



MINING INDUSTRY
HUMAN RESOURCES COUNCIL

CANADIAN MINING WORKPLACE PROFILE

2024





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Table of Contents

INTRODUCTION	2
Industry and Occupational Definitions	3
1) PRODUCING MINES ACROSS CANADA	4
2) THE CURRENT STATE OF MINING IN CANADA	8
Capital and Labour	10
Average Annual Hours of Work	11
Hourly Wage	12
Unionization Rate	13
Labour Productivity	14
Occupational Mix	15
Educational Breakdown	16
Age Breakdown	17
3) DIVERSITY	18
Women in Mining	19
Immigrants in Mining	20
Indigenous Peoples in Mining	21
SUMMARY OF KEY FINDINGS	22

Introduction

The Mining Industry Human Resources Council's (MiHR) *Canadian Mining Workplace Profile (2023)* profiled Canada's mining workforce to better understand its characteristics, highlight key trends in important topics such as equity, diversity and inclusion (EDI) and identify where the workforce could be vulnerable to shifting trends in technology and labour demand. MiHR's *Canadian Mining Workplace Profile (2024)* continues this line of analysis with an update of the 2023 report.

This series is primarily about the people who make Canada's mining workforce possible. In previous updates, MiHR identified several workforce considerations that promised to limit the industry's ability to respond to new mining development and growth. This report provides an update of those factors as part of an ongoing effort to monitor the health and status of Canada's mining labour market.

Industry and Occupational Definitions

Data presented in this report rely primarily on industry-level data gathered and aggregated through Statistics Canada. Data throughout the analysis in this report are aligned with the *North American Industry Classification System (NAICS)* to define the mining industry in Canada and with the *National Occupational Classification (NOC)* system to define relevant occupations of interest. Though the mining industry spans multiple industry codes, for simplicity this analysis will focus primarily on a single NAICS code—*Mining and Quarrying (NAICS 212)*.

WHAT'S NEW IN THIS UPDATED REPORT?

This report features new and updated data from the 2023 Workplace Profile Report. MiHR has obtained new data from the latest (2021) Census. Also, data from the Labour Force Survey has been updated to 2023, providing the newest data and labour market trends from a year ago. While most topics have been updated in this 2024 workplace profile report, some have not as they have no material update to provide; in those cases, please refer to the 2023 report.



Producing Mines Across Canada

1

Mining development is found in all major regions of Canada, including several mining hotspots with a concentration or cluster of mining projects. These hotspots are a product of underlying geological factors, maturity of mining development and access to population centres and amenities.

According to Natural Resources Canada (NRCan), there were 132 producing mines in Canada in 2023¹. *Figure 1* illustrates their geographical distribution, denoting the type of operation and where there is a higher density of mines relative to other areas.

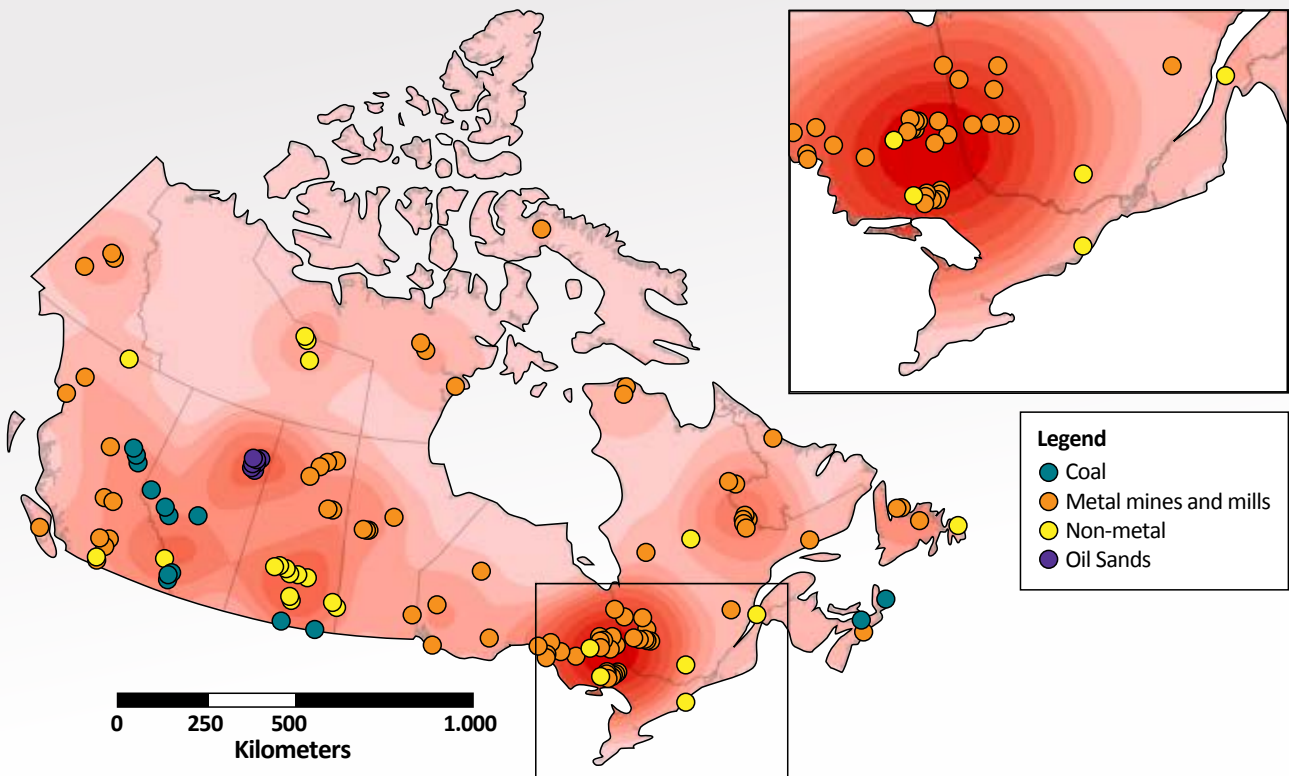
¹ The list does not include aggregate mining (i.e., stone, sand, and gravel pits).

The figure shows the largest cluster of mining activity is found in Northeast Ontario and Abitibi-Témiscamingue, Québec, where there is a long and established history of mining. This result is consistent with that of prior years, showing a degree of stability in Canadian mining hotspots.

Gold is the leading metal produced in Canada – with 35% of production (by value of shipments) – while potash holds the largest non-metal production at 82% (not including coal and aggregates production)² (Figure 2).



FIGURE 1 *Producing Mines in Canada (2023)*

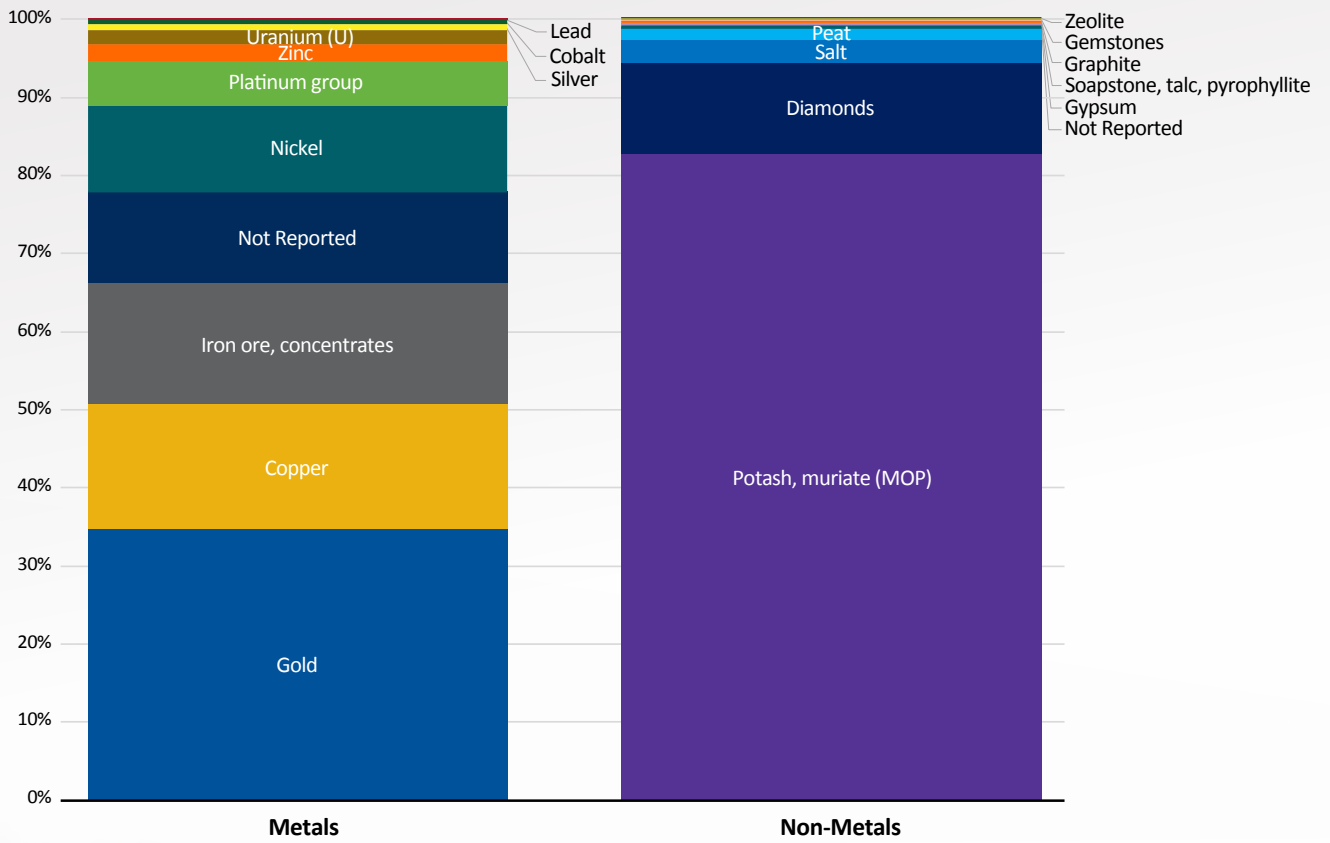


Notes: The list does not include aggregate mining (i.e., stone, sand, and gravel pits).

Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Natural Resources Canada, *Principal Mineral Areas, Producing Mines, and Oil and Gas Fields in Canada, 2024*.

² Note that the mineral production statistics for non-metals differ significantly from last year’s reporting due to the exclusion of aggregates (i.e., sand and gravel, etc.) production and revisions to the preliminary data.

FIGURE 2 Mineral Production Breakdown by Commodity (Value of Shipments) (2022)



Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Natural Resources Canada, Annual Statistics of Mineral Production, 2023.

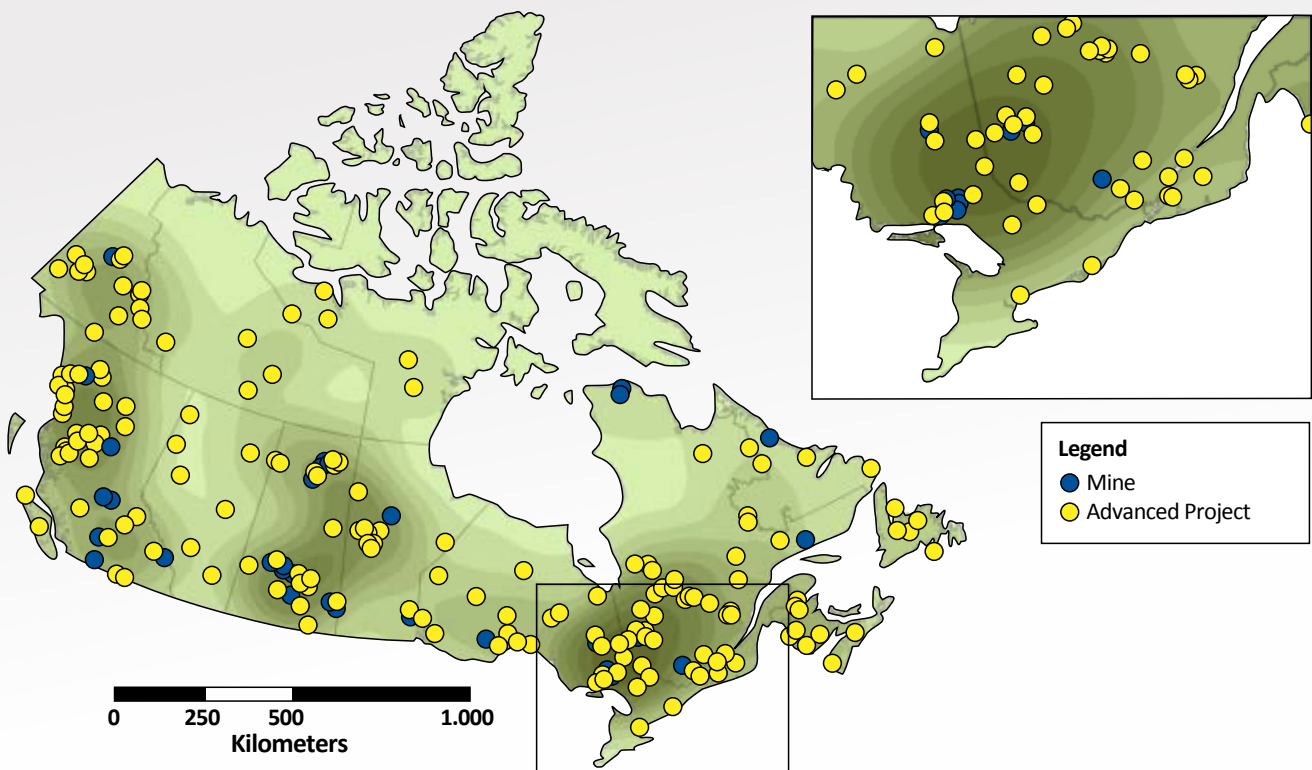


Critical Mineral Production in Canada

With its vast geological landscape, Canada is well positioned to be a key producer of critical minerals, as they are anticipated to increase in demand. Figure 3 displays critical mineral projects across Canada in 2023. These projects encompass a variety of critical minerals, including Zinc, Copper, Cobalt, Nickel, among several others.



FIGURE 3 Critical Mineral Mining Projects in Canada (2023)



Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Natural Resources Canada, *Critical Minerals Interactive Map* (<https://atlas.gc.ca/critical-minerals/en/>), 2023.

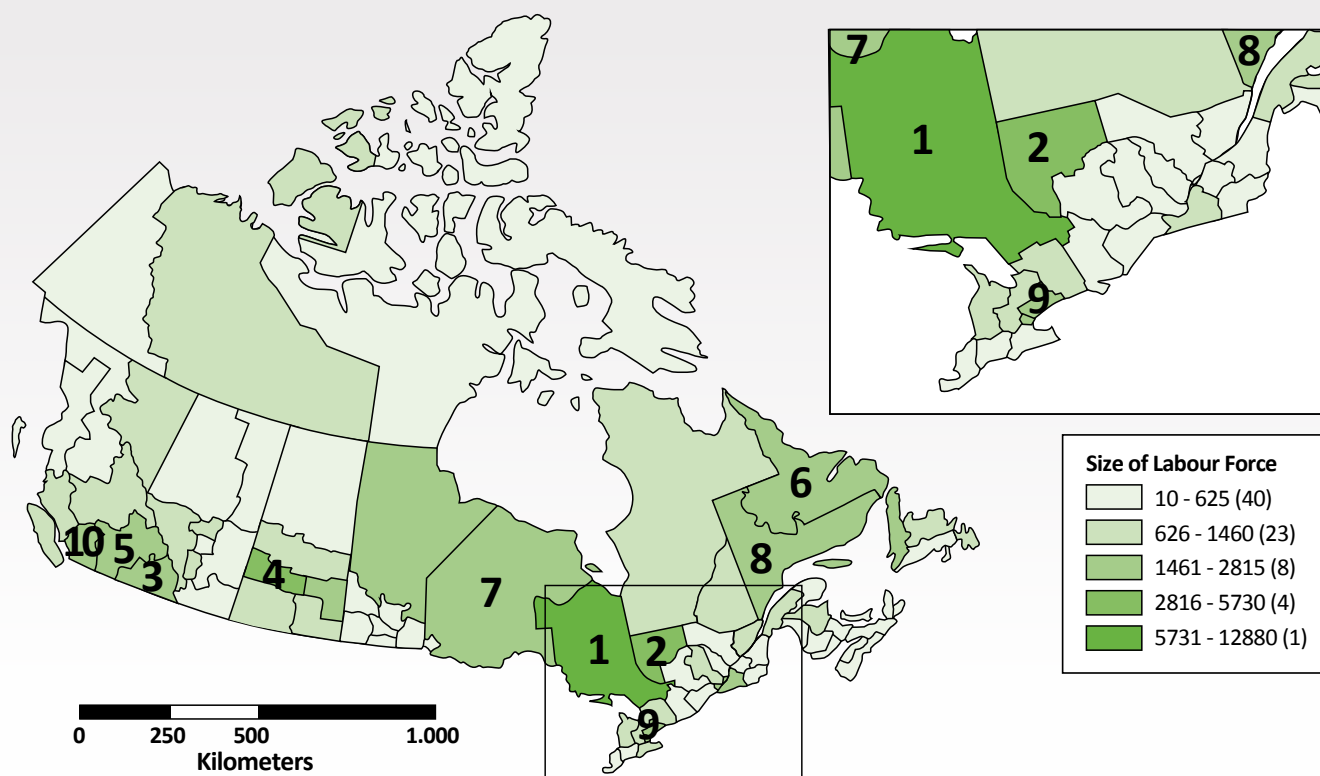
The Current State of Mining in Canada

2

Mining workers are also found in all corners of Canada. Figure 4 shows how the mining workforce is distributed across the country by place of residence. Specifically, the thematic map highlights Economic Regions in Canada³ and the relative size of each workforce in *Mining and Quarrying (NAICS 212)*, according to the 2021 Census of Population. *Table 1* reports the top 10 regions by size of workforce corresponding to the map in *Figure 4*. Northeast Ontario has the largest workforce followed by Abitibi-Témiscamingue, Quebec and Kootenay, British Columbia (*Figure 4*).

³ Comprised from a grouping of census divisions, an economic region provides a standard geographic boundary for analyzing regional economic activity.

FIGURE 4 Size of Workforce Across Economic Regions, Mining and Quarrying (NAICS 212) (2021)



Notes: The maps show five categories using the natural breaks classification. Natural breaks divide the data into natural groupings inherent in the underlying data.

Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Statistics Canada, Census of Population, 2021.

TABLE 1 Top 10 Regions by Size and Share of Labour Force, Mining and Quarrying (NAICS 212) (2021)

Rank	Geography	Size of Labour Force	Share of Labour Force	Rank +/- from 2016
1	Northeast, Ontario	12,880	15.8%	-
2	Abitibi-Témiscamingue, Quebec	5,730	7.0%	-
3	Kootenay, British Columbia	3,500	4.3%	↑ 1
4	Saskatoon-Biggar, Saskatchewan	3,325	4.1%	↓ 1
5	Thompson-Okanagan, British Columbia	3,220	4.0%	-
6	West Coast-Northern Peninsula-Labrador, Newfoundland and Labrador	2,815	3.5%	↑ 4
7	Northwest, Ontario	2,730	3.4%	↓ 1
8	Côte-Nord, Quebec	2,520	3.1%	↓ 1
9	Toronto, Ontario	2,325	2.9%	↓ 1
10	Lower Mainland-Southwest, British Columbia	2,285	2.8%	↑ 2

Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Statistics Canada, Census of Population, 2021.

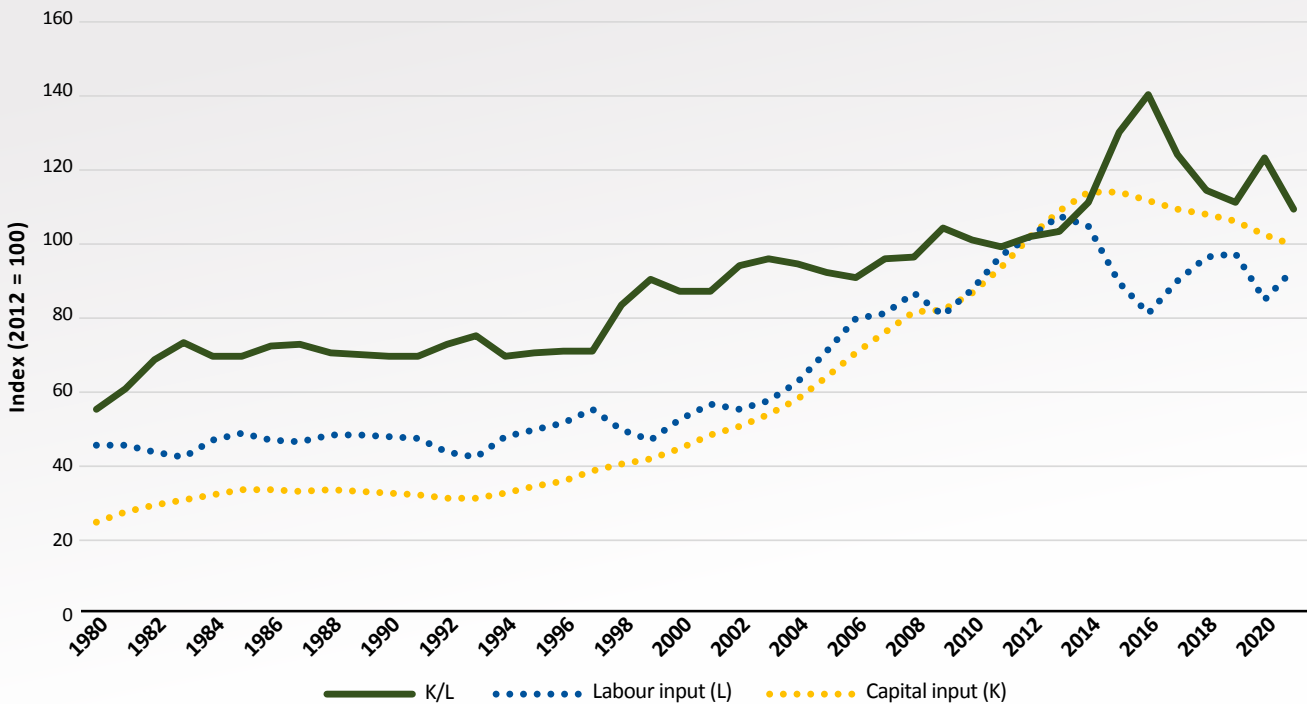
Capital and Labour

Mining operations in Canada have become increasingly capital intensive over the past four decades. *Capital input (K)* describes the structures, equipment, information and communications technologies, etc., that are used in mining operations. *Labour input (L)* describes the aggregated hours worked by all workers. *Capital-to-labour ratio (K/L)* is the total capital available per unit of labour, which is an indicator of capital deepening (capital intensification) and mining workers' connection to the machines and equipment around them.

In *Mining, Quarrying, and Oil and Gas Extraction (NAICS 21)*, the ratio of capital-to-labour has consistently been on the rise, remaining at higher levels to 2021 (Figure 5). At the same time, capital input growth has stalled in recent years after peaking in 2015.



FIGURE 5 Indices of Capital and Labour Inputs, Mining, Quarrying, and Oil and Gas Extraction (NAICS 21) (1980 - 2021)⁴



Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Statistics Canada, *Productivity Measures and Related Variables - National and Provincial (Annual) (Table 36-10-0208-01), 2023*.

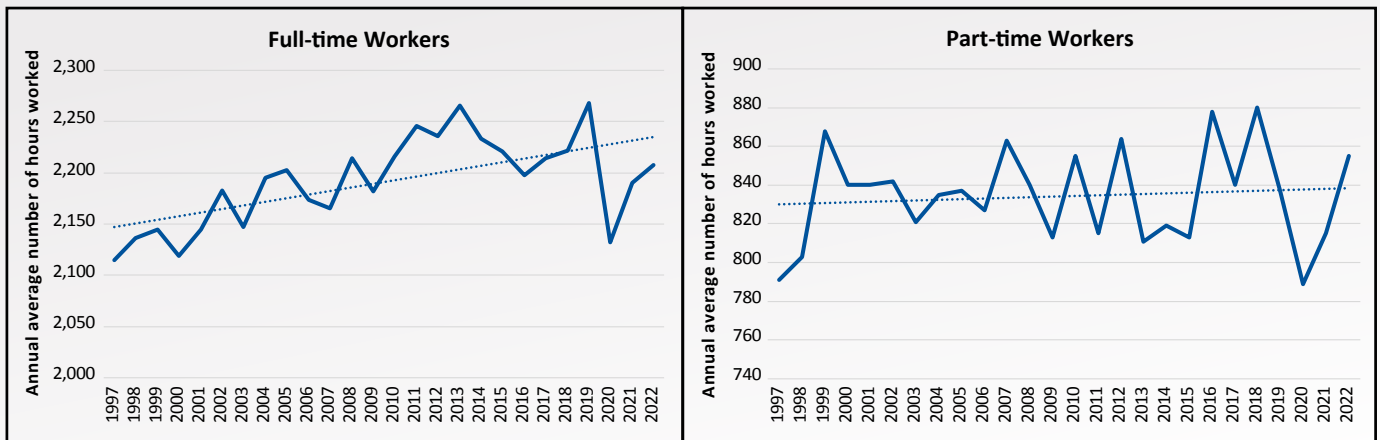
⁴ Statistics Canada's measure of labour input is obtained by chained-Fisher aggregation of hours worked of all workers, using hourly compensation as weights. Its capital input is obtained by chained-Fisher aggregation of capital stocks, using the cost of capital as weights.

Average Annual Hours of Work

Hours of work provides an important measure of both the labor input and productivity within an industry. The average number of hours worked per employee has continued to trend upward in *Mining and Quarrying (NAICS 212)*. For full-time workers, average annual hours have expanded from 2,115 hours in 1997 to 2,208 hours in 2022 (*Figure 6*). The difference translates to a 4% increase, or roughly 12 more working days per year (using eight-hour days as the benchmark). Despite a temporary interruption during the COVID-19 pandemic, the trend has reverted closer to pre-pandemic levels. Additionally, full-time workers have been the primary driver of increasing work hours, whereas the part-time hours have remained relatively flat.



FIGURE 6 Average Work Hours Per Year of Full-time and Part-time Workers, Mining and Quarrying (NAICS 212) (1997 - 2022)



Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Statistics Canada, *Labour Productivity Measures – Provinces and Territories (Annual)* (Table 36-10-0676-01), 2024.

Hourly Wage

Hourly wages for employees have also been trending up for both full-time and part-time workers in *Mining and Quarrying (NAICS 212)* (Figure 7). From 1997 to 2022, nominal wages and salaries for full-time workers have grown by 112%, from \$26.43 per hour in 1997 to \$56.13 per hour in 2022 (Figure 7). Over this period, full-time wages have grown at 3% compound annual growth rate (CAGR) while part-time wages have grown at 3.8% CAGR. Despite flashes of volatility, hourly wages have mostly followed a similar long-term trend for both full-time and part-time workers.

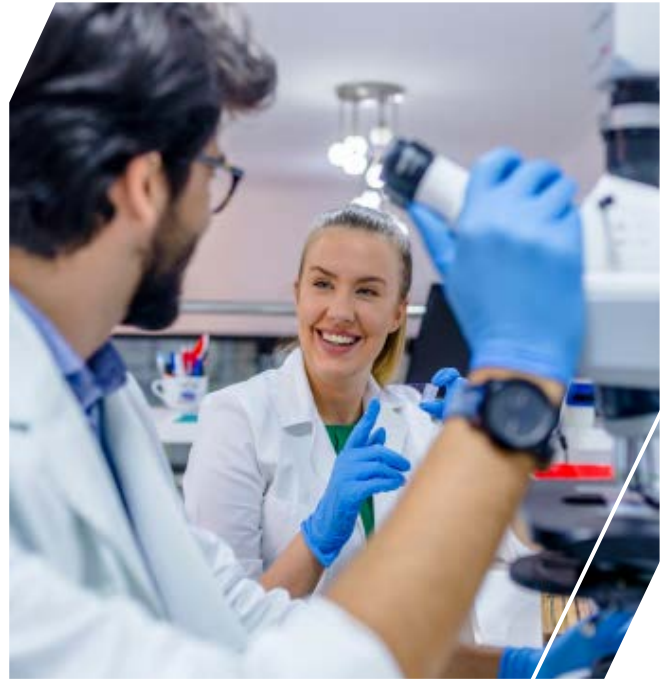
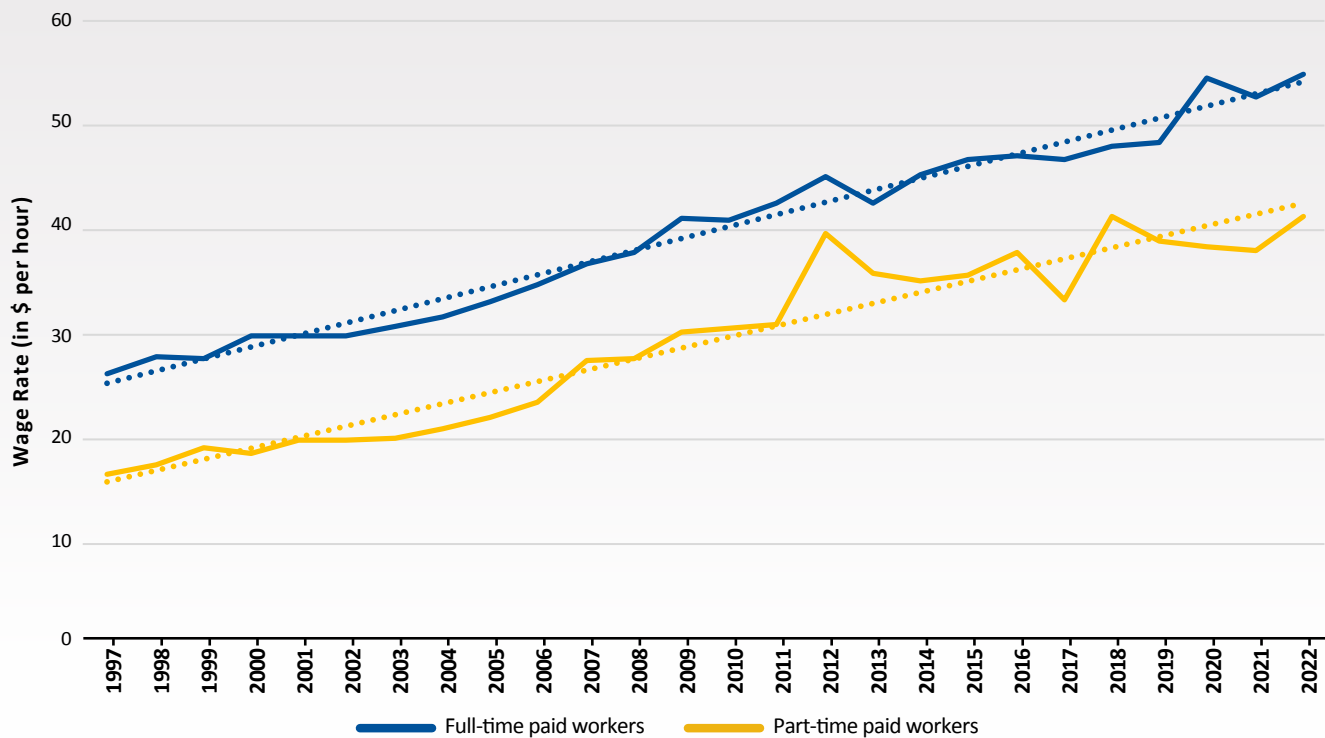


FIGURE 7 Hourly Wage of Full-time and Part-time Workers, Mining and Quarrying (NAICS 212) (1997 - 2022)



Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Statistics Canada, *Labour Productivity Measures - Provinces and Territories (Annual)* (Table 36-10-0676-01), 2024.

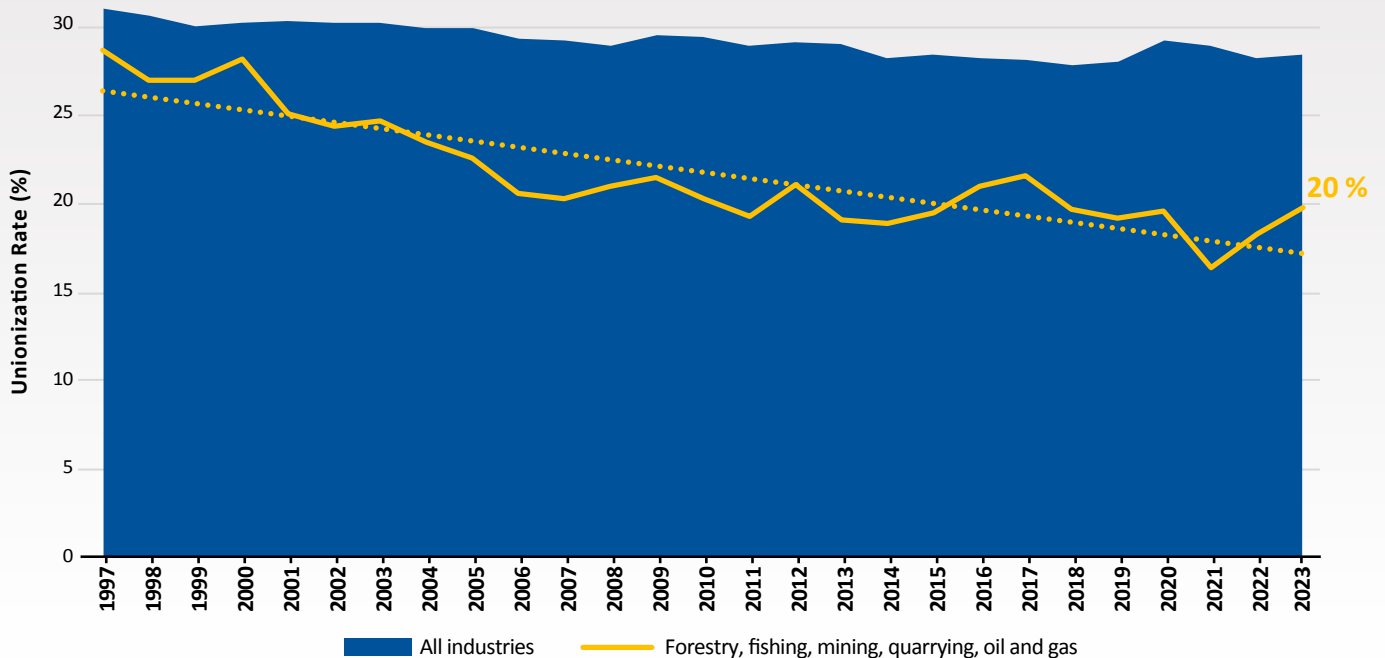
Unionization Rate

A large contingent of mining workers are union members. Yet, *Figure 8* shows a steady decrease in unionization rates over the last couple of decades. In *Forestry, Fishing, Mining, Quarrying, Oil and Gas (NAICS 21, 113-114, 1153, 2100)*, rates dropped from 29% in 1997 to 18% in 2022, showing a steeper decline for natural resources sectors compared to all industries (which have been historically stable at roughly 30%).

In 2023, however, unionization rates experienced a revival, jumping to 20%, or an 8% growth from the previous year. It remains to be seen whether 2023 signifies a reversal for union representation in the near future, given the trend is shaped by several factors (i.e., economic growth, labour market conditions, demographic characteristics, innovation/disruptive technologies and occupational trends, etc.).



FIGURE 8 Unionization Rate, All Industries and Forestry, Fishing, Mining, Quarrying, Oil and Gas (NAICS 21, 113-114, 1153, 2100) (1997 - 2023)



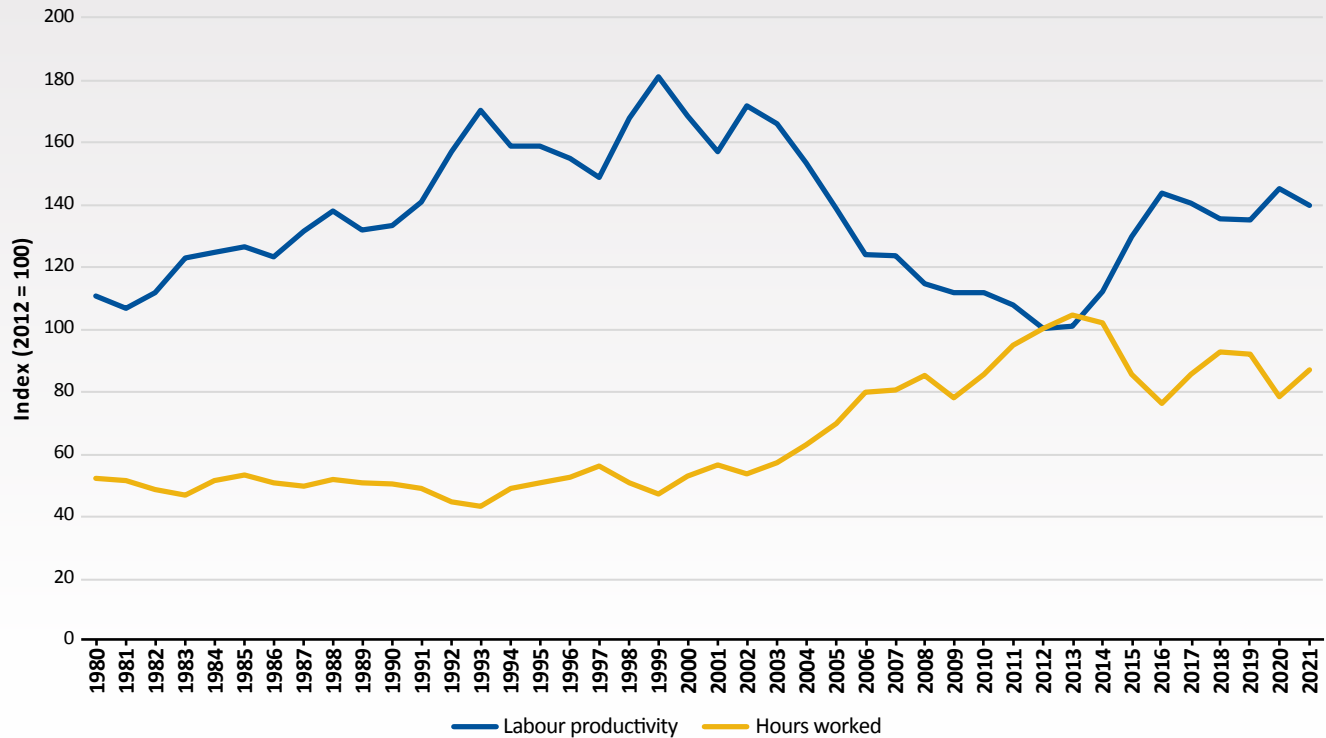
Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Statistics Canada, *Labour Force Survey (Table: 14-10-0132-01), 2024*.

Labour Productivity

Labour productivity describes the value of output that is produced for every input of labour, measured as real gross domestic product (GDP) per hours worked. This measure indicates how labour is being used to produce output over time. *Mining, Quarrying, and Oil and Gas Extraction (NAICS 21)* has experienced a steady rise in labour productivity since 2012, about a 40% increase as of 2021 (Figure 9). The figure also illustrates that labour productivity is negatively correlated with hours of work given that one extra hour of work does not equally transfer to added output.



FIGURE 9 *Indices of Labour Productivity and Hours Worked, Mining, Quarrying and Oil and Gas Extraction (NAICS 21) (1980 – 2021)⁵*



Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Statistics Canada, *Productivity Measures and Related Variables – National and Provincial (Annual) (Table 36-10-0208-01), 2023*.

⁵ Statistics Canada measures hours worked as the number of all jobs times the annual average hours worked in all jobs. This is the total number of hours that a person spends working, whether paid or not. Note that this is slightly different from “Labour input” shown in Figure 6 as labour input weighs hours worked by hourly compensation.

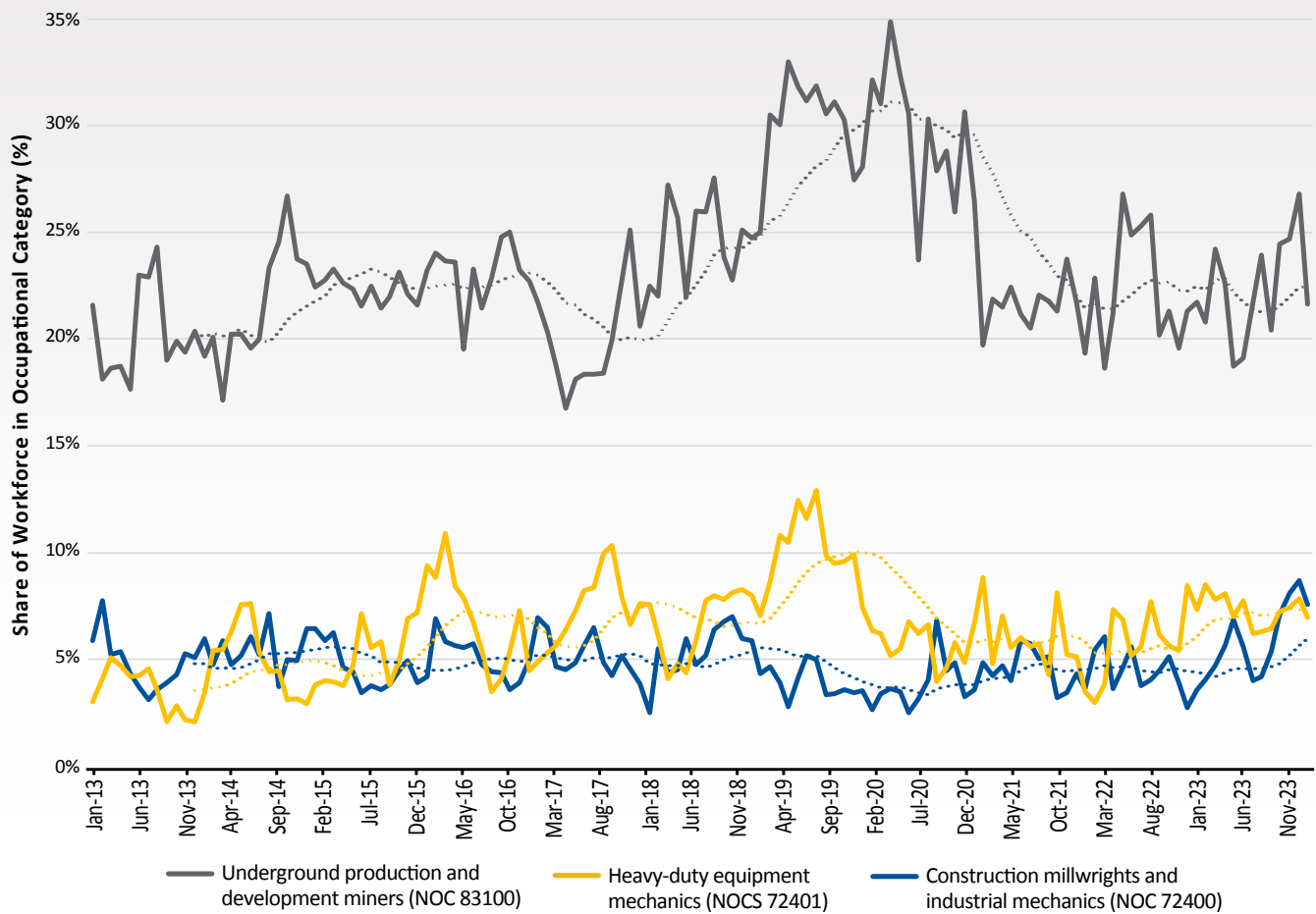
Occupational Mix

Occupational mix refers to the composition of occupations that perform mining activities across the country. MiHR continually monitors occupational mix to detect whether certain occupations may be gaining or losing traction with the mining industry.

Underground Miners (NOC 83100) remain the largest occupation in Canada’s mining sector, with nearly a quarter of the workforce in *Mining and Quarrying (NAICS 212)* (Figure 10). This share surged to over

30% in 2020, highlighting the growing importance of this occupation to mining operations in Canada. However, this trend has since reverted in the 2020’s to under 25% in 2023, reinforcing a degree of stability that underlies the occupational mix. This stability is also apparent in two other prevalent mining occupations, *Heavy-Duty Equipment Mechanics (NOC 72401)* and *Construction Millwrights and Industrial Mechanics (NOC 72400)*.

FIGURE 10 *Share of the Workforce for Select Occupational Categories, Mining and Quarrying (NAICS 212) (2012 – 2023)*



Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Statistics Canada, Labour Force Survey (Custom Data).

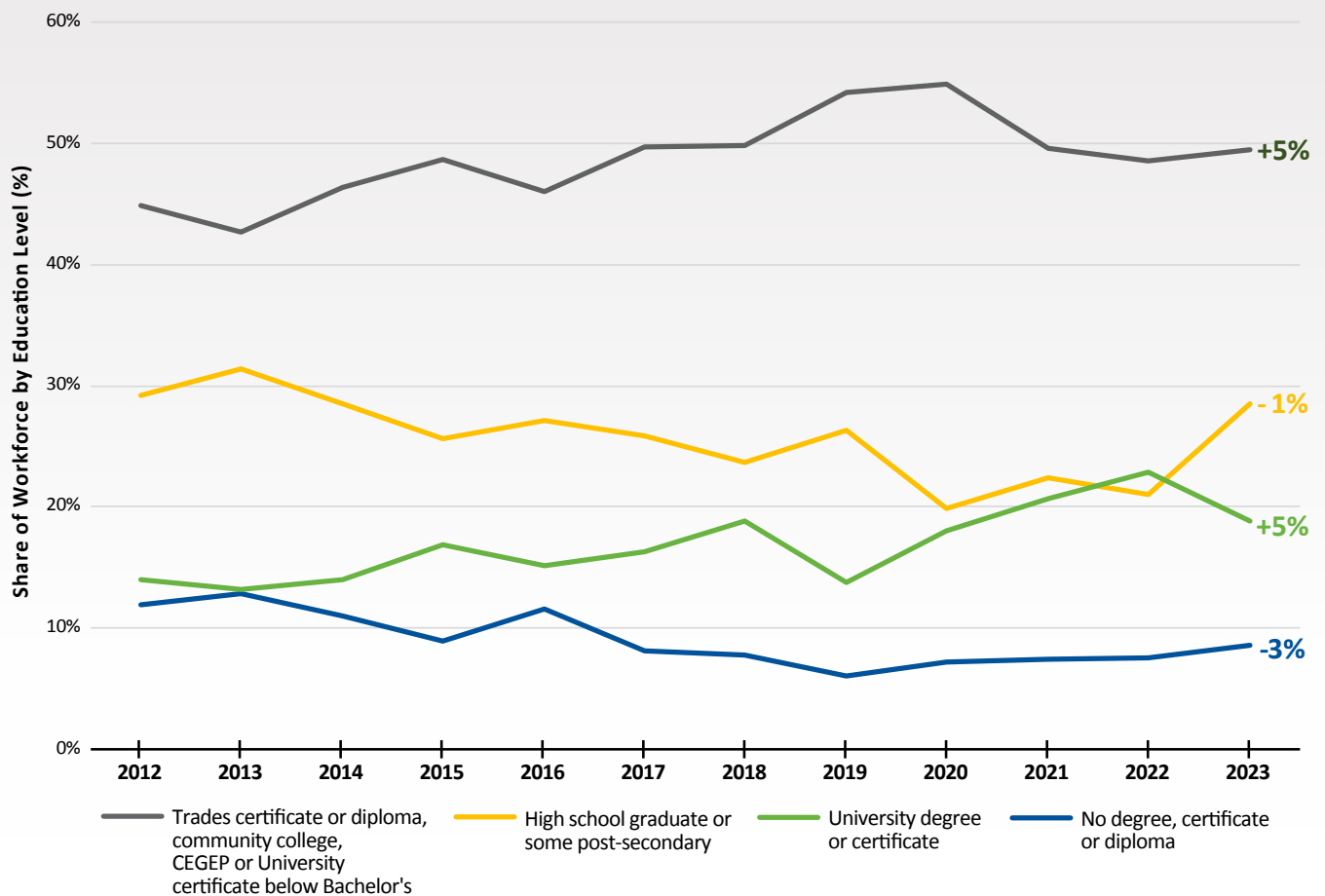
Educational Breakdown

Canada’s mining industry draws from a wide range of educational backgrounds. In *Mining and Quarrying (NAICS 212)*, the share of workers with a post-secondary education certificate (i.e., university, and trades) has been trending upward, while the share of workers with no post-secondary education (i.e., high school and no certificate) has been diminishing (Figure 11). In 2023, the post-secondary trend regressed but remained 5% higher than a decade ago.

As methods of mineral extraction become progressively more advanced, the educational requirements of the workforce are expected to evolve to include a greater share of workers with post-secondary training.



FIGURE 11 Educational Breakdown of the Workforce, Mining and Quarrying (NAICS 212) (2012 - 2023)



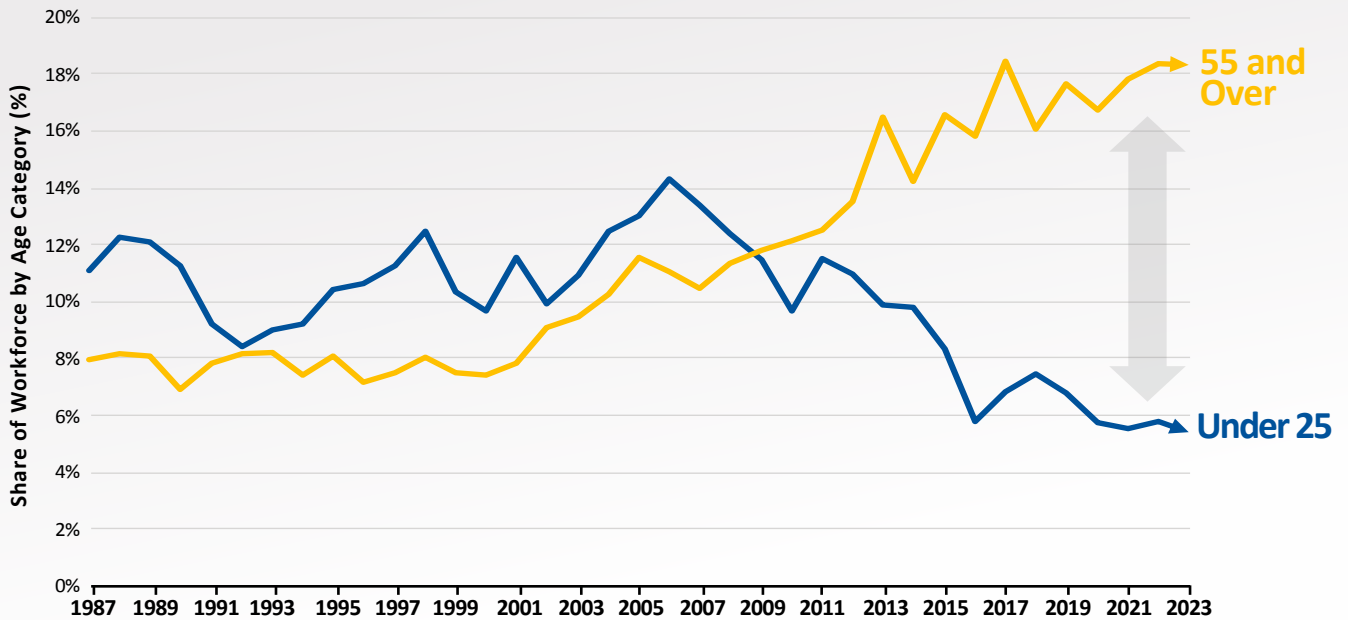
Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Statistics Canada, Labour Force Survey (Custom Data).

Age Breakdown

The mining industry continues to get older. From 2011 to 2023, the workforce in *Mining, Quarrying and Oil and Gas Extraction (NAICS 21)* shows a widening age gap as the share of workers under 25 years old has declined from 12% to 5%, while the share of workers 55 years and older has climbed from 13% to 18% (Figure 12). The shift to a relatively older workforce appears to be permanent as the mounting gap has not shown signs of reversing since it emerged in the 2010's. The shift towards an older workforce may result in labour shortages as older experienced workers enter their retirement year with a gap emerging in the succeeding generations.



FIGURE 12 Share of Workforce by Age Category, Mining, Quarrying and Oil and Gas Extraction (NAICS 21) (1987 - 2023)



Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Statistics Canada, Labour Force Survey (Table: 14-10-0023-01), 2024.

Diversity

3

MiHR's previous publications⁶ have highlighted the mining industry's challenges in improving its EDI performance, despite the industry's expanding efforts to improve EDI outcomes in recent years. The latest trends on representation in the workforce show that, relative to other industries, mining continues to underperform with women and immigrants. Meanwhile, the share of Indigenous workers has expanded significantly in recent years.

The slow pace of progress means that prevailing long-term issues with diversity in mining will not be resolved quickly, and material progress is more likely to come from generational change rather than from short-term measures. Still, MiHR has continued to monitor for any advancement or regression in EDI numbers, especially given the potential for an inflection point in the future resulting from increasing investment in EDI.

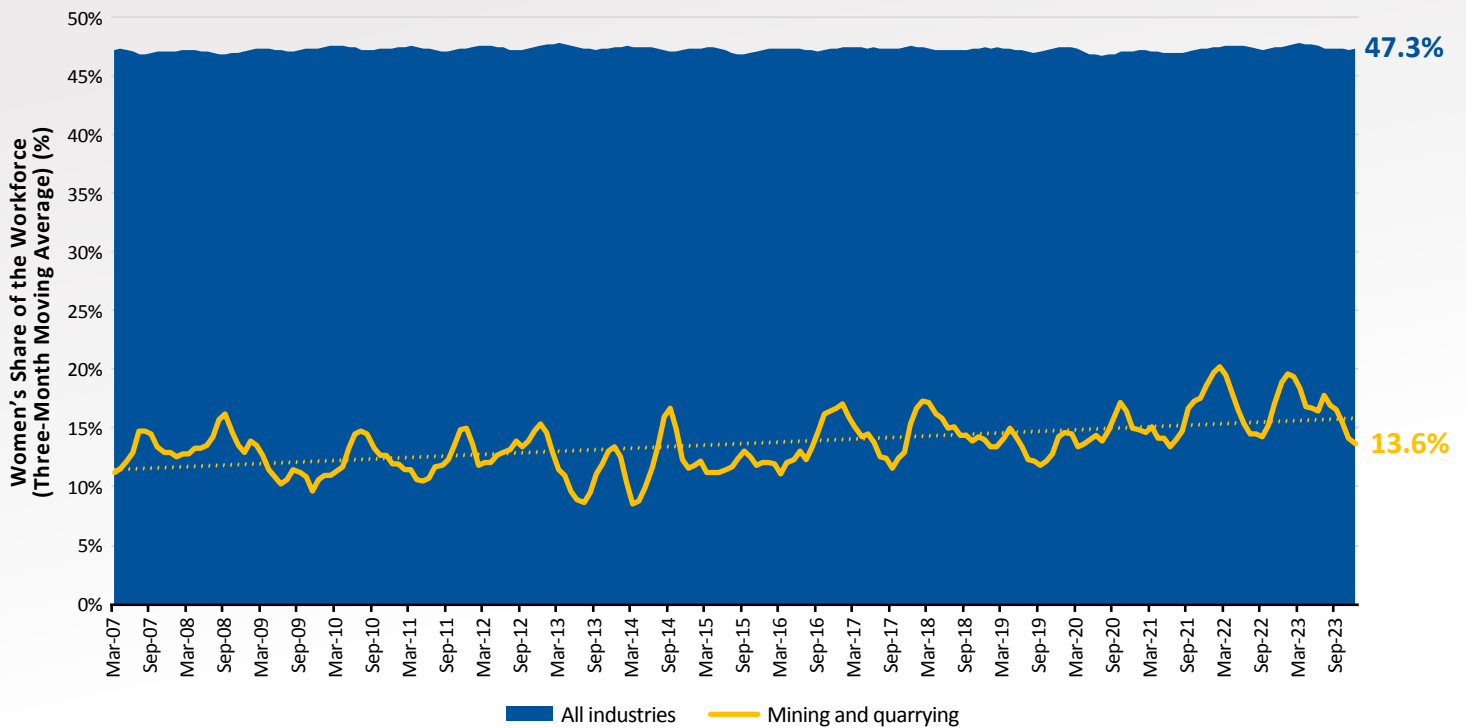
⁶ Notably MiHR's *Canadian Mining Workplace Profile (2023)* and *Equity Deserving Groups in Canada's Mining Industry Report (2024)*.

Women in Mining

From 2007 to 2023, women’s representation in *Mining and Quarrying (NAICS 212)* has ranged between 8% and 21%; averaging about 13.6% (*Figure 13*). The trend over this period is rather flat and insignificant, showing the durability of the current status quo state. In 2023, women averaged roughly 16.8% of the workforce, only 3.7% points greater than in 2007. At roughly half of the overall workforce, women represent a sizable group with the potential to fill the industry’s labour and talent shortages.



FIGURE 13 *Women’s Share of the Workforce (Three-Month Moving Average), Mining and Quarrying (NAICS 212) (2007 – 2023)*



Source: Mining Industry Human Resources Council, *Canadian Mining Workplace Profile, 2024*; Statistics Canada, *Labour Force Survey (Custom Data)*.

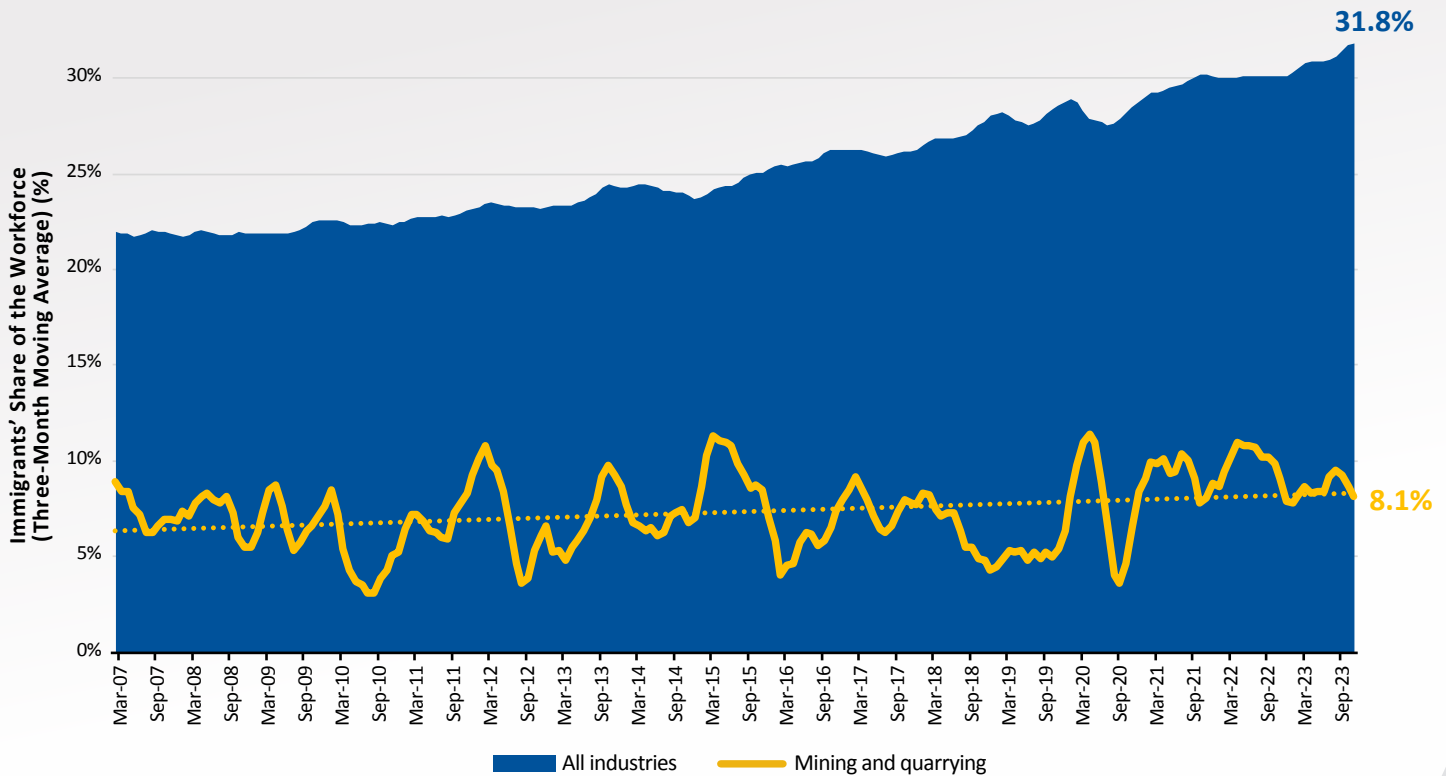
Immigrants in Mining

As the main driver of Canada’s population growth, Immigrants represent an enormous opportunity to access a new and skilled workforce that could potentially ease labour shortages in the mining industry. In 2023, immigrants represented roughly 32% of Canada’s overall workforce, but only about 8% of the *Mining and Quarrying (NAICS 212)* workforce (Figure 14).

Furthermore, other industries continue to grow their immigrant workforce participation more rapidly than the mining sector. From 2007 to 2023, the share of immigrants across all industries has grown from 22% to over 30%, while the trend in *Mining and Quarrying (NAICS 212)* remained comparatively stagnant over the same period – aside from temporary spikes during brief periods of volatility.



FIGURE 14 Immigrants’ Share of the Workforce (Three-Month Moving Average), Mining and Quarrying (NAICS 212) (2007 – 2023)



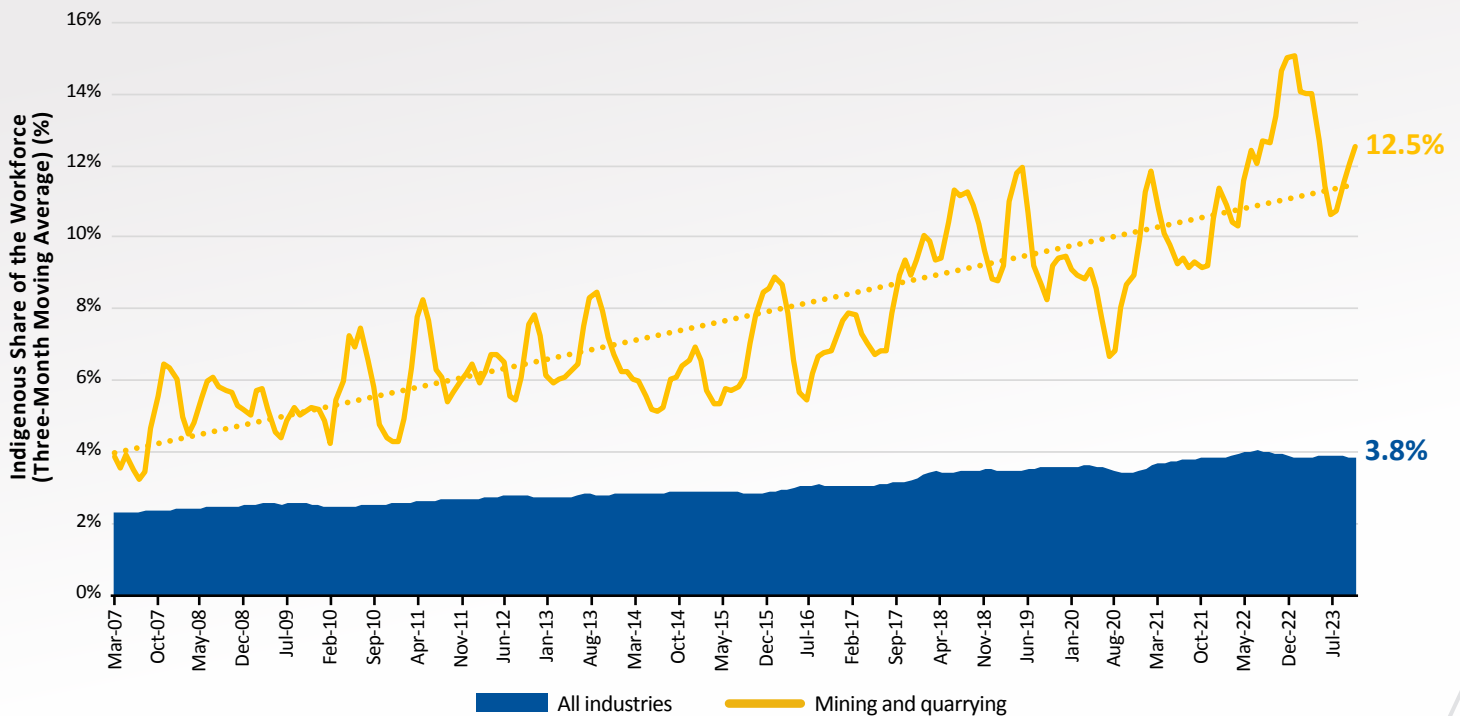
Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2023; Statistics Canada, Labour Force Survey (Custom Data).

Indigenous Peoples in Mining

One of the largest employers of Indigenous peoples in Canada, mining continues to outperform other industries in terms of Indigenous representation. In 2023, Indigenous workers average representation was about 12.8% of the *Mining and Quarrying (NAICS 212)* workforce, comparatively higher than 3.9% across all industries (Figure 15). From 2007 to 2022, Indigenous representation in mining has tripled, pointing to a favourable trend for Indigenous employment outcomes in the mining sector. On the other hand, a high share of Indigenous workers does not necessarily indicate that occupation and skills outcomes are positive for those Indigenous workers in the industry.



FIGURE 15 Indigenous Share of the Workforce (Three-Month Moving Average), Mining and Quarrying (NAICS 212) (2007 – 2023)



Source: Mining Industry Human Resources Council, Canadian Mining Workplace Profile, 2024; Statistics Canada, Labour Force Survey (Custom Data).

Summary of Key Findings



The following summarizes the main findings of this workplace profile report:

Producing Mines Across Canada:

- There were 132 producing mines in Canada in 2023. Though mines are found in all corners of the country, the largest cluster of mining activity is found in Northeast Ontario and Abitibi-Témiscamingue, Québec.
- Gold is the leading metal produced in Canada with 35% of production (by value of shipments), while potash holds the largest non-metal production at 82% (not including coal and aggregates production).

Critical Mineral Production in Canada:

- The shift to a green economy in Canada will depend on critical minerals that will make clean energy technologies possible.
- With its vast geological landscape, Canada is well-positioned to be a key producer of critical minerals. Currently, Canada has numerous projects focussed on a variety of critical minerals, including Zinc, Copper, Cobalt, Nickel, among several others.

Mining Workforce Across Canada:

- Mining workers, like producing mines, are present in all corners of Canada, particularly in the northeastern parts of the country (Ontario and Quebec), but also in remote, less densely populated areas.

Capital and Labour:

- In *Mining, Quarrying, and Oil and Gas Extraction (NAICS 21)* operations, the ratio of capital-to-labour has consistently been on the rise over the last four decades, suggesting further capital deepening in the mining industry.

Annual Average Hours of Work:

- Average work hours per worker have been trending upward in *Mining and Quarrying (NAICS 212)*.
- For full-time workers, the average number of work hours has expanded by 4%, or roughly 12 more working days per year.

Hourly Wage:

- Hourly wages for employees have also been trending up for both full-time and part-time workers in *Mining and Quarrying (NAICS 212)*.
- Over the past two decades, full-time wages have grown at 3% CAGR while part-time wages have grown at 3.8% CAGR.

Unionization Rate:

- While unionization rates for all industries have been historically stable at around 30%, rates in natural resources industries have fallen from 29% in 1997 to 18% in 2022.
- In 2023, however, unionization rates experienced a revival, jumping to 20%, or about an 8% growth from the previous year.

Labour Productivity:

- *Mining, Quarrying, and Oil and Gas Extraction (NAICS 21)* has experienced a steady rise in labour productivity since 2012 (about a 40% increase as of 2021).
- Labour productivity growth in the past decade has been driven primarily by increasing investment in capital, indicating that capital deepening and labour augmenting technology has made workers more productive.

Occupational Mix:

- *Underground Miners (NOC 83100)* remain the largest occupation in Canada's mining sector, with nearly a quarter of the workforce in *Mining and Quarrying (NAICS 212)*.
- The share of this occupation surged to over 30% in 2020 and has since reverted in the 2020's to under 25% in 2023, reinforcing a degree of stability that underlies the occupational mix.

Educational Mix:

- In *Mining and Quarrying (NAICS 212)*, the share of workers with a post-secondary education certificate (i.e., university, and trades) has increased while the share of workers with no post-secondary education (i.e., high school and no certificate) has been diminishing.
- In 2023, the post-secondary trend regressed but remained 5% higher than a decade ago.
- As methods of mineral extraction become progressively more advanced, the educational requirement of the workforce needs to evolve to include a greater share of workers with post-secondary training.

Age Breakdown:

- The workforce in *Mining, Quarrying and Oil and Gas Extraction (NAICS 21)* shows a widening age gap.
- From 2011 to 2023, the share of workers under 25 years old has declined from 12% to 5%, while the share of workers 55 years and older has climbed from 13% to 18%.
- The shift to a relatively older workforce appears to be permanent as the mounting gap has not shown signs of reversing.
- The ongoing exodus of baby boomers from the labour force may prove problematic for labour markets to the extent that ensuing generations will be unable to offset the number of retirees.

Women in Mining:

- At roughly half of the overall workforce, women represent a sizable group with the potential to answer talent shortages.
- Yet, in 2023, women averaged roughly 16.8% of the *Mining and Quarrying (NAICS 212)* workforce, only 3.7% points greater than in 2007.
- The trend over this period is rather flat and insignificant, showing the durability of the current status quo state.

Immigrants in Mining:

- Immigrant workers present a significant opportunity for the mining industry to expand its sources of labour supply.
- In 2023, immigrants represented roughly 32% Canada's overall workforce, but only 8% of the *Mining and Quarrying (NAICS 212)* workforce.
- Other industries continue to grow their immigrant ranks more rapidly than the mining sector.

Indigenous Peoples in Mining:

- Mining continues to outperform other industries in terms of Indigenous representation.
- In 2023, Indigenous workers' average representation was about 12.8% of the *Mining and Quarrying (NAICS 212)* workforce, comparatively higher than 3.9% across all industries.
- From 2007 to 2022, Indigenous representation in mining has tripled, pointing to a favourable trend for Indigenous employment outcomes in the mining sector.

