

## Environment Fact Sheets

# Gender characteristics of the environmental and clean technology products sector labour force, 2012 to 2019

by Esther Goombs

Release date: November 14, 2022



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# Gender characteristics of the environmental and clean technology products sector labour force, 2012 to 2019

by **Esther Goombs**

As efforts are made to transition to a low carbon economy, a clear picture of employment trends in the environmental and clean technology products sector is timely and relevant. From 2012 to 2019, employee<sup>1</sup> jobs in the Canadian environmental and clean technology products sector grew 25%, reaching 338,695 jobs in 2019. During that period, most of these jobs were filled by those in the workforce who held higher credentials than a high school diploma, and the largest growth over the period (43%) was observed in jobs requiring workers with a university degree. The average annual salaries (current dollars) for jobs in this sector rose from \$67,186 in 2012 to \$77,114 in 2019.

This fact sheet examines whether this general portrait of jobs in the environmental and clean technology products sector changes when observed through the lens of gender. It analyzes job shares, job growth, educational attainment, and annual average wages and salaries by gender for this sector.

## About the Environmental and Clean Technology Products Economic Account – Human resource module

The Environmental and Clean Technology Products Economic Account measures the contribution to the Canadian economy of the production and delivery of goods and services that reduce environmental impacts. Its human resource module (HRM) provides statistics on demographics associated with environmental and clean technology activities production in Canada, allowing for a broader insight into the sector's role in the economy (e.g., gender, age, education, immigration status, Indigenous identity, wages and occupation types).

The HRM provides annual estimates that cover employee jobs only. These estimates are based on national data from the Canadian Productivity Accounts as well as Labour Force Survey data. Data from the Census of Population for 2006 and 2016 as well as from the 2011 National Household Survey, are also incorporated. The gender question was introduced in the Census of Population in 2021. Prior to 2021, the census only collected information on sex, which referred at the time to whether the person was male or female. Although sex and gender refer to two different concepts, the terminology related to gender is used throughout this factsheet article to make it easier for readers.

The environmental and clean technology employment by industry and province series is available from 2012 to 2020, on tables 36-10-0632-01 and 36-10-0672-01. The variables of interest for this factsheet are available from 2012 to 2019. Estimates for 2019 are preliminary and will be revised when data become available.

## More than one third of jobs belong to women

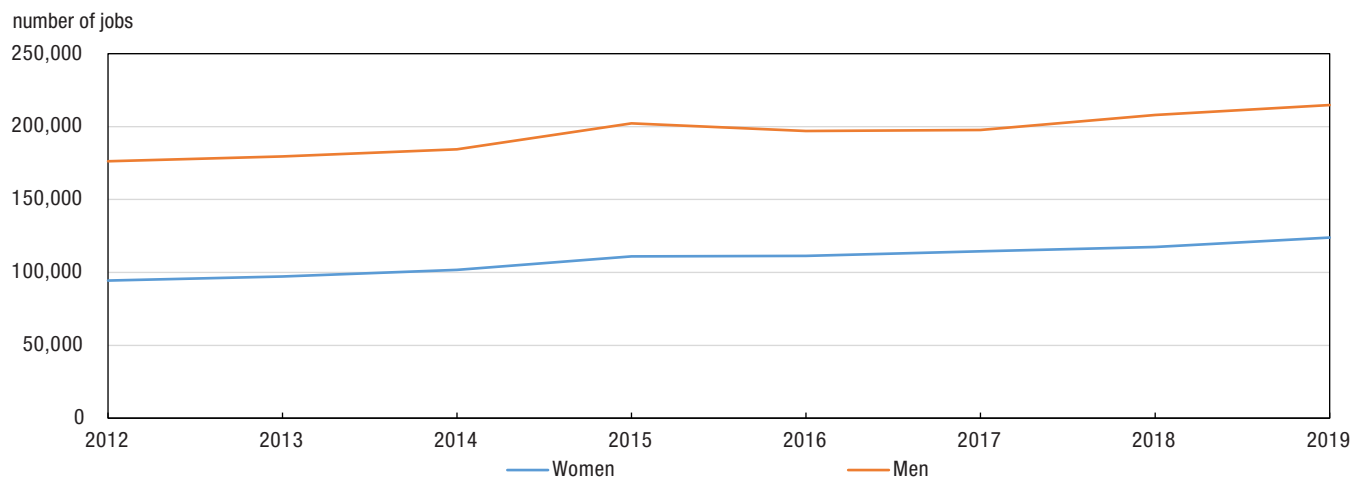
The share of workers in the environmental and clean technology products sector by gender has remained relatively stable in Canada from 2012 to 2019. The number of jobs held by men went down by two percentage points over the period, from 65% in 2012 to 63% in 2019, while those for women rose two percentage points, from 35% to 37%. Thus, more than one third of the environmental and clean technology products sector jobs were held by women during the period.

1. "Employee jobs" refers to a classification of workers that excludes the self-employed.

This change reflects the fact that the number of jobs held by women in the environmental and clean technology products sector grew at a faster pace (+31%) than those held by men (+22%). Approximately 29,500 of the jobs added to this sector over the period were held by women, reaching 123,939 in 2019. Whereas the jobs held by men increased from 176,330 to 214,756 over the same period.

### Chart 1

#### Number of jobs in the Canadian environmental and clean technology products sector per worker's gender, 2012 to 2019



**Note:** Estimates represent employee jobs only; 2019 are preliminary estimates.

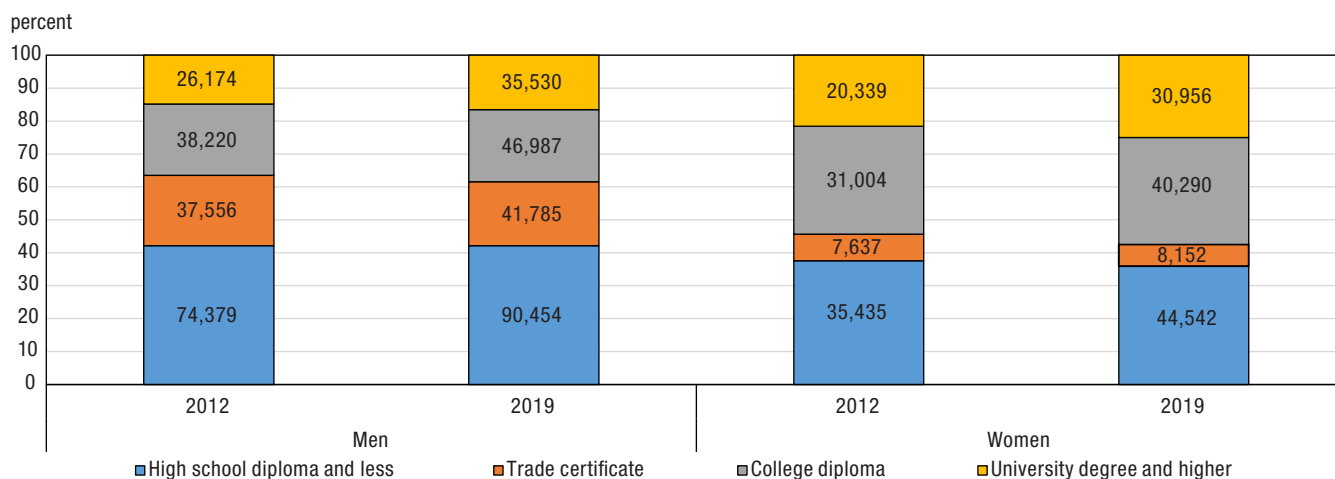
**Source:** Statistics Canada. Special tabulation of table 36-10-0632-01 Environmental and Clean Technology Products Economic Account, employment.

Although the majority of workers in this sector are men, there are other sectors where the proportion of men is even higher. For example, over the same period (2012-2019) men composed between 79% and 82% of the mining, quarrying, and oil and gas extraction sector. In contrast, women represented at least two-thirds (between 66% and 69%) of the education sector<sup>2</sup>. When all economic sectors are combined, men represented just over half of the Canadian workforce (around 53% each year).

## Women on average have higher educational credentials, as more than half held a university degree or a college diploma. Most of the men have a trade certificate or a high school diploma

In general, most of the jobs in the environmental and clean technology products sector were filled by workers with an education attainment higher than a high school diploma for both men (58% in 2019) and women (64% in 2019).

2. Statistics Canada. [Table 14-10-0023-01 Labour force characteristics by industry, annual \(x 1,000\)](https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002301). Consulted August 18<sup>th</sup> 2022.

**Chart 2****Share of jobs and job counts of the Canadian environmental and clean technology products sector, per worker's educational attainment and gender, 2012 and 2019**

**Note:** Estimates represent employee jobs only; 2019 are preliminary estimates.

**Source:** Statistics Canada. Special tabulation of table 36-10-0632-01 Environmental and Clean Technology Products Economic Account, employment.

The workforce with a high school diploma or less was represented similarly in the two groups: recording 42% of men employed in the sector in 2019 (90,445 jobs) and 36% of women (44,542 jobs).

A college diploma was the second most common educational attainment observed for the workforce in the sector, but the share of women with a college diploma (33% in 2019) was higher than that of men (22% in 2019).

Over the period, jobs held by the workforce having a university degree also composed a higher share of women (25% in 2019) than men (17% in 2019). Men with university degrees ranked in last place of all men education attainment categories, with 35,530 jobs in 2019.

Finally, the number of jobs held by the workforce with trade certificates ranked in last place for women (7% of the workforce with 8,152 jobs in 2019), but ranked in third place for men, with 41,785 jobs in 2019 (representing 19% of the workforce). The relatively low percentage of women with trades certificates employed in the environmental and clean technology products sector reflects the smaller number of women who historically enrolled in trades programs in general<sup>3</sup>.

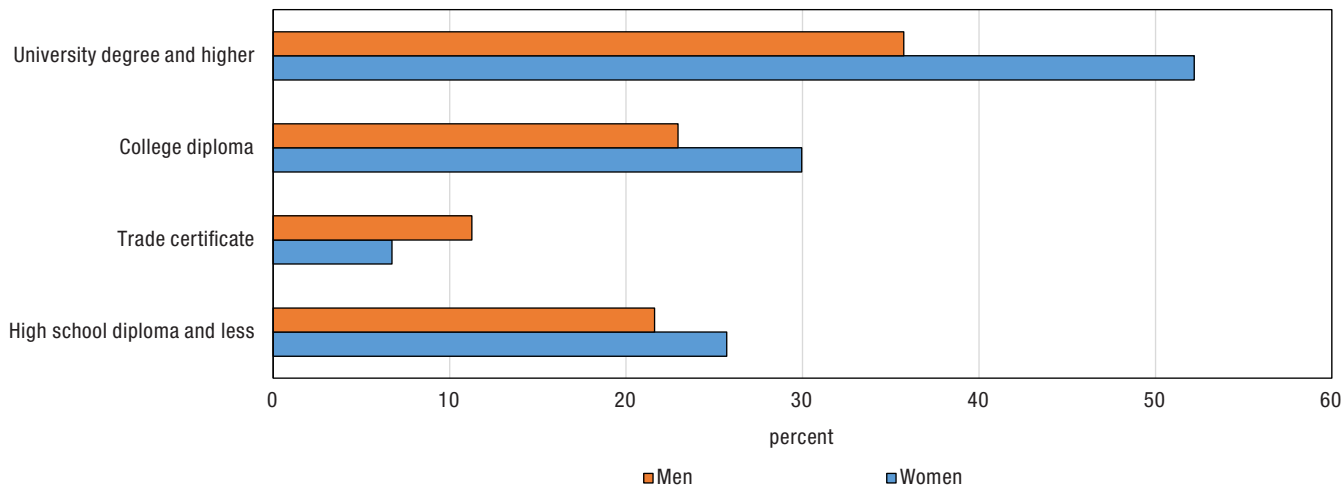
## University degrees are the education attainment category that is increasing the fastest for both men and women

For both men and women, the largest job growth was seen for workers having a university degree and higher. This education attainment category, for jobs held by women, grew 52%, from 20,339 jobs in 2012 to 30,956 in 2019. It also grew for jobs held by men, but at a lower rate of growth (+36%), from 26,174 jobs to 35,530. This suggests that the skill sets, knowledge, and education levels required for jobs in the environmental and clean technology sector are increasing over time.

The next largest observed percentage change was for jobs held by workers with a college diploma. It rose 30% for women and 23% for men. This was closely followed by the jobs held by workers with a high school diploma and less (+26% for women, +22% for men).

3. Statistics Canada. [Canada's educational portrait, 2016 Census of Population](https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2017036-eng.htm). Accessed June 3<sup>rd</sup> 2022.

**Chart 3**  
**Job growth (percentage) in the Canadian environmental and clean technology products sector between 2012 and 2019, per worker’s educational attainment and gender**



**Note:** Estimates represent employee jobs only; 2019 are preliminary estimates.  
**Source:** Statistics Canada. Special tabulation of table 36-10-0632-01 Environmental and Clean Technology Products Economic Account, employment.

Over the 2012-2019 period, men with a trade certificate lost representation in the sector (from 21% in 2012 to 19% in 2019) but representation gained in terms of jobs held by workers with a university degree (from 15% in 2012 to 17% in 2019). Women lost representation of jobs held by workers with a high school diploma and less (from 38% in 2012 to 36% in 2019) and gained representation of jobs held by workers with a university degree (from 22% to 25%).

### The gap in annual salaries and wages between men and women in the environmental and clean technology products sector decreases

The average annual salaries and wages were about \$17,600 higher for jobs held by men compared to women in 2012. This gap decreased to about \$14,000 in 2019.

Jobs in the environmental and clean technology products sector paid an annual average wage of \$55,700 for women, and \$73,340 for men in 2012. Seven years later, those amounts were \$68,260 and \$82,225 respectively. On average, women workers earned 83% of men workers’ salaries in 2019.

This observed gender gap decrease in the environmental and clean technology products sector follows the overall gender trend decline recorded nationally for the hourly wages among employees aged 25 to 54 since 1998<sup>4</sup>.

4. Statistics Canada. Quality of Employment in Canada. [Pay gap, 1998 to 2021](https://www150.statcan.gc.ca/n1/pub/14-28-0001/2020001/article/00003-eng.htm). Consulted August 11<sup>th</sup> 2022.

**Table 1**  
**Average annual wage gap and ratio of workers of the Canadian environmental and clean technology products sector, current dollars, 2012 to 2019**

Year	Wage gap (dollars)	Ratio (percent)
2012	17,638	75.9
2013	18,036	76.0
2014	19,428	75.0
2015	19,214	75.7
2016	16,498	78.5
2017	16,127	79.5
2018	16,353	79.9
2019	13,966	83.0

**Note:** Estimates represent employee jobs only; 2019 are preliminary estimates.

The wage gap is calculated by subtracting women worker's average annual salary and wages from men worker's average annual salary and wages.

The ratio represents women's average annual salary and wages as a share of men's average annual salary and wages.

**Source:** Statistics Canada. Special tabulation of table 36-10-0632-01 Environmental and Clean Technology Products Economic Account, employment.

Over the 2012-2019 period, jobs held by women had a larger increase in salaries and wages (23%), whereas the salaries of jobs held by men only rose 12%. Therefore, women's annual average salaries and wages increased at about twice the rate of men's annual average salaries and wages. This increase in wages can possibly be attributed to the increasing number of jobs held by women with higher education.