Close-up on the bio-economy

LABOUR MARKET INTELLIGENCE

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BioTalent Canada supports the people behind life-changing science. Trusted as the go-to source for labour market intelligence, we guide bio-economy stakeholders with evidence-based data and industry-driven standards. We are focused on igniting the industry's brainpower, bridging the gap between job-ready talent and employers, and ensuring the long-term agility, resiliency and sustainability of one of Canada's most vital sectors.

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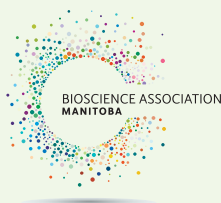
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BioTalent Canada's 2021 series of labour market intelligence (LMI) reports, *Close-up on the bio-economy*,[1] aims to provide the perspective bio-economy organizations need to find, recruit, train and retain talented teams based on real, meaningful understanding of the labour market. For the first time, the data offers deeper insights into the labour market conditions specific to individual metro hub regions within Canada. This report looks at the conditions in **Greater Montreal**.[2] Because of the small sample size for this spotlight, caution should be used when comparing to national data or data from other regions.

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1   The series includes a national LMI report, a demand and supply outlook, five regional spotlights, three metro hub spotlights and a number of additional research briefs.

2   Greater Montreal includes the islands of Montreal and Laval, the agglomeration of Longueuil, and the neighbouring North and South Shore communities.
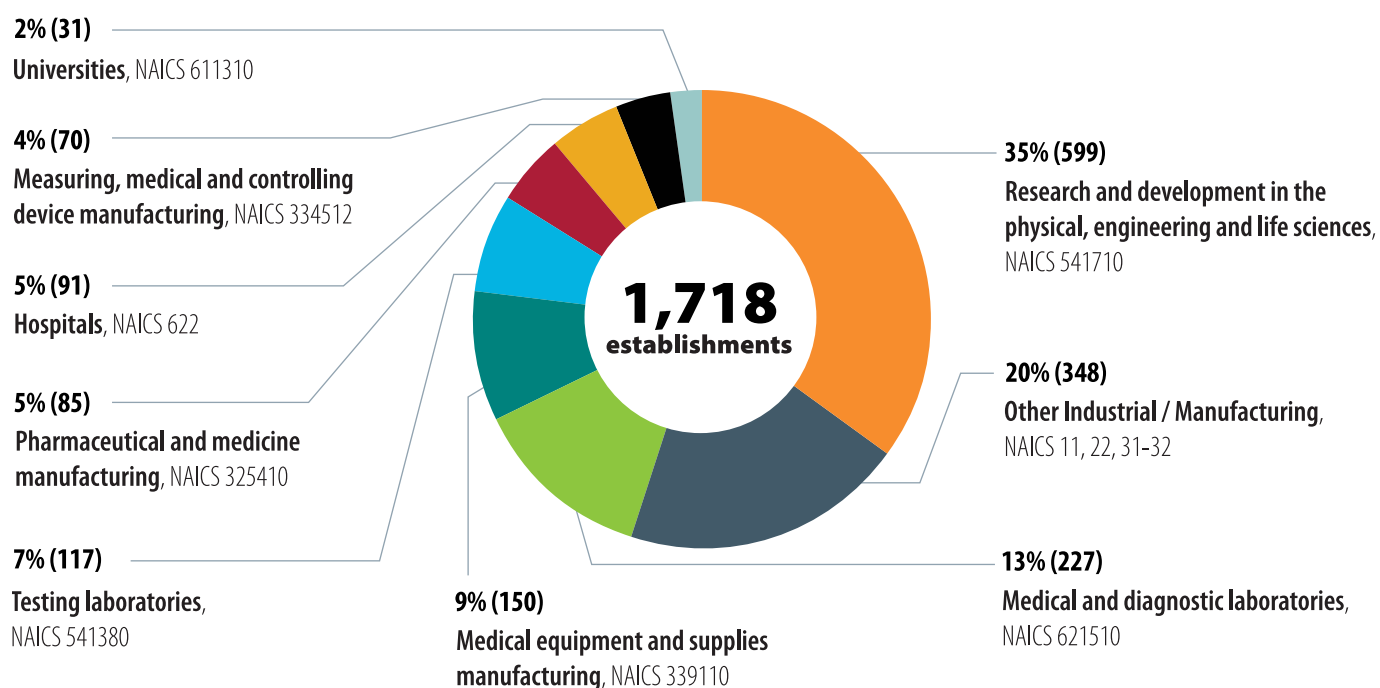
Who's in the Greater Montreal bio-economy?

The Greater Montreal bio-economy contains some **1,700 organizations**, which collectively employed around **33,400 people** in 2019 in a wide range of functions, from researchers to distribution and logistics managers.

Employers in profile

Small and medium-sized companies dominate. Nearly two-thirds (60%) have been in business less than 15 years. According to the North American Industry Classification System (NAICS), organizations dedicated to physical, engineering and life sciences R&D (NAICS 541710) make up one-third (35%) of the Greater Montreal bio-economy.

FIGURE 1. Bio-economy establishments by NAICS industrial sector, Greater Montreal

2% (31)
Universities, NAICS 611310

4% (70)
Measuring, medical and controlling device manufacturing, NAICS 334512

5% (91)
Hospitals, NAICS 622

5% (85)
Pharmaceutical and medicine manufacturing, NAICS 325410

7% (117)
Testing laboratories, NAICS 541380

9% (150)
Medical equipment and supplies manufacturing, NAICS 339110

1,718 establishments

35% (599)
Research and development in the physical, engineering and life sciences, NAICS 541710

20% (348)
Other Industrial / Manufacturing, NAICS 11, 22, 31-32

13% (227)
Medical and diagnostic laboratories, NAICS 621510

Source: BioTalent Canada Modeling and Projections (2020)

50% have 20 or fewer full-time employees.

FIGURE 2. Bio-economy companies by number of full-time employees, Greater Montreal vs. national

Legend: ■ Greater Montreal ■ Canada

Category	Greater Montreal	Canada
5 or fewer	25%	38%
6 to 20	25%	31%
21 to 500	46%	26%
more than 500	4%	5%
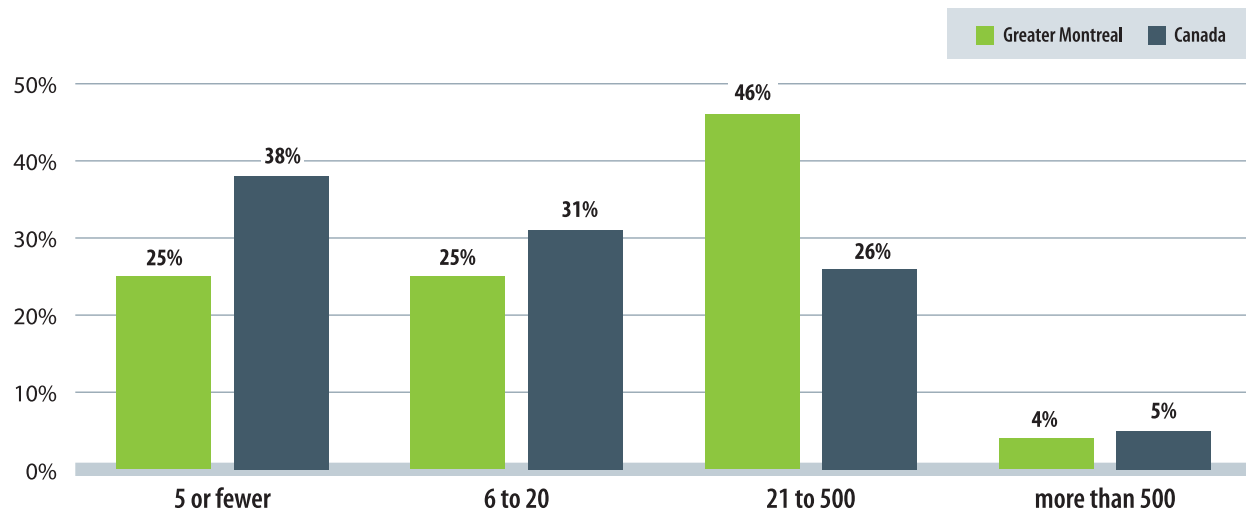
Source: BioTalent Canada, Survey of Employers 2020

# Nearly half have annual total gross revenues of less than $1 million.

FIGURE 3. Bio-economy companies by annual total gross revenue, Greater Montreal vs. national

Legend: ■ Greater Montreal ■ Canada

Category	Greater Montreal	Canada
0 to $49,999	24%	16%
$50,000 to $249,999	10%	17%
$250,000 to $999,999	10%	22%
$1,000,000 to $4,999,999	14%	26%
$5,000,000 to $49,999,999	33%	13%
$50,000,000 or more	9%	7%
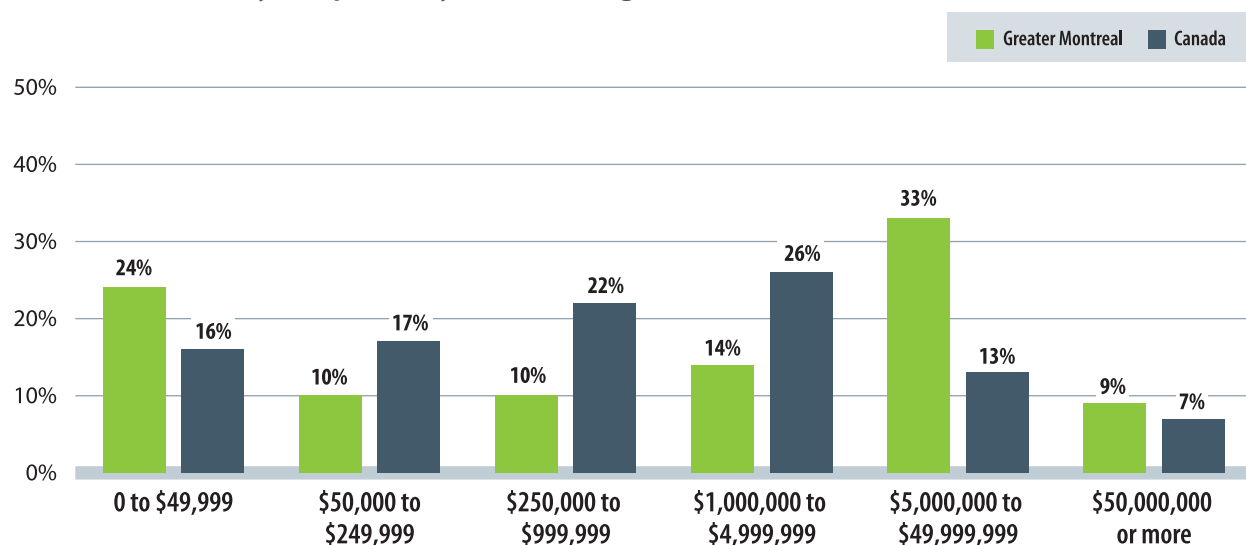
Source: BioTalent Canada, Survey of Employers 2020

Bio-health is the largest sub-sector in Greater Montreal.

FIGURE 4. Companies by primary sub-sector, Greater Montreal

- 12% Bio-industrial
- 13% Agri-bio
- 75% Bio-health
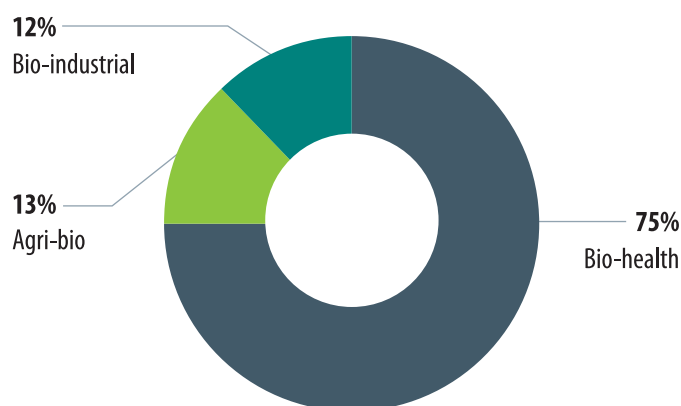
Source: BioTalent Canada, Survey of Employers 2020

Workers in profile

R&D and manufacturing account for nearly half of bio-economy jobs in Greater Montreal. While overall diversity is low, the area boasts a higher average percentage (44%) of women in its bio-economy than any other region in Canada.

TABLE 1. Employment by job category and sub-sector, Greater Montreal

Job category	Total	Agri-bio	Bio-energy	Bio-health	Bio-industrial
Research and development	26%	33%	26%	28%	20%
Manufacturing and production	23%	22%	34%	17%	36%
Management, finance and administration	14%	12%	16%	14%	14%
Distribution and logistics	6%	6%	5%	6%	6%
Quality control and quality assurance	5%	6%	4%	6%	5%
Marketing, business development and sales	5%	6%	5%	5%	5%
Information technology	3%	3%	1%	4%	2%
Legal and regulatory affairs	2%	2%	1%	2%	1%
Other	16%	10%	7%	19%	12%

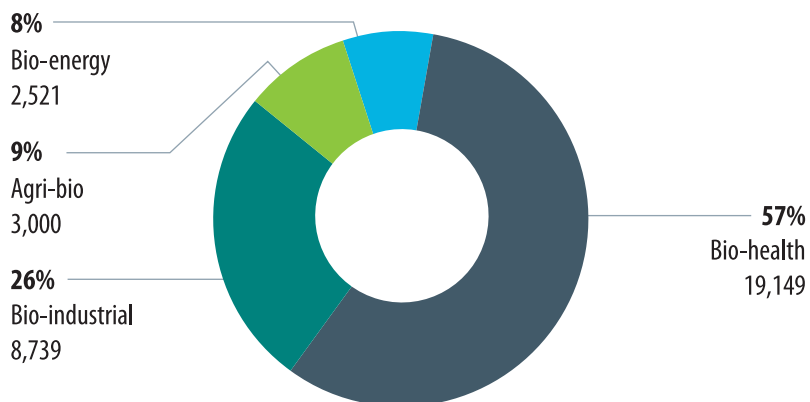Source: BioTalent Canada Modeling and Projections (2020)

TABLE 2. Top five industries by NAICS code and estimated employment, Greater Montreal

Industry	Bio-economy employment	Share of total bio-economy employment
R&D in physical, engineering and life sciences (NAICS 541710)	8,820	26%
Pharmaceutical and medicine manufacturing (NAICS 3254)	6,030	18%
Hospitals (NAICS 6220)	3,310	10%
Soap, cleaning compound and toilet preparation manufacturing (NAICS 3256)	2,550	8%
Testing laboratories (NAICS 541380)	2,330	7%
Other	10,360	31%
Total	**33,400**	**100%**

Source: BioTalent Canada Modeling and Projections (2020)

More than half of all employees work in bio-health and ¼ work in the bio-industrial sub-sector.
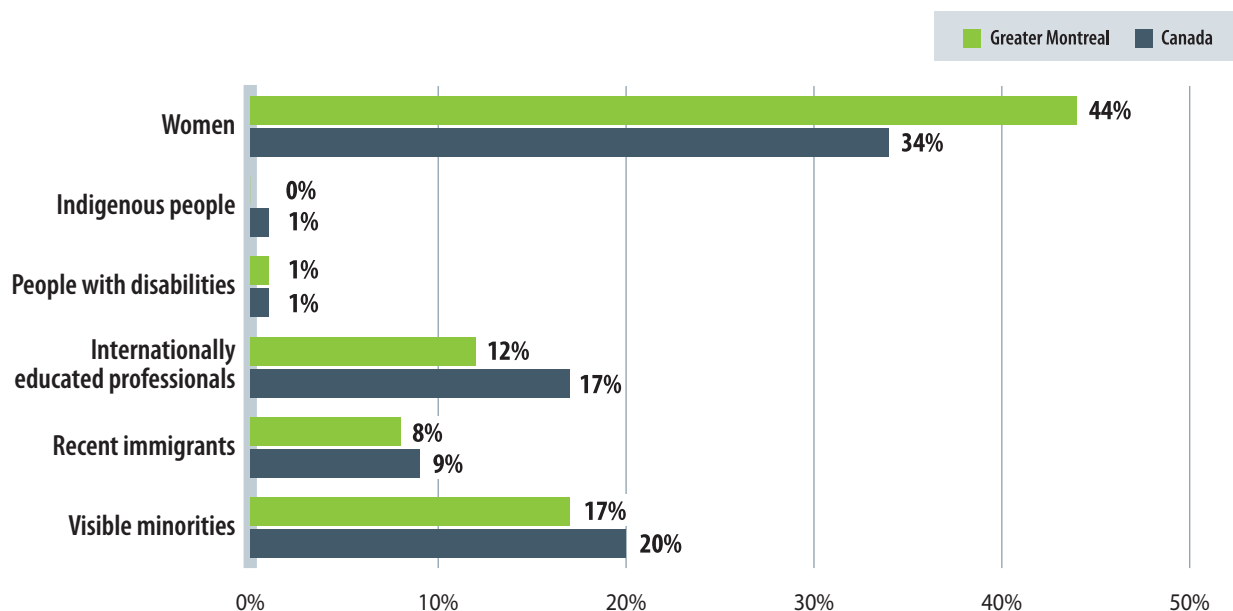
FIGURE 5. Bio-economy employment estimates by sub-sector, Greater Montreal

8%
Bio-energy
2,521

9%
Agri-bio
3,000

26%
Bio-industrial
8,739

57%
Bio-health
19,149

Source: BioTalent Canada Modeling and Projections (2020)

Even with a high proportion of women, the Greater Montreal bio-economy could still be more diverse.

FIGURE 6. Workers by equity-seeking group status, Greater Montreal vs. national

Legend: Greater Montreal | Canada

Category	Greater Montreal	Canada
Women	44%	34%
Indigenous people	0%	1%
People with disabilities	1%	1%
Internationally educated professionals	12%	17%
Recent immigrants	8%	9%
Visible minorities	17%	20%

Source: BioTalent Canada, Survey of Employers 2020

Greater Montreal labour market outlook

By the end of the decade, the Greater Montreal bio-economy will need an **additional 10,100 workers**, for a total workforce of **approximately 36,000 people**. Despite a 6% contraction in Greater Montreal's overall 2020 GDP caused by COVID-19, the economy is expected to rebound within the short term and return to normal growth levels for the medium/longer term.[3] Most of the additional workers will be needed to meet replacement demand.[4] R&D and manufacturing roles are among the top three areas where Greater Montreal employers in all four sub-sectors need to hire (Tables 3 and 4).

TABLE 3. 2029 hiring requirements by sub-sector, Greater Montreal

Sub-sector	Workers needed	Demand type	Key roles
Bio-health	5,800	Mostly replacement	▸ Other (24%) ▸ R&D (22%) ▸ Manufacturing (19%)
Bio-industrial	2,700	Mostly replacement	▸ Manufacturing (37%) ▸ Management, finance and administration (17%) ▸ R&D (15%)
Agri-bio	900	Mostly replacement	▸ Manufacturing (26%) ▸ R&D (25%) ▸ Management, finance and administration (17%)
Bio-energy	750	Virtually all replacement	▸ Manufacturing (45%) ▸ Management, finance and administration (25%) ▸ R&D (16%)

Source: BioTalent Canada Modeling and Projections (2020)

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3   *This study considered three time periods for its economic forecasts: immediate (to explore pandemic-related changes between 2019 and 2020), short term (2021 to 2024) and medium/longer term (2025 to 2029).*

4   *Replacement demand refers to the need to hire workers to replace retirees or individuals leaving the workforce for other reasons.*

Job function	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total	%
Manufacturing and production	500	310	360	290	150	250	220	250	260	**2,590**	**26%**
Research and development	(-120)	290	330	270	100	280	260	290	300	**2,000**	**20%**
Management, finance and administration	180	210	230	200	100	190	170	190	190	**1,660**	**17%**
Distribution and logistics	40	80	90	70	30	70	70	70	80	**600**	**6%**
Marketing, business development and sales	100	70	80	60	20	60	50	60	60	**560**	**6%**
Quality control and assurance	50	60	70	60	10	60	60	70	70	**510**	**5%**
Information technology	<10	30	40	30	<10	30	30	30	40	**230**	**2%**
Legal and regulatory affairs	(-20)	20	20	20	<10	20	20	20	20	**120**	**1%**
Other	160	220	240	210	130	200	200	210	220	**1,790**	**18%**
Total	**890**	**1,290**	**1,460**	**1,210**	**540**	**1,160**	**1,080**	**1,190**	**1,240**	**10,060**	**100%**

Note: Numbers have been rounded.

Source: BioTalent Canada Modeling and Projections (2020)

■ Meeting demand

The youth share of the population,[5] historically critical to the labour supply, has been steadily declining since 2001 and is expected to continue to fall. At the same time, the share aged 55 years and older continues to rise, leading to an imbalance where there are not enough youth entering the workforce to replace those retiring. As a result, Greater Montreal bio-economy companies will have to **recruit more heavily from under-tapped talent pools**, including recent immigrants and internationally educated professionals. A large proportion of immigrants to Canada tend to settle in large urban centres like Greater Montreal, and many have relevant post-secondary education or are students in relevant fields.

New talent pools will be important because **domestic undergraduate completions in Quebec overall are expected to fall over the long term, despite a short-term rise.**[6] Over the same forecast period (beginning in 2020), master's completions are expected to rise and doctorate completions will hold fairly steady. Growing enrolments by international students at Montreal-area institutions may help mitigate some of the domestic undergraduate losses.

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5   *The definition of "youth" varies depending on the source. While BioTalent Canada defines "youth" as under 30, the source data for this report defines youth as under 25.*

6   *Because most of Quebec's post-secondary bio-economy-related programs are in Greater Montreal, enrolment in these programs in Greater Montreal can be assumed to be very similar to enrolment in the province overall.*

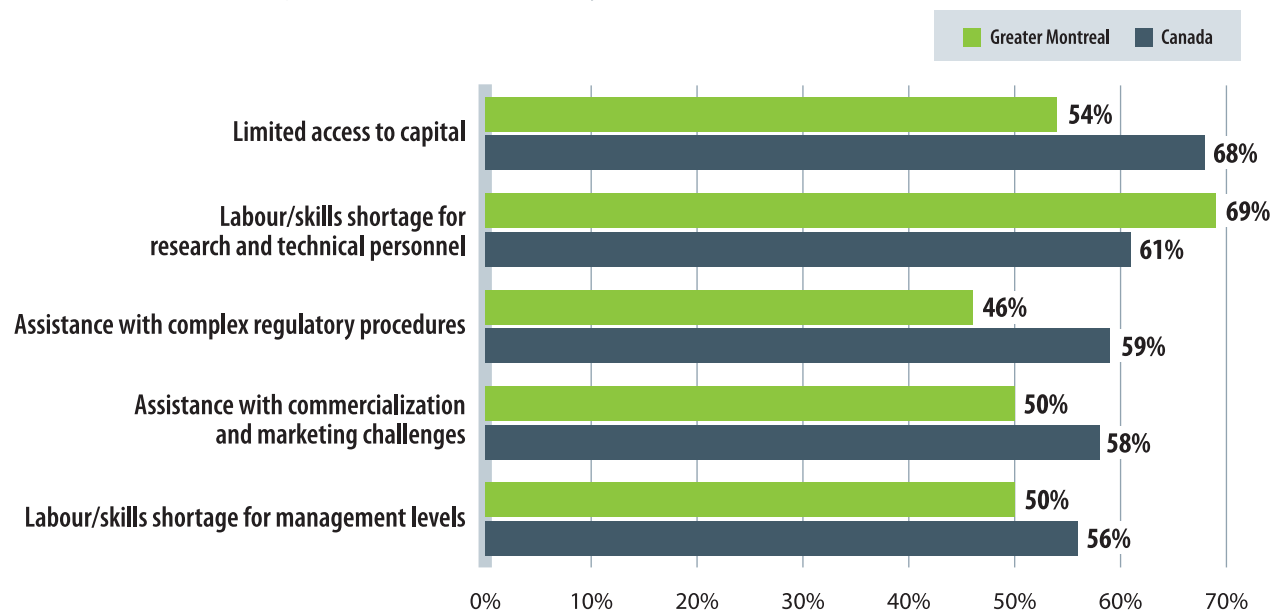**FIGURE 7.** Domestic degree completions by study level, Quebec
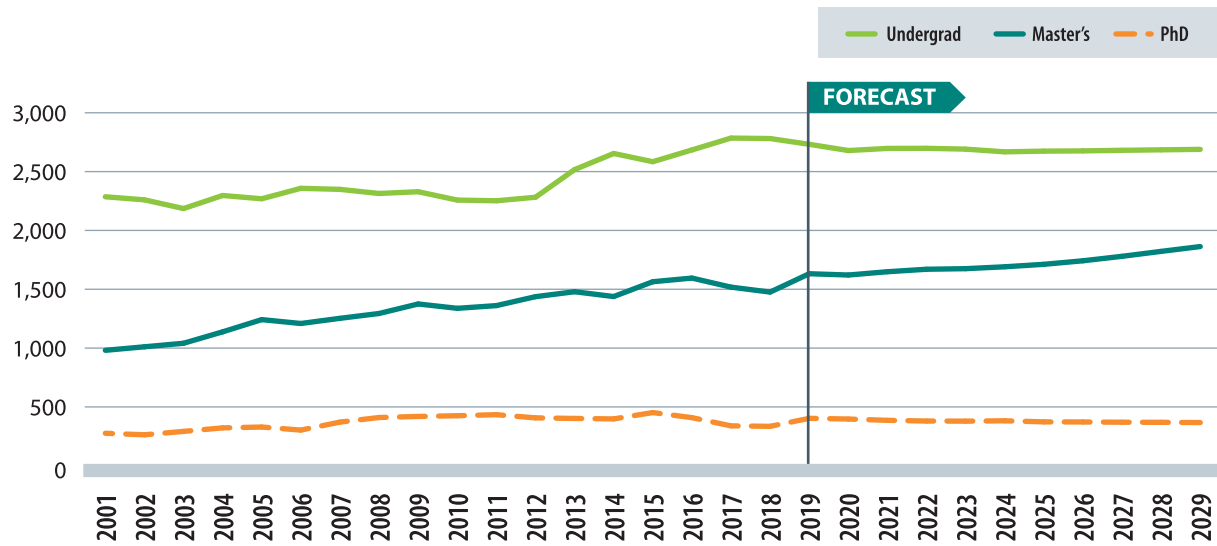
Source: BioTalent Canada Modeling and Projections (2020)

HR challenges in Greater Montreal

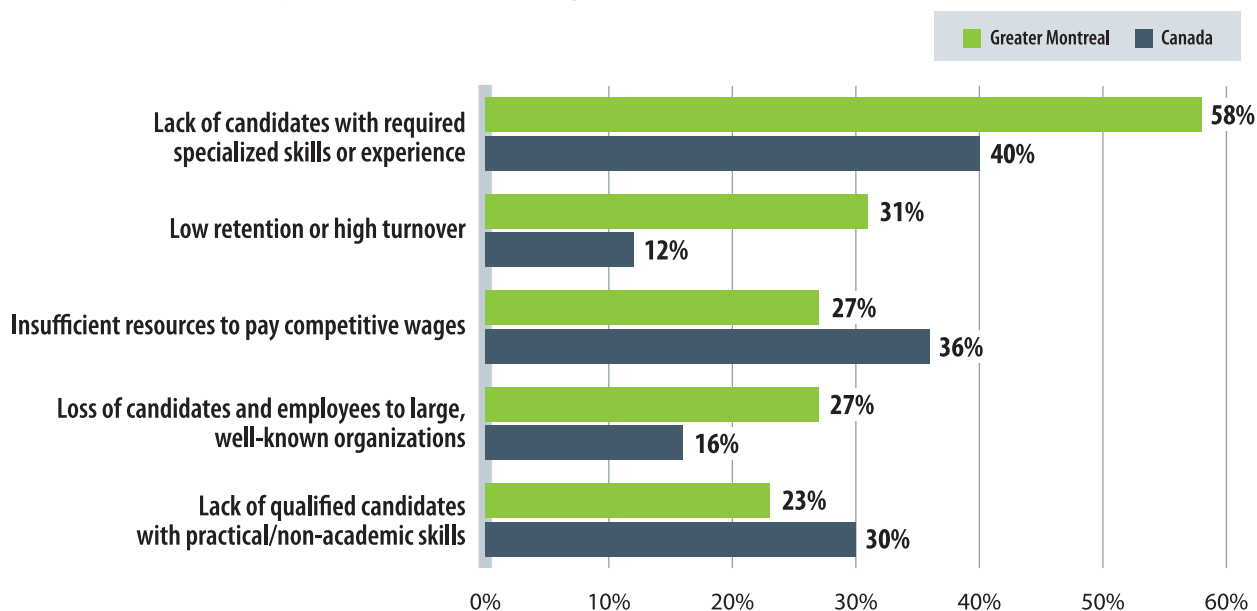## HR-related difficulties impede bio-economy company development.

FIGURE 8. Modest and major obstacles to company development, Greater Montreal vs. national

Legend: ■ Greater Montreal ■ Canada

	Greater Montreal	Canada
Limited access to capital	54%	68%
Labour/skills shortage for research and technical personnel	69%	61%
Assistance with complex regulatory procedures	46%	59%
Assistance with commercialization and marketing challenges	50%	58%
Labour/skills shortage for management levels	50%	56%

Source: BioTalent Canada, Survey of Employers 2020

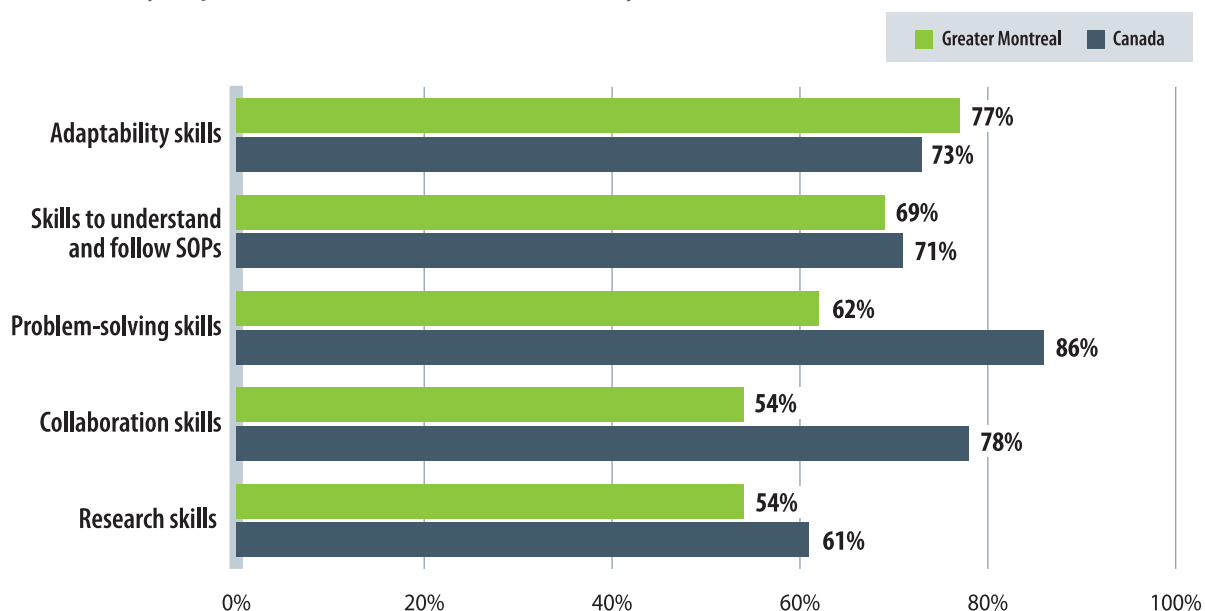# More than half of employers cite a lack of qualified candidates as a top HR challenge.

FIGURE 9. Top HR challenges for the bio-economy, Greater Montreal vs. national

Legend: Greater Montreal, Canada

Challenge	Greater Montreal	Canada
Lack of candidates with required specialized skills or experience	58%	40%
Low retention or high turnover	31%	12%
Insufficient resources to pay competitive wages	27%	36%
Loss of candidates and employees to large, well-known organizations	27%	16%
Lack of qualified candidates with practical/non-academic skills	23%	30%

Source: BioTalent Canada, Survey of Employers 2020

Adaptability skills are key.

FIGURE 10. "Very important" skills for the bio-economy, Greater Montreal vs. national

Legend: Greater Montreal, Canada

Skill	Greater Montreal	Canada
Adaptability skills	77%	73%
Skills to understand and follow SOPs	69%	71%
Problem-solving skills	62%	86%
Collaboration skills	54%	78%
Research skills	54%	61%

Source: BioTalent Canada, Survey of Employers 2020

Recruitment through personal contacts may make it harder to reach and hire from a diverse talent pool.

FIGURE 11. Recruitment approaches, Greater Montreal vs. national

Legend: ■ Greater Montreal ■ Canada

Personal contacts/employee referrals
- Greater Montreal: 77%
- Canada: 74%

Job banks/internet/online resources
- Greater Montreal: 69%
- Canada: 67%

Company website
- Greater Montreal: 62%
- Canada: 41%

(x-axis: 0% to 80%)
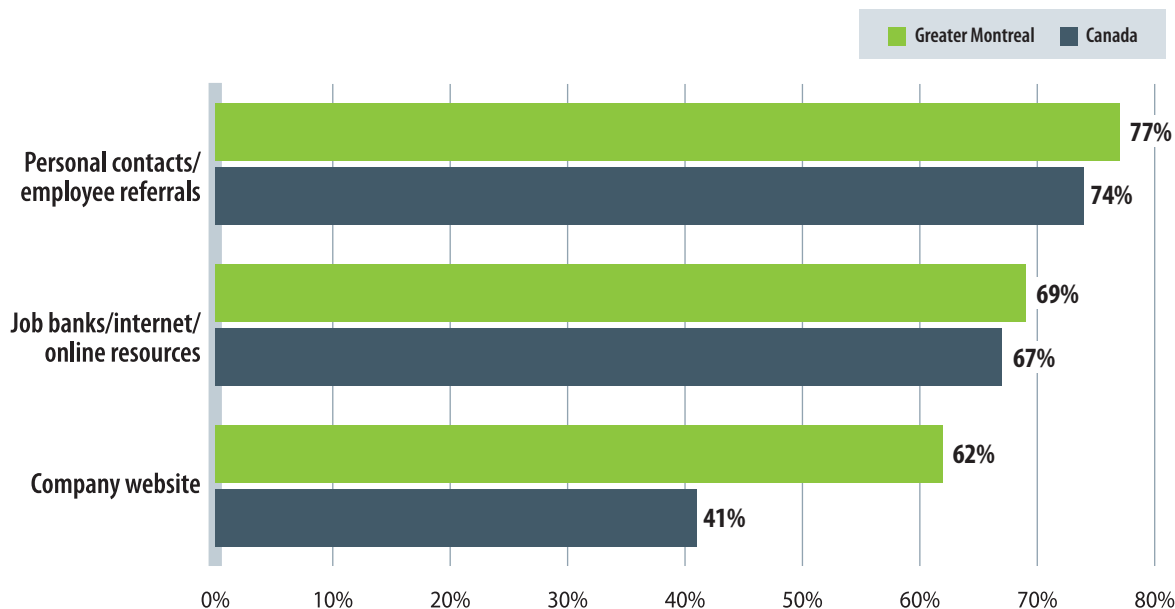
Source: BioTalent Canada, Survey of Employers 2020

Path forward

Greater Montreal is Canada's second-largest metropolitan area by population and a hub for both industry and education. The area attracts students from around Quebec, outside the province and from abroad, and many stay after graduation, drawn to employment opportunities and the urban Montreal lifestyle. Quebec shows a high level of sub-regional labour force mobility, with many people commuting into and out of Montreal from other parts of the province. However, COVID-19 restrictions in 2020 and 2021 led to a greater number of people moving out of the area, and it remains to be seen whether that trend will continue and how it might affect the area's labour supply.

As elsewhere, bio-economy companies in Greater Montreal are already struggling to fill many roles, and their challenges are expected to worsen throughout the decade. To meet their talent needs, they will have to change their approaches to recruitment, training and other HR practices. See our national LMI report and related products for more on Canada's bio-economy labour market, including recommendations on how to meet sector needs going forward.

A total of 26 companies from the Greater Montreal bio-economy participated in the surveys informing this report. The margin of error with this sample size is approximately +/-19%, 19 times out of 20. For this reason, caution is recommended when interpreting the results of this survey.

Funding opportunities for growth

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It includes:

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- **Regional spotlights** (Atlantic Canada, Quebec, Ontario, Prairies, Western Canada)

- **Metro hub spotlights** (Greater Montreal, Greater Toronto Area, Metro Vancouver)
- Research briefs on topics such as bio-economy education and work-integrated learning

Visit biotalent.ca/LMIStudy to download these and other LMI reports, briefs and articles.

Research partners

The following researchers contributed to the development of this research and report:

- DPM Research Inc.
- Prism Economics & Analysis Inc.
- EKOS Research Associates Inc.
- Ipsos

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