

# Annual Survey of Environmental Goods and Services, 2021

Released at 8:30 a.m. Eastern time in *The Daily*, Thursday, March 9, 2023

---

## Boost in Canadian clean tech sales in 2021

While revenues in the clean tech sector saw little change during the first year of the COVID-19 pandemic in 2020, 2021 was a year of growth for the overall sector.

Canadian businesses sold \$20.9 billion worth of domestic and export environmental and clean technology goods in 2021, an increase of \$1.4 billion (+7.2%) compared with 2020 and \$2.0 billion higher than in 2019. Sales of related services accounted for \$12.5 billion, up from \$11.1 billion in 2020 and \$10.2 billion (excluding waste management services) in 2019.

## Revenues from energy efficiency technologies and services on the rise

Sales of energy efficiency technologies, such as combined heat and power and high efficiency heating, ventilation, and air conditioning (HVAC) equipment, reached \$5.9 billion in 2021, an increase of \$296.3 million (+5.3%) compared with 2020.

From sustainability consulting to energy efficiency retrofits in homes, domestic and export sales of energy efficiency and industrial design related services totalled \$3.2 billion in 2021 (+\$567.1 million compared with 2020).

## Sales of bioenergy production equipment, biofuels, biomaterial and biochemical production increased

Sales of domestic and exported bioenergy production equipment (such as biofuel reactors) and biofuels, biomaterials and biochemicals totalled \$3.2 billion in 2021. Domestic sales rose 40.5% from 2020 to \$2.3 billion, and surpassed total domestic sales of clean energy technologies like wind and solar (\$1.7 billion) in 2021, making it the subsector with the second highest domestic revenues after energy efficiency technologies (\$4.8 billion).

## Transportation technology revenues shift down for a second year

The [broader transportation equipment manufacturing industry experienced no rebound in revenues in 2021](#) with lower motor vehicle and aerospace products and parts manufacturing for a second consecutive year. Domestic and export sales of clean transportation technologies such as fuel efficient automotive and aerospace equipment declined 4.8% (-\$211.3 million) from 2020 to \$4.2 billion in 2021. Domestic sales of clean transportation technologies fell 9.9% (-\$138.8 million) from 2020 and exports sales were down 2.4% (-\$72.5 million), compared with a 13.0% decrease in exports from 2019 to 2020.

These decreases were partially offset by domestic gains in Ontario (+\$116.5 million) and British Columbia (+\$95.4 million). Ontario accounted for more than half (54.8%) of the total national manufacturing and wholesale activity in the subsector with \$2.3 billion in domestic and export sales in 2021.

## Exports to the United States and other international markets pick back up

After a period of decline during the first year of the pandemic, total exports of clean technology goods and services saw an increase of 9.9% from 2020 to \$7.8 billion in 2021. In 2021, almost two-thirds (62.5% or \$4.9 billion) of Canadian clean technologies and services exports were destined to the United States. The rest (\$2.9 billion) were distributed among other international markets.



## **Employment in the environmental and clean technology sector**

In 2021, the environment and clean technology sector provided jobs for over 94,000 people in Canada. Total employment decreased in the sector by 1.0% from 2020 to 2021. Environment and clean technology jobs were down in Alberta (-8.1%), Quebec (-4.0%) and British Columbia (-3.8%). However, increases were noted in Ontario (+5.7%), Saskatchewan and Manitoba combined (+1.9%) and all three territories (+7.7%). Job vacancies in the [overall manufacturing sector](#) may have contributed to the job decline in areas of the environmental and clean technology manufacturing sector.

**Table 1**  
**Revenues from domestic and export sales of environmental and clean technology goods, by type of good, 2019 to 2021, Canada**

	Domestic sales		
	2019	2020	2021
	thousands of dollars		
<b>Total goods</b>	<b>11,980,616</b>	<b>12,919,542</b>	<b>13,630,529</b>
Clean energy equipment	1,125,440	1,752,638 <sup>E</sup>	1,656,679
Non-hazardous waste management technologies	432,740	427,004 <sup>E</sup>	509,476
Industrial air pollution or flue gas management technologies	394,792 <sup>E</sup>	F	351,837 <sup>E</sup>
Monitoring and reduction of greenhouse gases and air pollution technologies	135,733 <sup>E</sup>	84,077 <sup>E</sup>	142,408 <sup>E</sup>
Industrial wastewater and municipal sewage treatment technologies	430,305	633,113	672,691
Water management, recycling and treatment of drinking water technologies	F	622,198	565,904 <sup>E</sup>
Remediation of ground and surface water, leachate, soil, sediment and sludge technologies	429,782 <sup>E</sup>	183,331	112,344
Smart grid and energy storage technologies	339,136 <sup>E</sup>	281,609 <sup>E</sup>	521,799 <sup>E</sup>
Bioenergy production equipment and biofuel, biomaterial and biochemical production	1,630,183	1,649,818	2,318,083 <sup>E</sup>
Precision agriculture technologies	1,040,879	933,411	751,664
Energy efficiency technologies	4,498,312 <sup>E</sup>	4,637,080	4,766,262
Transportation technologies	986,806	1,400,181	1,261,382
	Export sales		
	2019	2020	2021
	thousands of dollars		
<b>Total goods</b>	<b>6,937,501</b>	<b>6,614,209</b>	<b>7,306,381</b>
Clean energy equipment	674,383 <sup>E</sup>	675,674 <sup>E</sup>	848,365 <sup>E</sup>
Non-hazardous waste management technologies	220,521	218,947	101,030
Industrial air pollution or flue gas management technologies	131,090	113,902 <sup>E</sup>	191,688 <sup>E</sup>
Monitoring and reduction of greenhouse gases and air pollution technologies	54,882	49,242 <sup>E</sup>	83,490 <sup>E</sup>
Industrial wastewater and municipal sewage treatment technologies	259,183	284,668	303,659 <sup>E</sup>
Water management, recycling and treatment of drinking water technologies	57,689	F	F
Remediation of ground and surface water, leachate, soil, sediment and sludge technologies	32,908	103,798 <sup>E</sup>	57,056
Smart grid and energy storage technologies	282,944	374,285	298,095
Bioenergy production equipment and biofuel, biomaterial and biochemical production	342,654 <sup>E</sup>	542,121 <sup>E</sup>	925,874 <sup>E</sup>
Precision agriculture technologies	239,029	218,259	307,989
Energy efficiency technologies	1,172,781	926,169	1,093,307 <sup>E</sup>
Transportation technologies	3,469,437	3,017,041 <sup>E</sup>	2,944,499

<sup>E</sup> use with caution

<sup>F</sup> too unreliable to be published

**Note(s):** Figures may not add up to total due to rounding.

**Source(s):** Tables [38-10-0087-01](#) and [38-10-0031-01](#).

**Table 2**  
**Revenues from domestic and export sales of environmental and clean technology services, by type of service, 2019 to 2021, Canada**

	Domestic sales		
	2019	2020	2021
	thousands of dollars		
<b>Total services <sup>1</sup></b>	<b>18,070,596</b>	<b>10,647,928<sup>E</sup></b>	<b>12,028,764</b>
Site remediation and emergency environmental services	2,392,300 <sup>E</sup>	F	2,667,962
Energy efficiency, industrial design and related services	2,274,809 <sup>E</sup>	2,536,113 <sup>E</sup>	3,148,430 <sup>E</sup>
Monitoring and reduction of greenhouse gas emissions and air pollution services	F	133,244 <sup>E</sup>	150,503 <sup>E</sup>
Environmental consulting services <sup>2</sup>	..	..	..
Waste management services <sup>1</sup>	8,351,575	..	..
Clean energy services	2,356,075	2,953,629 <sup>E</sup>	3,366,243 <sup>E</sup>
Water management and efficiency services	980,107 <sup>E</sup>	820,398 <sup>E</sup>	926,576 <sup>E</sup>
Sustainable resource services	792,605 <sup>E</sup>	931,646	1,019,361 <sup>E</sup>
Transportation services	F	F	294,298 <sup>E</sup>
Smart grid services	488,595 <sup>E</sup>	503,206 <sup>E</sup>	455,392 <sup>E</sup>
	Export sales		
	2019	2020	2021
	thousands of dollars		
<b>Total services</b>	<b>434,985<sup>E</sup></b>	<b>F</b>	<b>473,698<sup>E</sup></b>
Site remediation or monitoring services and environmental emergency response services	16,421 <sup>E</sup>	9,870	F
Energy efficiency, industrial design and related services	F	97,619 <sup>E</sup>	52,374 <sup>E</sup>
Monitoring and reduction of greenhouse gases and air pollution services	27,970	F	F
Clean energy services	105,005 <sup>E</sup>	56,305	F
Water management and efficiency services	51,061 <sup>E</sup>	61,616 <sup>E</sup>	59,421 <sup>E</sup>
Sustainable resource services	F	28,182 <sup>E</sup>	F
Transportation services	63,753 <sup>E</sup>	F	71,717
Smart grid services	44,166	45,357	70,452 <sup>E</sup>

.. not available for a specific reference period

<sup>E</sup> use with caution

F too unreliable to be published

1. Prior to 2020, total domestic services included waste management services estimates from the Biennial Waste Management Survey. Comparisons to previous years should be made with caution.

2. Environmental consulting services (North American Industry Classification System 541620) were added to the Survey of Environmental Goods and Services population in 2019. Estimates from previous years were derived from the Annual Survey of Service Industries: Consulting Services. Service providers in this industry may have reported in multiple service categories since 2019.

**Note(s):** Figures may not add up to total due to rounding.

**Source(s):** Tables [38-10-0087-01](#) and [38-10-0031-01](#).

## Note to readers

### Clean technology

These data are derived from the Survey of Environmental Goods and Services.

Clean technologies are defined as follows:

- any good or service designed with the primary purpose of contributing to remediating or preventing any type of environmental damage
- any good or service that is less polluting or more resource-efficient than equivalent normal products that furnish a similar utility; their primary use, however, is not one of environmental protection.

The survey captures revenues from several areas of Canada's growing clean technology sector. Comprehensive measurement of clean technology sales in Canada's economy is available through Statistics Canada's Environmental and Clean Technology Products Economic Account (ECTPEA). The Survey of Environmental Goods and Services is one of several components of this account. The ECTPEA captures all economy-wide transactions in the clean technology sector, such as clean energy and scrap metals, while the Survey of Environmental Goods and Services produces data on a clearly specified subset of goods and services that are narrower in scope than those captured in the ECTPEA.

Starting in reference year 2021, the survey adopted the Random Tabular Adjustment technique for the monetary estimates, which aims to increase the amount of data made available to users while protecting the confidentiality of respondents.

As of the 2020 reference year, this release will no longer incorporate metrics from the Waste Management Survey, which was previously used to provide estimates of waste management services and related employment. For the purpose of this analysis, references to 2019 estimates that previously included these combined metrics have been modified in this article. Furthermore, estimates from the Waste Management Survey will no longer be included alongside the aggregates from the Survey of Environmental Goods and Services in the public tables. Information relating to the collection of waste management statistics can be found at [Biennial Waste Management Survey](#).

**Available tables:** [38-10-0031-01](#), [38-10-0087-01](#) and [38-10-0152-01](#).

**Definitions, data sources and methods:** survey number [1209](#).

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](mailto:infostats@statcan.gc.ca)) or Media Relations ([statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca](mailto:statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca)).