Environmental protection expenditures by businesses, 2019

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In 2019, Canadian businesses spent about $21.1 billion to reduce impacts on the environment; just over two-fifths ($8.9 billion) were allocated to environmental protection activities—a decline of 8% from 2018 (see note to readers)—and the remaining $12.1 billion was devoted to resource management activities (+21% from 2018).

Two broad categories of activities are recognized under environmental protection expenditures: environmental protection activities, which consist of the prevention, reduction or elimination of pollution (e.g., wastewater management); and resource management activities, which reduce the intensity of natural resource use and environmental impacts (e.g., equipment that reduces heat loss in industrial facilities).

Also, each expenditure can be classified as being either operating expenses (for example, salaries and services) or capital expenditures (for example, outlays for machinery and equipment). In 2019, the majority of environmental protection spending in both categories was for operating expenses (69%), with the remainder being capital goods investments. The $6.5 billion spent on capital goods for environmental protection and resource management activities represented 7% of total capital expenditures for all industries included in this survey.

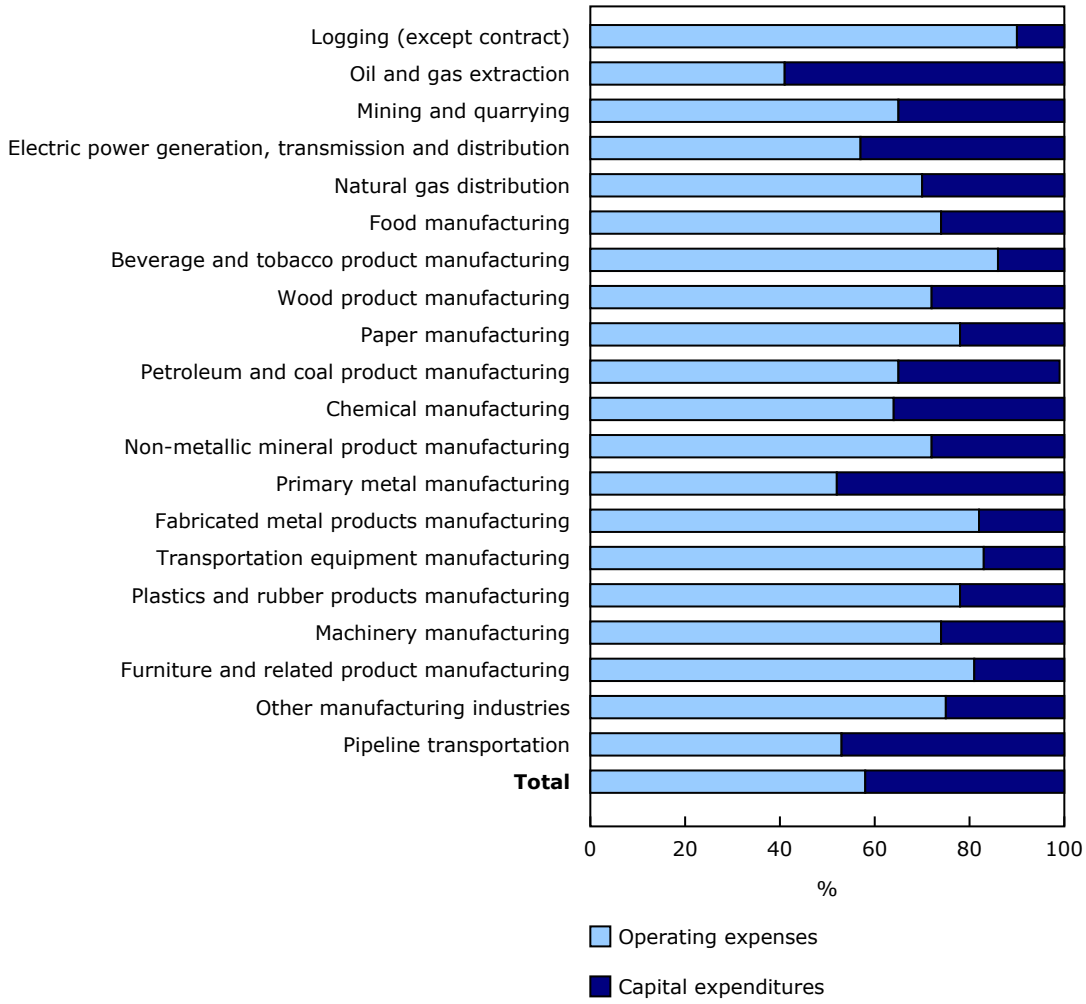
Environmental protection activities

The oil extraction industry represents just over one-third of Canadian environmental protection expenditures made by businesses

Similar to 2018, the same three primary industries spent the most on environmental protection. The oil and gas extraction industry reported total expenditures (operating and capital) of $3.1 billion, corresponding to just over one-third (34%) of total environmental protection expenditures made by businesses. This places the industry at the top of the 20 industrial groups targeted by the survey. This industry was followed by the mining and quarrying industry, which spent $882 million (10%) of total environmental protection expenditures, and the primary metal manufacturing industry, which spent $786 million (9%) of total environmental expenditures.

The distribution of operating expenses and capital expenditures can vary considerably by industry. Chart 1 shows the percentage spent on operating expenses and capital expenditures by each industry.

Chart 1
Distribution of total environmental protection expenditures by expenditure category and industry in 2019



Note(s): Other manufacturing industries include textile mills; textile product mills; clothing manufacturing; leather and allied product manufacturing; printing and related support activities; computer and electronic product manufacturing; electrical equipment, appliance and component manufacturing; and miscellaneous manufacturing.
Source(s): Table 38-10-0130-01.

The main environmental protection activities in terms of industry expenditures were wastewater management ($3.3 billion), followed by solid waste management ($1.9 billion) and air pollution management ($1.6 billion). These three activities represented just over three-quarters (76%) of all expenditures on environmental protection in 2019.

At the regional level, businesses located in Alberta reported the highest expenditures in environmental protection, reaching close to $3.4 billion (38% of national expenditures), mainly due to the prominence of the oil and gas extraction industry in this province. Just over half (51%) of this $3.4 billion was spent on wastewater management activities.

Disbursements in 2019 for environmental charges—e.g., permits, carbon offset credits, fines, penalties, damage awards and other environmental charges—totalled $265 million, with Alberta (59%), Saskatchewan (10%), Ontario and Quebec (9% each) leading the other provinces.

Canadian businesses continue to spend more on air pollution abatement and control than on prevention

Business expenditures on air pollution management and wastewater management were also analyzed in order to highlight the efforts made to prevent pollution (integrated processes) and abate and control pollution (end-of-pipe processes). Pollution prevention is the elimination or reduction of pollution generated during production through an integrated mechanism, i.e. before the pollution is created. Pollution abatement and control refers to the treatment of pollution after it is generated, often described as end-of-pipe processes.

In 2019, more than half of the air pollution management expenditures (54%) in the country were directed at pollution abatement and control, with the remainder being invested in pollution prevention. The distribution of total expenditures made between treating and preventing pollution can vary considerably by industry. For example, the chemical manufacturing industry directed 25% of its expenditures on air pollution management towards pollution abatement and control (the remaining 75% was on prevention). In contrast, for the plastics and rubber products manufacturing industry, 79% of expenditures were on abatement and control while the remaining 21% was on prevention.

A similar trend was observed for business expenditures on wastewater management: nearly $6 out of $10 (58%) were invested to treat pollution, the remaining amount to prevent it. The paper manufacturing industry invested the largest percentage of its spending (92%) on pollution abatement and control, followed by the natural gas distribution industry (90%). The oil and gas extraction industry invested the highest percentage of its expenditures on wastewater management in pollution prevention, at 61%.

Combining both pollution management and prevention, businesses invested twice as much in wastewater management than in air pollution management in 2019, whereas in 2018, spending in both areas was almost equal.

Resource management activities

One-quarter of the resource management expenditures were devoted to the production of energy from renewable sources

Resource management activities can take different forms, such as expenditures that lead to heat or energy savings and management, purchase of biofuels instead of standard fuels, use of biochemical products or biomaterials, as well as energy production from renewable or nuclear sources.

Total expenditures on resource management activities increased by 21% from 2018, to $12.1 billion. Of this total, just under one-quarter (23%) were expenditures related to the production of energy from renewable sources. Energy production from renewable or nuclear sources are potential ways to reduce greenhouse gas emissions, and are therefore defined as clean forms of energy. If we add the production of energy from nuclear sources, these two activities accounted for 64% of the expenditures in resource management activities in 2019.

Operating expenses were higher than capital expenditures in resource management activities

In 2019, slightly more than three-quarters of resource management expenditures were operating expenses (77%), with the remainder being spent on capital expenditures. Total expenditures on energy production from renewable sources increased by 15%, to $2.8 billion, in 2019.

The majority of clean energy expenditures resulted from the business operating expenses (70%), with the remainder being spent on capital. Of the total amount of $7.7 billion in operating expenses and capital expenditures on clean energy reported by businesses, 74% were made in Ontario and 17% in Quebec.

Resource management expenditures were primarily driven by the electric power generation, transmission and distribution industry

The majority (61%) of resource management expenditures in Canada were made by the electric power generation, transmission and distribution industry ($7.4 billion), almost the same amount as in 2018, reflecting a smaller share across all industries (73% in 2018). Capital expenditures represented $2.2 billion of this total.

Similar to 2018, the paper manufacturing industry followed, contributing 15% of total resource management expenditures in 2019. The petroleum and coal product manufacturing industry had the third highest spending, contributing 11% of total expenditures. In 2019, these two industries increased their share of national expenditures in resource management by 7% and 4%, respectively.

At the regional level, similar trends were reported in 2018 and 2019. Businesses located in Ontario reported the largest resource management expenditures, reaching almost $6.2 billion (51% of national expenditures). Businesses in Quebec followed with $2.3 billion in expenditures (19%). Finally, businesses located in the Prairies reported $2.1 billion (17%) of resource management expenditures. In terms of year-to-year growth, resource management spending doubled in the Prairies, increasing by 63% in Quebec and decreasing slightly in Ontario (-8%).

Note to readers

This release presents data from the 2019 Environmental Protection Expenditures Survey. This annual survey is conducted with around 6,000 establishments in selected primary industries and in the manufacturing sector. Measures of industrial spending on environmental protection include all spending made to protect the environment, and not only those made in response to regulations.

For reference year 2018, estimates of environmental protection expenditures produced by the Environmental Protection Expenditures Survey were disseminated on January 26, 2021 and estimates of resource management expenditures were disseminated separately on July 16, 2021. For 2019 and moving forward, the two set of estimates will be disseminated together.

Starting in reference year 2019, business expenditures for the purchase of clean vehicles and transportation technologies are available. Comparison with 2018 estimates should be done with caution, knowing this expense represents less than 1% of total expenditure in the category of environmental protection activities in 2019.

Starting in reference year 2019, the survey adopted the Random Tabular Adjustment technique for the dollars estimates, which aims to increase the amount of data made available to users while protecting the confidentiality of respondents.

***Environmental protection expenditures**: All operating expenses and capital and repair expenditures whose primary purpose is the prevention, reduction or elimination of pollution and/or other forms of degradation of the environment as well as measures taken to restore the environment from a degraded state. This includes expenditures that a business incurred for pollution prevention, abatement and control; solid waste management; wastewater management; protection and remediation of soil, groundwater and surface water; protection and restoration of biodiversity and habitat; clean vehicles and transportation technologies; environmental monitoring; environmental assessments and audits; relevant training and administrative costs, etc.*

***Resource management expenditures**: All operating expenses and capital and repair expenditures whose purpose relates to the effective management of resources. In this survey, resource management includes heat or energy savings and management, the purchase of biofuels, biochemical products or biomaterials, as well as expenditures for the production of energy from nuclear or renewable sources.*

***Capital expenditures:** All relevant outlays for machinery and equipment and their installation (including clean vehicle and transportation technologies) that have been capitalized, as well as for the construction of non-residential facilities.*

***Operating expenses:** All expenses related to environmental protection incurred for labour, materials and supplies, maintenance and repair, and purchased services.*

***Pollution abatement and control** (end-of-pipe processes): Pollution abatement and control processes (end-of-pipe processes) is any method, technique or process designed to manage or treat pollution after it has been generated. Examples of these types of equipment or processes include scrubbers at the end of emission stacks, biological and chemical systems for treating water (such as a water treatment plant), filtration systems, cyclones or other barrier systems.*

***Pollution prevention** (integrated processes): Pollution prevention is any method, technique or process that reduces or eliminates the amount of pollution generated during the production process, i.e. before pollution is created. Examples include implementing more efficient processes that consume less energy or inputs, restructuring or redesigning the production process to reduce pollution or emissions, or reusing, recirculating or recycling materials on site (does not include materials sent off-site for recycling).*

Available tables: 38-10-0130-01, 38-10-0131-01, 38-10-0133-01, 38-10-0134-01, 38-10-0145-01 and 38-10-0146-01.

Definitions, data sources and methods: survey number 1903.

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; **infostats@statcan.gc.ca**) or Media Relations (**statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca**).