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# Waste Management Industry Survey: Business and Government Sectors

2004



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# Waste Management Industry Survey: Business and Government Sectors

2004

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## Note of appreciation

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## 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	true zero or a value rounded to zero
0 <sup>s</sup>	value rounded to 0 (zero) where there is a meaningful distinction between the true zero and the value that was rounded
P	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

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## Preface

This report presents the results of the 2004 Waste Management Industry Survey: Business Sector and the 2004 Waste Management Industry Survey: Government Sector. These surveys gathered information on the financial characteristics and waste management activities undertaken by companies, local governments and other public waste management bodies.

These services included the collection and transportation of wastes and of materials destined for recycling, the operation of non-hazardous and hazardous waste disposal facilities, the operation of transfer stations and the treatment and disposal of wastes deemed to be hazardous.

The results of these surveys provide a picture of physical characteristics of waste disposal and recycling as well as financial and employment features of businesses and local governments that provide waste management services.

The data have been analyzed and presented at a provincial level wherever it was possible to do so without compromising confidentiality.

## Acknowledgements

The contributions of the respondents, industry groups and provincial environmental departments were critical to the successful completion of the surveys and are gratefully acknowledged.

This report was prepared by the Environment Accounts and Statistics Division under the direction of Rob Smith, Director and Bruce Mitchell, Chief, Environmental Protection Accounts and Surveys. Data collection for the surveys was conducted by the Operations and Integration Division (Mel Jones, Director) and the Environment Accounts and Statistics Division. Data from Public Institutions Division (Catherine Boies, Director) were also used in the preparation of this report.

The Manager of the Waste Management Industry Survey: Business and Government Sectors 2004 was John Marshall. Amanda Elliott was the Technical Manager.

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

Breanne Buchanan  
Gordon Dewis  
Marc Lavergne  
Bruce Mitchell  
Hélène Trépanier

# 1 Highlights

In 2004, municipalities and businesses that provided waste management services handled over 32 million tonnes of non-hazardous solid waste generated by Canadian households and businesses.

Nationally, 24% of the total non-hazardous waste generated was diverted from disposal. Nova Scotia had the highest diversion rate (36%) followed closely by Prince Edward Island (35%) and British Columbia (31%). However, Prince Edward Island, with an increase of 7% over its 2002 diversion rate, saw the largest percentage increase in the amount of waste diverted from disposal in 2004.

Over 7.8 million tonnes of non-hazardous material were processed for recycling in 2004. Paper fibres and organic material made up the bulk of the material diverted, accounting for 42% and 21% respectively of the total for 2004. Within material categories, the largest increases from 2002 to 2004 were plastics (up 34%) and organic materials (up 30%).

In 2004, over 25 million tonnes (791 kilograms per capita) of non-hazardous material was disposed, an increase of 22 kilograms per Canadian from 2002. This includes material that was disposed in Canadian landfills and incinerators as well as material that was exported to another country for disposal. The lowest per capita disposal rate was in Nova Scotia with 427 kilograms per capita. The highest disposal rate for 2004 was 968 kilograms per capita in Alberta.

There were 60 fewer businesses in the waste management industry in 2004 than in 2002. However, revenues generated by these waste management businesses increased 5% from 2002 to total over \$4.3 billion for 2004. Their operating expenditures totalled almost \$3.8 billion. This represents an increase of almost 10% from 2002. Capital expenditures for 2004 totalled over \$307 million - down 9% from 2002.

Governments and public waste management bodies generated over \$951 million from waste management activities in 2004.

Current expenditures made by governments and other public bodies targeted to waste management activities totalled \$1.9 billion in 2004, an increase of 23% from 2002. On an activity basis, the operation of composting facilities showed the largest increase from 2002 (expenditures up 54%).

Employment for the entire waste management industry, including both private and government sectors, totalled 31,909 persons in 2004. This is an increase of almost 3% from 2002. The majority of those persons working in the waste management industry are employed by private waste management firms.

## 2 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.

### 2.1 Introduction

#### Why is there a need for information on the waste management industry?

A general increase in environmental awareness has raised concerns over the impacts that our activities have on the environment. The waste produced by society can impact the environment in various ways. For example, the generation and disposal of waste may contribute to soil and water contamination, while methane gas that is not captured at landfills adds to the accumulation of greenhouse gases in the atmosphere.

In turn, statistics on volumes of waste can help measure the effectiveness of environmental practices and policies. Canadians have access to an ever increasing array of environmental information on a variety of issues, including waste. As environmental awareness increases, Canadians need reliable environmental statistics in order to make informed decisions regarding their own patterns of consumption. As well, waste statistics can be used by researchers and policy makers to analyze industry trends and implement appropriate policy mechanisms.

#### The waste management industry

The services provided by the waste management industry include the collection and transportation of waste and materials destined for recycling (including composting), the operation of non-hazardous and hazardous waste disposal facilities, the operation of transfer stations, the operation of recycling and composting facilities and the treatment of hazardous waste.

The Canadian waste management industry embodies two inter-related elements. Waste management services can be provided directly by a public body, such as a local government (e.g., city, town, regional district) or a waste management board or commission whose purpose is to coordinate the provision of such services. For example, a number of local governments

may agree to jointly administer a landfill or a recycling facility (Text Box 2.1).

Private firms are the second source of waste management services. Local governments may enter into contracts with these firms to provide certain waste management services or the businesses may directly enter into such arrangements with clients other than local governments. For example, a region may contract out curb-side waste and/or recycling services to a company and this same company may enter into separate agreements with apartment complexes or industrial operations.

### 2.2 Defining waste and its components

Waste management activities take many different forms and involve many different participants. This presents challenges when trying to prepare an integrated picture of activities, including the total materials managed.

One common thread is that all the materials handled are *unwanted by their producer*. The unwanted materials may be by-products of a production process—for example, fly ash from a furnace. Alternatively they might be products, the inherent value of which has been consumed from the perspective of the current holder—for example, a newspaper that has been read or a package that has been opened and emptied of its contents.

Concepts and definitions in the waste management area have been evolving over the past several years. The most common source of difficulty is in classifying types of waste. Strategies to compile waste statistics reflect the specific needs of statistical and analytical projects: by type (municipal solid non-hazardous waste, hazardous waste); by generator or by generating activity (residential, industrial, commercial, institutional and construction and demolition projects) as well as by type of material. The differences in the terminology that the various respondents use can create many operational difficulties when surveys are in the field. (see Text Box 2.4 for the definitions used for this report). Progress is being made on both the national and international fronts toward the development and implementation of consistent classifications and measurement methodologies of waste management industry activities as well as the materials that this industry handles.

### 2.3 Overall approach: data sources and methodology

#### General methodology

This report presents the physical quantities, types and sources of waste and recyclable materials as well as



## Text box 2.1

**Local Government and Other Waste Management Service Providers**

For the purposes of this report, local government in Canada includes all government and quasi-governmental entities below the provincial or territorial level. Within this broad category, administrative functions are divided among municipalities, special purpose boards and local school districts. A further distinction is made between upper and lower tier municipalities. In this report, for the purpose of simplicity, the term local government is used to denote any of the following public organizations.

**Upper-tier municipalities** are those encompassing one or more local government entities, such as metropolitan corporations, regional districts, regional municipalities and counties.

**Lower-tier municipalities** are typically those whose borders can lie within or outside the jurisdiction of another level of municipality. These lower tier municipalities can include cities, towns, villages, townships, rural municipalities, districts and counties, and some quasi-municipalities, including local government districts and local improvement districts.

**Other public waste service providers** can come in a variety of forms, but as a rule consist of a group of local municipalities (usually at the lower tier level) who collectively provide a waste management service. A group such as this will typically oversee the contracting out of a specific service or set of services (e.g. the operation of a materials recycling facility) but sometimes will also provide a service themselves (e.g. the operation of a landfill).

financial and employment characteristics of the waste management industry. These estimates are based on the integration of two waste surveys conducted by Statistics Canada on a biennial basis; the Waste Management Industry Survey: Business Sector and the Waste Management Industry Survey: Government Sector. Essentially the same questions were asked for the waste and recyclable quantities and types sections of both surveys, however the financial sections differed somewhat.

To arrive at physical totals for the disposal and recycling sections, data from the two surveys were combined and duplicate entries were removed. These duplicates occur because operating arrangements of disposal and recycling activities can vary. Sites may be owned and operated by the same entity, but some sites may be owned by a government body and operated by a private firm. Since in some cases an owner of a facility may not have necessarily been the operator and the survey may have been completed by both the owner and the operator, care was taken to ensure that the information from each facility was only counted once. In these cases the information reported by the owner of the facility was typically used. However, in cases where there was a large difference in the information reported by the two respondents, further research was done to determine the reason for the

discrepancy. The decision of which respondent's information to use was based on the results of this research and professional judgement.

Not all of the population may have access to, or use, formal disposal or recycling facilities. In rural areas especially, arrangements can be made with a landowner to use property for the purpose of small-scale disposal sites ("dumps"). For this reason and others, a survey coverage population was developed using information provided by survey respondents as well as from other sources about the municipalities that were served by disposal and recycling facilities. Total populations were calculated for these municipalities using Statistics Canada data.<sup>1</sup> The difference between the total population and the covered population was calculated. A provincial per capita disposal figure was applied to this undercovered population, and this total was added to the survey total to arrive at an adjusted disposal figure.

It is assumed that all Canadians produce waste and that this waste must be disposed of in some manner, thus requiring a "blown-up" disposal figure. However, the same adjustment was not made to the recycling figures. Unlike waste, which can be disposed of in a hole at the back of someone's property, material to be recycled must be prepared and processed. While the smallest recycling depots may not be surveyed because they fall below the municipal population or business size thresholds, the major material recovery facilities where this material is processed are covered by the survey. Therefore most recycled material that falls within the conceptual parameters of this survey is captured, and a "blown-up" figure is not required.

### 2.3.1 Reference period

The Waste Management Industry Surveys are biennial surveys. The information contained in this report reflects the total revenues, total operating and capital expenditures, total employment and waste quantities covering the financial year ending between April 1, 2004 and March 31, 2005.

### 2.3.2 Coverage

#### Business sector

The 2004 Waste Management Industry Survey: Business Sector asked firms to report information on their waste management activities for each of their provincial and territorial operations. Businesses were selected based on the size of their workforce as well as the level of their total revenues. The threshold (based on revenue and employment levels) that was used to include or exclude a particular business from the

1. Statistics Canada, CANSIM II, Table 051-0001, "Estimates of population, by age group and sex, Canada, provinces and territories, annual".

survey mailout depended on the province or territory in which they operated. For example, surveyed businesses from Newfoundland and Labrador had a lower revenue and employment cut-off than those from Ontario.

The survey frame for the 2004 business survey was based on the 2002 survey supplemented and updated with information from the Statistics Canada Business Register (BR) and industry directories. Firms selected from the BR are a subset of the Waste Management and Remediation Services NAICS 562 (Text Box 2.2). The combined list was cross checked once more with other industry directories to avoid double-surveying of units.

For those firms not included in the survey because of their small size, administrative data on total operating revenues and total employment obtained from Statistics Canada's Business Register were used to estimate their contribution to the industry.

#### Government sector

Local governments and other public waste management bodies were selected for the Waste Management Industry Survey: Government Sector on the basis of a municipal population threshold that varied by province and whether or not a disposal, recycling and/or composting facility operated within their jurisdiction.

The mailing list for the 2004 survey was based on past survey information and supplemented by information obtained from provincial sources.

Some provinces collected their own data on aspects of waste management for 2004. These data were used to fill in missing values or to verify values for the survey results presented in this report. Quebec municipalities, for example, were not surveyed by Statistics Canada as the province conducts its own waste management surveys.

### 2.3.3 Variables measured

For the reference year 2004, respondents were asked to report the following information:

- specific types of waste management activities conducted by the respondent;
- total quantities of non-hazardous and hazardous waste managed in disposal facilities, recycled, composted, exported, and imported;
- sources of waste and recyclable and compostable material;
- total revenues realised from the sale of waste management services;
- total operating and capital expenditures; and
- total employment

#### Text box 2.2

### The Classification of Waste Management Services

The North American Industry Classification System (NAICS) is an industry classification system developed by the statistical agencies of Canada, Mexico and the United States. Created against the background of the North American Free Trade Agreement, it is designed to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate the analysis of the three economies. NAICS is based on supply side or production oriented principles, to ensure that industrial data, classified to NAICS, is suitable for the analysis of production-related issues such as industrial performance.

Businesses falling into the following NAICS classifications are considered to be "in scope" for the Waste Management Industry Survey: Business Sector.

**56211 Waste collection** This industry comprises establishments primarily engaged in collecting and hauling non-hazardous or hazardous waste within a local area. Establishments engaged in hazardous waste collection may be responsible for treating and packaging the waste for transport. Waste transfer stations are also included.

**56221 Waste treatment and disposal** This industry comprises establishments primarily engaged in operating landfill sites, incinerators, or other treatment or disposal facilities for non-hazardous or hazardous waste. Establishments that integrate the collection, treatment and disposal of waste are also included.

**56292 Material recovery facilities** This industry comprises establishments primarily engaged in operating facilities in which recyclable materials are removed from waste, or mixed recyclable materials are sorted into distinct categories and prepared for shipment.

Note that missing from this list of classifications is NAICS 56291, Remediation Services. While in the same NAICS grouping as the waste management industry, this industry is not included as it does not provide waste management services as defined by the Canadian Council of Ministers of the Environment.

#### Source:

Statistics Canada, *North American Industry Classification System (NAICS) 1997*, [www.statcan.ca/english/Subjects/Standard/naics/1997/naics97-index.htm](http://www.statcan.ca/english/Subjects/Standard/naics/1997/naics97-index.htm). (accessed January 9, 2007).

### 2.3.4 Data collection and processing

Data collection for both surveys took place during the spring and summer of 2005. Survey questionnaires were mailed to a total of 1,364 businesses and local governments. The responses were returned by mail. The questionnaires were addressed to a contact person who was either responsible for, or had knowledge of, the waste management operations of the survey unit.

For businesses that had operations in more than one province, a separate questionnaire was completed for each province in which the waste management business operated. For example, a business with operations in three provinces completed three questionnaires, each one describing the activities within a province. This was not a concern for the local government survey.

Follow-ups by fax and/or telephone were carried out after the return due date to remind respondents to return their questionnaires.

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. This type of editing was applied mostly to the questions on quantities but was also used to identify unusual values in the financial sections. A second step, consistency edits, was then applied. These identified occasions where the responses in one section of the questionnaire were logically inconsistent with those given in other sections.

Additional follow-up was carried out to collect missing data and to correct inconsistencies. The survey collection period was closed by early November 2005.

#### Government sector waste management

Many local governments use the services of private sector waste management firms. It was essential that both the questionnaire structure and particular wording enabled respondents to distinguish between services they provided with their own employees and those which they contracted out. In the processing phase it frequently became necessary to contact respondents to clarify the nature of these relationships.

In addition, groups of municipalities work together to provide waste management services for their residents. In many areas, different tiers of local governments exist and governments in each tier may be involved in aspects of waste service delivery. Many alternative forms of service delivery were identified.

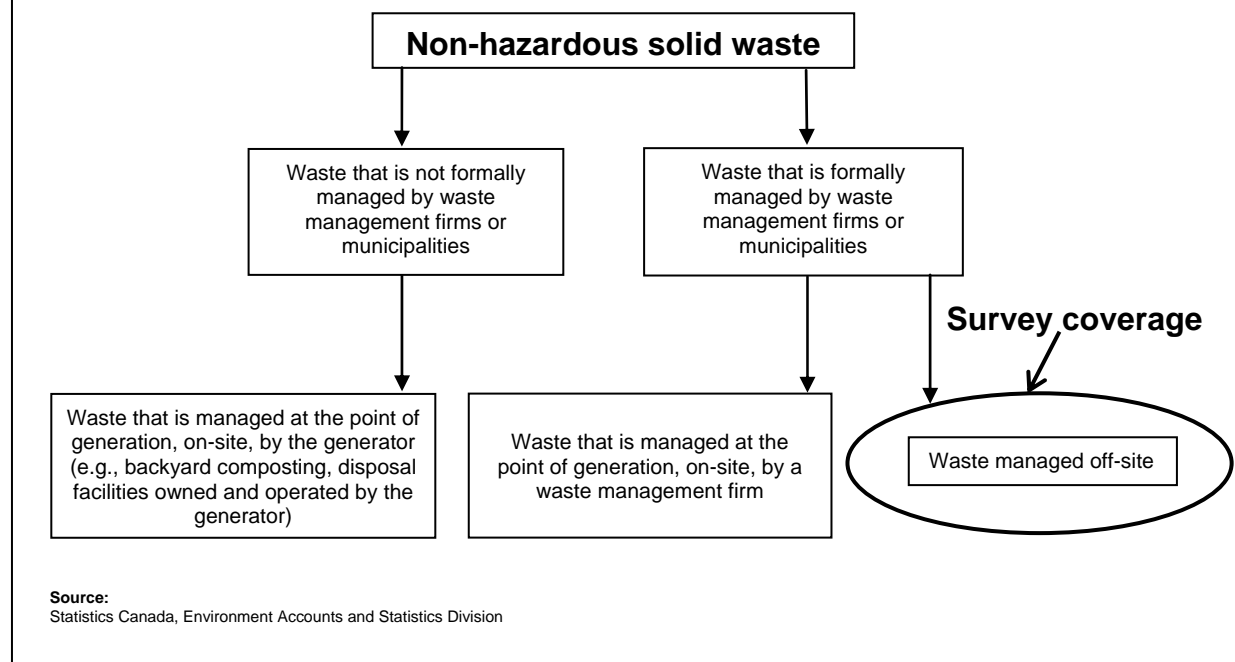
For example:

- 1) A regional government might serve an area within which there are a number of local municipalities.
- 2) The upper tier government might provide all of the waste services.
- 3) Only the lower tier municipalities might provide services.
- 4) Both tiers might provide different services (e.g., one operates a disposal facility; the other tier provides waste collection services).
- 5) Both tiers could be providing the same services to different parts of the region (a lower tier might run a disposal facility for just their municipality with the regional government running a disposal facility for the remainder of the region).
- 6) Municipalities in one or both tiers could act co-operatively through a separate government agency such as a regional waste commission that both collects waste and runs the disposal facility.
- 7) None of the governments in an area could be doing any waste management, leaving provision of waste services strictly to private sector firms.
- 8) Or, there may be numerous combinations of the above scenarios.

Examples of each of these situations exist in Canada and both the survey vehicle and processing system had to be able to deal with these possibilities.

Extensive respondent follow-up was required in some cases. Returns for specific geographic areas were frequently processed together in order to build a clear picture of the service delivery area and to prevent either double counting or inadvertently missing pieces of information.

Figure 2.1  
Waste Management Industry survey coverage



### 2.3.5 Evaluation of frame coverage

The estimates presented in this report refer only to waste and recyclable materials that have entered the managed waste stream; in other words, waste or recyclables that have been collected, processed or disposed of by a private waste management firm or local government organization. Therefore, waste or recyclables that are directly managed by the generator are not covered.

For example, waste created by a pulp and paper mill may be managed by the company on site or in another company run facility without the assistance of separate service providers. As a result, these quantities would not be counted by either survey. Also, households may manage some waste materials themselves. Many households have backyard composters that handle at least a portion of home and garden organic waste. While the amounts of compostable materials handled through central composting programs are included in the report, the backyard component is not. In addition, any unconventional methods of waste disposal, such as illegal dumping are not included in the survey coverage. (The above points are illustrated in Figure 2.1)

#### In-scope establishments

In-scope establishments for the 2004 survey cycle, a total of 1,151 fully completed and partially complete in-scope questionnaires were returned; 446 for the business sector and 705 for the government sector. For those questionnaires that were not returned, 134 were considered to be in-scope resulting in a combined total of 1,285 in-scope respondents for the two surveys.

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

Since the 2002 survey, some structural changes have occurred in the waste management industry. Looking at the business sector, of the establishments surveyed, 12 went out of business and four mergers took place. Another 34 businesses that had provided waste management services in 2002 did not provide these services in 2004 and were determined to be out-of-scope for the purpose of this survey. Among the local governments surveyed, four municipalities amalgamated, becoming either a part of an existing municipality or forming a new municipality and another six were found to be out-of-scope for the 2004 cycle.

## 2.4 Data accuracy

### Text box 2.3

#### Response burden

In order to track and thus make improvements to lessen the burden that these surveys impose on respondents, they were asked to indicate the amount of time spent completing the questionnaire. The mean average number of hours reported by the respondents was 3.04.

Many factors affect the accuracy of data produced in a survey. For example, respondents may have made errors in interpreting questions, answers may have been incorrectly entered on the questionnaires, and errors may have been introduced during the data capture or tabulation process. Every effort was made to reduce the occurrence of such errors in the survey. These efforts included: a complete verification of keyed data, validity and consistency edits, extensive follow-up with the large businesses, and consultation with selected government departments and industry associations.

In general, errors such as incomplete coverage of the universe, incorrect classification of business or government activity and inconsistencies in working definitions can be reduced if the survey is repeated at regular intervals and with sufficient frequency so that the mailing list is well maintained and the respondents are familiar with the definitions used and the type of information required.

Incomplete coverage of the industry universe occurs when a firm in the industry is overlooked. If the reason for not including the firm is that it has been incorrectly included in another industry, this is termed a classification error. Such errors have an impact upon estimates. However, these errors are less frequent now than in the past with the adoption of the NAICS classification system (See Text Box 2.2).

#### Assessing data accuracy

One way to assess data accuracy is to compare it to the trends of other data collected. For example, comparing the waste statistics for 2004 with those for 2002, it is apparent that there has been substantial revenue growth in the Canadian waste management industry. On a per capita basis, more non-hazardous waste was disposed and diverted during 2004 than in 2002. As would be expected, the upward trends seen in the waste quantity estimates are reflected in the financial and employment estimates of the business and government sectors of the industry.

Comparing the waste data with known economic trends is another way of validating the data. Economic growth<sup>2</sup> is one indicator of the general state of the economy. Positive growth, such as the 5.2% increase in GDP observed nationally from 2002 to 2004<sup>3</sup>, typically indicates an active economy: people spent more money on goods and services in 2004 than in 2002. This increase in production may contribute to an increase in waste production. For example, in an active economy, more goods and services are purchased by businesses and households. There is more packaging around these goods that must be disposed or recycled. The good itself maybe discarded or recycled once it is used. Or, an older item that the newly purchased good is replacing is disposed or recycled.

The very active housing market<sup>4</sup> in many parts of Canada may have also contributed to the waste generation increase. Debris is created through the construction of new homes or refurbishing of existing ones. As well, when Canadians change homes they generate waste through their use and subsequent discarding of moving materials, purchases of new items for the home and the disposal of items that are unwanted.

### 2.4.1 Response rates

The overall response rate for the 2004 waste management industry surveys, based on the ratio of the number of completed and partially completed questionnaires to the total number of in-scope questionnaires, was 85% for the business sector and 93% for the government sector. An alternative response rate of 87% was calculated for the business sector based on total revenues.

### 2.4.2 Imputation rates

Although most businesses and local governments were very co-operative in answering the survey, some could not provide all the data required in the form in which it was requested. For example, facilities operating without a weigh scale had difficulties answering questions about the weights of material collected or disposed. In cases where values were missing from survey cells or where the respondent did not complete a questionnaire even after extensive follow-up, information was imputed.

2. Economic growth has been measured as Gross Domestic Product or the growth in the market value of all goods and services produced within Canada.

3. Statistics Canada, CANSIM, Table 379-0017 - "Gross Domestic Product (GDP) at basic prices, by North American Industry Classification System (NAICS), annual".

4. Statistics Canada, CANSIM, Table 027-0009 - "Housing starts, under construction and completion", annual".

### Data reliability

Imputation rates are an indicator of data reliability. Imputation is a term that refers to the proportion of data that were not obtained directly through a survey but rather came from an administrative source or was estimated using defensible and replicable methodologies.

Imputation is necessary to “complete” the data picture when there are non or missing responses to certain questions or sets of questions.

### Business sector

All in-scope questionnaires (completed and non-response) for the business sector survey were sorted into three groups based on employment size; firms with under 6 employees, firms with 6 to 19 employees, and firms with 20 or more employees. Using the questionnaires for those establishments that responded, median cell values were calculated separately for each size group for the financial and employment data. These values were then applied to the cells where a value was missing in the corresponding size group.

For those small firms that were not surveyed, as well in-scope firms that did not respond, employment and financial data from the Statistics Canada Business Register and other administrative sources (e.g., tax records) were used to fill in the missing values.

For large firms, the imputed values were compared with values from previous years and other sources, such as annual reports and security exchange filings to ensure that the quality of the imputed values was high.

The overall imputation rate for the business financial variables was 16%.

### Government sector

A similar methodology was used to estimate missing financial and employment values for the government sector survey. However due to the high response rate for this survey, very few values were in need of imputation.

### Waste disposal and recycling

Imputation for missing values in the disposal and recycling sections involved a different set of processes. As these two sections on both the business sector survey and the government sector survey were identical, the results from the two surveys were easily combined. This made it possible to remove duplicate data and to obtain a completed response from partial responses. Examples are those facilities where a local government owned a landfill but contracted out the operation of that landfill and both the government body and the contracted business reported for the landfill. The duplicated data were removed so that each landfill was reported for only once. Also, each of the two respondents may not have been able to report for all aspects of the facility but by combining responses a

completed record could be obtained. To illustrate, a firm may have omitted the total quantity of waste disposed to the landfill but the municipality may have reported that value.

In cases where there were missing cell values in the completed survey forms, many of these missing values were obtained through an intensive period of follow-up through email or telephone calls. The remaining values were obtained from provincial and local government contacts, industry experts and publicly available sources such as the Internet.

The tables presented in this report cover the data that were determined to be of sufficient quality for publication at a disaggregated level. Data confidentiality considerations as well as imputation rates play a role in this assessment. Data must be released at a level where the disclosure of the identity of any respondent in any cell is not possible. In addition, the levels of imputation must remain within reasonable limits.

## 2.4.3 Data limitations

Every effort has been made to ensure that the estimates presented in this report are of both high quality and reliability.

However, it is important to understand the limitations of the data presented. This knowledge will allow readers to make informed decisions before conducting further research or analysis using these estimates.

### Coverage

As discussed in Section 2.3.5 the estimates presented in this report refer only to that material entering the waste stream and do not cover any waste that may be managed on-site by a company or household. While the majority of residential waste is handled by municipalities or private businesses, and thus included in the survey coverage, it is believed that a significant quantity of non-residential waste is managed on-site by industrial generators. Also, much is transported by the generator directly to secondary processors such as pulp and paper mills while bypassing entirely any firm or local government involved in waste management activities. Anecdotal evidence suggests that these practices are becoming increasingly common.

Most agricultural waste is not covered by these surveys. This waste is typically managed on-site or by specialized firms that are not classified by NAICS as part of the waste management industry.

In addition, these data do not include materials that were processed for reuse and resale, for example wholesale of scrap metals or used clothing or those materials that are collected through deposit return systems and which are not processed at a material recovery facility.

### Classification and measurement of waste flows

Improvements are constantly being sought with a view to standardize definitions of waste concepts and methods to calculate waste flows in Canada. While with each survey cycle improvements are made, some inconsistencies remain. For example, some jurisdictions consider the reuse of asphalt as recycling while other jurisdictions do not. Some include landfill cover materials in their quantity calculations and some do not.

In addition, various methods of waste measurement exist. Some facilities measure waste quantities by weight while other use volume and still others have no method of measurement. As reporting standards are agreed upon, Statistics Canada's waste management surveys will be revised appropriately.

## 2.5 Comparability of data and related sources

### 2.5.1 Comparisons between data sources

As mentioned in the previous section, without a nationally standardized system of classification and measurement it is difficult to compare quantities of waste and recyclables between municipalities. Issues of confidentiality also impede these comparisons.

#### Quebec

The province of Quebec conducts its own waste management surveys. In order to reduce response burden the provincial survey results are used for the Quebec diversion and residential waste disposal estimates presented in this report. This arrangement is reviewed after each survey cycle in order to determine whether the data collected and published by RECYC-Québec (the organization responsible for waste management data collection in the province) are indeed comparable to those data collected through the Statistics Canada surveys.

### 2.5.2 Comparisons over time

Data obtained from the 2004 survey are comparable with data from previous years for the following variables:

- Disposal data: comparable with 1996, 1998, 2000 and 2002. Although some caution should be exercised when comparing disposal data prior to 2000 with subsequent years as exported wastes were not included in the estimates prior to 2000.
- Recycling data: comparable with 1998, 2000 and 2002

- Business sector financial data: Most variables comparable with 1995, 1996, 1998, 2000 and 2002. Some variables have been added or dropped from cycle to cycle.
- Local government sector financial data: Most variables comparable with 1994, 1996, 1998, 2000 and 2002. Some variables have been added or dropped from cycle to cycle.
- Some of the data for the years and variables listed above have been revised and the user should consult the Environment Accounts and Statistics Division for the latest estimates.

### 2.5.3 Revisions

The on-going development of nationally consistent methodologies will aid making future year to year comparisons possible. Data for the most recent year are subject to revisions. The overall biennial rate of revision for the disposal and diversion quantity data at the national level has been approximately 1% in each the past three survey cycles. Higher rates sometimes occur at the province/territory level. Revisions to financial and employment data have been negligible.

### 2.5.4 Measurement issues

Waste diversion generally refers to material that has avoided disposal through a combination of processes and actions, and refers to activities that handle the waste in such a way such that it is not disposed of in landfills or incinerators.<sup>5</sup>

However, it must be noted that the generation and diversion figures presented in this report should be used with some caution. They are a proxy for total waste generation and diversion in Canada. There are several points to consider when using these data.

First, the diversion figures include only materials that were processed for recycling or reuse at publicly or privately owned material recycling facilities. The data do not include materials that were processed and reused by a business or public body on site as part of its production process or as part of a secondary economic activity. Those materials never entered the non-hazardous waste stream and therefore are not considered to be waste for the purposes of this survey.

Second, it is acknowledged that data from a large portion of the "reuse" category are not included in these tables. For example, used clothing that is donated to a retailer and resold is excluded, as are used appliances that are refurbished and resold. Deposit-return materials, such as beer bottles, are considered to be

5. GAP Team, June 15, 2000, *Manual on Generally Accepted Principles (GAP) for Calculating Municipal Solid Waste Flow*, Toronto, p. 15.

“reuse” and are not included in these tables unless they have been processed at a material recovery facility.

Third, these data do not include those materials managed by wholesalers of scrap metal, plastics or paper. As with the other data in this report, these data cover only those firms whose primary source of income accrues from waste management activities and those public bodies that provide waste management services.

Fourth, the agricultural sector is largely excluded from these data. Waste and recyclable materials (e.g., dead livestock, manure) from farms are generally managed on-site by the producer or managed by firms who specialize in the management of agricultural waste. Most of these businesses are not classified as part of the waste management industry as defined by the

North American Industry Classification System (NAICS).

Fifth, contaminated soil that is used as landfill cover or some other beneficial purpose at a disposal facility (e.g. the building of berms) is excluded from these data. Other high tonnage excluded materials that should be noted are asphalt from roadworks, as well as debris from land clearing operations (e.g. soil, brush, stumps).

Finally, composting data include tonnages managed through centralized programs that are owned and operated by municipalities or waste management boards or commissions as well as those facilities that are privately owned and operated. They do not include estimates for non-centralized composting programs such as backyard composting bins.



Text box 2.4

## **Definitions**

### **Composting**

Composting is an aerobic biological treatment process used most frequently in Canada at this time for management of biodegradable residential waste such as leaf and yard waste or food wastes.

### **Construction and demolition waste (C&D)**

Includes waste materials from the construction and demolition of roads, bridges and buildings such as wood, gypsum and metal.

### **Disposal facility**

A facility, at which waste is landfilled, incinerated or treated for final disposal.

### **Diversion**

Diversion represents the quantity of materials diverted from disposal facilities and represents the sum of all materials processed for recycling or reuse at an off-site recycling or composting facility.

### **Generation**

Total generation is the sum of total non-hazardous residential and non-residential solid waste disposed of in an off-site disposal facility and the total materials processed for recycling at an off-site recycling facility.

### **Hazardous waste**

Includes all materials designated as hazardous, due to their nature or quantity, and requiring special handling techniques as specified by legislation or regulation.

### **Incineration**

Incineration, in the context of waste, refers to the burning of waste. Most jurisdictions in Canada consider incineration to be disposal.

### **Industrial, commercial and institutional (IC&I) waste**

IC&I Waste (Industrial, Commercial, and Institutional) is the waste generated by all non-residential sources in a municipality, and is excluded from the residential waste stream. This includes:

- industrial waste, which is generated by manufacturing, and primary and secondary industries, and is managed off-site from the manufacturing operation, and is generally picked up under contract by the private sector.
- commercial waste is generated by commercial operations such as shopping centres, restaurants, offices, etc. Some commercial waste (from small street-front stores, etc.) may be picked up by the municipal collection system along with the residential waste;
- institutional waste is generated by institutional facilities such as schools, hospitals, government facilities, seniors homes, universities, etc. This waste is generally picked up under contract with the private sector.

### **Non-residential waste**

Includes municipal solid non-hazardous waste generated by industrial, commercial and institutional sources as well as waste generated by construction and demolition activities.

Text box 2.4

### **Definitions (continued)**

#### **Recyclable material**

Any material that has reached the end of its useful life in the form or purpose for which it was initially made and that can be recycled into a material that has value as a feedstock in another production process.

#### **Recycling**

Recycling is the process whereby a material (e.g., glass, metal, plastic, paper) is diverted from the waste stream and remanufactured into a new product or is used as a raw material substitute.

#### **Residential waste**

Includes solid waste from residential sources, which includes all households, and includes waste that is picked up by the municipality (either using its own staff or through contracting firms) and waste from residential sources that is taken by the generator to depots, transfer stations and disposal facilities.

#### **Sanitary landfill**

A site, on land, that is used primarily for the disposal of waste materials. The contents of landfills can include garbage that is not processed, and also residual material from processing operations (MRF residues, incinerator ash, compost residues, etc).

#### **Tipping fees**

These are fees that are paid to the owner, lessor or operator of a landfill for the right to dispose of waste within that landfill. These fees can be assessed on a weight-based (e.g., per tonne), volume-based (per cubic metre) or per item (fees that differ according to the type of material being disposed, such as white goods or tires) basis. Disposal fees are sometimes known as tipping fees.

#### **Transfer facility**

A facility at which wastes transported by vehicles involved in collection are transferred to other vehicles that will transport the wastes to a disposal or recycling facility.

#### **Waste**

There have been several definitions of waste proposed in recent years. One common thread among these definitions is the concept that waste is a material that is unwanted by its producer. The unwanted materials may be by-products of a production process - fly ash from a furnace, for example. Alternatively they might be products, the inherent value of which has been consumed from the perspective of the current holder - for example, a newspaper that has been read, a package that has been opened and emptied of its contents or an apple eaten to the core are all similar insofar as they have lost their original inherent value from the consumers perspective.

#### **Waste for disposal**

All materials not wanted by their generator and which are discarded for management at waste disposal facilities (excludes materials destined for recycling and composting).

#### **Waste management industry**

For the purposes of these surveys, the waste management industry broadly includes all firms and public bodies operating in Canada that provide the services of collection, transportation, diversion, treatment or disposal of waste or recyclable materials.

## **Annex A: Statistical tables**

Table A.1  
**Disposal and diversion of waste, by province and territory, 2002<sup>r</sup> and 2004**

Province/Territory	Total waste <sup>1</sup> disposed		Waste disposed per capita				Total materials diverted <sup>2</sup>			Diverted materials per capita			Diversion rate	
	2002 <sup>r</sup>	2004	Change 2002 to 2004		Change 2002 to 2004		2002 <sup>r</sup>	2004	Change 2002 to 2004	2002 <sup>r</sup>	2004	Change 2002 to 2004	2002 <sup>r</sup>	2004
			tonnes	percent	kilograms	percent								
Newfoundland and Labrador	376,594	400,048	6.2	725	773	6.7	30,386	35,308	16.2	58	68	16.7	7.5	8.1
Prince Edward Island	x	x	6.9	x	x	6.2	x	x	45.5	x	x	44.5	28.2	34.8
Nova Scotia	389,194	399,967	2.8	416	427	2.4	192,006	220,316	14.7	205	235	14.4	33.0	35.5
New Brunswick	413,606	442,173	6.9	551	588	6.7	130,728	143,804	10.0	174	191	9.7	24.0	24.5
Quebec <sup>3</sup>	5,846,459	6,159,960	5.4	785	816	3.9	1,743,376	2,130,100	22.2	234	282	20.5	23.0	25.7
Ontario	9,645,633	10,053,154	4.2	797	809	1.4	2,265,969	2,905,953	28.2	187	234	25.1	19.0	22.5
Manitoba	896,556	928,118	3.5	776	793	2.2	215,815	234,549	8.7	187	200	7.3	19.4	20.2
Saskatchewan	795,124	833,511	4.8	798	838	5.0	116,296	132,763	14.2	117	134	14.3	12.8	13.7
Alberta	2,890,294	3,077,311	6.5	927	968	4.4	690,517	755,908	9.5	222	236	6.4	19.3	19.6
British Columbia	2,687,882	2,841,361	5.7	653	676	3.6	1,218,475	1,251,667	2.7	296	298	0.6	31.2	30.6
Yukon Territory, Northwest Territories and Nunavut	x	x	16.2	x	x	16.4	x	x	31.6	x	x	31.6	10.4	11.6
<b>Canada</b>	<b>24,081,371</b>	<b>25,291,015</b>	<b>5.0</b>	<b>769</b>	<b>791</b>	<b>2.8</b>	<b>6,641,547</b>	<b>7,864,647</b>	<b>18.4</b>	<b>212</b>	<b>246</b>	<b>15.0</b>	<b>21.6</b>	<b>23.7</b>

**Notes:**

Figures may not add up to totals due to rounding.

- Total amount of non-hazardous waste disposed of in public and private waste disposal facilities. This includes waste that is exported out of the source province or out of the country for disposal. This does not include wastes disposed in hazardous waste disposal facilities or wastes managed by the waste generator on site.
- This information covers only those companies and local waste management organizations that reported non-hazardous recyclable material preparation activities and refers only to that material entering the waste stream and do not cover any waste that may be managed on-site by a company or household. Additionally, these data do not include those materials transported by the generator directly to secondary processors such as pulp and paper mills while bypassing entirely any firm or local government involved in waste management activities.
- Waste diversion and residential sector disposal data are derived from a survey administered by RECYC-QUÉBEC.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.2  
**Disposal of waste, by source and by province and territory, 2002<sup>r</sup> and 2004<sup>1</sup>**

Province/Territory	Residential sources <sup>2</sup>		Non-residential sources <sup>3</sup>		Total waste disposed	
	2002 <sup>r</sup>	2004	2002 <sup>r</sup>	2004	2002 <sup>r</sup>	2004
	tonnes					
Newfoundland and Labrador	216,218	228,004	160,376	172,044	376,594	400,048
Prince Edward Island	x	x	x	x	x	x
Nova Scotia	169,649	179,262	219,546	220,705	389,194	399,967
New Brunswick	203,506	208,120	210,100	234,053	413,606	442,173
Quebec <sup>4</sup>	2,876,000	2,904,000	2,970,459	3,255,960	5,846,459	6,159,960
Ontario	3,438,408	3,522,369	6,207,225	6,530,785	9,645,633	10,053,154
Manitoba	412,612	450,658	483,944	477,460	896,556	928,118
Saskatchewan	278,692	298,612	516,432	534,899	795,124	833,511
Alberta	866,398	943,420	2,023,896	2,133,890	2,890,294	3,077,311
British Columbia	929,101	1,001,147	1,758,781	1,840,214	2,687,882	2,841,361
Yukon Territory, Northwest Territories and Nunavut	x	x	x	x	x	x
<b>Canada</b>	<b>9,447,531</b>	<b>9,792,787</b>	<b>14,633,841</b>	<b>15,498,228</b>	<b>24,081,371</b>	<b>25,291,015</b>

**Notes:**

Figures may not add up to totals due to rounding.

- Total amount of non-hazardous waste disposed of in public and private waste disposal facilities. This includes waste that is exported out of the source province or out of the country for disposal. This does not include wastes disposed in hazardous waste disposal facilities or wastes managed by the waste generator on site.
- Residential non-hazardous wastes disposed includes solid waste produced by all residences and includes waste that is picked up by the municipality (either using its own staff or through contracting firms), and waste from residential sources that is self-hauled to depots, transfer stations and disposal facilities.
- Non-residential non-hazardous solid wastes are those wastes generated by all sources excluding the residential waste stream. These include: industrial materials, which are generated by manufacturing, and primary and secondary industries, and is managed off-site from the manufacturing operation; commercial materials, which are generated by commercial operations such as shopping centres, restaurants, offices, etc.; and institutional materials which are generated by institutional facilities such as schools, hospitals, government facilities, seniors homes, universities, etc. These wastes also include construction, renovation and demolition non-hazardous waste, also referred to as DLC (demolition, land clearing and construction waste). These refer to wastes generated by construction, renovation and demolition activities. It generally includes materials such as wood, drywall, certain metals, cardboard, doors, windows, wiring, etc. It excludes materials from land clearing on areas not previously developed as well as materials that include asphalt, concrete, bricks and clean sand or gravel.
- Residential sector disposal data are derived from a survey administered by RECYC-QUÉBEC.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.3**  
**Materials prepared for recycling, by source and by province and territory, 2002<sup>f</sup> and 2004<sup>1</sup>**

Province/Territory	Residential sources <sup>2</sup>		Non residential sources <sup>3</sup>		All sources	
	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004
	tonnes					
Newfoundland and Labrador	25,993	x	4,393	x	30,386	35,308
Prince Edward Island	x	x	x	x	x	x
Nova Scotia	122,707	147,317	69,299	72,999	192,006	220,316
New Brunswick	57,192	61,519	73,536	82,285	130,728	143,804
Quebec <sup>4</sup>	595,000	697,000	1,148,376	1,433,100	1,743,376	2,130,100
Ontario	1,029,042	1,504,678	1,236,927	1,401,274	2,265,969	2,905,953
Manitoba	79,923	80,326	135,892	154,223	215,815	234,549
Saskatchewan	39,345	53,445	76,951	79,318	116,296	132,763
Alberta	320,536	361,926	369,981	393,982	690,517	755,908
British Columbia	496,751	606,603	721,724	645,063	1,218,475	1,251,667
Yukon Territory, Northwest Territories and Nunavut	x	x	x	x	x	x
<b>Canada</b>	<b>2,789,669</b>	<b>3,582,301</b>	<b>3,851,879</b>	<b>4,282,347</b>	<b>6,641,547</b>	<b>7,864,647</b>

**Notes:**

Figures may not add up to totals due to rounding.

- This information covers only those companies and local waste management organizations that reported non-hazardous recyclable material preparation activities and refers only to that material entering the waste stream and do not cover any waste that may be managed on-site by a company or household. Additionally, these data do not include those materials transported by the generator directly to secondary processors such as pulp and paper mills while bypassing entirely any firm or local government involved in waste management activities.
- Residential non-hazardous recyclable materials include solid non-hazardous materials produced in all residences and include non-hazardous materials that are picked up by the municipality (either using its own staff or through contracting firms) and non-hazardous materials from residential sources that are self-hauled to depots, transfer stations and disposal facilities.
- Non-residential sources include solid non-hazardous recyclable material from the Industrial, Commercial, and Institutional (IC&I) sector as well as the Construction and Demolition sector (C&D). Materials are those generated by all IC&I and C&D sources in a municipality, and are excluded from the residential waste stream.
- Waste diversion data are derived from a survey administered by RECYC-QUÉBEC.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

**Table A.4**  
**Materials prepared for recycling, by type and by province and territory, 2002<sup>f</sup> and 2004<sup>1</sup>**

Type of materials	N.L.	P.E.I.	N.S.	N.B.	Que. <sup>2</sup>	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.,	Canada	
											N.W.T.	2002 <sup>f</sup>	2004
	tonnes												
Newsprint	x	x	29,072	8,287	516,000	500,952	27,871	23,839	99,083	135,414	x	1,282,955	1,349,683
Cardboard and boxboard	x	x	12,510	13,758	402,000	540,791	51,214	26,265	99,515	193,045	x	1,122,304	1,367,011
Mixed paper	x	x	3,187	6,929	113,000	187,551	25,261	10,240	33,935	189,345	x	704,538	570,154
Glass	x	x	2,181	x	94,000	198,861	7,813	x	49,739	35,991	x	329,353	399,290
Ferrous metals	x	x	3,267	1,540	119,100	260,315	85,433	x	95,916	85,471	x	632,165	675,818
Copper and aluminum	x	x	x	x	11,000	22,140	x	x	x	5,870	x	41,583	49,289
Mixed metals	x	x	6,105	2,422	0	69,780	4,535	1,961	11,447	93,530	x	179,257	195,639
White goods	x	x	4,584	x	183,000	26,178	x	x	12,108	x	0	..	236,786
Electronics	0	0	x	x	3,000	5,259	x	x	x	x	0	..	10,245
Plastics	x	x	4,234	1,111	72,000	54,306	4,255	3,082	10,372	38,623	x	144,181	188,307
Tires	0	x	x	x	62,000	6,441	3,569	16,467	8,602	38,508	x	..	139,331
Construction, renovation and demolition	x	x	59,355	14,984	288,000	303,277	x	13,234	27,926	140,514	x	645,931	848,197
Other materials	x	0	1,792	1,963	42,000	85,514	x	x	x	24,088	x	248,491	165,755
Organics	0	x	93,458	90,585	225,000	644,586	20,995	x	290,959	265,514	x	1,310,790	1,669,145
<b>Total</b>	<b>35,308</b>	<b>x</b>	<b>220,316</b>	<b>143,804</b>	<b>2,130,100</b>	<b>2,905,953</b>	<b>234,549</b>	<b>132,763</b>	<b>755,908</b>	<b>1,251,667</b>	<b>x</b>	<b>6,641,547</b>	<b>7,864,647</b>

**Notes:**

Figures may not add up to totals due to rounding.

- This information covers only those companies and local waste management organizations that reported non-hazardous recyclable material preparation activities and refers only to that material entering the waste stream and do not cover any waste that may be managed on-site by a company or household. Additionally, these data do not include those materials transported by the generator directly to secondary processors such as pulp and paper mills while bypassing entirely any firm or local government involved in waste management activities.
- Waste diversion data are derived from a survey administered by RECYC-QUÉBEC.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.5

**Waste management industry: business sector characteristics, by province and territory, 2002<sup>f</sup> and 2004<sup>1</sup>**

Province/Territory	Businesses <sup>2</sup>		Total employees <sup>3</sup>		Operating revenues <sup>4</sup>		Operating expenditures <sup>4</sup>		Capital expenditures <sup>4</sup>	
	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004
	number				thousand dollars					
Newfoundland and Labrador	41	44	396	386	25,039	32,509	27,822	28,606	3,702	3,165
Prince Edward Island	13	13	170	144	8,553	16,498	13,568	14,188	x	1,429
Nova Scotia	87	90	811	952	89,468	100,891	80,059	90,856	8,226	8,714
New Brunswick	73	76	827	804	62,714	68,127	55,402	63,918	4,858	7,791
Quebec	561	495	5,719	6,083	917,247	863,260	734,219	794,680	73,369	70,252
Ontario	436	458	9,114	9,320	1,764,767	1,861,250	1,521,813	1,665,355	161,334	128,702
Manitoba	53	53	598	529	96,694	105,834	84,226	87,371	6,879	4,699
Saskatchewan	49	52	563	631	62,235	82,114	55,083	72,263	3,798	8,076
Alberta	203	208	2,639	2,472	428,115	466,023	359,499	369,272	33,487	34,776
British Columbia	292	270	2,936	2,918	645,672	706,594	476,109	553,820	37,746	38,752
Yukon Territory, Northwest Territories and Nunavut	23	18	143	163	13,569	16,374	13,446	16,201	x	769
<b>Canada</b>	<b>1,785</b>	<b>1,725</b>	<b>23,916</b>	<b>24,402</b>	<b>4,114,073</b>	<b>4,319,474</b>	<b>3,421,244</b>	<b>3,756,531</b>	<b>337,314</b>	<b>307,126</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Includes administrative data for businesses that were below the survey threshold for inclusion.
2. As businesses may operate in more than one province or territory, the national totals will not equal the sum of the provincial totals.
3. Includes full and part-time employees.
4. Includes only those revenues and expenditures related to waste management activities.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.6

**Employment by waste management businesses by province and territory, 2002<sup>f</sup> and 2004**

Province/Territory	Businesses <sup>1</sup>		Full-time employees		Part-time employees		Total employees <sup>2</sup>	
	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004
	number							
Newfoundland and Labrador	41	44	268	273	128	113	396	386
Prince Edward Island	13	13	163	144	7	0	170	144
Nova Scotia	87	90	743	871	68	81	811	952
New Brunswick	73	76	713	683	114	121	827	804
Quebec	561	495	5,374	5,826	345	257	5,719	6,083
Ontario	436	458	8,744	8,945	370	375	9,114	9,320
Manitoba	53	53	560	514	38	15	598	529
Saskatchewan	49	52	520	590	43	41	563	631
Alberta	203	208	2,456	2,295	183	177	2,639	2,472
British Columbia	292	270	2,759	2,735	177	183	2,936	2,918
Yukon Territory, Northwest Territories and Nunavut	23	18	118	147	25	16	143	163
<b>Canada</b>	<b>1,785</b>	<b>1,725</b>	<b>22,418</b>	<b>23,023</b>	<b>1,498</b>	<b>1,379</b>	<b>23,916</b>	<b>24,402</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. As businesses may operate in more than one province or territory, the national totals will not equal the sum of the provincial totals.
2. All employment estimates obtained from administrative data were counted as full-time employees.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division.

Table A.7  
**Waste management industry: local government characteristics by province and territory, 2002<sup>f</sup> and 2004**

Province/Territory	Total employees <sup>1</sup>		Operating revenues <sup>2</sup>		Current expenditures <sup>3</sup>		Capital expenditures <sup>4</sup>	
	2002 <sup>f</sup>	2004	2002	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004
	number		thousand dollars					
Newfoundland and Labrador	135	109	4,340	4,288	7,846	8,225	1,255	583
Prince Edward Island	x	x	4,961	15,890	x	x	x	x
Nova Scotia	295	320	32,028	37,692	65,453	77,292	2,385	11,791
New Brunswick	199	207	32,934	31,324	40,687	43,716	6,697	8,010
Quebec <sup>c</sup>	1,115	1,290	144,046	184,820	377,663	479,017	42,210	17,995
Ontario	2,801	2,723	272,251	262,017	592,387	756,159	80,665	267,473
Manitoba	285	270	20,114	26,731	38,249	45,336	2,458	1,426
Saskatchewan	263	267	9,289	15,651	17,372	27,391	5,868	7,295
Alberta	1,078	1,264	109,111	129,596	152,387	181,367	14,732	22,163
British Columbia	934	955	241,371	238,909	241,961	266,986	12,769	32,423
Yukon Territory, Northwest Territories and Nunavut	x	x	5,311	4,551	x	x	x	x
<b>Canada</b>	<b>7,215</b>	<b>7,507</b>	<b>875,757</b>	<b>951,468</b>	<b>1,544,218</b>	<b>1,905,375</b>	<b>172,087</b>	<b>369,620</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Includes full and part-time employees.

2. Includes revenues collected specifically for waste management purposes by local governments and other public waste management organizations that provided waste management services in 2004. They do not include general municipal tax revenues.

3. Includes current expenditures directed towards waste management services.

4. Includes capital expenditures that were made by local governments and other public organizations for waste management purposes.

**Source:**

Statistics Canada, Environment Accounts and Statistics Division and Public Institutions Division.

Table A.8  
**Current expenditures by local governments on waste management by activity and by province and territory, 2002<sup>f</sup> and 2004<sup>1</sup>**

Province/ Territory	Collection and transportation		Tipping fees		Operation of disposal facilities		Operation of transfer stations		Operation of recycling facilities		Operation of organics processing facilities		Other		Total current expenditures	
	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004	2002 <sup>f</sup>	2004
	thousand dollars															
N.L.	3,336	3,127	719	552	3,724	4,326	x	x	0	x	0	0	x	x	7,846	8,225
P.E.I.	x	x	x	x	x	x	0	x	0	x	x	x	x	x	x	x
N.S.	19,101	21,242	2,875	2,729	29,077	27,864	1,006	935	6,213	6,945	5,429	5,425	1,753	12,153	65,453	77,292
N.B.	6,745	7,428	6,365	8,233	18,471	14,843	x	x	4,025	4,831	x	x	x	6,595	40,687	43,716
Que. <sup>2</sup>	153,650	197,124	31,347	39,446	97,050	122,125	24,729	31,118	27,970	35,197	10,323	12,990	32,595	41,017	377,663	479,017
Ont.	286,338	335,974	54,163	80,317	110,381	130,143	27,369	45,799	47,019	65,562	8,923	20,411	58,193	77,953	592,387	756,159
Man.	18,670	24,249	x	6,728	6,924	8,955	651	687	x	4,135	x	x	x	114	38,249	45,336
Sask.	10,471	13,775	x	586	4,820	7,835	x	x	970	832	x	323	705	3,575	17,372	27,391
Alta.	67,607	82,724	6,028	10,254	25,532	36,151	4,930	9,730	7,605	12,469	x	18,748	x	11,290	152,387	181,367
B.C.	82,983	88,240	23,627	30,120	83,239	80,434	29,913	34,562	8,719	4,056	4,912	4,941	8,567	24,632	241,961	266,986
Y.T., N.W.T. and Nvt.	x	x	0	x	x	x	0	x	x	x	x	x	x	x	x	x
<b>Canada</b>	<b>653,768</b>	<b>781,700</b>	<b>131,074</b>	<b>181,133</b>	<b>380,689</b>	<b>435,402</b>	<b>89,514</b>	<b>124,781</b>	<b>109,055</b>	<b>135,559</b>	<b>43,045</b>	<b>66,286</b>	<b>137,075</b>	<b>180,513</b>	<b>1,544,218</b>	<b>1,905,375</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Includes current expenditures directed toward waste management services.

2. Breakdowns are imputed or are derived from administrative sources.

**Sources:**

Statistics Canada, Environment Accounts and Statistics Division and Public Institutions Division.

Table A.9

**Waste management employment by local governments, by province and territory, 2002<sup>r</sup> and 2004<sup>1</sup>**

Province/Territory	Full-time employees	Part-time employees	Total employees <sup>2</sup>	
			2002 <sup>r</sup>	2004
	number			
Newfoundland and Labrador	78	31	135	109
Prince Edward Island	x	x	x	x
Nova Scotia	271	49	295	320
New Brunswick	173	34	199	207
Quebec <sup>3</sup>	1,290	..	1,115	1,290
Ontario	2,357	366	2,801	2,723
Manitoba	191	79	285	270
Saskatchewan	171	96	263	267
Alberta	843	421	1,078	1,264
British Columbia	714	241	934	955
Yukon Territory, Northwest Territories and Nunavut	x	x	x	x
<b>Canada</b>	<b>6,154</b>	<b>1,353</b>	<b>7,215</b>	<b>7,507</b>

**Notes:**

Figures may not add up to totals due to rounding.

1. Includes local governments, waste management boards and commissions and provincial bodies responsible for the delivery of waste management services.

2. Includes full-time and part-time employees working in the waste management activities of surveyed municipalities. No estimate has been made for non-surveyed

3. Figures are derived from administrative sources.

**Sources:**

Statistics Canada, Environment Accounts and Statistics Division.



## **Annex B: Questionnaires**



# Waste Management Industry Survey: Business Sector, 2004

Confidential when completed

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

*Français au verso*

### Correct as required

Legal name

Operating name

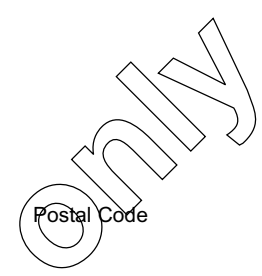
C/O

Address

City

Province/Territory

Postal Code



## Please read before completing

### PURPOSE OF SURVEY

This survey collects information that will help Canadians understand the contributions made by the waste management industry to Canada's economy and environment. The results will assist businesses in the industry as well as public policy makers to make sound decisions based on data that apply specifically to the waste management industry. Statistics Canada is also conducting a survey of government sector waste management for 2004. Together these surveys will provide a comprehensive picture of waste management in Canada.

### 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 their previous written consent. The data reported will be treated in strict confidence and used for statistical purposes only. The confidentiality provisions of the *Statistics Act* are not affected by either the *Access to Information Act* or any other legislation.

### AUTHORITY

This survey is conducted under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S19. **COMPLETION OF THIS QUESTIONNAIRE IS A LEGAL REQUIREMENT UNDER THE STATISTICS ACT.**

### INQUIRIES

If you require assistance in completing this questionnaire or if you have any questions or comments regarding this survey, please contact:

**Operations and Integration Division  
Statistics Canada**

**Ottawa, Ontario K1A 0T6**

Telephone (toll-free): **1-888-659-8229**

Fax: **1-800-755-5514**

Email: **enviro.oid.waste@statcan.ca**

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

### HOW TO COMPLETE THIS QUESTIONNAIRE

**Use a black or blue pen**

Fill in a circle  **OR** Enter a number in a box

**OR** Print in a box

**IMPORTANT:** Please refer to the Guide before answering. If your response for an item is zero, please write "0" in the corresponding box rather than leaving the cell blank. Where a response in dollars is requested, please answer in Canadian Dollars.

### 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.			Ed.			Kyd.			Bat			Coll.	FSC
Y	M	D	Y	M	D	Y	M	D					

## Section 1 - Business type

1.1 This questionnaire should be completed for all your company's Canadian operations for 2004.

Please list each province/territory in which you provide waste management services, in the space provided.

104

1.2 Please indicate which of the following waste management activities this company provides in the provinces/territories indicated above.

Fill in circle for all that apply.

- 105 Non-hazardous waste collection services, residential
- 106 Non-hazardous waste collection services, non-residential
- 107 Hazardous waste collection services
- 108 Non-hazardous recyclable material collection services, residential
- 109 Non-hazardous recyclable material collection services, non-residential
- 110 Non-hazardous waste transfer facility services
- 111 Hazardous waste transfer facility services
- 112 Non-hazardous recyclable material recovery and preparation services (MRFs and composting facilities)
- 113 Hazardous waste treatment services
- 114 Non-hazardous waste disposal facility services
- 115 Hazardous waste disposal facility services
- 116 Sewage treatment and containment
- 117 Other (Please specify) <sup>118</sup>

## Reporting period

1.3 Financial information should be reported for this company's most recent fiscal year that ended at any time between April 1, 2004 and March 31, 2005.

119 

Year	Month	Day
------	-------	-----

120 

Year	Month	Day
------	-------	-----

Specify fiscal year Start:

End:

## Section 2 - Waste Diversion

2.1 In 2004, did your company own and/or operate a central composting facility?

327

Yes ➤ Go to Question 2.2

No ➤ Go to Question 2.3

2.2 Composting. Please complete the following.

367

If you are not reporting quantities in tonnes, please specify the unit of measure used.

Quantity of materials entering the facility (tonnes)	Material disposed as processing residue Percentage %
364	371

2.3 In 2004, did your company operate a facility (municipally or privately owned) that prepared materials for recycling? (e.g. material recycling facilities (MRFs))

385

Yes ➤ Go to Question 2.4

No ➤ Go to Section 3

2.4 Please complete the following.

389

If you are not reporting quantities in tonnes, please specify the unit measure used.

Type of material

Paper fibre

Glass

Ferrous and non-ferrous metals (including white goods)

Electronics

Plastics

Tires

Construction and demolition waste

Other Please specify :

Total

Quantity prepared or processed at the facility (tonnes)
398
317
399
396
323
397
324
325
326

366

Percentage %

386

Please indicate the approximate percentage of material received at your recycling facility that was disposed as processing residue.

## Section 3 - Waste disposal

### 3.1 Did this company own or operate a disposal facility for non-hazardous waste in 2004?

401

Yes ➤ Go to Question 3.2

No ➤ Go to Question 3.3

### 3.2 For each disposal facility that you operated in Canada in 2004, indicate the name, the type of facility, the sources and amount of waste disposed in the facility, and the amount of contaminated soil received at the facility. (Please see Guide for information and definitions)

477

If you are not reporting quantities in tonnes, please specify the unit of measure used. \_\_\_\_\_

Name of disposal facility	Please indicate type of facility as Landfill (LF) or Incinerator (IN) (fill in one only)	Approximate percentage of waste disposed in facility by source %			Quantity of waste disposed in the facility in 2004  (tonnes)	Quantity of contaminated soil received at the facility in 2004  (If none was received please enter 0)  (tonnes)	If contaminated soil was received at the facility, was this amount included in the quantity of waste disposed?  (Y/N)
		Residential	Non-residential	Construction and demolition			
403	405	407	408	409	411	483	484
412	414	416	417	418	420	485	486
421	423	425	426	427	429	487	488
<b>Total waste disposed in facilities</b>					475		

Please provide information about any additional facilities at the end of the questionnaire in the Comments section.

### 3.3 Did you collect and/or combust landfill gas (e.g. methane) at a landfill owned or operated by your company?

476

Yes

No

## Hazardous waste

### 3.4 Did this company operate a facility(ies) to treat, incinerate or landfill (or otherwise contain) hazardous waste in 2004?

701

Yes ➤ Go to Question 3.5

No ➤ Go to Section 4

### 3.5 If yes, what quantity of hazardous waste did this company treat or dispose of in 2004?

719

If you are not reporting quantities in tonnes, please specify the unit of measure used. \_\_\_\_\_

(tonnes)

707

Quantity of hazardous waste treated or disposed

## Section 4 - Exports and imports

4.1 Did this company export and/or import non-hazardous waste for disposal, or materials for recycling and/or composting to/from another province/territory or country in 2004? Include direct shipments and shipments from transfer stations. Please do not include materials transported for marketing.

656

Yes ➤ Go to Question 4.2

No ➤ Go to Section 5

4.2 Please complete the following

If you are not reporting quantities in tonnes, please specify the unit of measure used. <sup>655</sup>

	Exports		Imports
	Quantity of waste exported for disposal (tonnes)	Quantity of materials exported for recycling and/or composting (tonnes)	Quantity of waste imported for disposal (tonnes)
Transported to/from a facility in another province/territory	607	608	651
Transported to/from a facility in another country	610	611	653
<b>Totals</b>	612	613	654

## Section 5 - Financial and employment information

5.1 Gross Operating Revenues. Indicate this company's 2004 gross revenues (to the nearest dollar) from the provision of waste management services. Do not net out expenditures.

Total revenues

\$

Please indicate the approximate percentage of this company's total revenues reported above that was generated from each province and territory.

Percentage of revenues %												
NL	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	YT	NWT	NVT
834	835	836	837	838	839	840	841	842	843	844	845	846

**Section 5 - Concluded**

**5.2 Gross Operating Expenditures.** Please report this company's 2004 gross operating expenditures (to the nearest dollar).

*Total operating expenditures* \$

**5.3 Capital Expenditures.** Report this company's total capital expenditures for 2004. Include any new (non-amortized) capital expenditures, new assets purchased in Canada and all imported assets (new and used).


*Total capital expenditures* \$

**5.4 Employment.** Report the usual number of full-time (30 or more hours per week) and part time less than 30 hours per week) employees working for this company in 2004. Do not include contract employees or sub-contractor's employees

	Number of employees	
	Full-time	Part-time
<i>Total employees</i>	832	833

## Section 6 - Certification

6.1 I certify that the information contained in this report is correct and complete to the best of my knowledge.

Signature 	Date <table border="1"><tr><td>Year</td><td>Month</td><td>Day</td></tr></table>	Year	Month	Day
Year	Month	Day		
Name of person completing this report	Telephone			
Title of person completing this report	Fax			
Web site address	Email address			

6.2 Approximately how long did it take to collect the data and complete this survey?

Hours
901

8.3 In the future, would you prefer to receive this survey in an electronic format?

902      Yes                      No

## Comments

Please provide any comments you may have about this survey (e.g., length, ease of completion, suggestions for future questions, suggestions about the format). Also, please use this space or attach additional documentation if you wish to provide additional information about your waste management activities.

If you have any questions, please contact:  
Operations and Integration Division, JT-2-C4,  
Statistics Canada, Ottawa, Ontario, K1A 0T6  
Telephone (toll free) 1-888-659-8229  
Fax: 1-800-755-5514  
Email: [enviro.oid.waste@statcan.ca](mailto:enviro.oid.waste@statcan.ca)

Please return this  
questionnaire in the  
envelope provided

**THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!**





Environment Accounts and Statistics Division

# Waste Management Industry Survey: Government Sector, 2004

Confidential when completed

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

*Français au verso*

### Correct as required

Name of government, agency, commission or other waste management organization

C/O

Address

City

Province/Territory

Postal Code

Statistics Canada use only



## Please read before completing

### PURPOSE OF SURVEY

This survey collects information that will help Canadians understand the contributions made by the waste management industry to Canada's economy and environment. The results will assist businesses in the industry as well as public policy makers to make sound decisions based on data that apply specifically to the waste management industry. Statistics Canada is also conducting a survey of business sector waste management for 2004. Together these surveys will provide a comprehensive picture of waste management in Canada.

### AUTHORITY

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### INQUIRIES

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**Operations and Integration Division  
Statistics Canada**

**Ottawa, Ontario K1A 0T6**

Telephone (toll-free): **1-888-659-8157**

Fax: **1-800-755-5514**

Email: **enviro.oid.localgovt@statcan.ca**

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

### 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 their previous written consent. The data reported will be treated in strict confidence and used for statistical purposes only. The confidentiality provisions of the *Statistics Act* are not affected by either the *Access to Information Act* or any other legislation.

### HOW TO COMPLETE THIS QUESTIONNAIRE

Use a **black or blue pen**

Fill in a circle  OR Enter a number in a box

OR Print in a box

**IMPORTANT:** Please refer to the Guide before answering. If your response for an item is zero, please write "0" in the corresponding box rather than leaving the cell blank. Where a response in dollars is requested, please answer in Canadian Dollars.

### 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.			Ed.			Kyd.			Bat			Coll.	FSC
Y	M	D	Y	M	D	Y	M	D					

4-2300-5: 2004-05-27 STC/NAD-291-04478

## GENERAL INSTRUCTIONS

### Please read before completing

This survey is intended for the jurisdiction responsible for the operation of a waste management programme.

The term "jurisdiction" is used to represent any government, government agency, or waste management board or commission.

If your jurisdiction is an association of municipalities, an upper tier or a special organization with a mandate to manage waste for a number of lower-tier governments then please respond for the municipalities under your jurisdiction. All references in the questionnaire to your jurisdiction should be interpreted as all municipalities under your jurisdiction. Please provide a list of member municipalities.

If you represent a lower-tier government and you do not maintain statistics on any of the functions covered by this questionnaire, please return this form and indicate in the Comments Section who we may contact to obtain this information.

If your jurisdiction can only report some of the data required, please report the information that you can and indicate in the Comments Section who we might contact to obtain the missing information.

There are 7 sections to this survey. Please answer all sections of this survey unless we advise you to do otherwise.

If your municipality does not collect data in metric tonnes please indicate the measurement (truck loads; pounds, etc) you are using in the spaces provided.

Information only

### AUTHORIZATION TO RELEASE DATA

The provincial and territorial governments have requested access to the individual records of their respective provincial and territorial respondents to this survey. This request is being made in an effort to reduce the burden of response imposed on you, the municipal respondent, by this survey and other provincial and territorial surveys of waste management activities.

I hereby give permission to the Chief Statistician of Canada to authorize the release to the government department or ministry responsible for the collection of waste management statistics in my province or territory, of all information relating to this organization that has been provided to Statistics Canada through the *Waste Management Industry Survey: Government Sector, 2004*.

<b>Name</b> (type or print)	<b>Date</b> <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20%;">Year</td> <td style="width: 20%;">Month</td> <td style="width: 20%;">Day</td> </tr> </table>	Year	Month	Day
Year	Month	Day		
<b>Signature</b>	<b>Title</b>			
<b>Municipality/organization</b>	<b>Address</b>			

# SECTION 1

## Who are you responding for?

1.1 List all municipalities, cities, villages, towns and townships in your jurisdiction for which you are responding. For each municipality listed please indicate by filling in the appropriate circle, what sections you are completing, as well as the services provided by that municipality.

City / Municipality		Financial and employment (Section 6)	Disposal facilities (Section 4)	Other sections	Services provided by municipality			
					Collection	Disposal	Diversion	Waste management planning / administration
(Please indicate by filling in the circle)								
Your Jurisdiction	101	102	103	104	105	106	107	108
Municipality # 1	109	110	111	112	113	114	115	116
Municipality # 2	117	118	119	120	121	122	123	124
Municipality # 3	125	126	127	128	129	130	131	132
Municipality # 4	133	134	135	136	137	138	139	140
Municipality # 5	141	142	143	144	145	146	147	148
Municipality # 6	149	150	151	152	153	154	155	156
Municipality # 7	157	158	159	160	161	162	163	164
Municipality # 8	165	166	167	168	169	170	171	172
Municipality # 9	173	174	175	176	177	178	179	180

## Reporting period

1.2 Financial information should be reported for this jurisdiction's most recent fiscal year that ended at any time between April 1, 2004 and March 31, 2005.

181           

182           

**Specify fiscal year**    Start:

End:

## SECTION 2

### Collection and preparation of waste and recyclables (including compostables and composting)

2.1 Did this jurisdiction administer a programme to collect waste for disposal in 2004?

201 Yes ➤ Go to Question 2.2

No ➤ Go to Question 2.4

2.2 If yes, who collected the waste? (Fill in all that apply.)

This jurisdiction's employees

Contractor(s) hired by this jurisdiction

(Please specify name(s) of contractor(s))

205

206

203
204

2.3 Indicate the sources of the waste collected by or on behalf of this jurisdiction.

Residential

Non-residential (IC&I)

Construction and Demolition

Total should equal

Percentage % (Please see Guide for information)	
207	
208	
209	
<b>100%</b>	

2.4 Did this jurisdiction administer a programme to collect materials for recycling in 2004?

211 Yes ➤ Go to Question 2.5

No ➤ Go to Question 2.7

2.5 If yes, who collected the materials? (Fill in all that apply.)

This jurisdiction's employees

Contractor(s) hired by this jurisdiction

(Please specify name(s) of contractor(s))

215

216

213
214

## SECTION 2 - Concluded

### Collection and preparation of waste and recyclables (including compostables and composting)

2.6 Indicate the sources of the recyclable materials collected by or on behalf of this jurisdiction.

	Percentage % <i>(Please see Guide for information)</i>
Residential	217
Non-residential (IC&I)	218
Construction and Demolition	219
<b>Total should equal</b>	<b>100%</b>

2.7 Did this jurisdiction administer a programme to collect materials for composting in 2004?

246

Yes ➤ Go to Question 2.8

No ➤ Go to Section 3

2.8 If yes, who collected the materials? *(Fill in all that apply.)*

This jurisdiction's employees	247
Contractor(s) hired by this jurisdiction	248
<i>(Please specify name(s) of contractor(s))</i>	
249	
250	

2.9 Indicate the sources of the compostable materials collected by or on behalf of this jurisdiction.

	Percentage % <i>(Please see Guide for information)</i>
Residential	254
Non-residential (IC&I)	255
Construction and Demolition	256
<b>Total should equal</b>	<b>100%</b>

## SECTION 3

### Waste Diversion

3.1 In 2004, did your jurisdiction own and/or operate a central composting facility?

327

Yes ➤ Please complete the following.

No ➤ Go to Question 3.3

367

If you are not reporting quantities in tonnes, please specify the unit of measure used.

Name and operator of facility	Year opened	Quantity of materials entering the facility  (tonnes)	Sources of materials (percentage) % <i>(Please see Guide for information)</i>				Material disposal as processing residue  Percentage %
			Residential	Non-residential (IC&I)	Construction and demolition	Totals should equal 100%	
			Percentage %	Percentage %	Percentage %	%	
329	331	332	368	369	370	371	100%
336	338	339	372	373	374	375	100%
343	345	346	376	377	378	379	100%
<b>Total</b>		364					

3.2 What best describes the type of process used at your composting facility(ies)? *(Fill in all that apply)*

380

Open windrow

381

Enclosed channel

382

In-vessel

383

Anaerobic

## SECTION 3 - Continued

### Waste diversion

3.3 If your jurisdiction has participated in a backyard composting programme, how many backyard composters have been directly distributed by your jurisdiction or through a third party (e.g. a retail outlet) since the start of the programme?

384

3.4 In 2004, did your jurisdiction operate a facility (municipally or privately owned) that prepared materials for recycling? (e.g. material recycling facility (MRF))

385

Yes ➤ Go to Question 3.5

No ➤ Go to Question 3.6

3.5 If yes, please complete the following.

Name and operator of facility		Sources of materials (percentage) % (Please see Guide for information)				Material disposed as processing residue  Percentage %
		Residential	Non-residential (IC&I)	Construction and demolition	Totals should equal 100%	
		Percentage %	Percentage %	Percentage %	%	
Facility #1	223	226	227	228	386	100%
Facility #2	230	233	234	235	387	100%
Facility #3	237	240	241	242	388	100%

Please list additional facilities in the Comments Section (Section 7).

## SECTION 3 - Concluded

### Waste diversion

3.6 If your jurisdiction administered a programme to collect recyclable materials in 2004

AND/OR

if there was a municipally or privately operated Material Recovery Facility (MRF) in your jurisdiction, or if recyclable material was sorted on site (at a disposal facility or transfer station) please indicate the quantities of materials collected (in the left hand column) and/or prepared or processed at the facility (in the right hand column) in 2004.

Please exclude compostable materials reported in Question 3.1.

389

If you are not reporting quantities in tonnes, please specify the unit of measure used.

Type of material	Quantity collected and delivered to recycling facility (tonnes)	Quantity prepared or processed at the facility (tonnes)
	301	314
Newsprint, phone books, magazines		
	302	315
Corrugated cardboard and boxboard		
	303	316
Mixed paper fibre		
	304	317
Glass		
	305	318
Ferrous metals		
	390	394
Copper and Aluminum		
	309	322
Mixed metals		
	391	395
White goods		
	392	396
Electronics		
	310	323
Plastics		
	393	397
Tires		
	311	324
Construction and demolition waste		
	312	325
Other (Please specify) : <sup>366</sup>		
	313	326
<b>Totals</b>		



## SECTION 4

### Disposal facilities : quantities and types of waste

4.1 Did your jurisdiction own or operate a disposal facility for non-hazardous waste in 2004?

401

Yes ➤ Go to Question 4.2

No ➤ Go to Question 4.8

4.2 For each disposal facility that you operated in the province/territory in 2004, indicate the name, type of facility and the sources and amount of waste disposed in the facility as measured by weigh scales or by providing your best estimate. (Please see Guide for information and definitions)

477

If you are not reporting quantities in tonnes, please specify the unit of measure used.

Name of disposal facility	Operator of facility if not self	Please indicate type of facility as Landfill (LF), or Incinerator (IN) (fill in one only)	Approximate percentage of waste disposed in facility, by source %			Weigh scale present?  (If yes fill in circle)	Quantity of waste disposed in the facility in 2004  (tonnes)
			Residential	Non-residential (C&I)	Construction and demolition		
403	404	405	407	408	409	410	411
412	413	414	416	417	418	419	420
421	422	423	425	426	427	428	429
430	431	432	434	435	436	437	438
439	440	441	443	444	445	446	447
448	449	450	452	453	454	455	456
457	458	459	461	462	463	464	465
466	467	468	470	471	472	473	474
<b>Total waste disposed in facilities</b>							475

## SECTION 4 - Concluded

### Disposal facilities : quantities and types of waste

4.3 Did your landfill(s) receive bottom ash from solid waste or sewage sludge incineration?

573

Yes ➤

575

Quantity (tonnes)

No ➤ Go to Question 4.4

4.4 Did your landfill(s) receive contaminated soil?

576

Yes ➤

578

Quantity (tonnes)

No ➤ Go to Question 4.5

If "Yes", was this amount included in your response to question 4.2 ?

579

Yes

No

4.5 Did you collect and/or combust landfill gas (e.g. methane) at a landfill owned or operated by your jurisdiction?

476

Yes ➤ Go to Question 4.6

No ➤ Go to Question 4.8

4.6 Report this jurisdiction's 2004 capital expenditures on landfill gas recovery and utilisation equipment (Please see Guide for a description of such equipment). Include new (non-amortized) and used assets purchased in Canada and all imported assets (new and used).

998

\$

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4.7 Report any 2004 gross revenues that this jurisdiction realised from the sale of methane or energy derived from recovered landfill gas.

999

\$

--

### Household hazardous waste

4.8 Did your jurisdiction operate a programme for household hazardous waste (HHW) in 2004?

478

Yes ➤ Go to Question 4.9

No ➤ Go to Section 5

4.9 If yes, please complete the following.

If you are not reporting quantities in tonnes, please specify the unit of measure used. 479

Quantity of HHW material <u>collected</u> (tonnes)	Percentage of HHW material <u>recycled</u> (Percentage %)	Percentage of HHW material <u>disposed</u> (Percentage %)
480	481	482

## SECTION 5

### Exports and imports

**5.1 Did your jurisdiction transport non-hazardous waste for disposal or materials for recycling and/or composting to another province/territory or country in 2004? Include direct shipments and shipments from transfer stations. Please do not include processed materials transported to a final market.**

601

Yes ➤ Go to Question 5.2

No ➤ Go to Question 5.4

**5.2 Fill in all that apply and indicate quantities transported.**

655

If you are not reporting quantities in tonnes, please specify the unit of measure used.

	(If yes, fill in circle)	Quantity of waste for disposal (tonnes)	Quantity of materials for recycling and/or composting (tonnes)
Transported to a facility in another province/territory	606	607	608
Transported to a facility in another country	609	610	611
<b>Total waste and recyclable materials exported</b>		612	613

**5.3 Please identify the names and locations of all facilities (outside of the province/territory that you are reporting for) to which the (above) waste for disposal, or materials for recycling and/or composting were taken.**

Waste (Fill in circle)	Name of Facility	Owner	Address
614	615	616	617
618	619	620	621
622	623	624	625

Recycling and/or composting (Fill in circle)	Name of Facility	Owner	Address
630	631	632	633
634	635	636	637
638	639	640	641

## SECTION 5 - Concluded

### Exports and imports

5.4 Was waste from outside your jurisdiction disposed in your jurisdiction's disposal facilities in 2004?

646

Yes ➤ Go to Question 5.5

No ➤ Go to Section 6

5.5 Fill in all that apply and indicate quantities disposed.

	(If yes, fill in circle)	Quantity of waste imported (tonnes)
Waste from other provinces/territories disposed in your facility	650	651
Waste from other countries disposed in your facility	652	653
<b>Total waste imported</b>		654

For information

## SECTION 6

### Financial and employment information

6.1 Gross Revenues. Indicate total gross revenues from waste management services (to the nearest dollar) received in 2004 which were not funded by tax revenues. Do not net out expenditures.

*Total revenues* \$ 708

6.2 Current Expenditures. Include all current and administrative gross expenditures in 2004 related to waste management (to the nearest dollar). Do not net out revenues.

	Dollars \$
Collection of all waste, recyclables and compostable materials <i>(include Christmas trees, bulky waste and special waste)</i>	712
Disposal fees paid to waste disposal facilities	716
Operation of transfer stations	750
Operation of disposal facilities	720
Operation of recycling facilities	724
Operation of composting facilities	728
Other <i>(Please specify)</i> <span style="float: right;">746</span>	732
<b><i>Total current expenditures</i></b>	<b>736</b>

6.3 Capital Expenditures. Indicate total capital expenditures for 2004. Include any new (non-amortized) capital expenditures, new assets purchased in Canada and all imported assets (new and used).

*Total capital expenditures* \$ 742


6.4 Employment. Report the usual number of full-time (30 or more hours per week) and part-time (less than 30 hours per week) employees working in the waste management activities of your jurisdiction in 2004 (do not include contract employees or contractor's employees).

	Number of employees	
	Full-time	Part-time
<b><i>Total employees</i></b>	744	745

## SECTION 7

### Certification

7.1 I certify that the information contained in this report is correct and complete to the best of my knowledge.

Signature  	Date <table border="1"><tr><td>Year</td><td>Month</td><td>Day</td></tr></table>	Year	Month	Day
Year	Month	Day		
Name of person completing this report	Telephone			
Title of person completing this report	Fax			
Web site address	Email address			

7.2 Approximately how long did it take to collect the data and complete this survey?

Hours
901

7.3 In the future, would you prefer to receive this survey in an electronic format?

902      Yes                      No

### Comments

*Please provide any comments you may have about this survey (e.g., length, ease of completion, suggestions for future questions, suggestions about the format). Also, please use this space if you wish to provide additional information about your waste management activities. Any other information regarding your jurisdiction's waste management activities (e.g. Annual Report) that you feel would be helpful is welcomed and appreciated.*

If you have any questions, please contact:  
Operations and Integration Division, JT-2-C4,  
Statistics Canada, Ottawa, Ontario, K1A 0T6  
Telephone (toll free) 1-888-659-8157  
Fax: 1-800-755-5514  
Email: [enviro.oid.localgovt@statcan.ca](mailto:enviro.oid.localgovt@statcan.ca)

Please return this  
questionnaire in the  
envelope provided

**THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!**