis** – other analytical services not listed in the preceding categories.
26. **Other, *specify*** – please specify your environmental services if they are not listed in the preceding categories. Examples include conservation and resource management; environmental public relations; environmental law; environmental risk management and liability insurance; marketing and advertising; business development services; emergency response planning; full-cost accounting services; and public/private partnership development.

**c) Environment-related construction services**

27. **Air Pollution Control (Indoor or Outdoor)**
28. **Water Supply and Conservation**
29. **Wastewater Management** – sewer systems; and water treatment plants.
30. **Solid and Hazardous Waste Management** – hazardous waste management; solid waste treatment, storage and disposal; and recycling.
31. **Remediation/Treatment of Soil and Groundwater**
32. **Noise/Vibration Abatement** – highway barriers.
33. **Other, *specify*** – please specify your environment-related construction services if they are not listed in the preceding categories.

**Section E. Environmental Export Revenues**

**E.1.1 Environmental Exports to the United States**

1. **NORTHEAST** – Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania.
2. **MIDWEST** – Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.
3. **SOUTH** – Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas.
4. **WEST** – Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, Hawaii.