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Environment Industry Survey Business Sector

2002



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Preface

This report presents estimates pertaining to businesses in the environment industry, obtained from the *Environment Industry Survey, 2002* 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 2002, produced environmental goods, provided environmental services or undertook environment-related construction projects in Canada.

Acknowledgements

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

This report was prepared by the Environment Accounts and Statistics Division, under the direction of Robert Smith, Director and Bruce Mitchell, Chief, Environmental Protection Accounts and Surveys. Data collection for the surveys was conducted by the Operations and Integration Division (M. Jones, Director) and the Environment Accounts and Statistics Division. Other data were supplied by Services Division (L.M. Ducharme, Director).

Rowena Orok, Senior Analyst, Environmental Protection Accounts and Surveys, managed the survey. Major contributions to this report were made by Wendy Gibbard and H el ene Tr epanier.

Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 nil or zero
- 0^s value rounded to zero where there is a meaningful distinction between true zero and the value that was rounded
- x suppressed to meet the confidentiality requirements of the *Statistics Act*

1 Highlights

- Revenues derived from environment-related activities reached \$15.8 billion in 2002, representing 54% of the total revenues reported by firms that made up Canada's environment industry.
- Accounting for 44% of total environmental revenues, environmental services slightly surpassed the environmental goods category which accounted for 42% of total environmental revenues. Environment-related construction projects made up the remaining share 14% of the total environmental revenues.
- Most of the environmental services revenues originated from the waste services category (\$5.1 billion), accounting for 72% of total environmental services revenues.
- The "other" goods category posted the top environmental goods revenues in 2002 (\$3.6 billion), owing mainly to recyclable materials sales by the Wholesale Trade industry. This category accounted for 55% of total environmental goods revenues.
- Canadian environmental businesses also earned \$364 million in revenues from the sales of technologies to reduce greenhouse gas emissions. Fuel cells and alternative fuel technologies revenues accounted for 32% of this total (\$118 million) while sales of solar and wind energy systems and equipment reached \$112 million during the same year.
- Four industry groups led Canada's environment industry: Wholesale Trade (29%); Waste Management and Remediation Services (24%); Construction (11%) and Engineering Services (7%).
- Businesses in Ontario and Quebec were the biggest earners of revenues from environment-related activities. Ontario's environmental revenues were \$6.9 billion in 2002 and those of Quebec were estimated at \$3.1 billion. Other top performers during the period were firms in Alberta (\$2.3 billion) and British Columbia (\$1.9 billion).
- Small and medium-sized establishments continued to dominate the Canadian environment industry. In particular, small establishments made up 93% of all establishments in the industry during the period and earned 54% of total environment industry revenues in 2002 (\$8.5 billion).
- Export markets represented the source of 9% of environmental revenues in 2002. Total environmental export revenues reached \$1.4 billion. Exports of environmental goods and services related to waste management and remediation made up 29% of this total (\$405 million), followed by goods and services related to the water and air categories (\$343 million and \$212 million, respectively).
- Providing environmental export revenues of \$1.1 billion, the United States remained the biggest export market for Canada's environment industry, followed by Europe (\$121 million) and Asia (\$113 million).
- Total employment of businesses that reported environment-related activities reached 159,720 in 2002. This total includes all workers who performed environmental and non-environmental activities.

2 Concepts and 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.”¹ The statistical unit used in this report is the establishment.²

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 categories of environmental goods and services used in the statistical tables (Annex A) are based on the Environment Industry Survey questionnaire (Annex B). These lists were developed using Canadian and international sources.³ Text boxes 2.1, 2.2 and 2.3 relate the environmental goods and services categories found in the statistical tables to the corresponding questionnaire cell numbers.

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.⁴ 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.*”⁵ 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 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 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, 2002*.

2. An establishment is defined as “the most homogeneous unit of production for which the business maintains accounting records from which it is possible to assemble all the data elements required to compile the full structure of the gross value of production (total sales or shipments, and inventories), the cost of materials and services and labour and capital used in production.” Refer to Statistics Canada, *North American Industry Classification System*, Catalogue 12-501-XPE 2002, 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, *North American Industry Classification System*, Catalogue No. 12-501-XPE 2002, Ottawa.

Text Box 2.1

Environmental Goods - systems or equipment related to the following categories:**Water**

Water Supply and Conservation (c106)

Wastewater Management and Sewage Treatment (c107)

Air

Air Pollution Control (c105)

Waste

Hazardous and Non-hazardous Waste Management (c108)

Remediation/Treatment of Soil, Surface Water, Seawater and Groundwater (c109)

Technologies to Reduce Greenhouse Gas Emissions

Solar and Wind Energy (c113 and c115)

Fuel Cells and Alternative Fuel Technologies (c801 and c117)

Cogeneration, Methane Capture and Use from Landfill Sites or Agricultural Sources, Waste-to Energy (c802, c803 and c114)

Other Renewable Energy (c800 and c116)

Clean Technologies and Related Components (c118)

Any other system or equipment for energy conservation and efficiency (c112)

Analytical

Environmental Monitoring, Analysis and Assessment (c111)

Other Environmental Goods

Noise and Vibration Abatement (c110)

Recyclable materials (data are not collected through the Environment Industry Survey)

Other systems or equipment specified by respondents (c119)

Text Box 2.2

Environmental Services - services related to the following categories:

Water

Water Supply and Conservation (c125)

Wastewater Management and Sewage treatment (c126)

Air

Air Pollution Control and Monitoring Services (c124)

Waste

Hazardous and Non-Hazardous Waste Management (c127)

Remediation and Treatment of Soil, Surface Water, Seawater and Groundwater (c128)

Research and Development

Environmental Research and Development (c130)

Renewable Energy

Energy Efficiency and Renewable Energy (c131)

Consulting Engineering and Analytical Services

Other consulting engineering, analytical services, data collection and analysis (c135)

Environmental Management Systems (c856)

Management Consulting and Legal Services (c133)

Environmental Education, Training and Information (c132)

Other Environmental Services

Noise and Vibration Abatement (c129)

Others environmental services specified by respondents (c136)

Text Box 2.3

Environment-related Construction - projects related to the following categories:

Water

Water Supply and Conservation (c142)

Wastewater Management and Sewage Treatment (c143)

Air

Air Pollution Control (c141)

Waste

Hazardous and Non-hazardous Waste Management (c144)

Remediation/Treatment of Soil, Surface Water, Seawater and Groundwater (c145)

Renewable Energy

Renewable Energy Production Facilities (c857)

Other Environment-Related Construction

Noise/Vibration Abatement (c146)

Other environment-related construction specified by respondents (c147)

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

Industry	NAICS code
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
Environmental Consulting Services	541620
Management Consulting Services and Other Scientific and Technical Consulting Services	54161, 54169
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 Methodology and Data Quality

The following information should be used to ensure a clear understanding of the underlying methodology of the survey and of key aspects of the data quality. This information will provide a better understanding of the strengths and limitations of the data and of how they can be effectively used and analysed. The information may be of particular importance when making comparisons with data from other surveys or sources of information and in drawing conclusions regarding change over time.

3.1 Overall approach: data sources and methodology

3.1.1 General methodology

This report presents, on a biennial basis, the revenues earned from the production of environmental goods, the provision of environmental services and the undertaking of environment-related construction activities. The overall estimates are based on the integrated data from the *Environment Industry Survey* and other existing Statistics Canada surveys that ask for information on environmental revenues and activities.

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 2002* 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 Services.

There were 1,818 establishments from the Waste Management Industry Survey: Business Sector and 40 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 (2,542 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.

The discussion on methodology and data quality that follows refers to the *Environment Industry Survey 2002* only. Documentation on methodology and data quality of the other Statistics Canada surveys cited in this report is available through the Statistical Methods website <http://dissemination.statcan.ca/english/concepts>.

3.2 Environment Industry Survey

3.2.1 Reference period

Beginning with the 1998 reference year, the *Environment Industry Survey* has been changed from an annual to a biennial survey. The information contained in this report reflects the total revenues, total environmental revenues and total employment covering the financial year ending between April 1, 2002 and March 31, 2003.

3.2.2 Coverage

Starting with the pilot survey conducted for reference period 1995, the *Environment Industry Survey* has been a census of 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. These establishments may fall within a variety of industries, as defined by the North American Industry Classification System (NAICS), that produce environmental goods and services.¹

The survey frame has been 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.

A hybrid approach was used in the *Environment Industry Survey 2002*. The survey continued to cover all establishments (classified to various NAICS industries) operating in Canada and identified to have environment-related activities. The only exception was in the coverage of the Environ-

1. Section 2 describes the composition of the environment industry based on industry classifications.

mental Consulting Services industry (NAICS 541620) whose main activity can be clearly identified as environment-related. Data for this industry were collected through a sample of establishments.

3.2.3 Variables measured

For the reference year 2002, 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;
- environmental export revenues from technologies and services related to the reduction of greenhouse gas emissions;
- research and development (R & D) on goods/services related to the reduction of greenhouse gas emissions;
- innovation activities related to the development of goods/services to reduce greenhouse gas emissions;
- total employment; and
- proportion of total employment involved in environment-related projects.

3.2.4 Data collection and processing

Frame completion as well as must-firm identification¹ was carried out during the first quarter of 2003. The mail-out took place in April, 2003. Survey questionnaires were mailed to 2,625 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 May to December 2003. 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

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.

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 2003.

3.2.5 Evaluation of frame coverage

In-scope establishments

For this survey cycle, a total of 1,732 fully-completed and partially-completed questionnaires were returned. Approximately 6% of these questionnaires came from establishments that did not earn any revenues from the environmental good or service they offered/marketed in 2002. On the other hand, the number of non-response questionnaires that were considered to be within the scope of the survey frame were 591. Thus, a total of 2,323 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 25 mergers and acquisitions among the surveyed establishments in 2002. Another 181 surveyed establishments were inactive, could not be contacted or were previously engaged in some form of environment-related activity but went out-of-business in 2002. Finally, 92 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 previously offered.

3.3 Data accuracy

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. The methodology of this survey has been designed to control errors and to reduce their potential effects on the data quality.

The mailing list for the 2002 survey was developed from the *Environment Industry Survey 2000*, various industry directories and supplementary information from the Statistics Canada's Central Frame Data Base (CFDB).¹ Extensive research was conducted for each establishment in the frame in order to identify the firm's environment-related activities and markets served. As a result, improved coverage of the universe as well as better identification of environment-related activities and export markets continued during this fourth cycle of the survey. In addition, basing the industry classifications on the North American Industry Classification System improved the accuracy of industry groups within the environment industry.

Every effort was also made to reduce the occurrence of non-sampling errors in the survey.² 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.

3.3.1 Response rates

The overall response rate for the *Environment Industry Survey 2002*, based on the ratio of the number of fully and partially completed questionnaires to the total number of in-scope questionnaires, was 74%.³ Tables 3.1 and 3.2 illustrate alternative calculations of response rates based on the following variables:

- number of reporting establishments;
- total employment; and
- total revenues.

1. For additional information on the Statistics Canada's Business Register, refer to <http://dissemination.statcan.ca/english/sdds/1105.htm>.

2. Non-sampling errors can arise during the course of virtually all survey activities such as a result of errors in the frame, or difficulties in establishing precise operational definitions. For more details, refer to Statistics Canada, 1993, *Survey Sampling: A Non-Mathematical Guide-Second Edition*, Catalogue No. 12-602E, Ottawa.

3. Includes the unweighted response rates for the sampled NAICS 541620 (Environmental Consulting Services).

Table 3.1

Weighted Response Rates: Environment Industry Survey 2002, Environmental Consulting Services (NAICS 541620)¹

	Weighted response as a percentage of total
According to number of reporting establishments	77.4
According to total employment	82.0
According to total revenues	80.6

Notes:

1. Responses are based on fully-completed and partially-completed questionnaires. The total includes all in-scope respondents only. Out-of-scope establishments, mergers, closed and/or sold establishments, etc. are excluded. The weighted response rates takes into account both the sampling weight and the value for the following variables: number of establishments, total employment and total revenues. Data for NAICS 541620 were collected through a sample of establishments.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table 3.2

Unweighted Response Rates: Environment Industry Survey 2002, All Other Industries¹

	Unweighted response as a percentage of total
According to number of reporting establishments	75.0
According to total employment	79.3
According to total revenues	77.1

Notes:

1. Responses are based on fully-completed and partially-completed questionnaires. The total includes all in-scope respondents only. Out-of-scope establishments, mergers, closed and/or sold establishments, etc. are excluded. Data for all other industries were collected through a census of all establishments operating in Canada and identified to have environment-related activities.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

3.3.2 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 revenue-size group. 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 3.1.1. 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 3.3 were calculated based on the *Environment Industry Survey 2002* only.

Table 3.3
Imputation Rates, Selected Categories, 2002

Category	Imputation rate ¹
	percent
Total revenues	-
Total employment	-
Total environmental revenues	22.4
Environmental goods revenues	22.9
Environmental services revenues	26.2
Environment-related construction services revenues	11.5
Total environmental export revenues	11.1

Note:

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

Source:

Statistics Canada, Environment Accounts and Statistics Division.

3.3.3 Data limitations

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. Understanding certain data limitations will help the reader make informed decisions before conducting further research and analysis using the estimates in this report. These data limitations are explained below.

Exports

Export revenues and key export markets were 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 2002, the data on environmental export revenues by type of environmental good or service were estimated based on the type of environmental good or services produced by the establishment overall.

Employment

In terms of employment data, **total employment** of those businesses producing environmental goods and services are presented in the statistical tables by industry, by province and by establishment size. The question on environmental employment was revised and included in the 2002 questionnaire in an effort to measure the proportion of total employment involved in environment-related projects.

This section of the questionnaire continues to be a work-in-progress. Respondents, particularly establishments having both environmental and non-environmental activities tend to have difficulty estimating the number of employees who were directly involved in environment-related activities.

Environment-related construction

The total environmental revenues from environment-related construction were demand-side estimates based on infor-

mation provided by government and business purchasers of environmental goods and services. Consequently, there is no estimate for the total number of firms.

Revenues

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.

3.4 Comparability of data and related sources

3.4.1 Comparisons over time

In 2002, the following revisions were made to the Environment Industry Survey questionnaire:

- *Expanded categories of environmental goods* - several categories of technologies to reduce greenhouse gas emissions were added in 2002, namely, cogeneration (cell 802), small, mini, micro hydro systems or equipment (cell 800), and equipment for methane capture or use from landfill sites or agricultural sources (cell 803). Alternative fuel systems were divided into two categories - fuel cells (cell 801) and alternative fuel technologies (cell 117).
- *Revisions to the categories of environmental services* - Environmental Management System (cell 856) was added to the list of environmental services in 2002. Previously listed as two separate items in the questionnaire, other consulting engineering and analytical services, data collection and analysis were combined into one category (cell 135). Questions concerning the type of environmental services related to the reduction of greenhouse gas emissions were also added to the 2002 questionnaire.
- Two sections on research and development and innovation related to goods and services to reduce greenhouse gas emissions as well as a section on problems and obstacles to the provision of these types of goods and services were also new in the 2002 questionnaire.

- The environmental employment question was added back to the 2002 questionnaire in order to estimate the proportion of total employment involved in environment-related projects.

As a result of changes to the survey questionnaire, the following new tables were published for 2002:

- Revenues of technologies to reduce greenhouse gas emissions, by industry
- Revenues of technologies to reduce greenhouse gas emissions, by province or territory
- Revenues of technologies to reduce greenhouse gas emissions, by establishment size
- Total employment involved in environment-related projects, by industry
- Distribution of research and development (R&D) activities on goods and services related to the reduction of greenhouse gas emissions, by type of R&D activity
- Distribution of research and development (R&D) activities on goods and services related to the reduction of greenhouse gas emissions, by number of R&D funding sources
- Problems and obstacles to the provision of goods and services related to the reduction of greenhouse gas emissions.

In order to make the 2002 estimates comparable with the previous survey data, the 2000 Environment Industry Survey tables were revised and also made available to data users.

Annex A: Statistical Tables

Table A.1
Total and environmental revenues by industry, 2002

Industry ¹	Establishments ² number	Total employment	Total revenues ³	Environmental goods	Environmental services	Environment-	Total
						related construction ⁴	environmental revenues
			million dollars				
Agriculture, forestry, fishing and hunting	14	249	21.0	4.5	8.4	0.0	12.9
Mining and oil and gas extraction	29	1 698	913.3	x	131.6	x	140.4
Utilities	15	1 975	52.5	10.4	x	x	29.4
Construction	82	16 728	2 705.6	42.4	128.4	1 906.7	2 077.5
Chemical manufacturing	51	3 457	1 141.2	206.0	34.7	0.0	240.8
Plastic and rubber products manufacturing	39	3 238	968.0	383.0	x	x	404.4
Non-metallic mineral product manufacturing	15	1 237	279.8	x	0.0	x	154.6
Primary metal manufacturing	12	743	101.6	61.2	9.8	0.0	71.0
Fabricated metal product manufacturing	38	3 624	708.4	x	x	x	167.2
Machinery manufacturing	147	9 712	1 845.3	770.3	37.2	7.8	815.3
Computer and electronic product manufacturing	53	2 004	325.4	108.4	4.2	0.0	112.6
Electrical equipment, appliance and component manufacturing	13	1 154	943.0	201.4	0.2	0.0	201.6
Rest of manufacturing sector	39	2 848	535.6	270.1	27.0	0.0	297.1
Wholesale trade	2 845	24 195	6 127.7	3 884.2	693.8	11.0	4 588.9
Retail trade	20	1 168	154.3	51.3	2.8	0.0	54.2
Finance and insurance services	20	1 444	305.0	x	39.9	x	48.4
Legal services	48	8 786	1 575.7	0.0	104.9	0.0	104.9
Architectural and landscape architectural services	17	112	13.6	0.0	5.3	0.0	5.3
Engineering services	560	28 891	4 034.7	76.9	914.7	122.8	1 114.3
Surveying and mapping (including geophysical) services	22	814	91.6	x	x	x	32.4
Testing laboratories	103	3 665	342.4	x	x	x	202.4
Computer systems design and related services	28	1 973	262.4	x	13.8	x	25.6
Environmental consulting services	1 510	8 062	769.6	32.3	610.4	2.4	645.2
Management consulting and other scientific and technical consulting services	123	1 270	152.8	31.1	46.5	10.2	87.8
Scientific research and development services	39	1 239	144.0	43.6	43.5	0.0	87.1
All other professional, scientific and technical services	22	471	39.7	x	x	x	25.3
Management of companies and enterprises	19	1 886	359.2	x	18.2	x	83.7
Administrative and support services	44	2 007	318.0	x	85.2	x	100.6
Waste management and remediation services	1 938	23 757	3 941.0	42.8	3 671.9	27.3	3 742.0
Other services	62	1 313	265.9	x	81.3	x	126.7
Canada	7 967	159 720	29 438.6	6 647.3	6 996.7	2 155.8	15 799.8

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 23711, 23712, 23731, 23799) due to the methodology used to derive the estimates.

3. Total revenues of establishments that were considered to be in scope for the purposes of the survey.

4. 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 from environmental goods by industry, 2002

Industry ²	Environmental goods ¹						Total environmental goods revenues
	Technologies to reduce greenhouse gas emissions						
	Water	Air	Waste	emissions	Analytical	Other	
	million dollars						
Agriculture, forestry, fishing and hunting	0.0	0.0	x	x	0.0	x	4.5
Mining and oil and gas extraction	x	x	x	x	x	0.0	x
Utilities	9.0	0.0	x	x	x	0.0	10.4
Construction	20.6	x	7.8	12.4	x	x	42.4
Chemical manufacturing	71.0	x	25.7	14.1	x	61.9	206.0
Plastic and rubber products manufacturing	265.2	7.6	85.7	x	0.0	x	383.0
Non-metallic mineral product manufacturing	x	x	x	x	0.0	x	x
Primary metal manufacturing	56.0	x	0.0	0.0	0.0	x	61.2
Fabricated metal product manufacturing	x	x	x	x	0.0	x	x
Machinery manufacturing	317.1	214.9	129.4	78.8	8.1	22.1	770.3
Computer and electronic product manufacturing	17.5	2.0	3.0	7.9	69.2	8.8	108.4
Electrical equipment, appliance and component manufacturing	0.0	129.0	0.0	24.7	0.0	47.6	201.4
Rest of manufacturing sector	2.8	x	191.4	29.5	x	9.0	270.1
Wholesale trade	281.1	53.7	67.2	79.2	72.4	3 330.6	3 884.2
Retail trade	1.8	1.1	12.0	16.1	x	x	51.3
Finance and insurance services	x	x	x	x	0.0	0.0	x
Legal services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Architectural and landscape architectural services	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Engineering services	22.7	13.3	1.6	14.0	x	x	76.9
Surveying and mapping (including geophysical) services	0.0	0.0	0.0	0.0	x	x	x
Testing laboratories	0.0	x	x	x	x	x	x
Computer systems design and related services	0.0	0.0	x	x	x	x	x
Environmental consulting services	x	x	x	0.0	8.6	x	32.3
Management consulting and other scientific and technical consulting services	0.0	x	x	x	x	0.0	31.1
Scientific research and development services	x	x	x	x	x	x	43.6
All other professional, scientific and technical services	x	0.0	0.0	0.0	x	x	x
Management of companies and enterprises	x	x	x	x	x	0.0	x
Administrative and support services	x	x	x	x	x	x	x
Waste management and remediation services	x	x	x	x	x	x	42.8
Other services	6.3	x	x	x	x	x	x
Canada	1 219.0	542.7	669.5	364.3	221.5	3 630.4	6 647.3

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.1 in Section 2 for classification details.

2. 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 from sales of technologies to reduce greenhouse gas emissions by industry, 2002

Industry ²	Technologies to reduce greenhouse gas emissions ¹						Other systems or equipment for energy conservation and efficiency	Total environmental goods revenues from sales of technologies to reduce greenhouse gas emissions
	Solar and wind energy	Fuel cells and alternative fuel technologies	Cogeneration, methane capture, waste-to-energy	Other renewable energy technologies	Clean technologies and related components			
	million dollars							
Agriculture, forestry, fishing and hunting	0.0	0.0	x	0.0	0.0	x	x	
Mining and oil and gas extraction	0.0	x	0.0	0.0	0.0	0.0	x	
Utilities	x	0.0	0.0	0.0	0.0	0.0	x	
Construction	11.3	0.0	x	0.8	0.0	x	12.4	
Chemical manufacturing	x	x	0.0	7.3	0.0	0.0	14.1	
Plastic and rubber products manufacturing	0.0	x	x	0.0	0.0	0.0	x	
Non-metallic mineral product manufacturing	0.0	0.0	0.0	x	0.0	0.0	x	
Primary metal manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fabricated metal product manufacturing	0.0	x	0.0	0.0	0.0	x	x	
Machinery manufacturing	5.5	18.3	x	x	x	40.5	78.8	
Computer and electronic product manufacturing	x	x	x	0.0	0.0	x	7.9	
Electrical equipment, appliance and component manufacturing	15.0	x	0.0	0.0	x	8.4	24.7	
Rest of manufacturing sector	x	x	0.0	0.0	x	x	29.5	
Wholesale trade	52.5	x	x	2.1	0.5	18.2	79.2	
Retail trade	x	x	0.0	x	0.0	0.0	16.1	
Finance and insurance services	0.0	0.0	0.0	0.0	0.0	x	x	
Legal services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Architectural and landscape architectural services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Engineering services	6.8	x	x	x	x	x	14.0	
Surveying and mapping (including geophysical) services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Testing laboratories	x	0.0	0.0	0.0	0.0	0.0	x	
Computer systems design and related services	x	x	0.0	0.0	0.0	0.0	x	
Environmental consulting services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Management consulting and other scientific and technical consulting services	x	0.0	0.0	0.0	0.0	0.0	x	
Scientific research and development services	0.0	x	0.0	0.0	x	0.0	x	
All other professional, scientific and technical services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Management of companies and enterprises	0.0	x	x	0.0	0.0	x	x	
Administrative and support services	x	0.0	0.0	0.0	0.0	x	x	
Waste management and remediation services	0.0	0.0	0.0	0.0	0.0	x	x	
Other services	x	0.0	0.0	0.0	x	0.0	x	
Canada	111.7	118.0	8.6	30.1	13.1	82.8	364.3	

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.1 in Section 2 for classification details.

2. 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 from environmental services by industry, 2002

Industry ²	Environmental services ¹										Total environmental services revenues
	Water	Air	Waste development	Research and Renewable energy	Consulting engineering and analytical services	Environmental management systems	Management consulting and legal services	Environmental education, training and information	Other		
Agriculture, forestry, fishing and hunting	0.0	x	x	0.0	x	4.8	x	0.0	x	x	8.4
Mining and oil and gas extraction	4.8	x	86.3	0.0	0.0	4.3	x	x	0.0	x	131.6
Utilities	x	0.0	x	x	x	x	0.0	0.0	0.0	0.0	x
Construction	24.5	1.1	x	x	2.8	3.8	x	x	x	x	128.4
Chemical manufacturing	0.2	0.0	33.1	x	x	x	x	x	x	x	34.7
Plastic and rubber products manufacturing	0.0	0.0	x	0.0	0.0	x	0.0	0.0	0.0	0.0	x
Non-metallic mineral product manufacturing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Primary metal manufacturing	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8
Fabricated metal product manufacturing	0.0	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	x	x
Machinery manufacturing	5.9	7.1	6.1	0.0	x	x	0.0	0.0	0.0	0.0	37.2
Computer and electronic product manufacturing	0.1	0.0	0.0	x	0.0	x	x	0.0	0.0	1.7	4.2
Electrical equipment, appliance and component manufacturing	0.0	x	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Rest of manufacturing sector	x	x	x	x	x	0.0	0.0	0.0	0.0	0.0	27.0
Wholesale trade	13.5	x	x	x	0.8	x	x	0.1	x	x	693.8
Retail trade	x	x	1.3	0.0	0.1	x	0.0	0.0	0.0	0.0	2.8
Finance and insurance services	x	0.0	x	x	x	0.1	x	x	0.0	x	39.9
Legal services	x	0.0	x	0.0	0.0	0.0	x	x	0.0	x	104.9
Architectural and landscape architectural services	0.2	0.0	0.6	0.0	0.9	0.2	x	x	x	0.8	5.3
Engineering services	275.0	24.3	189.2	11.4	28.2	270.5	44.4	34.7	9.8	27.3	914.7
Surveying and mapping (including geophysical) services	1.2	x	1.1	x	0.0	13.6	x	x	x	x	x
Testing laboratories	x	x	x	x	x	x	x	x	x	x	x
Computer systems design and related services	x	x	x	x	x	9.0	x	0.0	x	x	13.8
Environmental consulting services	35.8	24.0	229.7	21.1	2.8	83.9	15.5	177.6	10.6	9.5	610.4
Management consulting and other scientific and technical consulting services	4.6	x	x	3.3	2.5	8.1	x	16.6	1.4	x	46.5
Scientific research and development services	4.2	x	2.2	2.5	x	x	0.0	5.2	x	0.8	43.5
All other professional, scientific and technical services	x	x	x	x	0.0	x	x	x	x	x	x
Management of companies and enterprises	3.9	x	7.4	0.9	x	1.2	0.0	x	0.0	x	18.2
Administrative and support services	x	2.0	62.2	x	x	4.5	0.6	x	x	x	85.2
Waste management and remediation services	52.5	0.7	3 596.9	0.2	x	14.1	0.0	4.8	x	1.6	3 671.9
Other services	x	x	41.6	x	x	9.6	x	2.3	x	x	81.3
Canada	470.2	79.4	5 070.8	50.1	82.9	637.5	68.8	402.8	28.3	105.9	6 996.7

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.2 in Section 2 for classification details.

2. 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
Revenues from environment-related construction by industry, 2002

Industry ²	Environment-related construction ¹					Total environment-related construction revenues
	Water	Air	Waste	Renewable energy	Other	
	million dollars					
Agriculture, forestry, fishing and hunting	0.0	0.0	0.0	0.0	0.0	0.0
Mining and oil and gas extraction	0.0	0.0	x	0.0	x	x
Utilities	x	0.0	0.0	0.0	0.0	x
Construction	50.6	x	x	0.0	1 836.8	1 906.7
Chemical manufacturing	0.0	0.0	0.0	0.0	0.0	0.0
Plastic and rubber products manufacturing	x	0.0	0.0	x	0.0	x
Non-metallic mineral product manufacturing	x	0.0	0.0	0.0	0.0	x
Primary metal manufacturing	0.0	0.0	0.0	0.0	0.0	0.0
Fabricated metal product manufacturing	x	x	x	0.0	x	x
Machinery manufacturing	x	x	0.0	0.0	0.0	7.8
Computer and electronic product manufacturing	0.0	0.0	0.0	0.0	0.0	0.0
Electrical equipment, appliance and component manufacturing	0.0	0.0	0.0	0.0	0.0	0.0
Rest of manufacturing sector	0.0	0.0	0.0	0.0	0.0	0.0
Wholesale trade	9.2	x	0.0	0.0	x	11.0
Retail trade	0.0	0.0	0.0	0.0	0.0	0.0
Finance and insurance services	x	0.0	x	0.0	0.0	x
Legal services	0.0	0.0	0.0	0.0	0.0	0.0
Architectural and landscape architectural services	0.0	0.0	0.0	0.0	0.0	0.0
Engineering services	24.9	x	18.0	x	x	122.8
Surveying and mapping (including geophysical) services	0.0	0.0	x	0.0	0.0	x
Testing laboratories	0.0	0.0	x	0.0	x	x
Computer systems design and related services	x	0.0	0.0	0.0	0.0	x
Environmental consulting services	x	x	1.7	0.0	x	2.4
Management consulting and other scientific and technical consulting services	x	0.0	x	0.0	9.1	10.2
Scientific research and development services	0.0	0.0	0.0	0.0	0.0	0.0
All other professional, scientific and technical services	0.0	0.0	x	0.0	x	x
Management of companies and enterprises	x	x	x	0.0	x	x
Administrative and support services	x	0.0	0.0	0.0	0.0	x
Waste management and remediation services	x	x	23.9	0.0	x	27.3
Other services	0.0	x	x	0.0	x	x
Canada	118.2	82.2	85.9	2.2	1 867.3	2 155.8

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.3 in Section 2 for classification details.

2. 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.6
Total and environmental revenues by province or territory, 2002

Province/Territory	Establishments ¹ number	Total employment	Total revenues ²	Environmental goods	Environmental services	Environment- related construction	Total environmental revenues
Newfoundland and Labrador	134	2 059	246.4	26.4	64.1	25.7	116.2
Prince Edward Island	46	1 276	102.0	13.8	14.4	38.1	66.3
Nova Scotia	380	5 143	673.7	145.3	176.7	38.4	360.4
New Brunswick	261	3 561	496.0	117.4	135.7	55.1	308.2
Quebec	1 697	32 437	5 132.9	1 538.9	1 295.3	232.7	3 066.9
Ontario	2 467	62 548	13 904.3	3 407.8	2 838.2	661.3	6 907.3
Manitoba	246	4 177	601.0	184.4	163.1	47.8	395.3
Saskatchewan	286	3 998	858.1	126.8	136.0	53.1	315.8
Alberta	1 085	25 855	4 563.5	576.8	1 056.7	666.4	2 299.8
British Columbia	1 305	18 212	2 814.2	507.6	1 094.3	326.7	1 928.6
Yukon Territory, Northwest Territories and Nunavut	60	454	46.5	2.1	22.1	10.5	34.8
Canada	7 967	159 720	29 438.6	6 647.3	6 996.7	2 155.8	15 799.8

Notes:

Figures may not add up to totals due to rounding.

1. The total number of establishments does not include engineering construction establishments (NAICS 23711, 23712, 23731, 23799) due to the methodology used to derive the estimates.

2. Total revenues of establishments that were considered to be in scope for the purposes of the survey.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.7
Revenues from environmental goods by province or territory, 2002

Province/Territory	Environmental goods ¹						Total environmental goods revenues
	Water	Air	Waste	Technologies to reduce greenhouse gas emissions	Analytical	Other	
million dollars							
Newfoundland and Labrador	1.8	x	x	x	x	14.7	26.4
Prince Edward Island	5.9	x	x	x	x	4.7	13.8
Nova Scotia	11.4	12.5	19.0	6.3	16.8	79.3	145.3
New Brunswick	44.3	x	x	15.8	3.5	46.8	117.4
Quebec	293.6	95.4	216.8	26.2	19.7	887.3	1 538.9
Ontario	759.3	336.8	235.6	170.6	111.0	1 794.5	3 407.8
Manitoba	9.5	x	x	x	3.6	x	184.4
Saskatchewan	4.1	x	x	x	2.4	x	126.8
Alberta	43.1	53.4	143.7	31.1	26.2	279.1	576.8
British Columbia	45.9	25.4	9.3	74.4	30.7	321.8	507.6
Yukon Territory, Northwest Territories and Nunavut	0.0	0.0	x	x	0.0	x	2.1
Canada	1 219.0	542.7	669.5	364.3	221.5	3 630.4	6 647.3

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.1 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.8

Revenues from the sales of technologies to reduce greenhouse gas emissions by province or territory, 2002

Province/Territory	Technologies to reduce greenhouse gas emissions ¹						Other systems or equipment for energy conservation and efficiency	Total environmental goods revenues from sales of technologies to reduce greenhouse gas emissions
	Solar and wind energy	Fuel cells and alternative fuel technologies	Cogeneration, methane capture, waste-to-energy	Other renewable energy technologies	Clean technologies and related components			
	million dollars							
Newfoundland and Labrador	0.0	0.0	0.0	x	0.0	0.0	x	
Prince Edward Island	x	0.0	0.0	0.0	0.0	0.0	x	
Nova Scotia	3.3	0.0	0.0	x	x	0.0	6.3	
New Brunswick	x	0.0	x	x	0.0	x	15.8	
Quebec	14.4	x	x	x	1.3	6.5	26.2	
Ontario	71.2	51.1	x	x	1.1	40.7	170.6	
Manitoba	x	x	0.0	x	x	0.0	6.9	
Saskatchewan	x	0.0	x	x	0.0	20.7	30.4	
Alberta	x	x	x	x	x	x	31.1	
British Columbia	14.4	45.3	x	0.7	x	2.0	74.4	
Yukon Territory, Northwest Territories and Nunavut	x	0.0	0.0	0.0	0.0	0.0	x	
Canada	111.7	118.0	8.6	30.1	13.1	82.8	364.3	

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.1 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.9

Revenues from environmental services by province or territory, 2002

Province/Territory	Environmental services ¹									Total environmental services revenues	
	Water	Air	Waste development	Research and Renewable energy	Consulting		Environmental management systems	Management consulting and legal services	Environmental education, training and information		Other
					engineering and analytical services	environmental management systems					
million dollars											
Newfoundland and Labrador	4.8	x	34.4	x	1.0	x	2.0	4.4	1.1	x	64.1
Prince Edward Island	1.2	x	9.5	x	x	x	x	2.0	0.0	x	14.4
Nova Scotia	6.5	1.7	107.3	1.0	1.1	25.0	1.5	21.0	0.9	10.6	176.7
New Brunswick	x	x	82.6	1.6	1.3	14.8	1.9	7.9	0.6	7.1	135.7
Quebec	84.0	4.2	1 077.1	4.4	2.6	72.4	9.2	19.7	2.2	19.4	1 295.3
Ontario	211.5	41.7	1 986.9	19.3	33.0	281.7	19.0	184.0	14.5	46.6	2 838.2
Manitoba	x	x	116.4	x	0.9	x	x	6.9	0.8	1.0	163.1
Saskatchewan	6.6	0.4	96.1	1.3	x	12.3	x	1.9	0.3	0.2	136.0
Alberta	80.0	11.6	744.3	6.4	20.1	78.4	25.8	76.9	4.8	8.5	1 056.7
British Columbia	48.5	10.3	800.2	12.8	7.0	123.3	6.5	75.1	3.2	7.4	1 094.3
Yukon Territory, Northwest Territories and Nunavut	x	x	15.9	x	x	2.1	x	3.0	0.0	x	22.1
Canada	470.2	79.4	5 070.8	50.1	82.9	637.5	68.8	402.8	28.3	105.9	6 996.7

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.2 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.10
Revenues from environment-related construction by province or territory, 2002

Province/Territory	Environment-related construction ¹					Total environment-related construction revenues
	Water	Air	Waste	Renewable energy	Other	
	million dollars					
Newfoundland and Labrador	x	0.0	0.0	0.0	x	25.7
Prince Edward Island	x	0.0	x	x	36.1	38.1
Nova Scotia	0.6	x	x	0.0	34.6	38.4
New Brunswick	x	0.0	x	0.0	43.3	55.1
Quebec	45.9	x	7.9	x	x	232.7
Ontario	36.9	34.8	41.1	x	x	661.3
Manitoba	2.2	x	x	0.0	41.6	47.8
Saskatchewan	x	x	x	0.0	50.1	53.1
Alberta	9.0	x	19.5	x	x	666.4
British Columbia	6.3	x	11.5	x	266.7	326.7
Yukon Territory, Northwest Territories and Nunavut	x	0.0	0.0	0.0	x	10.5
Canada	118.2	82.2	85.9	2.2	1 867.3	2 155.8

Notes:

Figures may not add up to totals due to rounding.

1. Refer to Text Box 2.3 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.11
Total and environmental revenues by establishment size,¹ 2002

Establishment size	Establishments ² number	Total employment	Total revenues ³	Environmental goods	Environmental services	Environment-related	Total
						construction	environmental revenues
						million dollars	
Small establishments	7 397	68 684	12 907.2	4 235.5	3 878.8	416.3	8 530.6
Medium establishments	494	56 237	10 502.3	2 132.7	2 251.3	920.0	5 304.0
Large establishments	76	34 799	6 029.1	279.1	866.6	819.6	1 965.2
Canada	7 967	159 720	29 438.6	6 647.3	6 996.7	2 155.8	15 799.8

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 23711, 23712, 23731, 23799) due to the methodology used to derive the estimates.

3. Total revenues of establishments that were considered to be in scope for the purposes of the survey.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.12
Revenues from environmental goods by establishment size,¹ 2002

Establishment size	Environmental goods ²						Total environmental goods revenues
	Water	Air	Waste	Technologies to reduce greenhouse gas emissions			
				Analytical	Other		
	million dollars						
Small establishments	577.1	309.6	350.4	203.0	165.8	2 629.6	4 235.5
Medium establishments	x	x	182.6	x	46.1	x	2 132.7
Large establishments	x	x	136.5	x	9.5	x	279.1
Canada	1 219.0	542.7	669.5	364.3	221.5	3 630.4	6 647.3

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. Refer to Text Box 2.1 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.13
Revenues from the sales of technologies to reduce greenhouse gas emissions by establishment size,¹ 2002

Establishment size	Technologies to reduce greenhouse gas emissions ²						Total environmental goods revenues from sales of technologies to reduce greenhouse gas emissions
	Solar and wind energy	Fuel cells and alternative fuel technologies	Cogeneration, methane capture, waste-to-energy	Other renewable energy technologies	Clean technologies and related components	Other systems or equipment for energy conservation and efficiency	
	million dollars						
Small establishments	x	x	x	14.8	13.1	x	203.0
Medium establishments	x	40.5	x	x	0.0	x	x
Large establishments	0.0	x	0.0	x	0.0	0.0	x
Canada	111.7	118.0	8.6	30.1	13.1	82.8	364.3

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. Refer to Text Box 2.1 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.14

Revenues from environmental services by establishment size,¹ 2002

Establishment size	Environmental services ²										Total environmental services revenues
	Water	Air	Waste	Research and development	Renewable energy	Consulting engineering and analytical services	Environmental management systems	Management consulting and legal services	Environmental education, training and information	Other	
Small establishments	288.6	64.0	2 788.4	34.7	37.0	329.1	30.5	237.2	19.8	49.7	3 878.8
Medium establishments	170.6	13.0	1 572.4	15.0	40.9	258.0	x	x	8.2	53.9	2 251.3
Large establishments	10.9	2.4	710.1	0.4	5.0	50.4	x	x	0.4	2.3	866.6
Canada	470.2	79.4	5 070.8	50.1	82.9	637.5	68.8	402.8	28.3	105.9	6 996.7

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. Refer to Text Box 2.2 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.15

Revenues from environment-related construction by establishment size,¹ 2002

Establishment size	Environment-related construction ²					Total environment-related construction revenues
	Water	Air	Waste	Renewable energy	Other	
Small establishments	86.2	x	35.3	x	286.9	416.3
Medium establishments	x	74.4	x	x	780.4	920.0
Large establishments	x	x	x	0.0	800.1	819.6
Canada	118.2	82.2	85.9	2.2	1 867.3	2 155.8

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. Refer to Text Box 2.3 in Section 2 for classification details.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.16
Environmental exports by industry and by destination, 2002

Industry ¹	Environmental exports													Total environmental export revenues	
	Establishments ² number	United States	South America	Other Central America			Middle East	Africa	China	Japan	Other Asia Australia		All Other		
		States	America	Mexico	America	Europe	East				Asia	Australia	Other		
		million dollars													
Agriculture, forestry, fishing and hunting	x	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	x	0.0	0.0	0.3	
Mining and oil and gas extraction	x	1.1	0.2	x	x	x	0.0 ⁵	x	x	x	x	0.0	x	2.1	
Utilities	x	x	x	x	x	x	x	x	x	x	0.0	0.0	x	x	
Construction ³	16	8.3	0.0	0.0	x	x	x	x	0.0	0.0	x	0.0	x	11.5	
Chemical manufacturing	14	14.9	x	x	x	1.2	x	x	x	0.0 ⁵	x	0.0	0.0	18.3	
Plastic and rubber products manufacturing	19	91.7	1.0	1.2	1.9	5.5	0.1	x	x	1.3	x	0.1	x	108.7	
Non-metallic mineral product manufacturing	8	x	0.0	x	x	x	0.0	0.0	x	x	x	0.0	x	40.4	
Primary metal manufacturing	6	x	0.0	0.0	0.0	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	
Fabricated metal product manufacturing	20	42.8	x	0.0	0.0	x	0.0	x	x	0.0	x	0.0	x	47.5	
Machinery manufacturing	87	267.3	3.7	4.2	0.4	25.4	2.1	x	6.3	1.2	x	1.0	4.2	326.8	
Computer and electronic product manufacturing	34	42.4	0.8	0.6	0.1	6.9	0.3	0.6	1.3	3.4	1.8	1.3	0.6	60.0	
Electrical equipment, appliance and component manufacturing	x	x	x	x	x	x	0.0	x	x	0.0	x	x	x	x	
Rest of manufacturing sector	18	174.4	x	2.5	0.7	x	x	x	0.0	x	5.5	0.0	x	201.4	
Wholesale trade ⁴	59	34.8	1.3	0.5	0.8	0.7	0.8	x	0.7	0.1	0.4	0.2	x	43.2	
Retail trade	x	0.0	0.0	0.0	0.0	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	x	
Finance and insurance services	x	x	0.0	0.0	0.0	x	0.0	0.0	x	0.0	0.0	0.0	0.0	x	
Legal services	x	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	x	
Architectural and landscape architectural services	x	x	0.0	0.0	0.0	0.0	x	0.0	x	0.0	0.0	0.0	0.0	x	
Engineering services	117	57.2	32.7	0.1	1.7	13.5	0.3	11.4	11.4	1.1	5.0	9.0	5.5	148.8	
Surveying and mapping (including geophysical) services	9	8.3	0.0	x	0.0 ⁵	x	0.0	x	0.0	0.0	0.0	0.0	x	9.7	
Testing laboratories	24	11.1	0.5	x	x	0.8	x	x	x	x	0.2	0.2	x	16.6	
Computer systems design and related services	20	3.7	x	x	x	0.6	x	x	0.0	x	0.3	x	x	5.7	
Environmental consulting services	235	42.3	6.2	x	0.5	4.7	1.0	1.8	x	x	2.4	1.0	x	66.6	
Management consulting and other scientific and technical consulting services	36	17.5	1.0	x	x	x	0.1	2.6	x	x	x	x	2.0	30.3	
Scientific research and development services	12	x	0.0	x	0.0	x	0.0	0.0	0.0	x	x	x	0.0	x	
All other professional, scientific and technical services	x	1.4	0.0	0.0	0.0	0.0	x	0.0	0.0	x	0.0	0.0	0.0	1.6	
Management of companies and enterprises	7	18.3	0.6	x	x	x	x	x	x	x	x	x	x	29.6	
Administrative and support services	10	x	0.0	x	0.0	x	x	x	x	x	x	x	x	3.6	
Waste management and remediation services ⁵	13	x	0.0	0.0	0.0	x	0.0	0.0	0.0	0.0	0.0	x	x	76.8	
Other services	16	8.5	0.3	x	0.0	x	x	x	x	x	x	x	x	21.3	
Canada	814	1 060.5	49.9	10.9	6.5	121.0	8.6	20.2	27.4	41.5	35.5	13.2	20.5	1 415.6	

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 2002.

3. Environmental exports for engineering construction establishments (NAICS 23711, 23712, 23731, 23799) 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 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 or territory and by destination, 2002

Province/Territory	Environmental exports													Total environmental export revenues	
	Establishments ¹ number	United	South	Other		Middle		Other			All				
		States	America	Mexico	America	Europe	East	Africa	China	Japan		Asia	Australia		
		million dollars													
Newfoundland and Labrador	x	x	x	x	x	x	x	x	0.0	0.0	0.0	0.0	x	x	
Prince Edward Island	x	x	0.0	x	x	x	0.0	x	0.0	x	x	0.0	x	0.4	
Nova Scotia	38	19.0	0.2	x	0.5	3.5	0.0	0.6	0.5	0.7	0.7	x	1.8	28.0	
New Brunswick	x	x	x	x	x	x	x	0.0 ^s	x	x	x	x	x	x	
Quebec	111	204.3	2.8	x	1.8	32.6	0.6	5.1	1.8	x	4.2	x	3.2	257.5	
Ontario	428	594.6	26.4	7.2	2.9	43.3	6.1	4.6	15.1	13.3	22.1	10.3	7.8	753.7	
Manitoba	16	5.3	x	x	x	0.3	x	x	x	x	x	x	x	12.9	
Saskatchewan	x	x	x	x	0.0 ^s	x	0.0	x	0.0	x	x	x	x	x	
Alberta	61	129.6	2.8	1.4	0.6	8.5	1.3	x	0.8	x	0.4	0.1	2.2	149.6	
British Columbia	109	76.0	16.6	0.8	x	31.4	0.5	x	3.9	x	5.4	1.7	1.2	173.2	
Yukon Territory, Northwest Territories and Nunavut	x	x	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	x	0.0	0.0	x	
Canada	814	1 060.5	49.9	10.9	6.5	121.0	8.6	20.2	27.4	41.5	35.5	13.2	20.5	1 415.6	

Notes:

Figures may not add up to totals due to rounding.

1. Total number of establishments that reported environmental export revenues in 2002.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.18

Environmental exports by establishment size¹ and by destination, 2002

Establishment size	Environmental exports													Total environmental export revenues	
	Establishments ² number	United	South	Other		Middle		Other			All				
		States	America	Mexico	America	Europe	East	Africa	China	Japan		Asia	Australia		
		million dollars													
Small establishments	670	118.4	0.3	x	x	20.1	1.0	x	x	22.3	x	0.0	0.0	163.5	
Medium establishments	133	460.6	24.8	2.7	1.2	x	x	11.6	16.9	x	x	9.5	2.9	594.9	
Large establishments	11	481.5	24.8	x	x	x	x	x	x	x	x	3.6	17.6	657.2	
Canada	814	1 060.5	49.9	10.9	6.5	121.0	8.6	20.2	27.4	41.5	35.5	13.2	20.5	1 415.6	

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 2002.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.19
Exports of environmental goods and services, Canada, 2002

	<u>million dollars</u>
Goods	
Water	305.7
Air	165.0
Waste	290.3
Renewable energy and energy efficiency	37.1
Alternative fuel systems	102.4
Analytical	77.1
Other	75.7
Total: Goods	1 053.1
Services¹	
Water	37.3
Air	47.4
Waste	115.0
Research and development	13.2
Renewable energy and energy efficiency	19.3
Consulting engineering and analytical services	92.2
Management consulting and legal services	19.6
Environmental education, training and information	2.2
Other	16.2
Total: Services	362.5

Notes:

Figures may not add up to totals due to rounding.

1. Includes environment-related construction exports.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.20
Exports of environmental goods by province or territory, 2002

Province/Territory	Water	Air	Renewable energy and		Alternative	Analytical	Other	Total exports of environmental goods
			Waste	energy efficiency	fuel systems			
million dollars								
Newfoundland and Labrador	0.0	0.0	x	0.0	0.0	x	0.0	x
Prince Edward Island	0.0	0.0	0.0	x	0.0	0.0	0.0	x
Nova Scotia	x	x	0.8	x	0.0	10.6	0.4	18.4
New Brunswick	x	0.0	x	x	0.0	x	x	x
Quebec	54.4	22.9	76.0	3.6	x	x	x	162.4
Ontario	216.3	126.1	113.4	23.8	41.6	40.5	64.7	626.4
Manitoba	x	x	x	x	x	x	x	x
Saskatchewan	x	0.0	x	x	0.0	x	x	x
Alberta	8.0	x	x	x	x	x	x	127.8
British Columbia	17.3	x	1.9	1.8	x	16.6	3.6	84.4
Yukon Territory, Northwest Territories and Nunavut	0.0	0.0	0.0	x	0.0	0.0	0.0	x
Canada	305.7	165.0	290.3	37.1	102.4	77.1	75.7	1 053.1

Note:

Figures may not add up to totals due to rounding.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.21
Exports of environmental services¹ by province or territory, 2002

Province/Territory	Water	Air	Renewable energy and		Consulting	Management	Environmental	Other	Total exports of environmental services
			Waste	development	energy and analytical services	consulting and legal services	education, training and information		
million dollars									
Newfoundland and Labrador	x	x	x	x	x	x	0.0	x	x
Prince Edward Island	x	x	x	x	x	x	0.0	x	0.4
Nova Scotia	0.2	0.0	1.1	x	x	0.8	x	x	9.6
New Brunswick	x	0.1	x	x	0.1	x	0.7	x	x
Quebec	7.6	0.5	81.3	0.1	1.2	2.3	1.6	0.1	95.1
Ontario	14.6	6.4	14.0	8.6	14.8	51.1	11.0	1.1	127.2
Manitoba	x	x	0.0	x	0.0	x	x	x	x
Saskatchewan	x	x	x	0.0	0.0	x	x	x	x
Alberta	1.5	0.3	12.7	0.1	1.8	1.9	2.5	0.5	21.8
British Columbia	3.2	x	2.4	x	x	32.1	x	0.3	88.8
Yukon Territory, Northwest Territories and Nunavut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada	37.3	47.4	115.0	13.2	19.3	92.2	19.6	2.2	362.5

Notes:

Figures may not add up to totals due to rounding.

1. Includes environment-related construction exports.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Table A.22

Total employment involved in environment-related projects by industry,¹ 2002

Industry ¹	Average share of total employment involved in environment-related projects	Question response rate ²
	percent	
Agriculture, forestry, fishing and hunting	59	62
Mining and oil and gas extraction	67	79
Utilities	77	80
Construction	66	70
Chemical manufacturing	54	70
Plastic and rubber products manufacturing	48	66
Non-metallic mineral product manufacturing	54	53
Primary metal manufacturing	72	89
Fabricated metal product manufacturing	49	71
Machinery manufacturing	71	70
Computer and electronic product manufacturing	68	64
Electrical equipment, appliance and component manufacturing	55	46
Rest of manufacturing sector	56	70
Wholesale trade	55	69
Retail trade	63	83
Finance and insurance services	61	50
Legal services	17	79
Architectural and landscape architectural services	31	59
Engineering services	55	73
Surveying and mapping (including geophysical) services	67	59
Testing laboratories	67	80
Computer systems design and related services	68	50
Environmental consulting services	84	72
Management consulting and other scientific and technical consulting services	77	79
Scientific research and development services	71	72
All other professional, scientific and technical services	71	68
Management of companies and enterprises	61	67
Administrative and support services	66	75
Waste management and remediation services	86	64
Other services	60	77
Canada	64	71

Notes:

Figures may not add up to totals due to rounding.

1. The average shares of total employment involved in environment-related projects are based on reported data from the Environment Industry Survey 2002. There was no imputation for non-response records.

2. Response rates based on the ratio of establishments that filled out the question on environmental employment to the total number of in-scope questionnaires.

Source:

Statistics Canada, Environment Accounts and Statistics Division.

Annex B: Questionnaires



Environment Industry Survey, 2002

Confidential when completed
Collected under authority of *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S19.
Si vous préférez ce questionnaire en français, veuillez cocher

Correct as required

Company name

 Establishment name

 C/O

 Address

 City

 Province/Territory Postal code
 _____ _____



Please read before completing

PURPOSE OF THE SURVEY

This survey 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. For a definition of the Environment Industry, refer to page 1 of the *Guide on Definitions and Classification Details*.

The results of this survey will be published in the Statistics Canada publication, *Environment Industry 2002*, Catalogue no. 16F0008XIE.

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.**

INQUIRIES

If you require assistance in completing this questionnaire or if you have any questions or comments regarding this survey, please refer to the *Guide* or 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.

IMPORTANT

Please read the General Instructions on page 2 before answering.

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.

Statistics Canada use only

Rec. D M Y	Ed. D M Y	Kyd. D M Y	Bat. 	Coll. 	FSC
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General instructions

1. Please complete and return this form in the envelope provided.
2. Please refer to the accompanying **Guide on Definitions and Classification Details** for more information.
3. If this establishment 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.
4. When precise figures are not available, please provide your best estimates.
5. Please report all dollar amounts in **CANADIAN DOLLARS**.
6. If your response for an item is zero, please write "0" in the corresponding box rather than leaving the cell blank.

SECTION A - Information on this establishment

A1. This questionnaire should be completed for your company's establishment in one province or territory that produces environmental goods or offers environmental services or environment-related construction. **If you operate more than one establishment that produces environmental goods or offers environmental services or environment-related construction you should fill out separate questionnaires for each of these establishments in each province or territory.** 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 questionnaire applies:

400

A2. Did your company operate environmental establishments in more than one province or territory in 2002?
Environmental establishments refer to those establishments that produced environmental goods or offered environmental services or environment-related construction.

⁴⁰¹ Yes No ➤ Go to question A4.

A3. In order to update your company profile, please indicate where you operated other environmental establishments in this province or territory or elsewhere in Canada in 2002.

Establishment Name	Address	Phone Number	Contact
40101	40102	40103	40104
40105	40106	40107	40108
40109	40110	40111	40112
40113	40114	40115	40116

A4. Reporting year:

1. The report must cover your most recent fiscal year ending between April 1, 2002 and March 31, 2003.

From:		
Day	Month	Year
403	404	405

To:		
Day	Month	Year
406	407	408

2. Did your company operate this establishment for the full year?

⁴⁰⁹ Yes ➤ Please go to Question B1, Section B - Revenues and classification

No ➤ Please check the appropriate box(es) below

⁴¹¹ Seasonal operation ➤

From:		
Day	Month	Year
412		

To:		
Day	Month	Year
413		
415		
417		
419		
421		
423		

⁴¹⁴ New business (please provide date of start) _____

⁴¹⁶ Change of fiscal year end (please provide the new end date) _____

⁴¹⁸ Change of ownership (please provide the date) _____

⁴²⁰ Ceased operations (please provide the date) _____

⁴²² Temporarily closed (please specify the closing date and reason for closing) _____

424

⁴²⁵ Other (please specify) ➤

426

SECTION B - Revenues and classification

Revenues - If precise figure is not available, your best estimate is acceptable

B1. What were this establishment's total revenues in 2002?

Canadian dollars
(omit cents)

101

B2. Of this establishment's total revenues reported in Question B1, please report the revenues from the sale of environmental goods or services, or revenues from environment-related construction.

102

Classification

The purpose of this section is to measure the environmental revenues received by this establishment by types of environmental goods, services and environment-related construction provided. Please classify the environmental revenues reported in Question B2 according to the applicable categories of environmental goods, environmental services and environment-related construction. Examples for each category are provided in the *Guide on Definitions and Classification Details* enclosed with this form.

Environmental goods

B3. Did this establishment receive revenues from the sale of environmental goods in 2002? Refer to page 1 of the *Guide* for a description of environmental goods.

¹⁰³ Yes ➤ Go to question B4.

No ➤ Go to question B5.

B4. Please report this establishment's 2002 revenues received from the sale of environmental goods. If this establishment's environmental goods do not fall in any stated categories, please use the "Other, specify" category. Refer to page 2 of the *Guide* for examples of each category.

Canadian dollars
(omit cents)

1. Air pollution control systems or equipment

105

2. Water supply and conservation systems or equipment

106

3. Wastewater management and sewage treatment systems or equipment

107

4. Hazardous and non-hazardous waste management systems or equipment

108

5. Systems or equipment for remediation/treatment of soil, surface water, seawater and groundwater

109

6. Noise/Vibration abatement systems or equipment

110

7. Environmental monitoring, analysis or assessment systems or equipment

111

Systems or equipment for energy conservation and efficiency:

8. Solar energy systems or equipment

113

9. Waste-to-energy systems or equipment

114

10. Wind energy systems or equipment

115

11. Small, mini and micro hydro systems or equipment

800

12. Fuel cells (transportation and stationary source)

801

13. Alternative fuel technologies (other than fuel cells)

117

14. Cogeneration

802

15. Equipment for methane capture or use from landfill sites or agricultural sources

803

16. Clean technologies and related components

118

17. Other renewable energy systems or equipment

116

18. Any other systems or equipment for energy conservation and efficiency

112

19. Other, specify ¹²¹

119

Total environmental goods

120

Environmental services

B5. Did this establishment receive revenues from the provision of environmental services in 2002? Refer to page 1 of the Guide for a description of environmental services.

¹²² Yes ➤ Go to question B6.1. No ➤ Go to question B7.

B6.1 Please report this establishment's 2002 revenues received from the provision of environmental services. If this establishment's environmental services do not fall in any stated category, please use the "Other, specify" category. Refer to page 3 of the Guide for examples of each category.

	Canadian dollars (omit cents)
20. Air pollution control and monitoring services	124
21. Water supply and conservation services	125
22. Wastewater management and sewage treatment services	126
23. Hazardous and non-hazardous waste management services	127
24. Services for remediation/treatment of soil, surface water, seawater and groundwater	128
25. Noise/Vibration abatement services	129
26. Environmental research and development services	130
27. Energy efficiency and renewable energy services	131
28. Environmental education, training and information	132
29. Management consulting and legal services (including environmental impact assessments)	133
30. Environmental Management Systems (EMS)	856
31. Other consulting engineering, analytical services, data collection and analysis	135
32. Other, specify ¹³⁸	136
Total environmental services	137

B6.2 Did this establishment receive revenues from the provision of environmental services related to the reduction of greenhouse gas emissions in 2002? Please refer to page 1 of the Guide for the definition of technologies and services to reduce greenhouse gas emissions.

⁸⁰⁵ Yes ➤ Go to question B6.3. No ➤ Go to question B7.

B6.3 Please report the percentage of Total environmental services (Box 137, Question B6.1) derived from services related to the reduction of greenhouse gas emissions in 2002.

Percentage
807

B6.4 Please specify the type of services related to the reduction of greenhouse gas emissions.

808

Environment-related construction

B7. Did this establishment receive revenues from environment-related construction projects in 2002?

¹³⁹ Yes ➤ Go to question B8. No ➤ Go to question C1, Section C - Client Base.

B8. Please report this establishment's 2002 revenues received from environment-related construction projects. If this establishment's environment-related construction projects do not fall in any stated category, please use the "Other, specify" category. Refer to page 5 of the Guide for examples of each category.

	Canadian dollars (omit cents)
33. Air pollution control	141
34. Water supply and conservation	142
35. Wastewater management and sewage treatment	143
36. Hazardous and non-hazardous waste management	144
37. Remediation/Treatment of soil, surface water, seawater and groundwater	145
38. Noise/Vibration abatement	146
39. Renewable energy production facilities	857
40. Other, specify ¹⁴⁹	147
Total environment-related construction	148

SECTION C - Client base

C1. Please report this establishment's environmental revenues reported in Question B2 according to the type of client to whom the environmental goods or services were delivered or for whom the environment-related construction projects were completed.

	Canadian dollars (omit cents)
	150
Local government	
	151
Federal/Provincial/Territorial governments	
	152
Agriculture and agri-food products	
	153
Forestry and pulp and paper	
	154
Fish and fish products (Including aquaculture)	
	155
Mining and related products, metal and mineral products	
	156
Crude petroleum and natural gas, refined petroleum and related products	
	157
All other manufacturing	
	158
Business services	
	159
Gas distribution and electric power systems	
	160
Individuals and households	
	161
Other, <i>specify</i> ¹⁶³	
	162
Total environmental revenues (must equal the value reported in Question B2)	

SECTION D - Client location

D1. Please report this establishment's environmental revenues reported in Question B2 according to the location of the client to whom the environmental goods or services were delivered or for whom the environment-related construction projects were completed.

	Canadian dollars (omit cents)
	164
Newfoundland and Labrador	
	165
Prince Edward Island	
	166
Nova Scotia	
	167
New Brunswick	
	168
Quebec	
	169
Ontario	
	170
Manitoba	
	171
Saskatchewan	
	172
Alberta	
	173
British Columbia	
	174
Yukon Territory, Northwest Territories, and Nunavut	
	175
Outside Canada (exports)	
	176
Total environmental revenues (must equal the value reported in Question B2)	

Did you report revenues in Box 175?

⁸⁶⁰ Yes ➤ Go to question E1.

No ➤ Go to question F1.

SECTION E - Environmental export revenues

E1. Please report a breakdown, by region, of this establishment's 2002 environmental revenues from OUTSIDE CANADA (exports) reported in Box 175, Question D1.

	Canadian dollars (omit cents)
United States	177
Mexico	178
Other Central America	179
South America	180
Europe	181
Middle East	182
Africa	183
China	184
Japan	185
Other Asia	186
Australia	187
Other foreign (<i>specify</i>) <input type="text" value="190"/>	188
Total environmental exports	189

E2. Did the amount reported in Box 189, Question E1, include any revenues from the export of goods and/or services related to the reduction of greenhouse gas emissions in 2002? Please refer to page 1 of the Guide for the definition of technologies and services to reduce greenhouse gas emissions.

⁸⁰⁹ Yes ➤ Go to question E3. No ➤ Go to question F1.

E3. Please report the percentage of Total environmental exports (Box 189, Question E1) derived from the export of goods and/or services related to the reduction of greenhouse gas emissions.

Percentage
811

E4. Please report the type of technologies and/or services related to the reduction of greenhouse gas emissions exported by this establishment in 2002.

Please check all that apply.

- ⁸¹³ Solar energy systems or equipment
- ⁸¹⁴ Waste-to-energy systems or equipment
- ⁸¹⁵ Wind energy systems or equipment
- ⁸¹⁶ Small, mini and micro hydro systems or equipment
- ⁸¹⁷ Alternative fuel technologies (other than fuel cells)
- ⁸¹⁸ Other renewable energy systems or equipment
- ⁸¹⁹ Fuel cells (transportation and stationary source)
- ⁸²⁰ Cogeneration
- ⁸²¹ Equipment for methane capture or use from landfill sites or agricultural sources
- ⁸²² Clean technologies and related components
- ⁸¹² Any other systems or equipment for energy conservation and efficiency
- ⁸²³ Energy efficiency and conservation services
- ⁸²⁴ Renewable energy services
- ⁸²⁵ Other goods or services related to the reduction of greenhouse gas emissions

SECTION F - Research and Development (R&D) on goods/services related to the reduction of greenhouse gas emissions

F1. During the past three years, 2000 to 2002, did this establishment undertake research and development (R&D) activities aimed at developing goods and services related to the reduction of greenhouse gas emissions? *Please refer to page 1 of the Guide for the definition of research and development (R&D) on goods and services that reduce greenhouse gas emissions.*

⁸²⁶ Yes ➤ Go to question F2.

No ➤ Go to question G1.

Type of R&D Activities

	Yes	No
F2. Was R&D carried out in-house?	⁸²⁷ <input type="radio"/>	<input type="radio"/>
F3. Was R&D contracted out to other firms?	⁸²⁹ <input type="radio"/>	<input type="radio"/>
F4. Was R&D carried out jointly with another firm?	⁸³¹ <input type="radio"/>	<input type="radio"/>

Sources of R&D Funding

F5. Please report the sources of funding for this establishment's R&D activities.

Please check all that apply.

⁸³³ Parent, affiliated or subsidiary firms

⁸³⁴ Canadian federal government (grants or tax credits)

⁸³⁵ Provincial/territorial government

⁸³⁶ R&D contract work conducted for other firms

⁸³⁷ Universities

⁸³⁸ Other, specify ⁸³⁹ _____

SECTION G - Innovation

Please refer to page 5 of the Guide for the definition of new or significantly improved goods or services related to the reduction of greenhouse gas emissions.

	Yes	No
G1. During the last three years, 2000 to 2002, did this establishment produce or market new or significantly improved goods and/or services related to the reduction of greenhouse gas emissions?	⁸⁴⁰ <input type="radio"/>	<input type="radio"/>
G2. During the last three years, 2000 to 2002, did this establishment adopt new or significantly improved technologies or processes that reduced greenhouse gas emissions?	⁸⁴² <input type="radio"/>	<input type="radio"/>
G3. During the last three years, 2000 to 2002, did this establishment have any unsuccessful or not yet completed projects to develop or introduce new or significantly improved goods and/or services related to the reduction of greenhouse gas emissions?	⁸⁴⁴ <input type="radio"/>	<input type="radio"/>

SECTION H - Problems and obstacles

H1. Which of the following, if any, were obstacles to the provision of goods or services related to the reduction of greenhouse gas emissions? Please refer to page 1 the Guide for the definition of technologies and services to reduce greenhouse gas emissions.

Please check all that apply.

846 Lack of skilled personnel

847 High cost

848 Lack of financing

849 Lack of market demand

850 Lack of marketing capability (including trade barriers)

851 Government regulations

852 Government policies

853 Other, specify

855 None

SECTION I - Environmental employment

I1. Please report the total number of persons usually employed by this establishment during the reporting period.

Full-time employees - regular employees who worked 30 or more hours per week	193
Part-time employees - those employees who worked less than 30 hours per week	194
Total employment	196


I2. Of the total employment reported in Box 196, Question I1, please estimate the **proportion** of your employees who spent **any time** in the production/provision of environmental goods and services, or environmental-related construction services. Your best estimate is acceptable.

Proportion of total employment involved in environment-related projects	207	%
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SECTION J - Certification and comments

Certification

J1. I certify that to the best of my knowledge, the information provided in this questionnaire is correct and complete

Signature 	Date 15 Day Month Year
Name of person completing this questionnaire (type or print) 12	Telephone 16
Title 13	Fax 17
Year this establishment started operations 14	Email address 18

J2. Approximately how long did it take to collect the data and complete this survey? hours

Comments

We invite your comments or suggestions on the following or any other topics related to the Environment Industry Survey.
We appreciate your assistance.

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

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

Please return this
questionnaire in the
envelope provided

Thank you for your cooperation !



Environment Accounts and Statistics Division

**Environment Industry Survey,
2002
Guide on Definitions and
Classification Details**

Français au verso



Definitions

What is the Environment industry?

The Environment industry consists of various types of industries that provide environmental goods and/or services. For the purpose 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 of environmental related construction make up the "Environment Industry".

Establishment

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

Environment related revenues from goods

Environment related revenues from goods are revenues derived from the sale of equipment or specific materials used in whole or in part for environmental protection.

Environment related revenues from services

Environment related revenues from services are revenues derived from environmentally related activities that design, operate or manage systems and/or provide other services.

For example, the sale of a piece of pollution control equipment is revenue derived from a good, while the installation of that equipment for the client would be revenues derived from a service.

Technologies and services to reduce greenhouse gas emissions

Equipment, processes or services that reduce or prevent the release of greenhouse gases in the earth's atmosphere.

Research and Development (R&D) on goods and services that reduce greenhouse gas emissions

The systematic and creative activity concerned with the generation, advancement, dissemination and application of scientific and technological knowledge to reduce or eliminate greenhouse gases.

4-2300-51.3: 2002-08-08 STC/NAD-291-75084



Statistics Canada
Statistique Canada

Canada

Section B. Revenues and classification

Examples are listed for each category of environmental goods, environmental services and environment-related construction found in Section B.

B.4) Environmental goods

1. **Air pollution control systems or equipment** – catalytic converters, chemical recovery systems, dust collectors, separators, precipitators, scrubbers, odour control equipment.
2. **Water supply and conservation systems or equipment** – equipment or technology used for fresh water supply and delivery, water purification equipment, water handling equipment parts (pumps, pipes and valves).
3. **Wastewater management and sewage treatment systems or equipment** – chemical recovery systems, aeration systems, biological recovery systems, gravity sediment systems, oil/water separation systems, wastewater reuse equipment, wastewater treatment chemicals, water pollution control equipment, screens, strainers, clarifiers, filters, filter media and storage and transport containers.
4. **Hazardous and non-hazardous waste management systems or equipment** – hazardous waste storage/treatment equipment, waste collection equipment, waste disposal machinery and equipment, waste handling equipment, waste separation equipment, recycling equipment, incineration equipment and storage and transport containers.
5. **Systems or equipment for remediation/treatment of soil, surface water, seawater and groundwater** – absorbents, bioremediation equipment, soil vapour extraction equipment, spill equipment, containment systems, chemicals and bioremediators.
6. **Noise/Vibration abatement systems or equipment** – mufflers/silencers, noise deadening equipment, noise and vibration control systems, highway barriers.
7. **Environmental monitoring, analysis and assessment systems or equipment** – measuring and monitoring equipment, sampling systems, data acquisition equipment, environment information systems and analytical software such as laboratory, remote sensing and GIS management software.
8. **Solar energy systems or equipment** – active and passive solar systems, photovoltaics, solar-thermal generators, solar water and space heating systems.
9. **Waste-to-energy systems or equipment** – systems and equipment (turbines, boilers, process equipment) that use organic matter such as forest and agricultural residues to produce electricity or heat.
10. **Wind energy systems or equipment** – horizontal or vertical axis turbines, and other types of windmills used to generate energy or electricity.

11. **Small, mini and micro hydro systems or equipment** – micro-hydro (less than 100 kW), mini-hydro (100 kW to 1000 kW) and small hydro (1 MW to 25 MW).
12. **Fuel cells (transportation and stationary source)** – fuel cell technologies, hydrogen systems (production, storage, distribution and use, infrastructure) used in transportation systems or as a stationary source.
13. **Alternative fuel technologies (other than fuel cells)** – process equipment for the production of biofuels (ethanol, biodiesel), clean fuel systems (reformulated fuels and oxygenated fuels), advanced batteries; also included are industrial equipment and engine systems that use alternative fuels.
14. **Cogeneration** – systems and equipment (turbines, boilers, process equipment) used to produce heat and electricity from biomass (organic matter from forest and agriculture sources), waste and industrial residues, and other fuel sources.
15. **Equipment for methane capture and use from landfill sites or agricultural sources** – landfill gas collection systems, methane gas recovery equipment (vertical recovery wells, horizontal trenches, collection header systems, motor/blower vacuum units), flaring equipment (open flare combustors, enclosed combustors), methane utilisation equipment (electric power generation or gas delivery systems), other methane capture, conversion, treatment, storage or use equipment.
16. **Clean technologies and related components** – integrated process technology, materials recovery technology.
17. **Other renewable energy systems or equipment** – wave, tidal, and ocean thermal energy conversion systems, geothermal electricity or heating.
18. **Any other system or equipment for energy conservation and efficiency** – any other system or equipment not listed in the preceding categories. For example, energy management equipment, energy recovery equipment, energy conservation equipment, more efficient process equipment (energy efficient boilers, turbines or furnaces) and process control equipment.
19. **Other, specify** – please specify your goods if they are not listed in the preceding categories.

B6.1) Environmental services

20. **Air pollution control services and monitoring** – emissions monitoring, assessment/evaluation and planning, related consulting engineering and analytical services.
21. **Water supply and conservation services** – services related to water purification, water delivery and water handling systems, including maintenance, repair, related consulting engineering and analytical services.

22. **Wastewater management and sewage treatment services** – operation of water treatment facilities, storm water management, water and wastewater system assessment, planning and design management, related consulting engineering and analytical services.
23. **Hazardous and non-hazardous waste management services** – waste handling, collection, transport, and disposal, operation of sites, ownership or management of sites, recycling (sorting, baling, cleaning), operation of materials recovery facilities, hazardous waste management services, including related consulting engineering and analytical services.
24. **Services for remediation/treatment of soil, surface water, seawater and groundwater** – cleaning of facilities and tanks, emergency response and spills clean-up systems, site reclamation and remedial action services, maintenance and repair of remediation or treatment systems, including related consulting engineering and analytical services.
25. **Noise/Vibration abatement services** – design and management services for acoustic and soundproof screens and street covering, related consulting engineering and analytical services.
26. **Environmental research and development services** – development, evaluation and implementation of clean process technologies and/or end-of-pipe pollution abatement control technologies, including related consulting engineering and analytical services, and related research to improve knowledge on ecosystems and the impact of human activities on the environment.
27. **Energy efficiency and renewable energy services** – installation, maintenance, repair and related consulting and analytical services for alternative energy systems or renewable energy production (solar, biomass, wind, other), energy audit, energy resource management related consulting engineering and analytical services.
28. **Environmental education, training and information** – environmental education, training, and information management for the general public and specific environmental workplace education, environmental information searching services, environmental emergency response planning, conservation and resource management.
29. **Management consulting and legal services (including environmental impact assessments)** – general environmental impact assessment, resource management planning, environmental risk management, environmental law and legal services, other environment-related general consulting and legal services not listed in any other categories.
30. **Environmental management systems (EMS)** – development, evaluation or implementation of environmental management systems, ISO 14000 support services, including related consulting engineering and analytical services.

31. **Other consulting engineering, analytical services, data collection and analysis** – other environmental advisory and/or design services including environmental consulting engineering services not listed in the preceding categories.
32. **Other, specify** – please specify your environmental services if they are not listed in the preceding categories.

B8.) Environment-related construction

Activities for the construction and installation of facilities for:

33. **Air pollution control**
34. **Water supply and conservation**
35. **Wastewater management and sewage treatment** – sewer systems, water treatment plants
36. **Hazardous and non-hazardous waste management**
37. **Remediation/Treatment of soil, surface water, seawater and groundwater**
38. **Noise/Vibration abatement**
39. **Renewable energy production facilities** – construction services for renewable energy production facilities such as wind farms, solar energy systems, small, mini or micro hydro systems.
40. **Other, specify** – please specify your environment-related construction services if they are not listed in the preceding categories.

Section G. Innovation

New or significantly improved goods or services related to the reduction of greenhouse gas emissions - goods or services that were new to the establishment, with characteristics or intended uses that differed significantly from those systems or equipment previously used by the establishment. Significantly improved goods or services are existing goods or services with significantly enhanced or upgraded performance. Excludes maintenance, repairs and replacement in kind.