

Overview of Quebec's Economic Landscape

Exploring the Trends and
Factors Shaping Quebec's
Economy in 2024-2026

Produced under CEDEC's Economic & Labour Market Development
Applied Research Program (ELMDARP) for the Official Language
Minority Community in Quebec (OLMCQ).

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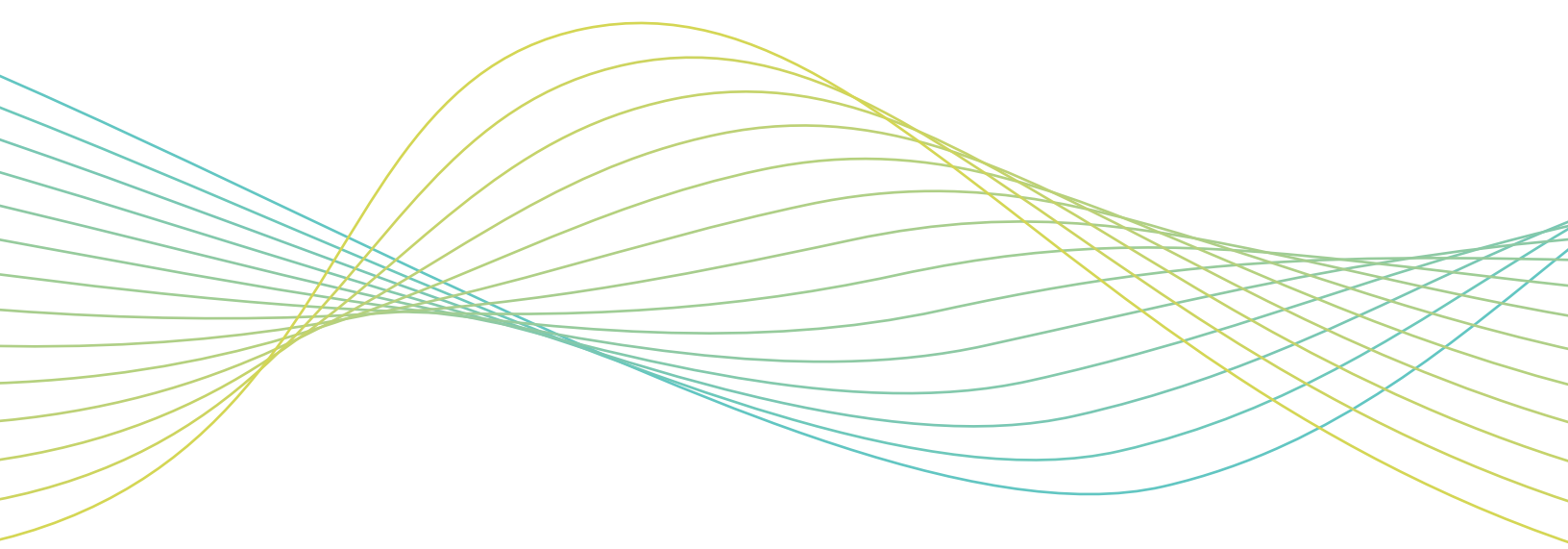
Executive Summary

The Quebec economy finds itself at a crossroads influenced by a web of global, national, and provincial dynamics. In the aftermath of the unprecedented disruptions caused by the COVID-19 pandemic and amid ongoing geopolitical uncertainties, post-COVID optimism has been tempered by the lingering fiscal pressures and tight financial conditions.

Within the broader Canadian context, the economic narrative presents a number of challenges and opportunities. Canada, like its global counterparts, is navigating the waves of recovery, but a closer inspection reveals fiscal pressures stemming from the extensive support measures implemented during the pandemic. As the nation grapples with these fiscal challenges and the impact of monetary tightening, the report sheds light on the implications for Quebec, considering both the province's comparable and unique economic characteristics and its role within the larger Canadian economic framework.

Zooming in on Quebec, a distinctive set of economic factors shapes the provincial landscape. While the province mirrors national trends of economic activity and fiscal pressures, the report highlights Quebec's specific challenges arising from an aging population and tight labour market. As demand for skilled workers intensifies, the province faces the imperative to adapt its workforce and education systems to meet evolving needs. In addition, the report explores how Quebec is positioned within the broader narrative of Canada's struggle to address the impacts of an aging population on labour supply, emphasizing the necessity for innovative solutions such as digital transformation to mitigate potential economic repercussions.

In the face of these multifaceted challenges, the report sets the stage for a deeper exploration of three pivotal trends that are shaping the Quebec economy. These trends not only define the province's economic trajectory but also present strategic opportunities for stakeholders to foster sustainable growth and resilience in the years ahead.



Digitization Across Sectors: The Quebec economy is rapidly adapting to the digital era, with transformative impacts resonating across manufacturing, agriculture, health care, education, and tourism. This trend not only enhances efficiency but also fosters innovation, positioning Quebec as a competitive force on the global stage.

Demographic Changes and Solutions: A significant trend shaping Quebec's economic landscape is the demographic shift, particularly the aging population. As the province grapples with the consequences of an older workforce, the report emphasizes the critical role of strategic solutions. Immigration emerges as a key driver, bringing fresh skills and perspectives, while repurposing educational and skill development offerings and career development initiatives are vital for adapting the workforce to evolving demands.

Green Energy Investments: Quebec is witnessing a shift towards sustainable practices to meet its energy targets, with considerable investments in green energy initiatives. This trend spans various sectors, including manufacturing (electric vehicles), aerospace, transportation, agriculture and housing.

This report offers strategic insights and illustrations of collaborative economic development opportunities for stakeholders navigating the evolving Quebec economy. It underscores the importance of embracing digitalization, leveraging demographic shifts, and capitalizing on green investments. By understanding and harnessing these trends, public, private, and civil society collaboration, innovation and a forward-looking vision, the province can chart a course towards sustainable economic development that benefits future generations.

As it navigates these trends, initiatives, investments and programs, this document provides a starting point from which to recognize and understand the potential opportunities and challenges faced by English-speaking communities in the province. However, it is crucial to acknowledge that the complexities of this landscape require a more detailed and nuanced examination. As such, future research will look at delving into conducting more targeted and granular analyses to identify specific opportunities, address unique needs, and formulate strategic recommendations that empower English-speaking communities to actively participate and thrive in Quebec's evolving economic landscape. Through ongoing research efforts, CEDEC endeavors to translate such opportunities into Ventures that ensure the economic well-being of all linguistic and cultural communities within the province.

01

Basic Economic Development Ideas and Frameworks



A BETTER ECONOMY FOR BETTER LIVES

A thriving economy is central to improving the lives and well-being of Canadians, inclusive of Canada's Official Language Minority Communities, in particular the English-speaking Community of Quebec (ESCQ).

As economies around the world continue to move through their post-pandemic recovery mode, investments in digital and green infrastructure are growing and accelerating. Economic development today is fostering a more innovative, more productive, more equitable and more sustainable economy.

WHAT IS AN ECONOMY AND WHY IS IT IMPORTANT?

The economy is a complex system of interrelated production, consumption, and exchange activities, involving private, public, and civil society actors. The economy determines how scarce resources are allocated and employed. Sustaining and growing the well-being of individuals and communities across Quebec is dependent upon our collective ability to fashion a thriving economy which integrates and leverages local, regional, provincial, national, and global dimensions and dynamics.

CULTIVATING COLLABORATION AS THE FUTURE ENGINE OF ESCQ ECONOMIC DEVELOPMENT

Today, Quebec's economy needs significant economic collaboration, experimentation, and innovation to generate sustainable wealth benefiting all.

Collaborative Economic Development brings people, knowledge, and resources together in Quebec to strengthen our economic creativity. Our collective inventiveness and ingenuity allow us to enhance our capacity to take better advantage

of our knowledge, natural resource, place, scientific and technological, social and health care assets and advantages to generate tangible economic benefits for individuals and communities. This is especially true in our current context when our economy is confronted with profound changes and disruptions rooted in a technological revolution, productivity challenges, and global geopolitical conflicts and realignments.

The Coalition for a Better Future Urges Government to Develop A Robust Plan to Boost Productivity and Prosperity for All Canadians.

"It has been seven months since we released the coalition's annual scorecard of key metrics for Canada's economy and expressed deep concern about the persistent weakness threatening to undermine our future prosperity. Since then, our worries have only become heightened.

On a per-capita basis, our economy has not only stalled but is contracting.

Real GDP per capita has fallen over the past year faster than at any time in at least six decades outside of a recession, and we are producing less per person today than we were in 2018.

Labour productivity, the amount of output generated per hour worked, looks even worse."

ANNE MCLELLAN AND LISA RAITT

The Globe and Mail – November 5, 2023

The ESCQ was, is, and will continue to be an important contributor to growing Quebec's economy. Collaborative Economic Development offers optimal potential for unlocking ESCQ creativity and economic innovation. It is based on the premise that by leveraging the human, financial and material resources of public, private, civil society (PPCS) sectors, collaboration will **produce better and more tangible economic results** for individuals and communities when compared to more common unilateral or bi-sectoral approaches to economic development.

Achieving unprecedented collaboration across multiple sectors and disciplines is the key to long term ESCQ economic growth

- ▮ Across the English-speaking Community of Quebec (ESCQ).
- ▮ Between the ESCQ and the Francophone majority of Quebec.
- ▮ Across Government of Canada Official Language economic development investors in Quebec and the ESCQ.
- ▮ Between the Government of Canada and the Official Language Minority Community in Quebec.

Accordingly, Collaborative Economic Development is “**borderless**”. It is an innovative and scalable model which works collaboratively across areas of expertise, sectors, communities, regions, and industries to include and expand the number of individuals and communities actively participating in and benefitting from a thriving Quebec economy.

Leveraging the human, financial and material resources of public, private, civil society (PPCS) sectors has the great strength of pooling and leveraging human, financial and material resources. It also possesses inherent challenges and risks, as working better together in an atmosphere of mutual trust and support is far more daunting than working

alone or in small groups. This is especially true when the time comes to make positive and future-oriented decisions and trade-offs for the common good of the ESCQ and all Quebecers.

In this context, pursuing common purpose collaboratively within a complex economy best succeeds when it is actively supported by an independent organization that is the thought leader and anchor in co-creating economic end-state benefits for individuals and communities. The Community Economic Development and Employability Corporation (CEDEC) acts as the **ESCQ Collaborative Economic Development HUB**, providing it with relevant and timely Collaborative Economic Development knowledge, expertise, advice, and technical support.

As the **Collaborative Economic Development HUB**, CEDEC plays the role of convener, facilitator, broker, problem solver, centre of expertise, and policy and program advocate.

PROVIDING A STRATEGIC FRAMEWORK AND NURTURING STRATEGIC ALIGNMENT

ESCQ TEN YEAR COLLABORATIVE ECONOMIC DEVELOPMENT TARGETS

- ▮ Create or expand 250 businesses and social enterprises, create or fill 1000 jobs, attract \$5M in additional new economic investments to the ESCQ.
- ▮ **Reduce by 50% the economic and labour market disparities** between the ESCQ and Francophones inside and outside of Quebec.

With the support of CEDEC and its partners, Quebec's English-speaking Community (ESCQ) has developed a bold Ten-Year Economic Development Plan focused on identifying and taking advantage of promising opportunities to accomplish the following:

- ▮ Increase the ESCQ's participation in and contribution to the growth of Quebec's economy.
- ▮ Derive greater tangible economic benefits from its economic development contributions for English-speakers and the ESCQ.



250

CREATED OR EXPANDED
BUSINESSES AND SOCIAL
ENTERPRISES



1000

JOBS CREATED
OR FILLED



\$5M

IN ADDITIONAL NEW
ECONOMIC INVESTMENTS
TO THE ESCQ

02

The 2024–2026 Overview of Quebec's Economic Landscape



One of CEDEC's key roles as the Collaborative Economic Development HUB is to provide the ESCQ with relevant and timely knowledge to better identify promising Collaborative Economic Development opportunities in Quebec and strengthen the community's capacity to take advantage of them. In this regard, *CEDEC's 2024-2026 Overview of Quebec's Economic Landscape* makes an important contribution to helping the ESCQ focus on promising areas development in the Quebec economy.

CEDEC's 2024-2026 Overview of Quebec's Economic Landscape

- ▮ Identifies trends shaping the economy, including (a) ongoing digital transformation and greening, (b) efforts to ensure economic sustainability, and (c) efforts to ensure greater economic inclusiveness.
- ▮ Leverages economic insights to begin the process of identifying and exploring promising economic, labour market, and employment assistance development opportunities that could generate tangible economic benefits for English-speakers and the ESCQ over the 2024-26 period.

CEDEC'S OFFICIAL LANGUAGE PROGRAM OF APPLIED ECONOMIC ANALYSES, INFORMATION, AND ADVICE

The publication and distribution of the *2024-2026 Overview of Quebec's Economic Landscape (OQEL)* is the first deliverable in CEDEC's new **Economic & Labour Market Development Applied Research Program (ELMDARP)** for the Official Language Minority Community in Quebec (OLMCQ). The Program is a planned and integrated series of economic analyses, guidance, and advice centered on identifying and understanding promising areas of Collaborative Economic Development and deepening stakeholder and community capacity to take advantage of them.

- ▮ The 2024-2026 OQEL will be complemented in 2025-26 by the production of an ESCQ Flagship Report.
- ▮ Building on the findings, observations and recommendations of the Economic Landscape, the Flagship Report will accomplish the following:
 - Further refine and detail specific economic development opportunities the ESCQ could take advantage of and benefit from.
 - Provide insights on how to reduce economic and labour market disparities between the ESCQ and Francophones inside and outside of Quebec by taking advantage of specific Collaborative Economic Development opportunities.

In addition, CEDEC's Economic & Labour Market Development Applied Research Program for the Official Language Minority Community in Quebec will provide additional economic studies, analyses, and guidance, including the following:

- ▮ Socioeconomic and industry profiles.
- ▮ Market studies designed to support Venture Partnerships¹.
- ▮ Annual economic measurement reports tracking and assessing the generation of tangible economic benefits for individuals and communities across the ESCQ.
- ▮ Annual and multi-year economic impact evaluations quantifying and qualifying the overall effects of Collaborative Economic Development Initiatives.
 - Situating aggregated economic impacts over time in relation to the targets outlined in the Ten-Year Collaborative Economic Development Plan.

WHAT YOU WILL FIND IN THE 2024-2026 OVERVIEW OF QUEBEC'S ECONOMIC LANDSCAPE

CEDEC's 2024-2026 Overview of Quebec's Economic Landscape is a consolidation and synthesis of available economic information and data. The Overview provides relevant information and insights about the trends and factors driving and shaping Quebec's economy.

The report describes, at a high level, how key sectors of the economy are likely to develop and grow in the 2024-26 period. It identifies some of the major economic actors in specific areas of the economy, and it suggests through illustrations how these trends and factors could create economic development opportunities for the ESCQ.

¹: Collaborative Economic Development Ventures are Public, Private, and Civil Society sector (PPCS) Partnerships responsible for building the capacity required to take advantage of specific economic development opportunities.

03

General Features of the Global, Canadian, and Quebec Economies Between 2024 and 2026



FROM A GLOBAL PERSPECTIVE

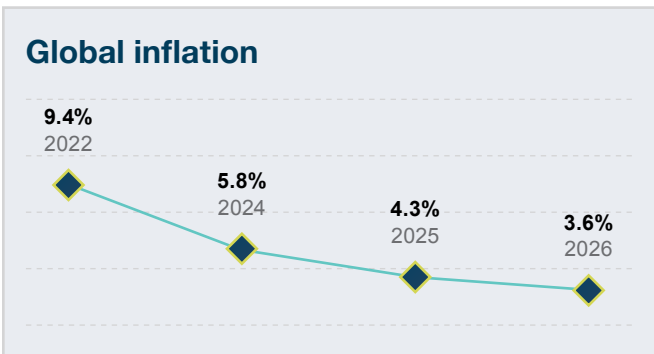
GLOBAL GROWTH TO REMAIN STABLE IN 2024-26; DOWNSIDE RISKS COULD EMANATE FROM GLOBAL GEOPOLITICAL TENSIONS

Despite tightening monetary policies worldwide to rein in inflation, the global economy has proved somewhat resilient and has avoided a recession. According to the International Monetary Fund, global economic growth is expected to remain stable in coming years, averaging around 3.25% in the 2024-26 period. However, downside risks to the global economy in the medium-term could emanate from persistent geopolitical tensions especially those in the Middle East, and between the U.S., China, and Russia, and their respective alliesⁱ.

INFLATION TO CONTINUE TO DECLINE, BUT BUMPS ON THE ROAD ARE POSSIBLE

The global average inflation rate is expected to decrease from a peak of 9.4% in the second quarter of 2022 to 5.8% in 2024, 4.3% in 2025 and 3.6% in 2026, as advanced economies return to their inflation targets. However, stubbornness in services sector inflation, partly as a result of higher nominal wage growth, poses a risk to the disinflation pathⁱⁱ.

In addition, some international organizations, e.g., the International Monetary Fund and S&P Global Ratingsⁱⁱⁱ, also warn of the possibility of an inflationary rebound in the coming years.



Source: International Monetary Fund – *World Economic Outlook* (WEO, October 2024).

They caution central banks worldwide to remain vigilant, especially given heightened geopolitical uncertainties in the Middle East, home to almost one-third of global oil supply. The recent exacerbation of conflicts in the region represents an important factor to monitor in this period of global uncertainty.

STRUCTURAL REFORMS ARE NEEDED TO IMPROVE LONGER-TERM GROWTH PROSPECTS AND INCREASE PRODUCTIVITY

Medium- to long-term global growth is dependent on ambitious structural reforms that boost technology and innovation, improve the allocation of resources, accelerate competition, and encourage productive private investment. Targeted reforms are vital to boost productivity, especially in areas such as health care, education, labour markets and digitalization^{iv}.

GLOBAL MANUFACTURING CONTINUES TO SLOW DOWN WITH LOWER INVESTMENTS AND TRADE; A GLOBAL SHIFT FROM GOODS TO SERVICES CONSUMPTION IS UNDERWAY

A global shift from goods to services consumption is underway, which would boost activity in the services sector in advanced and emerging markets, dampening that of the manufacturing sector.

Recent data points to a wide-ranging slowdown in the global manufacturing sector, as reflected in a decline in industrial production, investment, and international trade in goods. The U.S. manufacturing industry is projected to continue to face headwinds, with manufacturers expected to face economic uncertainty, the ongoing shortage of skilled labour, lingering and targeted supply chain disruptions, and new challenges spurred by the need for product innovation to meet company-set net-zero emissions goal. In turn, manufacturing production is increasingly shifting toward emerging market economies like China and India, as advanced economies lose competitiveness.

FROM A CANADIAN PERSPECTIVE

The Canadian economy to pick up gradually in 2025-26; impact of higher debt-servicing costs might still be felt.

The Canadian economy grew by 2% annually in the first half of 2024 and by a slower 1.5% in the third quarter of the year, mainly driven by population growth. This has been mainly due to a slowdown in government spending and lower consumption as a result of the restrictive delayed impact of past increases in interest rates and a soft labour market. In fact, youth, who tend to spend more of their income on consumption than other age groups,

have recently experienced larger increases in unemployment as the labour market has slowed^v.

The Bank of Canada projects Canada's economy to pick up gradually, and to grow by 2.2% in the 2025-26 period, largely driven by stronger consumer spending and business investment, as well as higher energy exports. However, downside risks could arise from weaker-than-anticipated household spending due to the fact that many Canadians still face higher debt-servicing costs as they renew their mortgage. In addition, if soft labour market conditions persist, consumer spending would still be negatively impacted^{vi}.

Figure 1. Economic Growth projections (Real GDP growth) by country, percentage change

Country	2023	2024 (projection)	2025 (projection)	2026 (projection)
Canada	1.2	1.2	2.1	2.3
United States	2.9	2.8	2.4	2.2
China	5.2	4.6	4.3	4.1
Euro Area	0.5	0.7	1.2	1.6

Source: Bank of Canada, Monetary Policy Report – October 2024

INFLATION TO STABILIZE AT 2% IN 2025-26, BUT DISRUPTIONS IN COMMODITY SUPPLIES AMID GLOBAL CONFLICTS COULD POSE A RISK

Canada's inflation rate has fallen to around 2% in September 2024 and is expected to remain at around 2% in the 2025-26 period. The recent decrease in the inflation rate mainly reflects lower energy prices. In addition, inflation in mortgage interest costs will ease from a high level, supported by the decline in interest rates^{vii}.

However, inflationary pressures could emanate from inflation in service prices, including shelter prices, as housing vacancy rates remain near record lows. Also, the possibility of a broader conflict in the

Middle East could drive up oil prices, while the war in Ukraine could also impact the global supply of commodities, both of which could push up inflation.

THERE IS A NEED FOR HIGHER TAX REVENUE AND SPENDING EFFICIENCY TO REDUCE FISCAL PRESSURES

On the fiscal front, Canada is expected to face pressures in coming years. Multi-year spending commitments by governments are being affected by a declining rate of increased tax revenues and an absence of spending efficiency. Federal and provincial fiscal authorities are looking to reduce spending, but with the structural fiscal challenges that predate the pandemic, both the federal and

provincial governments are expected to continue to face the challenge of keeping government spending in check. Canada's structural fiscal challenges include its aging population, which will lead to a slowing of governments' tax base and rising health care spending and old-age income support programs^{viii}.

UNEMPLOYMENT IS ON THE RISE; WAGE GROWTH TO MODERATE OVER NEXT FEW YEARS

Canada's unemployment has increased from 5% in January 2023 to 6.5% in September 2024, as a growing share of new workers, including newcomers and youth, join the labour force; layoffs remain low. The pace of hiring has slowed down and there is an increased inflow of non-permanent residents into Canada – newcomers averaged 11% of Canada's labour force between July and September 2024, while they averaged 7% of the labour force at the end of 2022^{ix}. Wage growth remains elevated at close to 4% but is expected to moderate over the next few years with the cooling of the labour market.



Source: Bank of Canada. Monetary Policy Report October 2024.

PRODUCTIVITY REMAINS A CHALLENGE

Slow productivity is not a new issue for Canada, but the country's productivity has further deteriorated following the pandemic. In terms of productivity growth between 2019 and 2023, Canada ranks in fifth place among G7 economies, behind the U.S., the United Kingdom, Italy and Japan. There is no clear consensus on the sources of this downward trend. However, some observers and economists suggest that it is due to a lack of business investment and a lack of ability to utilize the skills of its population, including of its immigrant population.

FOR THE FIRST TIME, BABY BOOMERS MAKE UP LESS THAN A QUARTER OF THE CANADIAN POPULATION AND ARE NOW TRAILING MILLENNIALS

The demographic weight of baby boomers in Canada's population is on the decline. As of 2021, for the first time, this generation accounted for less than a quarter of the Canadian population (24.9%). In the meantime, Millennials, or people aged 25 to 40, are now the fastest-growing population. The population in the 25 to 40 age cohort grew by 8.6% between 2016 and 2021, compared to a growth of 5% in Canada's population, mainly as a result of higher rates of immigration among the millennial generation. In fact, more than half of the immigrants who settled in Canada between 2016 and 2021 were millennials.

FROM A QUEBEC PERSPECTIVE

QUEBEC'S ECONOMIC GROWTH TO HOVER BETWEEN 1% AND 2% IN COMING YEARS; GRADUAL ACCELERATION IN ECONOMIC ACTIVITY TO BE DRIVEN BY PROVINCE'S MANUFACTURING POTENTIAL

After growing by only 0.2% in 2023, Quebec's economic growth is projected to accelerate slightly to 1% in 2024, 1.3% in 2025 and 1.6% in 2026. The province is expected to continue to have the slowest

growth rates among provinces in the country in the coming years amid a slower population growth that weighs on domestic demand.

The slight acceleration in the province's growth in the coming years would mainly be driven by higher global demand for goods from key manufacturing sectors, such as aluminum and aerospace and, in turn, an increase in exports in these sectors; this highlights the long-term potential of Quebec's manufacturing industry. Also, investments by foreign manufacturers in production facilities in the electric transportation and clean technology sectors indicate the province's appeal as a place to do business.

AGING POPULATION TO CONSTRAIN FISCAL BALANCE IN NEXT FIVE YEARS; POPULATION GROWTH IS ALMOST COMPLETELY DEPENDENT ON IMMIGRATION

Quebec's aging population is expected to make balancing Quebec's budget a challenge in the coming years, as the government will continue to be confronted by rising health care costs.

As is the case with the rest of Canada, the province's population growth is almost completely dependent on international immigration. By 2028, Quebec's population is expected to grow by an annual average rate of 1% compared to a 1.8% growth in Canada. In fact, the province is expected to have the slowest growth in population among all provinces across the country, except for Newfoundland and Labrador (+0.6%)^x.

RISKS OF LABOUR SHORTAGES REMAIN, ESPECIALLY GIVEN THE PROVINCE'S AGING WORKFORCE

Quebec's unemployment rate is expected to remain low compared to the rest of Canada, and to peak at around 5% by the end of 2024. Demographic pressures, including an aging workforce and lower immigration inflows than the rest of Canada, along with a declining labour market participation rate, represent significant challenges for the province. If this state of affairs persists, it will result in the following:

- ▮ Restrain labour force growth in the coming years, maintaining the unemployment rate under historical averages^{xi}.
- ▮ Produce a situation of serious talent competition to fill vacancies, which will feed wage growth and household income.

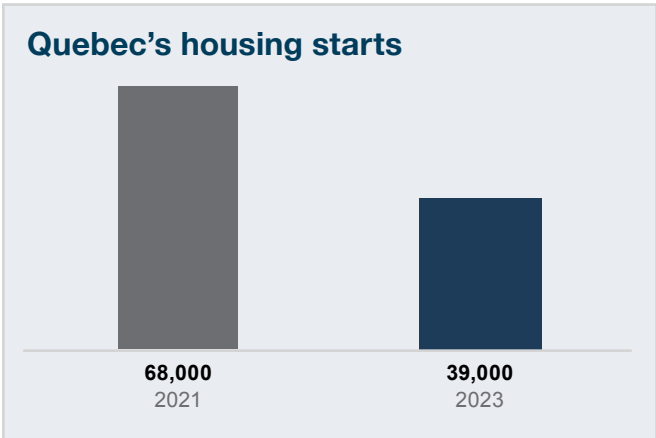
PRODUCTIVITY ENHANCING INVESTMENTS IN THE COMING YEARS WILL BE CRUCIAL TO ADDRESS THESE CONSTRAINTS

Automation will continue to help businesses navigate tight labour supply, including agriculture, transportation and warehousing, manufacturing, and hospitality^{xii}. In this context, broad economic policy initiatives to watch for in Quebec include:

- ▮ Incentives to encourage older populations to remain in or rejoin the labour force.
- ▮ Tweaks in the province's stance on immigration.

QUEBEC'S HOUSING DEMAND TO REMAIN WEAK IN COMING YEARS AMID SLOW POPULATION GROWTH AND AGING DEMOGRAPHICS

Quebec's housing demand is expected to remain weak in the next three years, mainly due to low population growth, an aging population and higher interest rates. Despite weak housing demand, the province's construction sector continues to be one of the industries with the highest labour shortage, which is still creating a bottleneck for home building. The sources of the labour shortages include the aging workforce and declining birth rates, difficulties in talent acquisition because of rivalry from other industries, waning interest in the field, a limited access in the industry for immigrants and very costly trainings. Housing starts were estimated at 39,000 units in 2023^{xiii}, compared to historic highs of 68,000 units in 2021, and are expected to remain near current levels over the following two years.



Source: Institut de la statistique du Quebec: Monthly indicators, Québec and Canada (quebec.ca).

CONTINUING CHANGES TO QUEBEC'S LANGUAGE POLICY ARE DIFFICULT TO ASSESS AT THIS TIME

The ESCQ should closely monitor regulatory developments related to Quebec's language policy under Bill 96². The province's recent tuition hikes for international and out-of-province students^{xiv} are examples of provincial policy initiatives that have language implications. They could have an impact on English-speaking individuals arriving and remaining in the province, potentially exacerbating Quebec's labour shortages and thereby impacting the vitality and growth of the ESCQ. The language laws could also lead to interruption and delays of the operations of some businesses, a loss of their employee base, and ultimately contribute to businesses leaving the province.

2: Bill 96 was adopted by Quebec's National Assembly on May 24, 2022, and officially became law on June 1, 2022. This bill, entitled "An Act respecting French, the official and common language of Quebec", states that "the only official language of Québec is French" and that "French is the common language of the Québec nation." Several amendments were made to Charter of the French language to further strengthen the use of French in Quebec and restrict the use of English. National Assembly of Quebec. Bill 96 (2022, chapter 14): <https://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2022C14A.PDF>. Accessed Feb. 1, 2023.

04

What These Trends and Factors Mean to Economic Development



The general features of the global, Canadian, and Quebec economies described above reveal some preliminary and important considerations, strengths, and challenges related to future economic development and growth in Quebec.

- ▮ Evolving international geopolitics, global inflation, and manufacturing and service industries around the world still trying to find their post-pandemic footings, indicate there are still significant uncertainties and some key risks to achieving more stable and predictable economic development in the short-term.
- ▮ Comparatively low growth levels in Canada with a return to more normal rates in 2025, a predicted return to more normal levels of inflation in the short-term, and a continuing disequilibrium between labour demand and supply point to a stabilizing economic environment with continuing labour market challenges.
 - **Quebec's subdued economic activity** could lead businesses to face financial challenges, thus reducing investments and operational expenses.
 - Subdued growth could also impede the generation of adequate revenues for the Quebec government, limiting its capacity to fund crucial development initiatives in areas such as education, infrastructure, and other innovative projects.
 - A **high inflation environment** could significantly impede economic development, eroding savings and discouraging consumers and businesses from future productive spending, borrowing, and investment.

- **Fiscal pressures** (reduction in tax revenues) and the federal and Quebec governments' growing debt could divert a significant portion of government budgets away from making crucial public investments and supporting and developing core public services, such as infrastructure, education, and health care, all of which are important drivers of long-term economic growth and development^{xv}.
- **Tight labour markets and demographic shifts** will continue to challenge Quebec businesses in finding the necessary skilled workers for their operational needs.
- The scarcity of qualified personnel could lead to decreased productivity, hinder innovation and investment, and delay development and expansion projects, ultimately affecting the overall competitiveness of domestic industries.
- It is important to note that the consequences of the above-mentioned examples extend beyond the private sector to sectors critical for Quebec's continuing development, such as health care and infrastructure development, where skilled professionals are crucial.

Finally, the infusion of skilled immigrants will continue to stimulate entrepreneurship and the creation of new businesses and social enterprises in Quebec. It will help to address some of the challenges in the provincial labour market, as immigrants bring to Quebec diverse skills, talents, and perspectives. Immigration will continue to contribute in a meaningful way to a dynamic labour force, and it will continue to foster innovation and productivity.

- ▮ Immigration also helps address demographic challenges, which, of course, have significant economic overtone, e.g., helping to address an aging population and workforce.
- ▮ As noted above, changes in the province's language policy could have an adverse impact on the inflow of immigrants, interprovincial migrants, and temporary foreign workers.

05

The Three Key Forces Shaping Our Economy



In addition to the general features of the global, Canadian, and Quebec economies outlined above, the 2024-2026 Overview of Quebec's Economic Landscape identifies **three key forces** that will shape the Canadian and Quebec economy in 2024-2026, including key sectors within them. These forces are explored below in greater detail:

- ▮ Digital and Artificial Intelligence (AI) Transformation
- ▮ Shifting Demographics and the Quebec labour market
- ▮ Transition towards a Greener, More Sustainable Economy

DIGITAL AND ARTIFICIAL INTELLIGENCE (AI) TRANSFORMATION

Quebec continues to pursue its digital transformation (DT) trajectory, witnessing increased digital adoption by businesses and organizations in life sciences, aerospace, transportation electrification, natural resources, and renewable energies.

Digital adopters are seeking to distinguish themselves by offering a range of digital products and services to meet customized consumer demand, while improving productivity. Adopting artificial intelligence (AI), leveraging e-commerce platforms, mining data to improve analytics, and enhancing operations and customer experiences, are some of the ways DT and AI are being used to transform Quebec's economy:

- ▮ In manufacturing, the adoption of smart technologies like the Internet of Things (IoT) and automation have revolutionized production processes, optimizing supply chains, and boosting productivity.
- ▮ In education, the implementation of digital platforms and e-learning solutions have become increasingly prevalent, offering flexible and personalized learning experiences.

- ▮ In the transportation industry, significant progress has been made to integrate digital tools for logistics optimization and traffic management, as well as in supporting the emergence of electric and autonomous vehicles.
- ▮ In the tourism industry, digital technologies have been leveraged to attract and enrich visitor experiences, from online booking platforms to augmented reality applications providing immersive cultural experiences.
- ▮ In health care, digital advancements have led to the development of telehealth solutions, remote patient monitoring, and electronic health records, which ensure more accessible and efficient health-care services.

Through the **Pan-Canadian Artificial Intelligence Strategy**, the Government of Canada is investing in the drive to adopt AI in the Canadian economy. The second phase of the strategy brings together Canada's world-class talent and research resources with programs to enable AI adoption to ensure that knowledge is mobilized and commercialized in the country.

[Pan-Canadian Artificial Intelligence Strategy \(canada.ca\)](#)

The Canada Digital Adoption Program (CDAP), introduced by the Government of Canada, helps small and medium-sized enterprises (SMEs) adopt digital technologies to increase their competitiveness.

[Boost Your Business Technology Grant | Get up to \\$15,000 \(canada.ca\)](#)

Digital transformation (DT) refers to “the economic and societal effects of digitisation and digitalization”. “Digitisation is the conversion of analogue data and processes into a machine-readable format, while digitalisation is the use of digital technologies and data as well as their interconnection that result in new activities or in changes to existing ones. Together, digitisation and digitalisation make up digital transformation”

OECD, 2019

QUEBEC IS INVESTING HEAVILY IN AI

Quebec’s history of AI development makes it home to one of the most competitive AI industries in the world. As a result of strategic investments in research and development (R&D), Quebec has developed a robust AI ecosystem of world-class academic institutions, and a collaborative environment for academic research and industry innovation. Quebec also offers favourable tax treatment for companies working in the artificial intelligence field to promote talent development. In addition, operating costs for an AI business in Quebec are among the lowest in Canada and the United States.

Quebec has achieved milestones in its digital transformation journey, including with the establishment of the Quebec Center for Digital Excellence under the 2019-23 Government Digital Transformation Strategy. This centre accelerated digital initiatives by promoting collaboration across public bodies. Also, the creation of the Government Cyber Defense Center and the implementation of a comprehensive cybersecurity policy have fortified the province’s protection of digital infrastructures and citizen data. In addition, the Ministry of Cybersecurity and Digital Affairs was formed in

2020 to further enhance cybersecurity efforts, and the government rolled out strategies such as the Integrating AI in Public Administration Strategy (2021-2026) to position itself as a leader in AI adoption^{xvi}.

The more recent 2024-28 Government Cybersecurity and Digital Strategy^{xvii} outlines a comprehensive approach with three key axes: improving cybersecurity, accelerating digital transformation, and developing sustainable technological infrastructures. The strategy includes initiatives like the unification of digital public services, deployment of a secure digital identity, and the use of big data for innovative solutions. Quebec aims to consolidate its position as a leader in cybersecurity, digital services, and AI, with the goal of significantly improving public services by 2028.

Investments in Quebec’s AI sector contributed to an increase of over \$2 billion in the province’s Gross Domestic Product (GDP) between 2017 and 2021, which highlights the economic potential of the AI sector^{xviii}. The federal and Quebec governments invested \$800 million in public funding over that period, while over \$1.5 billion in private venture capital was invested into Quebec’s AI.

- Public funding includes the \$230 million in funding earmarked by the Government of Canada for the AI-Powered Supply Chains Supercluster (SCALE.AI)³ based in Quebec. This supercluster will create more than 16,000 jobs and add over \$16 billion to the economy by 2028^{xix}. It also includes about \$40 million under the Government of Canada’s Pan-Canadian Artificial Intelligence Strategy^{xx}.
- McGill University and Université de Montréal were granted \$84 million and \$93.5 million, respectively, from the \$900-million Canada First Research Excellence Fund to pursue AI-related research.

3: SCALE.AI is a consortium of private entities, research centres, universities and startups that focuses on developing concrete AI-powered applications for supply-chain activities. The supercluster works with more than 500 industry partners.

Artificial intelligence (AI) is one of the key technologies driving digital transformation.

- An AI system is a “machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments”

OECD, 2019

It is also worth noting that public and private investments in AI generated fiscal revenues of \$400 million between 2017 and 2021 for both the governments of Quebec and Canada.

Over the longer term, Quebec’s adoption of AI across key industries could lead to a 12% increase in productivity by 2035, and a 15% increase in the province’s GDP by the same year. This implies a significant contribution to the province’s quality of life^{xxi}. Digital transformation in coming years, including greater automation and the increasing use of artificial intelligence, will also play an important role in helping Quebec navigate labour shortages.

Quebec stands out with its higher adoption rate of generative AI⁴ compared to other provinces, according to KPMG’s “Generative AI Adoption Index Report”. The Index highlights how generative AI is transforming workplaces across Canada, with specific insights into its impact in Quebec compared to the rest of the country. The report attributes Quebec’s high adoption rate to the province’s well-developed AI and technology ecosystem, which encourages faster and broader workplace integration of AI tools. It also suggests that organizations in Quebec, benefiting from their local ecosystem, are more rapidly embracing AI technology than businesses in other regions, making them leaders in AI adoption.

As the Quebec economy adopts and adapts to today and tomorrow’s new digital reality, policies, initiatives and programs need to be put in place to address the downside of the digital shift, e.g., job losses, skills gaps and shortages, and privacy breaches.

Quebec’s ongoing status as an AI hub is supported by a strong AI academic community, exemplified by institutions like the Montreal Institute for Learning Algorithms (MILA). At MILA, world-renowned researchers collaborate on cutting-edge projects, fostering a rich environment for AI advancements and innovation.

Montreal: one of Quebec’s main hubs has a favourable AI educational and operating ecosystem

Greater Montréal, one of Quebec’s main AI hubs, hosts over 30 incubators, 20 centres of excellence, numerous startups, and roughly 11,000 university students in AI-related programs. It has an exceptionally high concentration of expertise in AI, especially at McGill University and Université de Montréal, which together have over 300 researchers and doctoral students working in fields related to artificial intelligence. This represents the largest AI academic community in the world.

4: Generative AI refers to a class of artificial intelligence (AI) systems designed to generate new content, such as text, images, audio, or video, by learning from existing data. These models are capable of producing creative outputs that mimic or improve upon human-like responses, often using deep learning techniques like neural networks. An example of generative AI is ChatGPT.

DIGITAL TRANSFORMATION OF KEY INDUSTRIES IN QUEBEC

Manufacturing

Quebec is a leader in advanced manufacturing⁵, with a total of \$2.4 billion in government incentives announced to support innovation in the sector in the 2020-24 period⁶. Montreal employs over 62,000 employees in the advanced manufacturing cluster, making the city one of the five largest advanced manufacturing clusters in North America⁷. It also hosts 40,000 university students in innovative manufacturing-related programs.

Innovation, Science and Economic Development Canada's (ISED) Global Innovation Clusters have invested approximately \$15 million in the Advanced Manufacturing⁸ Cluster in Quebec, which represents 11% of total federal investments in this cluster across the country. Advanced manufacturing projects in Quebec include those in AI, data sharing, carbon-negative manufacturing technologies, eco-friendly hybrid rocket engines, intelligent pilot manufacturing, and augmented reality. These projects are distributed between Greater Montréal, Quebec City, Sherbrooke, Sainte-Anne-de-Bellevue, Saint-Hubert, Saguenay, and Lachine.

Advanced manufacturing is all about building up next-generation manufacturing capabilities, such as advanced robotics and 3D printing. Ultimately, the cluster is positioning Canadian companies to lead industrial digitalization, maximizing competitiveness and participation in global markets.

Please see: <https://ised-isde.canada.ca/site/global-innovation-clusters/en/canadas-advanced-manufacturing-cluster>



\$2.4B

**IN GOVERNMENT INCENTIVES ANNOUNCED
TO SUPPORT INNOVATION IN THE SECTOR
IN THE 2020-24 PERIOD**

5: Advanced manufacturing is the use of innovative technology to improve products or processes, with the relevant technology being described as advanced, innovative or cutting edge. Advanced manufacturing industries increasingly integrate new innovative technologies in both products and processes. <https://www.investcanada.ca/industries/advanced-manufacturing>.

6: Montréal International, Greater Montréal boosting innovative manufacturers. https://www.montrealinternational.com/app/uploads/2020/12/industry_profile_innovative_manufacturing_2020.pdf.

7: WaterlooEDC. <https://www.waterlootedc.ca/blog/mapped-north-america-top-advanced-manufacturing-clusters>. Accessed June 27, 2023.

8: The Advanced Manufacturing Cluster is building up next-generation manufacturing capabilities, such as advanced robotics and 3D printing. The cluster is positioning Canadian companies to lead industrial digitalization, maximizing competitiveness and participation in global markets. <https://ised-isde.canada.ca/site/ised/en>.

Montreal is also home to over 6,200 companies and 74,000 jobs in the aerospace and smart transportation manufacturing. It exports 80% of Quebec's aerospace production, representing the fourth largest global exporter of helicopters and aircraft. It also excels in food processing and clothing manufacturing with over 3,000 companies in the two sub-sectors^{xxii}.

Industry led advanced manufacturing networks are key in implementing innovative projects

Industry-led networks across Canada and Quebec are crucial for implementing innovative manufacturing projects. Next Generation Manufacturing Canada (NGen)^{xxiii} is an industry-led network committed to enhancing Canada's advanced manufacturing capabilities. It aims to positively impact Canadian and Quebec populations through collaborative projects^{xxiv}, including the following:

- ▮ Researchers at McGill University and Université Laval are working with Aspire Food Group in Toronto, TELUS in Vancouver and Darwin AI in Waterloo, Ontario, along with others on a \$17 million project to develop advanced manufacturing processes for producing high-quality proteins at a new facility in London, Ontario.
- ▮ MDA in Montreal's Sainte-Anne-de-Bellevue is working with Promark Electronics in Pointe-Claire and AV&R in Montreal on a \$11 million project to enable the integration of AI, industry 4.0, data sharing, and collaborative robotics into manufacturing environments.
- ▮ Armfoam in Longueuil is partnering with Roswell DHT in Calgary on a \$8 million project to automate the production of N95 respirators.

Next Generation Manufacturing Canada (NGen) is a network of private and public sector organizations working together to ensure that Canada is at the forefront of advanced manufacturing, as of 2024.

- ▮ Invested \$234 million in 165 projects
- ▮ Created 4,000 manufacturing and tech jobs, expected to create 35,000 jobs over the next 10 years
- ▮ Created 66 new companies
- ▮ 617 international partners
- ▮ 339 industry partners
- ▮ 203 students involved in projects
- ▮ 261 academic partners involved in projects

Agriculture

Quebec is also leveraging innovation and an AI ecosystem to make its agriculture industry greener and more sustainable. As a leader in Canada's organic agriculture sector, with 50% of the country's production, the province is also one of Canada's key agricultural technologies (agritech) hubs with more than 220 organizations.

Greater Montreal is leveraging its expertise in agricultural technology and artificial intelligence to help reduce greenhouse gas emissions by developing and marketing innovative technologies in agriculture. These technologies include precision agriculture, vertical farming, smart farming, agrobiotechnology, automation and new agricultural techniques^{xxv}.

Automation is revolutionizing farming practices in Quebec. Projects such as the province's Centre Agricole support the integration of autonomous machinery in agriculture^{xxvi}. The Centre Agricole, which has branches across Quebec, including in the Saguenay – Lac-Saint-Jean, Bas-Saint-Laurent regions, and in the town of Coaticook, focuses on

developing and testing autonomous vehicles for different agricultural activities. The Centre's work aims to enhance efficiency and reduce labour costs. This initiative reflects Quebec's commitment to incorporating cutting-edge technology into traditional farming practices.

Vertical farming, the practice of growing crops in vertically stacked layers, is also gaining traction in Quebec as a sustainable solution to optimize land use and increase crop yields. One notable project is Lufa Farms, which operates rooftop greenhouses in Greater Montreal and delivers fresh produce to customers in different corners of the province.

Another emerging trend is precision or controlled agriculture. Greater Montreal is a hub for controlled-environment agriculture with key players such as large-scale tomato producer Savoura. Universities are becoming more and more involved in precision agriculture. McGill University hosts the Precision Agriculture & Sensor Systems (PASS) research team, which develops and deploys soil and plant sensing technologies to enhance the economic and environmental benefits of precision agriculture^{xxvii}. Such initiatives are crucial for ensuring consistent and high-quality yields, despite the province's challenging weather conditions.

There are also clean agricultural projects outside of Greater Montreal being implemented, which have received about \$6 million in funding from Agricultural Clean Technology (ACT) Program. They include G.S.P.M. Distribution, a family-run business in Napierville, which is one of the biggest high-tech farms in North America. Funded by a \$1 million federal grant, the indoor vertical farm is largely powered by robots and artificial intelligence, taking the hard labour out of farming^{xxviii}.

Another agricultural project that received funding is Entosystem Inc in Drummondville, which received \$2 million to purchase and install state-of-the-art, energy-efficient technologies and equipment to streamline production of insect-based products to be used in animal feed and fertilizer^{xxix}.

In March 2022, The Quebec government announced an investment of \$10.6 million over two years to digitize all data compiled by Quebec's school service centres and school boards.

The digitization effort and data analysis will be done with the help of the MILA, the Institut de valorisation des données (IVADO), the Observatoire international sur les impacts sociétaux de l'intelligence artificielle et du numérique and GRICS, a company specializing in information technology in education.

[Quebec announces data digitization effort in education system | Montreal Gazette](#)

Education

The pandemic accelerated the digital transformation of Quebec's education sector, allowing more students, especially those that live in remote areas, to learn virtually through online learning platforms, the integration of digital tools, experiential learning and educational games.

In fact, a 2023 survey conducted by the Canadian Digital Learning Research Association (CDLRA) indicates that technology use is becoming increasingly embedded in higher education. However, findings suggest that, as with any type of transformation, tensions and challenges will be part of the process as we settle more deeply into the digital age^{xxx}.

The digital shift has also created a favourable environment for the Educational Technology (EdTech) sector to grow. The sector's activity is expected to triple from 2019 to US\$89 billion in 2027^{xxxi}, mainly due to more activity in content creation, design of software solutions and research and development. However, challenges facing Quebec's Edtech sector include a lack of knowledge about Edtech products, a reluctance by educational

establishments to use EdTech, labour shortages and a lack of funding. Examples of tools and platforms that are digitizing Quebec's educational institutions include the following:

- ▮ Digital tools: Smartboards, tablets, and educational platforms offer teachers in Quebec dynamic resources to engage students in interactive and immersive learning experiences.
- ▮ Online-learning platforms and virtual schools: the province has witnessed a surge in the development of online-learning platforms, including virtual classrooms and schools, educational apps, and interactive e-books. In August 2022, the English Montreal School Board announced plans to launch an online school for students with long-term medical conditions who can't attend classes for health reasons^{xxxii}.
- ▮ Innovative assessment and evaluation: Quebec's education system is increasingly using digital assessments, project-based evaluations, and interactive simulations that assess students' holistic understanding of a subject, preparing them for the evolving demands of the digital workforce.
- ▮ In addition, Quebec is placing an emphasis on the development of digital skills. In March 2023, ISED announced that over 20 non-profit organizations across Canada, including in Quebec, will receive funding as part of a C\$17.6 million investment in the second phase of the Digital Literacy Exchange Program⁹ (DLEP). This three-year funding aims to help 100,000 Canadians gain the skills to participate in the digital economy.

A SUCCESS STORY

IMPACT OF DATA AND DIGITIZATION ON QUEBEC'S EDUCATION

A pilot project at Le Centre de services scolaire (CSS) Coeur-des-Vallées in the Outaouais region and CSS Val-des-Cerfs in Estrie demonstrated the value of AI and digitization in improving educational outcomes and reducing dropout rates. The project was able to prevent dropouts by screening students at the highest risk when they arrived at high school. The project also succeeded in grouping students with similar profiles to offer more personalized support.

Fédération des centres de services scolaires du Québec



100K

CANADIANS WILL GAIN THE SKILLS TO PARTICIPATE IN THE DIGITAL ECONOMY THROUGH THE DIGITAL LITERACY EXCHANGE PROGRAM

9: Launched in 2018, the Digital Literacy Exchange Program is part of a bundle of digital skills programs offered by the Government of Canada that aim to bridge the digital divide and help Canadians across all regions access digital technology and develop their digital skills.

Health Care

Quebec's health-care sector has undergone significant digital transformation in recent years, accelerated by the onset of COVID-19. The integration of digital technologies into health-care systems has led to improved patient outcomes, enhanced efficiency, and better overall health-care delivery.

Virtual care or telemedicine, a cost-effective means of mitigating staff imbalances, allows patients to consult with health-care professionals remotely, reducing the need for in-person visits. It is especially impactful in improving access to health services in rural and remote areas.

Several remote communities across the country have joined in on digitizing health-care services and have implemented initiatives to provide virtual care practices. For example, in the Carrier Sekani First Nations communities of B.C., primary virtual-care services have improved access to health care. In a survey conducted with patients, 77% of respondents who used telehealth options in the community stated they saw their doctor more regularly and 82% indicated they were able to attend more appointments.

Quebec is also home to a number of investments and initiatives that have contributed to improving health-care infrastructure and services through digitalization:

- In August 2023, Quebec announced that it had chosen Wisconsin-based Epic Systems Corporation to build a \$3 billion infrastructure for its digital health records project and provide health professionals with better access to patient information.
- In December 2022, the Government of Canada announced an investment of \$47 million to support MEDTEQ+'s \$154 million EnvisAGE Network to bring together industry, health experts and investors to launch up to 100 projects to scale up and commercialize technologies, developed by small and medium-sized enterprises^{xxxiii}.

- The Réseau de Santé Numérique, a new interdisciplinary partnership, was announced in 2024 bringing together expertise and resources in digital health and quantitative methods, including McGill University, Université Laval, Université de Montréal and Université de Sherbrooke. The network is funded by the Fonds de Recherche du Québec – Santé (FRQS). The network has over 60 regular members, more than 360 student members, and 52 partners. The network aims to offer innovative support for health technologies, encourage research, and cultivate innovation in digital health practices^{xxxiv}.
- The health-care sector also faces significant challenges in the adoption of AI, including a lack of efficient and sufficient investments, cybersecurity risks and data privacy concerns, including outdated and inadequate tools in some health-care facilities, as well as a lack of metadata within the health-care network.

RAND Corporation, a non-profit policy research organization, estimated Canada's savings from virtual care at \$150 million per year from fewer unnecessary emergency room visits and missed appointments, and an additional \$600 million in savings from providing access to a doctor through teleconsultation to those without local care. It added that the use of telemedicine and teleconsultation across Canada would reduce travel time, generating an annual \$5 billion in economic value.

Rand Corporation: Greater Adoption of Telemedicine Could Reap Benefits for the Canadian Economy of Nearly 6 Billion CAD Annually | RAND.

Tourism

The use of AI in the tourism sector is also being felt across the province as it leverages technology to enhance the overall experience of visiting Quebec. Examples of digital use in the tourism sector include smart tourism, digital cultural heritage preservation, digital signage systems, mobile apps for tourism, augmented reality, and digital marketing. Examples of smart tourism projects in Quebec include the digital city guides (self-guided tours) and augmented reality experiences.

A SUCCESS STORY

IMPACT OF A REMOTE-PATIENT MONITORING MOBILE APP & DIGITAL THERAPEUTICS SOLUTION

The CONTINUUM program, a remote-patient monitoring and digital therapeutics project led by The Centre hospitalier de l'Université de Montréal (CHUM), helped reduce the number of emergency room visits or hospitalizations of heart failure patients and lowered health-care costs by 23%.

MEDTEQ: Innovative digital therapeutics program shows a reduction in hospitalizations and costs for heart failure patients | MEDTEQ+

In January 2023, the Government of Canada announced \$40 million in investments^{xxxv} towards tourism recovery in both urban and rural areas in Quebec, as part of the \$500 million pan-Canadian Tourism Relief Fund (TRF). This funding was under the administration of Canada Economic Development for Quebec Regions. The funds were allocated to small tourism businesses to implement investment projects, including the adoption of digital and sustainable practices to better meet customer demand. The following are examples of some of the projects that received funding from the TRF:

- ▮ Roughly \$1 million was allocated to **Drummondville's Village Québécois D'Antan**, a historical village and living museum. The investment was used to transform the experience of visitors through the integration of innovative and technological practices, using interpretive guides and an augmented-reality play area^{xxxvi}.
- ▮ Over \$2.2 million was allocated to 11 tourism organizations in the **Capitale-Nationale** region to increase tourist traffic and spend, by improving e-commerce and online ticketing systems^{xxxvii}.
- ▮ \$0.8 million was invested in three tourism organizations in the **Montréal region's tourism** sector. The funds are aimed at improving technologies and interactive elements in the tourism reception facilities, and invest in an interactive route, in purchasing and installing interpretation panels and improving infrastructure^{xxxviii}.
- ▮ About \$1 million was provided to 11 **Côte-Nord tourism** organizations to increase tourism traffic in the region, by investing in online booking platforms, modernizing attractions and accommodations, and helping outfitters install solar panels and appliances^{xxxix}.
- ▮ Over \$3.5 million was allocated to tourism organizations in the **Nord-du-Québec** to enrich the experience of tourists, by creating virtual and augmented reality materials, building an interactive map, and automating systems^{xl}.

In May 2022, the Government of Quebec announced a 4-year \$92 million investment to develop regional tourism in Quebec. These funds will facilitate the renewal of agreements with the 21 regional tourism associations and the renewal of the Regional Tourism Partnership and Digital Transformation Agreements.

These funds aim to improve tourism promotion and marketing mandates, hospitality and tourism signage, and the development and structuring of tourism offerings.

The government invests \$92M to support tourism development in all regions of Québec
Gouvernement du Québec (quebec.ca)

Transportation

Canada's transportation sector employed 800,000 people and moved \$1.54 trillion in goods to and from international markets in 2023, which represents an increase of 1.3% from the previous year^{xli}. Quebec is home to about 20% of Canada's jobs in the sector, with Montreal hosting more than half the jobs in the province and the Montérégie region representing another 20%. The digital transformation of Quebec's transportation sector has led to the creation of smarter, more connected, and sustainable transportation systems, which face supply chain challenges due to geopolitical uncertainties. Intelligent Transportation Systems (ITS), smart infrastructure and digital platforms, and mobile applications are optimizing traffic flows through real-time data monitoring, thereby reducing congestion and improving safety.

Quebec has initiated several projects to digitize its transportation sector to create smart cities, with a focus on public transportation:

- In May 2023, the Quebec government provided close to \$10 million in funding through Investissement Québec to support a project linked to sustainable and intelligent mobility called Tangente IA. The project brings together three partner companies, BusPas, Suppliers of Knowledge (*better known as KPI Digital*) and Les Matrices Carritec.
- The government funding will enable the development of hardware and software solutions for connected bus stops, along with the analysis of data and dissemination of key information intended to inform various players in the transportation industry and smart cities. It will also make it possible to follow a bus in real time.

ECONOMIC IMPACT OF TOURISM RECOVERY INVESTMENTS

IMPACT OF THE TOURISM RELIEF FUND IN QUEBEC

The Tourism Relief Fund supported 292 tourism projects in Quebec between 2021 and 2023 with assistance amounting to \$110 million. The investments were allocated towards improving tourism experience and traffic, partly through the adoption of digital and more environmentally sustainable and inclusive practices.

Government of Canada: Tourism recovery:
Over \$110M invested in Quebec - Canada.ca

In addition, the adoption of digital payment systems and the emergence of ride-sharing services will further contribute to improving Quebec's transportation industry, providing flexibility for commuters. For example, The Société de transport de Laval (STL) and the Autorité Régionale du Transport Métropolitain (ARTM) announced in June 2023 that STL bus riders can now pay their bus fare with Interac® Debit, as a contactless payment option, a first of its kind in Quebec^{xlii}.

There have also been other collaborative initiatives in the province's transportation sector, including Ambition Electric and Smart Transportation (EST) 2030. Developed with over 200 collaborators who mapped the transportation industry and identified areas for growth, this initiative will allow Quebec to become a strategic player in North America by 2030. Actions in this roadmap include developing a talent pool, the development of innovations with commercial potential, infrastructure deployment, collaborative data management and access to capital and funding opportunities^{xliii}.

DIGITIZING SUPPLY CHAINS

In January 2024, the government of Canada invested approximately \$2.6 million to the Centre interuniversitaire de recherche en analyse des organisations (CIRANO) to implement a data science and knowledge transfer hub for trade and intermodal transportation in the St. Lawrence-Great Lakes Corridor.

[Government of Canada invests in projects in Quebec to improve supply chains \(newswire.ca\)](https://www.newswire.ca/news-releases/government-of-canada-invests-in-projects-in-quebec-to-improve-supply-chains-2024-01-24-1016284881.html)

E-Commerce

The governments of Canada and Quebec support the development of small and medium-sized businesses (SMEs) through various grants, including programs that offer financial support for digital transition, marketing projects and e-commerce initiatives. They include Investissement Québec's Programme de Soutien à la Commercialisation et à l'Exportation (PSCE)^{xliv} and CanExport SMEs^{xlv}.

As part of its digital transformation plan (Offensive de transformation numérique^{xvi}), launched in April 2021, the Government of Quebec indicated its intention to allocate approximately \$9 million to the Association Québécoise des Technologies (AQT)^{xvii} and its partner the École des Entrepreneurs du Québec (EEQ)^{xviii} to support retailers in their digitization efforts. This funding was matched by the Federal Government. The initiative seeks to accelerate the digital transformation of some 5,000 retail businesses with fewer than 100 employees, which would enable them to take advantage of e-commerce opportunities and compete internationally among the most prominent online chains^{xvix}.

Quebec's e-commerce landscape is heavily influenced by Bill 96, which imposes strict French language requirements on businesses operating in the province, including those with e-commerce platforms^{xlvii}. The Bill mandates that all customer interactions, including websites, product descriptions, and marketing materials, must be primarily in French. For non-French trademarks, new rules effective in 2025 will require translation, tightening exceptions that previously allowed non-French labels and branding. Accordingly, E-commerce platforms targeting Quebec customers must ensure that French versions of their content are

10: An initiative by government of Quebec to accelerate the digital transformation of companies in all sectors of activity and regions of Quebec.

11: The Association Québécoise des technologies (AQT) is a technology business network. It provides entrepreneurs with a stimulating world-class environment conducive to the growth of their business and the technology industry.

12: The EEQ is a post-secondary educational institution devoted to training the next generation of entrepreneurs. It offers thematic workshops, programs for credit, lectures and a collaborative workspace: a stimulating environment for learning and sharing knowledge about best practices in entrepreneurship. <https://eequebec.com/>.

at least as prominent as those in other languages to avoid penalties, which can range from fines to orders restricting sales. The implications for e-commerce businesses also include added operational costs for translations, compliance management, and potential legal risks. However, tools like Weglot are being used to simplify compliance^{xlviii}.

The Canadian Digital Adoption Program enables businesses to automate processes (inventory, CRM), develop or upgrade a transactional website, enter e-commerce, invest in digital technologies to improve productivity and finance a digital marketing strategy.

CDAP has a range of components, including \$2,400 micro grants for website creation, \$15,000 grants to fund business planning, and loans of as much as \$100,000 for technology upgrades such as cybersecurity software. It also offers \$7,300 wage subsidies to hire students.

SHIFTING DEMOGRAPHICS AND THE QUEBEC LABOUR MARKET

Quebec's demographic composition continues to undergo notable shifts, driven by an aging population, immigrant inflows, and changing labour market dynamics. Demographic trends play a pivotal role in shaping in both the Canadian and Quebec economic landscapes, exerting significant influence on different economic sectors. As the baby boomer generation advances into retirement, and low fertility rates remain constant, both opportunities and challenges arise related to labour force dynamics, health-care demands, and pension systems. Shifts in family structures, urban-rural population distribution patterns, and educational attainment levels also contribute to a multifaceted demographic landscape.

Canada's population reached 40,769,890 people at the end of 2023, which represents a growth of 1,271,872 people (or 3.2%) from the previous year. This growth rate was the highest since 1957. Most of the growth (97.6%) in 2023 came from international migration, with temporary immigration playing a major role. Without this, Canada's population growth would have been much lower at just 1.2%, driven solely by permanent immigration and natural growth^{xlix}.

Quebec's population reached 8.98 million at the end of 2023, which also represents a record increase of 218,000 (+2.5%) from the previous year, surpassing the previous population growth record set in 2022. This surge was driven primarily by international migration, especially temporary immigration, which added 174,200 people in 2023—over three times more than permanent immigration, which accounted for 52,800 people. Natural population growth was minimal, with only 400 more births than deaths in 2023. Nevertheless, the province's population growth was still lower than Canada's overall growth rate of 3.4%, leading to a slight decrease in Quebec's demographic weight in the country from 22.2% to 22% in 2023ⁱ.

A significant influx of temporary immigrants brought the total number of non-permanent residents in the province to 560,000 in 2023. They include temporary foreign workers, asylum claimants, and international students. While Quebec experienced a net international migration increase of 221,800 people, interprovincial migration resulted in a net loss of 4,200 people.

DEMOGRAPHIC AND LABOUR MARKET SHIFTS AND DIFFERENT SEGMENTS OF THE QUEBEC ECONOMY

In line with national demographic trends, Quebec is also grappling with demographic challenges, including an increasingly aging population, labour shortages, and cost-effective health care development and delivery. However, immigration has been a key factor in driving the growth of younger populations:

- ▮ Quebec's 65 plus population represented 20.9% of the population in 2023, more than one in five people, compared to a share of 7% in 1971. This is reflected in the province's increasing dependency ratio¹³, which reached 59% in 2023, up from 53% in 2018. In comparison, Canada's dependency ratio was 54% in 2023ⁱⁱ. L'Institut de la statistique du Québec expects the share of the population aged 65 and over in Quebec to rise to 26% by 2041ⁱⁱⁱ.
- ▮ With Quebec's retirement outflows from the labour market exceeding labour market entrants, labour shortages are becoming more and more critical in specific industries, especially in construction, information technology, health care, education services, architecture, and engineering. The aging of baby-boomers is also expected to increase Canada's pension and health-care costs, which will place significant pressures on federal and provincial budgets.

SENIORS AND MATURE WORKERS: POTENTIAL CONTRIBUTORS TO ADDRESSING LABOUR SHORTAGES

Between 2000 and 2023, the number of people aged 65 and over in the workforce increased substantially, growing from 29,000 to 233,000. Their share of total employment rose from 0.8% in 2000 to 4.9% in 2023. The employment rate for seniors also saw a notable rise, from 3.2% in 2000 to 12.3% in 2023.

The average retirement age in Quebec in 2023 was 64.7 years, with men retiring at an average age of 65.5 and women at 64. The retirement age has been steadily rising since the early 2000s, with men retiring 4.1 years later and women five years later compared to two decades ago.

To help out with labour shortages, the governments of Quebec and Canada are also implementing initiatives to encourage older populations to delay their retirement. Quebec had 170,600 workers aged 65 and older active in the labour market in 2021, or 4% of the working population, compared to 1.5% in 2005ⁱⁱⁱⁱ.

As part of its 2023 budget, the Government of Quebec announced changes to the Quebec Pension Plan (QPP), effective as of January 1, 2024. The aim of these changes is to promote job retention among workers aged 65 and older. The changes include the option for individuals aged 65 or over already receiving a retirement pension from the QPP or the Canada Pension Plan (CPP) to discontinue their QPP contributions^{liv}. Nevertheless, challenges facing older workers that stay in or return to the labour market remain. They include ageism¹⁴, lack of education and training, health issues, lack of incentives to work in the retirement income system and difficulties.

13: The ratio of the combined population aged 0 to 14 years old and the population aged 65 years and older to the population aged 15 to 64 years old, Statistics Canada. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710013301>.

14: Ageism is "prejudice and discrimination based on age that often results from myths and stereotypes that do not reflect the reality of aging and older individuals. It prevents people from recognizing the valuable contributions of older individuals and limits the choices and opportunities for older individuals to actively participate in society", Government of Canada, *Promoting the labour force participation of older Canadians - Canada.ca*.

YOUTH UNEMPLOYMENT ON THE RISE: LASTING IMPACTS ON CAREER DEVELOPMENT AND INCOME AND EMPLOYMENT PROSPECTS COULD ENSUE

Canada's youth labour market has weakened considerably since early 2023 with rising unemployment and declining employment rates among those aged 15 to 24.

Youth unemployment in Canada surged from 11% in May 2023 to 14.8% in May 2024, while the employment rate dropped from 60% to 57%. Also, young Canadians who are employed are working fewer hours on average, reflecting a broader shift toward part-time work. These trends highlight a challenging period for youth in the labour market, where opportunities for stable, full-time employment are becoming more limited^{iv}.

Similarly, Quebec's youth unemployment rate increased from 6.5% in May 2023 to over 9% in May 2024, while the youth participation rate declined from 70.6% to 70%. These challenges can have lasting impacts on career development, as early delays in workforce entry or weak job market attachment can negatively affect long-term income and employment prospects.

Navigating this complex interplay of demographic trends and factors requires strategic policies that promote population maintenance and growth, facilitate workforce integration, support social infrastructure, and harness the economic potential of a diverse and vibrant population. In addition, making the most of the skills of the labour force, including those of individuals within the immigrant population, is crucial to address productivity challenges.

IMMIGRATION – CONTRIBUTING TO SOLVING LABOUR MARKET CHALLENGES; UNDERUTILIZATION OF SKILLS IS A PROBLEM

One of the most important factors weighing on Canada and Quebec's productivity growth remains the lack of ability of Canada and Quebec to utilize the skills of its immigrant populations, especially in the face of significant inflows of economic immigrants. Overall, economic immigrants accounted for over half of Canada's immigrants in 2021, while 46% of recent immigrants in Quebec were admitted under the skilled worker program.

The Federal and provincial governments have put in place plans and programs to support the integration of immigrants into the labour force:

- ▮ Quebec's immigration plan for 2024 published by the Ministry of Immigration, Francisation and Integration aims to increase the total number of new immigrants to Quebec, with a focus on attracting younger immigrants through its Economic Immigration Programs^{vi}. The plan also includes changes related to French proficiency requirements. The government has targeted between 48,500 and 51,500 immigrants per year in 2024 and 2025.
- ▮ The two governments have several immigration and foreign worker programs in place, including skilled worker programs and immigrant entrepreneur programs.
- ▮ In terms of temporary foreign worker programs, the federal government extended in October 2023 its Temporary Foreign (TFWP) Workforce Solutions Road Map to continue to support businesses in hiring foreign workers. The 2023 budget invested \$58 million over the next five years to improve employer compliance to the TFW.

- Quebec set a new cap in October 2024 that limits the number of foreign national applicants from any single country to 25% per selection round, particularly within the Regular Skilled Worker Program, effective between October 9, 2024, and October 9, 2025. The goal is to ensure a broader representation and diversity of immigrant nationalities^{lvii}.

QUEBEC'S IMMIGRATION PLANS AND PROGRAMS

Quebec Skilled Worker Program, also known as the Regular Skilled Worker Program, is Quebec's key immigration pathway for skilled workers who want to become permanent residents of Canada and reside in Quebec.

[Regular Skilled Worker Program \(RSWP\) | Gouvernement du Québec](#)

Programme de l'expérience Québécoise, is a program for international students who have obtained an eligible diploma from a Quebec post-secondary institution, and skilled workers with eligible work experience in the province.

[Programme de l'expérience québécoise \(PEQ\) | Gouvernement du Québec \(quebec.ca\)](#)

Quebec Business Immigration (Immigrant Investor and Immigrant Entrepreneur programs): Foreign nationals who have the resources can apply for immigration to Quebec under a wide range of business immigration programs for investors, entrepreneurs and the self-employed.

[Quebec Business Immigration - Canada Immigration and Visa Information. Canadian Immigration Services and Free Online Evaluation](#)

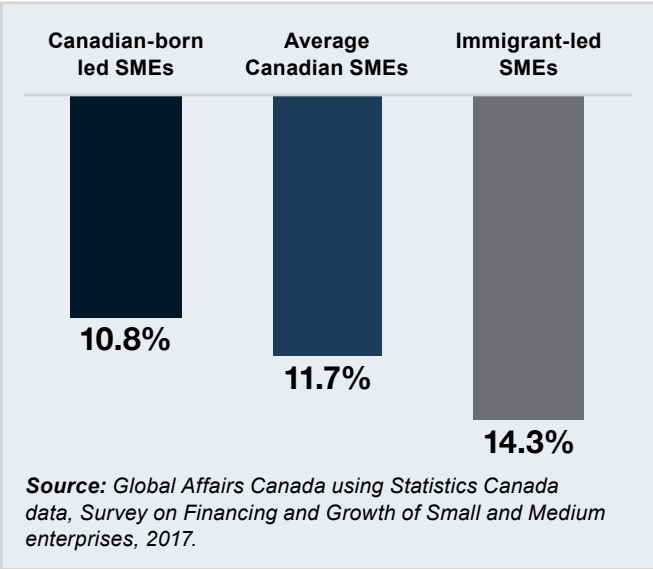
Immigration and Entrepreneurship

Immigrants also play an important role in entrepreneurship and trade. Their diverse skills, experiences, and perspectives contribute to the dynamism of the business environment. In fact, immigrant-led small and medium-sized enterprises (SMEs) in Canada are more likely to export than those led by their Canadian-born peers. Some 14% of immigrant-led SMEs were willing and able to export in 2017, while only 11% of SMEs led by Canadian-born peers were capable or willing to do the same^{lviii}.

Also of note is the export propensity of SMEs owned by immigrant women, which was almost twice that of those owned by Canadian-born women, at 17% and 9%, respectively.

Evidently, immigrants leading SMEs are better equipped to maintain relationships and have knowledge of how to conduct business in their country of origin. In turn, these immigrants can facilitate exports to their home country, and they are more likely to operate in export-intensive industries, such as accommodation and food services, or retail.

Figure 2: Export propensity-Immigrant-led SMEs /Canadian-born led SMEs, and all SMEs



International students and the Quebec economy

The international education sector has historically been a crucial driver of the Canadian economy, with international students investing an estimated \$22 billion in their education in 2022^{lix}. According to Immigration, Refugees and Citizenship Canada (IRCC), as of 2021, over half of all international students came from India and China.

Quebec is among the top three provinces and territories with the highest number of international students. According to Immigration, Refugees and Citizenship Canada^{lx} (IRCC), as of 2021, over 41,000 international students received a study permit to obtain post-secondary education in Quebec. This accounts for 13% of Canada's total post-secondary study permit holders. Quebec's share is smaller than only the shares of Ontario (54%) and British Columbia (18%). Quebec's low cost of living, along with government initiatives to make its education options more attractive and affordable, has made the province home to an increasing number of international students.

Quebec previously introduced initiatives to attract international students, especially those with a knowledge of French. In May 2022, the Quebec government allocated \$80 million over four years to encourage international students to undertake post-secondary studies in French in areas outside of Greater Montreal. To be eligible, students must attend a regional institution of higher learning, located outside the Greater Montreal, and pursue a full-time program of study in French in one of the priority sectors, namely information technology, engineering, health and social services, education, or early childhood education^{lxi}.

Recently, the Quebec government has also introduced other initiatives that have the potential to discourage international students from attending

English-language universities, such as McGill University and Concordia University^{lxii}. These changes established a minimum of \$12,000 in tuition for out-of-province students compared to an original proposal of \$17,000. International student tuition fees are established at a minimum of \$20,000^{lxiii}. These changes have come into effect in Fall 2024. The new regulations also require the universities to ensure that 80% of their out-of-province and international students learn French. Concordia University indicated that as of August 2024, there has already been a 30% drop in the enrollment of out-of-province students following the tuition hike, and an 11% decrease in international student registrations, adding that these declines would cost the university a \$15 million in revenues.

MICROCREDENTIALS, CAREER DEVELOPMENT AND FOREIGN CREDENTIAL RECOGNITION ARE ALSO CRUCIAL TO ADDRESS LABOUR SHORTAGES AND PRODUCTIVITY CHALLENGES

Digital transformation and globalization are creating a skilled worker shortage and a significant need for reskilling and upskilling. The World Economic Forum's Future of Jobs Report finds that there is "the potential for industry micro-credentials and skills-based hiring to close skills gaps and address labour shortages"^{lxiv}.

In fact, Coursera data indicated that 90% of students believe a micro-credential will help them stand out in the hiring process, while employers suggested that 76% of them were more likely to hire a candidate with an industry micro-credential^{lxv}. Global firms, such as Google, IBM, and EY, have adopted skills-based hiring¹⁵ to expand and diversify their talent pipelines – and 97% of employers globally are considering following suit.

15: Skills-based hiring locates talented workers by focusing on skills instead of education and prior job experience. <https://www.forbes.com/sites/carolinecastrillon/2023/02/12/why-skills-based-hiring-is-on-the-rise/>.

Microcredentialing offers a targeted and efficient way for newcomers to acquire specific in-demand skills that align with sought-after qualifications in different industries in the province. These credentials not only enhance employability but facilitate a smoother integration into the workforce and improved productivity.

Many immigrants to Quebec and Canada also possess post-secondary educational levels, enabling them to contribute to Quebec's knowledge-based economy. As of 2021, six out of 10 recent immigrants had a bachelor's degree or higher-level degree, compared to roughly one-quarter of their Canadian-born peers. However, the under-recognition/usage of immigrants' skills and education is an important challenge in Quebec.

McGill University offers micro-credential programs, which it calls "short units of validated learning focused on the acquisition of industry-relevant competencies, that complement traditional degree programs to address gaps in workforce training". Completing these microcredential courses can count towards the completion of a related professional development certificate.

Microcredentials are a certification of learning associated with specific and relevant skills or competencies and have been increasingly receiving interest and investment from governments, employers and educational and training institutions to address shifting labour and skills needs.

"Microcredentials are a new way to mobilize workers to acquire and validate skills that meet a labour market need through flexible, short and timely training."

Microcredentials are surging in popularity, but how should they be shaped? (irpp.org)

In 2021, the Quebec government provided a total of \$2 million in funding to 11 CEGEPs, including English CEGEPs, to offer short-term training courses to upskill workers. The programs covered a variety of sectors such as digital marketing, food processing, administration, management^{lxvi}.

PILOT: MICROCREDENTIALS IN AVIATION AND AEROSPACE

The Canadian Council for Aviation and Aerospace, in partnership with the Government of Canada, Future Skills Centre, and REAL Services, is leading a consortium of employers to develop a national microcredentialing training system to address the sector-wide need for skilled workers and help contribute to the recovery of the industry. Future Skills Centre is investing \$1.5 million in this two-year project.

This industry recognized training will support the flow of multi-skilled workers between roles in aviation and aerospace, such as manufacturing and maintenance repair in similarly skilled industries, such as automotive, electrified transportation systems, and advanced manufacturing.

Future Skills Centre: Aiming higher: Micro-credential training in aviation and aerospace - Future Skills Centre • Centre des Compétences futures (fsc-ccf.ca)

SUCCESS STORIES

IMPACT OF CANADA'S RURAL AND NORTHERN IMMIGRATION PILOT ON THUNDER BAY

According to a study by Northern Policy Institute, the Rural and Northern Immigration Pilot (RNIP) boosted the economy of Thunder Bay, far beyond assisting immigrants and foreign workers find jobs and settle into their communities. The study found that in one year, the program helped fill 321 jobs, and generated a total of \$11.6 million in wages in the local economy.

Thunder Bay was one of the 11 member communities in Canada's Rural and Northern Immigration Pilot that works with small and remote communities in Ontario, Western Canada and the three territories to attract and retain foreign workers.

Immigration.ca: <https://www.immigration.ca/rural-and-northern-immigration-pilot-boost-local-economic-performance-study-reveals/>

IMPACT REPORT

THE IMPACT OF THE NEW REQUIREMENTS AND TUITION HIKES FOR INTERNATIONAL STUDENTS ATTENDING ENGLISH LANGUAGE UNIVERSITIES IN QUEBEC – THE FRASER INSTITUTE

According to a study published by the Fraser Institute, Quebec's three English-language universities, McGill University, Concordia University and Bishop's University, service 20,843; 15,286 and 1,404 out-of-province and international students, respectively. These students contribute to almost \$0.43 billion annually (2019/20 estimates) to the economy, mainly through expenditures on housing, food, leisure, and clothing. This study was conducted in November 2023 and was based on an assumption that the tuition fee for out-of-province students would be at a minimum of \$17,000.

The study concludes that increasing the minimum tuition fees for out-of-province students will lead to fewer students studying in Quebec. As such, it pointed out that students will spend less in Quebec, which would translate to subsequent losses in economic contributions and tax revenues. These losses, according to the study, would outweigh the \$110 million that the government expects to save as a result of these changes (The government had previously indicated that such policy changes would save the province \$110 million annually, which was previously used to subsidize out-of-province students).

Fraser Institute: [Quebec's tuition hike punishes out-of-province students, rejects spirit of federal cash transfer | Fraser Institute](#)

TRANSITIONING TO A GREENER, MORE SUSTAINABLE ECONOMY

Quebec's green economy encompasses a wide range of sectors, including renewable energy, energy efficiency, sustainable transportation, waste management, and green innovation. Quebec has made strides in diversifying its energy sources, with a strong focus on hydropower, wind energy, and other clean energy alternatives. Hydroelectric power, in particular, plays a crucial role in Quebec's energy mix, providing a substantial portion of the province's electricity.

Quebec's 2030 Plan for a Green Economy is focused on fighting climate change by reducing greenhouse gas emissions (GHG) to 37.5% below 1990 levels by 2030. The plan aims to reach the targets through regulations and other initiatives, including electrification and prioritizing less costly technologies to reduce emissions. Quebec also plans to be carbon neutral by 2050 and has started to take steps to achieve this target^{lxvii}. In 2024, the government published its implementation plan to reach these targets, entitled *Plan de mise en œuvre 2024-2029 du Plan pour une économie verte 2030*. The report highlights investments exceeding \$10 billion aimed at reducing GHG emissions by 67 to 77% by 2030, with a specific focus on the electrification of transportation, renewable energy use, and infrastructure adaptation to mitigate climate risks^{lxviii}.

However, a recent report by the HEC Montréal Chair in Energy Sector Management pointed out that, although energy consumption trends in Quebec have changed since the onset of COVID-19, these trends will need to evolve further if the province plans to meet the 2030 targets. If the province does not take any additional actions apart from the measures identified in the 2030 Plan for a Green Economy, Quebec will not be able to achieve its climate objectives between 2030 and 2050. The report highlighted that Quebec will need to “first reduce energy consumption in order to better absorb the

costs of emerging energies and electrification.” This would require increased focus on green taxation and a modernization of regulations^{lxix}.

Collaborative Projects in Quebec's Green Space

The Government of Quebec granted \$19.3 million to the Consortium for Research and Innovation in Industrial Bioprocesses in Quebec (CRIBIQ) through its 2030 Plan for a Green Economy. The organization will be able to provide financial support for collaborative projects between the industrial and research communities through its INNOV-R initiative, with an aim to reducing greenhouse gas (GHG) emissions.

[Plan for a Green Economy 2023 – Collaborative Innovation Projects to Reduce GHG Emissions: The Ministry of Economy, Innovation and Energy of Quebec \(MEIE\) Grants \\$19.3 M to CRIBIQ](#)

WHAT IS QUEBEC'S GREEN ECONOMY PLAYBOOK? FROM ELECTRIFYING THE ECONOMY TO TACKLING CLIMATE CHANGE

Quebec's cleantech¹⁶ industry is booming, with over 85,000 jobs and \$8 billion in revenue. It is home to 1,000 organizations in the sector. There is roughly \$1 billion in Venture Capital investments in cleantech in the province, with specialized cleantech funds including Cycle Capital, Idealist Capital, MKB Growth Equity and Second Muse^{1xx}.

Quebec's electricity sector, which is predominantly based on hydroelectric power, is a strategic asset that will be leveraged to decarbonize the economy. It contributes to more than 60,000 jobs, over \$17 billion of Quebec's GDP and \$5 billion in exports. Hydro-Québec is Canada's largest electricity producer and one of the largest hydropower producers in the world.

Quebec's commitment to sustainable transportation is especially evident in its promotion of electric vehicles and the development of an electrical charging infrastructure. The province has implemented various incentives to encourage the adoption of electric cars, contributing to a cleaner and more sustainable transportation system.

In terms of innovation, Quebec has been fostering a thriving ecosystem for green technologies and startups. Government initiatives, research centres, and collaboration between academia and industry have played a significant role in advancing clean technology development and commercialization. These efforts contribute to environmental sustainability, along with economic growth and job creation in the green sector.

Quebec has also been actively engaged in circular economy practices, including waste management initiatives and policies aimed at minimizing environmental impact and promoting a more sustainable approach to consumption and production.

ECONOMIC IMPACT

Benefits of a clean electricity grid:

- ▮ Independent experts from Clean Energy Canada projected that Quebec will have added almost 366,000 clean energy jobs between 2025 and 2050, representing an annual growth rate of 5%. This will contribute to economic growth and economic development, as the province moves towards a net-zero economy.
- ▮ More specifically, the Clean Energy Canada study forecasts that jobs in the electric vehicle industry in Quebec will grow 16% annually up until 2050. Clean building jobs are also set to post significant growth, increasing by 8% annually to 22,000 jobs.

Clean Energy Canada: [A-Pivotal-Moment-Report.pdf \(cleanenergycanada.org\)](#)

Transportation

The integration of electric vehicles (EVs) has been a key driver in Quebec's carbon emission reduction targets, given that Quebec's transportation sector accounts for over 40% of GHG emissions. The province has implemented policies, including rebates for EV purchases, confirmed investments in its electrical charging infrastructure, and made commitments to expand public transportation options, to help accelerate this integration.

¹⁶: Clean technology — “also known as cleantech, green technologies, greentech, eco-innovations, ecotechnologies and ecotech — is part of a sustainable development outlook that includes new products, services, technologies and processes that 1) Significantly reduce negative impacts on the environment (environmentally effective), 2) Offer users superior performance at a lower cost (economically superior) and 3) Help improve quality of life by optimizing resource use (socially responsible)”.

EY Canada: [How Canada's cleantech incentives will promote the critical minerals industry | EY Canada](#).

Greater Montreal is well-known for its cutting-edge expertise in electric and smart transportation sector, hosting over 150 companies in the sector and more than 6,000 jobs, along with contributing \$1.3 billion to Quebec's GDP. It is home to a large ecosystem with expertise across the value chain from active materials to recycling, and many industry leaders, such as Lithion, Novabus, Lion and Dana TM4^{lxxi}. Saint-Jérôme-based Lion Electric makes electric buses and trucks, while the city of Bécancour in the Centre-du-Quebec region is emerging as a hub for EV battery material manufacturing.

Rural transit authorities are also increasingly seizing the opportunity to electrify their transportation sector to lower emissions.

SUCCESS STORY (IN THE MAKING)

THE IMPACT OF ELECTRIFYING PUBLIC TRANSPORT SYSTEMS

The Gaspésie-Îles-de-la-Madeleine region, which encompasses five regional county municipalities, as well as those on the Îles-de-la-Madeleine, announced plans in November 2023 to fully electrify its public bus fleet. With \$1.8 million funding support from the Green Municipal Fund, Régie intermunicipale de transport Gaspésie-Îles-de-la-Madeleine (RÉGÎM) is looking to procure 21 electric buses, including 10 paratransit shuttles, and install 12 charging stations. This would lead to up to a 98% reduction in greenhouse gas emissions, a 72% reduction in energy use and a 64% reduction in energy costs.

Electric Autonomy: Rural Quebec transit authority gets \$1.75M for fully electric buses (electricautonomy.ca)

SUCCESS STORY (IN THE MAKING)

THE IMPACT OF ELECTRIFYING SCHOOL BUSES

Autobus Transco and Autobus Chambly are purchasing several all-electric school buses. Such projects could considerably reduce GHG emissions in the region where the school service centres are located.

According to the public data published in June 2024, there are 130 electric school buses (ESBs) in Quebec, which represents a very small proportion of the 10,000 school buses in the province. According to the Ministry of Transport, by 2030 the province is expected to electrify 65% of the school bus fleet, which would, in turn, prevent nearly 800,000 tons of GHGs.

Government of Quebec: Reducing GHG in transportation | Gouvernement du Québec (quebec.ca)

Green Hydrogen and Bioenergy

The Quebec government aims to increase green-hydrogen and bioenergy production and distribution as part of its energy transition plan. The province has several advantages when it comes to its new energy goals. These include competitive renewable electricity costs, a reliable power distribution grid, diversified residual biomass distribution, and research and development centres specializing in cleantech and policies and initiatives that enable clean and green projects.

In November 2023, TESCanada H2¹⁷ announced plans to build a \$4 billion green hydrogen plant called “Project Mauricie” in Shawinigan to help accelerate decarbonization in the province. The plant, scheduled to open in 2028, will mainly be providing energy to Énergir, an important distributor of natural gas in Quebec^{lxxii}. Énergir will use the hydrogen to produce about 20 million cubic metres of renewable natural gas (RNG) by 2030 and help create over 1,000 jobs.

In November 2023, the Quebec Government also unveiled a list of 11 companies, including two in the bioenergy sector, that will receive large-scale power connections of 5 megawatts or more. In total, the connections represent roughly 1,000 MW of power. The bioenergy projects include Greenfield Global Québec in Varennes and WM Québec in Sainte-Sophie. This initiative aims to provide access to electricity to promising projects across the province to accelerate energy transition.

The 2030 Quebec Green Hydrogen and Bioenergy Strategy aims to create a coherent framework and a favourable environment to accelerate the production, distribution and use of green hydrogen and bioenergy.

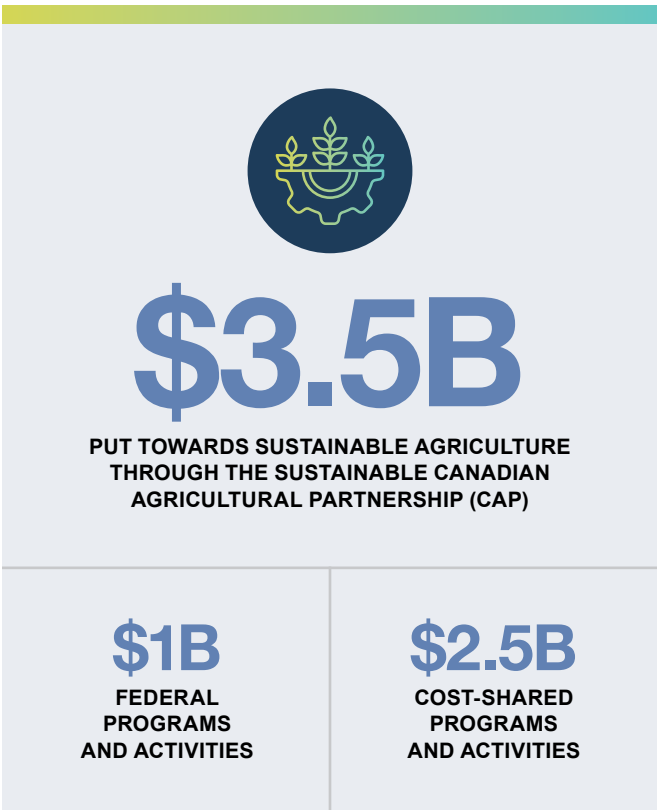
[Québec Green Hydrogen and Bioenergy Strategy | Gouvernement du Québec \(quebec.ca\)](#)

Agriculture

Quebec has been introducing various initiatives and policies to promote sustainable practices within its agricultural landscape, with a focus on the adoption of eco-friendly techniques to reduce carbon emissions. The province has embraced organic farming, with a growing number of farmers transitioning to organic methods, supported by government incentives.

The Sustainable Canadian Agricultural Partnership (CAP)^{lxxiii} is a \$3.5 billion 5-year agreement between the federal, provincial and territorial governments to strengthen the competitiveness, innovation, and resiliency of the agriculture, agri-food and agri-based products sector. The partnership is set to end in March 2028. The agreement includes \$1 billion in federal programs and activities and \$2.5 billion in cost-shared programs and activities funded by federal, provincial and territorial governments.

As part of the partnership, the Quebec and federal governments reached a bilateral agreement in March 2023 to allocate almost \$1 billion in funding over five years towards sustainable agriculture in Quebec. The partnership will contribute to achieving Quebec’s targets as part of its plans and strategies for the bio-food sector.



17: TESCanada H2 is a Canadian developer of innovative projects aimed at accelerating the energy transition. [TES H2 \(tes-h2.com\)](#).

SUCCESS STORY (IN THE MAKING)

GOODLEAF FARMS INDOOR FARM TO DRIVE AGRICULTURAL INNOVATION, CREATE JOBS AND IMPROVE LOCAL PRODUCE

GoodLeaf Farms, which had previously received \$7 million in provincial funding and other investments from economic development agencies such as Développement économique de l'agglomération de Longueuil, is set to open a climate-controlled indoor farm in the Montreal suburb of Longueuil in 2024. In addition to public funding, GoodLeaf Farms has also secured \$78 million in funds from CIBC and Farm Credit Canada to support the new indoor facility in Montreal, and another facility in Calgary.

The climate-controlled indoor farm will be able to grow and harvest more than 40 crops of a microgreens each year, and more than 20 crops of baby greens — a dramatic increase in productivity.

It will also be free of pesticides, herbicides and fungicides, with no risk of fertilizer run off and use 95% less water than open-field farms.

The project in Longueuil is expected to create over 70 new jobs with an additional economic spillover in the region as it makes use of local vendors to build and operate the farm.

The farm also provides a local food source for a product that would be typically imported, given that roughly 90% of leafy greens in Quebec are imported from the southwest U.S.

GoodLeaf Farms: [GoodLeaf Farms Supports Innovative Agriculture in Quebec — GoodLeaf Farms](#)

[GoodLeaf, Canada's largest vertical farmer, expands facilities • SustainableBiz Canada • Sustainable Business News](#)

Waste and Water Management

Investments in Quebec's waste and water management infrastructure are crucial to fostering sustainability. The federal and provincial governments have been providing funding to improve water quality and reduce greenhouse gas emissions and waste across the province.

For example, the federal government is investing \$12.6 million through the Green Municipal Fund to help reduce greenhouse gas emissions and waste while improving the quality of water in eight communities across Quebec. This funding will support pilot projects to address the capacity of the Rivière-du-Loup's wastewater treatment plant (WWTP) and ensure the sustainable management of stormwater in the Town of Amqui^{lxiv}.

On a provincial level, l'[Institut national de la recherche scientifique \(INRS\)](#) and the [Fédération québécoise des municipalités \(FQM\)](#) have joined forces to develop sustainable water management solutions as part of the fight against climate change^{lxxv}. This research project will support municipalities in Quebec in areas such as the following:

- ▮ Sustainability of drinking water sources
- ▮ Water quality in rivers on their territory
- ▮ Infrastructure sustainability and efficiency
- ▮ Flood risk reduction

Sustainable Aviation

With a focus on innovation and eco-friendly technologies, Quebec is also investing in the development and promotion of sustainable aviation fuels, electric aircraft, and advanced propulsion systems. By fostering collaboration between industry stakeholders, research institutions, and government bodies, Quebec aims to create a robust ecosystem for sustainable aviation. In May 2024, the Quebec government announced the creation of Espace Aéro, an innovation zone in the Greater Montreal area, with a combined investment of \$415 million from public and private sectors. Espace Aéro aims to bring together aerospace companies, educational institutions, and research centres to foster innovation and create a collaborative environment. This initiative will enhance Quebec's competitiveness in the aerospace sector and establish the province as a global leader in decarbonization and advanced air mobility^{lxxvi}.

In April 2023, the Quebec government announced financial contributions of over \$47 million to support four projects in the Quebec aerospace industry. These major investments are intended to promote the development of new technologies related to sustainable mobility in aerospace and include the following four projects^{lxxvii}:

- CADAQ-100 Project – Airbus Canada, Pratt & Whitney Canada, and SAF+ Consortium: this collaborative initiative aims to contribute to the development of the next-generation sustainable aviation fuel (SAF)^{lxxviii}.
- The CSAF (Control System for the Aircraft of the Future) project, a collaboration between Bombardier and Thales Canada, Avionics – this project aims to create a control platform to enable new design approaches and, in turn, enhance the environmental performance of aircraft and reduce environmental footprint.

- CMC Electronics and Bell Textron Canada Ltd. Project – this initiative consists of developing a portfolio of technologies to address energy efficiency, air traffic management system adaptability, and safety issues related to future autonomous aircraft.
- Aquarel 3 Project – Les Dirigeables Flying Whales Québec inc. and Thales Canada – this project aims to develop the control systems for a next-generation aircraft for point-to-point transport of heavy or bulky loads in remote or landlocked areas while minimizing the environmental footprint.

Sustainable Housing and Smart Buildings

The construction sector is at the heart of Quebec's economy, with over 280,000 workers and 30,000 companies. Home and building construction generate nearly 30% of annual global CO2 emissions and accounts for up to 40% of Canada's national energy consumption^{lxxix}. Quebec is aiming to transition buildings from heating with natural gas to electricity and renewables. By 2030, the province has committed to reducing the greenhouse gas emissions from its buildings to 60% below 1990 levels. Hydro-Québec and Énergir will also work together to reduce the use of fossil fuels by 50% by 2030 along with phasing out fuel oil for heating buildings^{lxxx}.

The sector is expected to receive \$130 billion in public funding between 2020 and 2030, which would be invested in improving building automation and energy efficiency to reduce carbon footprint^{lxxxi}. Key actors in the construction of smart and sustainable buildings include Brainbox AI, Dimonoff, WSP and Schneider Electric in Montreal^{lxxxii}.

Québec City has also positioned itself as a green and smart building niche, hosting a number of businesses that create green and smarter buildings and research institutions that help develop and integrate innovative and efficient methods^{lxxxiii}.

SUCCESS STORY

DORIMÈNE HOUSING COOPERATIVE, A PILOT COMBINING ENERGY EFFICIENCY AND INNOVATION TO REDUCE RENT AND CARBON EMISSIONS

As part of a \$0.5 million pilot grant from the Green Municipal Fund's Sustainable Affordable Housing program to support sustainable construction, Fiducie foncière communautaire Québec conducted a pilot project to provide affordable housing while reaching net-zero energy targets.

Focused on a 16-unit housing cooperative with half the units dedicated to vulnerable households, the pilot lowered rents by 59% compared to the median in the community of Dorimène. It adopted conventional energy efficiency measures, such as thermal insulation and proper ventilation, as well as innovations including photovoltaic solar panels, heat recovery, and geothermal energy storage to achieve five-times-lower-than-normal energy consumption. Energy cost savings for the cooperative would amount to around \$15,000.

The GMF indicated that the approach is “highly replicable and can scale easily to other municipalities across the country”.

Green Municipal Fund: [Innovation for sustainable, affordable living | Green Municipal Fund annual report 2021-2022](#)

Businesses specializing in smart buildings in Québec:

- ▮ AcoustiTECH
- ▮ Ambioner
- ▮ Baillargeon
- ▮ Coarchitecture
- ▮ Epsilon Concept
- ▮ Groupe AGÉCO
- ▮ Intellinox Technologies
- ▮ Novik
- ▮ Planchers Mercier
- ▮ Régulvar inc.
- ▮ Siemens
- ▮ Synchro inc.
- ▮ Tergos écoconstruction

Research institutions:

- ▮ FPIInnovations – Forintek Branch
- ▮ The Unité mixte de recherche en sciences urbaines (UMRsu)
- ▮ The Industrial Research Chair on Eco-responsible Wood Construction

[Green and Smart Building - Québec International \(quebecinternational.ca\)](#)

QUEBEC'S ENGLISH SPEAKERS AND SOME IMPLICATIONS OF EMERGING TRENDS

Quebec's English-speaking community is characterized by a younger population compared to the overall population and a higher participation rate; challenges in labour force integration remain

This section provides a preliminary overview of the English-speaking communities of Quebec and the implication of the emerging trends on the populations. This will be followed by future studies and research to elaborate and provide further insights on the challenges and the emerging opportunities in Quebec's English-speaking communities.

According to the 2021 census, Quebec's English-speaking population represented 15% of the province's total population. Also, English speakers aged 15 to 64 represented a higher share of Quebec's population in the same age cohort (16.3%), while those aged 15 to 24 represented an even higher share of 18% of the province's population in the same age cohort.

In 2021, the dependency ratio of the province's English-speaking population was at 44%, much lower than the Quebec's overall dependency ratio of 56%, which shows the higher prevalence of individuals within the English-speaking population that were of traditional working age, between 15 and 65 years old, in the population. In addition, the

participation rate of Quebec's English-speaking population was at 66.6%, which was higher than the provincial rate of 64%.

However, the English-speaking labour force faces challenges in integrating the labour market. The population's unemployment rate was at 10.9%, compared to Quebec's overall unemployment rate of 7.6%. In terms of job security, the share of the English-speaking population working at temporary jobs was higher than that of the overall population of Quebec. In fact, 15% of English speakers worked at temporary jobs compared to Quebec's overall population with a share of 14%. A more detailed breakdown of temporary employment shows that 60% English speakers with temporary employment were in casual positions with a duration of less than one year.

In terms of education, English speakers had a higher educational attainment than their peers. Over 14.5% of English speakers in the province did not have a diploma, degree or certificate, which is lower than the share of 18% of Quebec's overall population without a diploma, degree or certificate. Also, more than 62% of English speakers have a minimum of a post-secondary certificate, diploma or degree, which is higher than the share of 60% of the province's overall population.

Figure 3. Summary of main labour force indicators for Quebec's total and English-speaking population

Population aged 15+	Quebec's total population (%)	Quebec's English-speakers (%)
Unemployment Rate	7.6	10.9
Participation Rate	64.1	66.6
Share of temporary work (% of labour force)	14	15
Weeks worked	41.3	40

Source: Statistics Canada, 2021 Census of Population

Quebec’s English-speaking population can continue to play an important role in future jobs

According to the Conference Board of Canada, the main occupations that will benefit from digitization and technologies by 2030 include IT analysts and consultants, data analysts and administrators, computer network and electronic service technicians, information systems managers and evaluators, web designers and developers and mechanical engineers^{lxxxiv}.

Quebec’s English speakers are important contributors to many of these occupations that will be benefitting from digitization in the future. In fact, as the table below shows, almost half of Quebecers working in the Statistical and data officer occupations are English speakers.

Also, four out of 10 data analysts and scientists are English speakers, and similarly, four out of 10 information system evaluators are part of the English-speaking population.

Future research

A preliminary review of data on English speakers from different sources identifies challenges facing Quebec’s English-speaking community and opportunities that can be leveraged. Future, more detailed research is required on the challenges facing the English-speaking communities of Quebec, as well as other indicators that measure the community’s ability to play a role in addressing labour shortages and meeting the demand for future jobs. This is essential to unlock the community’s potential.

National Occupational Classification (NOC)	Quebec’s English speakers (% of Quebec total) – by occupation
Statistical and data officers and related research support occupations	46.8%
Data analysts and scientists	40.6%
Information systems evaluators	40.0%

Source: Statistics Canada, 2021 Census of Population

06

Potential Avenues for ESCQ Collaborative Economic Development



Based on the trends and factors shaping Quebec's future economy, this section suggests illustrative examples of potential ESCQ Collaborative Economic Development possibilities. The examples describe how the data and information in the 2024-2026 Overview of the Quebec Economic Landscape could be leveraged to generate tangible economic benefits for individuals and communities.

As emphasized in the introduction to this report, the 2024-2026 Overview of Quebec's Economic Landscape is a first step to better understanding the Quebec economy, the trends and forces shaping it and the economic development opportunities that will be created.

The 2024-2026 Overview of Quebec's Economic Landscape will be complemented in 2025-26 by the "*ESCQ Flagship Report*." The production of the Flagship Report will require significant collaboration across the ESCQ, and between the ESCQ and the majority Francophone community in Quebec, including public, private, and civil society stakeholders. It will provide ESCQ stakeholders with a chance to drill down, mine, and take full advantage of potential Collaborative Economic Development opportunities proposed by this Overview.



ILLUSTRATIVE EXAMPLE 1

Increase business and social enterprise growth and development through e-commerce and e-marketing

There may be a possibility to leverage digital technology and AI to increase e-commerce and e-marketing of goods and services, and the collective warehousing and distribution of goods, especially in more rural and isolated communities. This would include strengthening local, regional, provincial, national, and global supply chains for specific goods and service producers, wholesalers and retailers.

Increased e-commerce and marketing could improve revenues from the online sale of the products and services of local and regional businesses and social enterprises. It could also strengthen the distribution of these products and services to broader local, regional, provincial, national, and global markets by leveraging common warehousing facilities and distribution channels.

In addition, there may be a possibility to increase the revenues of one or more e-commerce /e-marketing platform developers by connecting them with businesses and social enterprises wishing to promote and sell their goods and services online.

There may also be a “sell in” opportunity to increase the revenues of larger, more urban and specialized goods and services providers, who could leverage e-commerce and e-marketing to sell into more remote and isolated communities to meet their needs.

Collaborative Economic Development possibilities could be built around creating businesses and social enterprises, such as cooperatives, to operate automated centralized distribution hubs or centres, optimizing inventory management, streamlining supply chain management, and optimizing the distribution of goods and services. For example, establishing a community distribution hub could consolidate package distribution from local and easily accessible locations. In addition, leveraging emerging technologies like drones or autonomous vehicles can be used to enhance transportation and delivery.

By leveraging the real possibilities of digital technology and AI, economic benefits can be produced, including increased incomes for individuals, increased entrepreneurship/business and social enterprise development, increased revenues for existing businesses and social enterprises, employment in existing jobs and in newly created jobs, reduced logistics costs, and so on.

Additionally, leveraging digital technologies and AI, would have the potential to attract and retain younger people, new businesses, and international newcomers, opening up new avenues for increased employment, entrepreneurship and social enterprise development.

POTENTIAL CONTRIBUTORS TO THESE TYPES OF COLLABORATIVE ECONOMIC DEVELOPMENT POSSIBILITIES

Regional groups and associations serving the ESCQ/Community-based employment and placement services

PUBLIC SECTOR

- ▮ Québec International
- ▮ Investissement Québec
- ▮ The Canadian Digital Adoption Program (CDAP)
- ▮ Export Development Canada
- ▮ Business Development Canada
- ▮ Local and regional economic development agencies

PRIVATE SECTOR

- ▮ WebFX
- ▮ NU Media
- ▮ Sobriquet
- ▮ Local and regional businesses and social enterprises
- ▮ Desjardins or other financial institutions

CIVIL SOCIETY SECTOR

- ▮ Chambers of commerce
- ▮ Montréal International
- ▮ Cooperatives



ILLUSTRATIVE EXAMPLE 2

Increase tourism flows, spending and stays by leveraging digital and AI technologies

There may be a possibility to increase tourism flows, spending and stays by leveraging digitization and AI. These technologies can be employed to (a) expand the quality and reach of tourism promotions, (b) facilitate access to tourism services and products, and (c) enhance the experiences of tourists when visiting a community or a region.

Leveraging digital and AI technology involves such things as creating user-friendly websites and mobile applications that provide multilingual content. These platforms can offer interactive maps, real-time updates on attractions, and other virtual assistance. For example, digital marketing campaigns promote tourism offerings by leveraging social media, online advertising, and search engine optimization to reach a broader audience. This could be employed more effectively by English-speaking communities across Quebec that have a rich history and tourist and cultural assets that are not “on the map”.

Concrete examples of tourism digitization include (a) the design and distribution of tourism ads, (b) accessing online bookings, (c) providing timely and up-to-date information on tourist attractions, (d) facilitating information exchange at visitor information centres, (e) creating and operating tourism hubs and centres, including tourist information desks at ports, especially in more remote communities. Interactive kiosks at these transportation sites could offer real-time information on schedules, local attractions, and accommodation options, catering to the diverse needs of tourists.

In addition, there is an obvious possibility to leverage the bilingualism of English-speakers across Quebec in establishing and expanding tourism sector business, securing employment in the sector (bus drivers, guides, welcome agents).

POTENTIAL CONTRIBUTORS TO THESE TYPES OF OPPORTUNITIES

- ▮ Regional groups and associations serving the ESCQ /Community-based employment and placement services

PRIVATE SECTOR

- ▮ Tourism operators (attractions, services, lodging, meals, entertainment, cultural experiences, etc.)
- ▮ Transportation and sightseeing companies (Globus, Europamundo)
- ▮ MT Lab - Incubateur d'innovations en tourisme, culture et divertissement

PUBLIC SECTOR

- ▮ Bonjour Québec

CIVIL SOCIETY SECTOR

- ▮ Travel Agencies Association of Quebec
- ▮ Alliance de l'Industrie touristique du Québec
- ▮ Tourisme d'Affaires Quebec
- ▮ Aventure Ecotourisme Québec
- ▮ Indigenous Tourism Québec
- ▮ Société des musées du Québec
- ▮ Destination Québec cité



ILLUSTRATIVE EXAMPLE 3

Boost agricultural revenues, trade, & production through digital and AI technologies

A constantly growing agrifood industry in Quebec has the potential to produce important tangible economic benefits for all Quebecers.

There may be a possibility to boost farm revenues, trade and production through the use of digital and AI technologies. This includes automating sustainable farm practices, maximizing a farmer's return on every acre, gathering, centralizing and managing individual farm data in a timely manner, accessing relevant information to learn how to solve farm problems and challenges, including creating and/or accessing knowledge-sharing networks *(example: one way to take advantage of digital technology would be to revive Quebec's agricultural knowledge-sharing network by securing federal and provincial support to have farmers work with agronomists and on-farm specialists, enabling a collaborative and cross-sector approach to knowledge sharing).*

Another possibility could involve the creation of a local agricultural cooperative, providing a platform for farmers to pool resources, share knowledge, and collectively address common challenges such as bulk purchasing, marketing, or distribution. Developing a digital platform or mobile application specifically tailored to the agricultural community can also facilitate communication, allowing producers to share information about crop yields, market trends, and make requests to find producers to cultivate, buy or lease their land.

In terms of technological advancements, there is a possibility of creating a Climate-Smart Database/ platform that provides producers with real-time insights into crop health, soil conditions, and weather patterns.

Centralizing such data from provinces, soil laboratories and agricultural machinery providers would arm farmers with insightful data to adopt climate-smart agricultural practices.

POTENTIAL CONTRIBUTORS TO THESE TYPES OF COLLABORATIVE ECONOMIC DEVELOPMENT POSSIBILITIES

- ▮ Quebec Farmers' Association
- ▮ McGill University Faculty of Agricultural and Environmental Sciences

PRIVATE SECTOR

- ▮ SCF Conseil
- ▮ Fonds Ecofuel
- ▮ Concentric Agriculture
- ▮ Sollum Technologies

PUBLIC SECTOR

- ▮ Centre de recherche et de développement de Québec
- ▮ Zone Agtech – Agro Québec

CIVIL SOCIETY SECTOR

- ▮ Union des producteurs agricoles
- ▮ Quebec Reference Centre for Agriculture and Agri-food (CRAAQ)
- ▮ Agrocentre Farnham



ILLUSTRATIVE EXAMPLE 4

Leverage immigrant inflows and skills to address labour market challenges

There may be a possibility to provide direct economic benefits to immigrants and employers across Quebec by matching immigrants possessing the specific professional/technical skill sets, and English and French language skills, with employers seeking tailored combinations of skills.

This unique placement service could be positioned to support immigrant integration services, career development agencies, job banks, community centres, cultural institutions, educational institutions, as well as employers across the province of Quebec.

Such a service would require the innovative identification of the suite of professional, technical and language skills required by employers, including the verification of appropriate skill levels and credentials. Online platforms or apps employing advanced technology could facilitate an innovative response to this critical labour market need.

There may be a possibility to support the launching of immigrant enterprises based upon immigrant knowledge, expertise, and experience. Entrepreneurial accelerators, and incubators, as well as access to market profiles would be essential to the successful pursuit of such possibilities.



POTENTIAL CONTRIBUTORS TO THESE TYPES OF COLLABORATIVE ECONOMIC DEVELOPMENT POSSIBILITIES

- ▮ Regional groups and associations serving the ESCQ /Community based employment and placement services
- ▮ Concordia University
- ▮ McGill University

PUBLIC SECTOR

- ▮ Public sector employers, especially those in the ESCQ
- ▮ Emploi-Québec
- ▮ Québec International

CIVIL SOCIETY SECTOR

- ▮ Civil Society sector employers, especially those in the ESCQ
- ▮ Centre Eurêka
- ▮ Service d'orientation et d'intégration des immigrants au travail
- ▮ Centre multiethnique de Québec
- ▮ Immigrant and Refugee Assistance Centre in Montreal
- ▮ Centre William-Hingston

PRIVATE SECTOR

- ▮ Employers in regions experiencing high job vacancy rates, including Quebec's Côte-Nord and Capitale-Nationale regions and industries such as health (nurses), accommodation and restaurants, scientific and technically based jobs (AI, software development), and construction trades.



ILLUSTRATIVE EXAMPLE 5

Improve the delivery of front-line health services in English across Quebec by creating a province-wide social enterprise with the mandate to coordinate and support the coordinated delivery of these services via digital and AI technologies

Technology assisted delivery of health services has the potential to enhance accessibility to timely health services in English across the province.

There may be a possibility to support the delivery of quality front line, English-language health-care service delivery across the province by qualified English-speaking health care professionals. Such a possibility could enhance employment in the health-care field, improve working conditions for professionals, and respond more effectively to the health-care needs of individuals.

The economic benefits to service providers could include increased productivity and increased efficiency for hospitals by lowering the number of unnecessary emergency department visits. In addition, such an initiative would enable rural and more remote communities provide better English-language health-care service delivery.

Taking advantage of such a focused, English-language health-care service delivery opportunity would require bringing health-care service providers and digital and AI tech experts and entrepreneurs together to innovate. In fact, collaboration between service providers, healthtech experts and entrepreneurs, along with public and private investors, would be crucial to the success of such an enterprise. It would require the coordination of digital health platforms to facilitate communication from service providers to individuals in need of quality front line, English-language health-care services.

Also, health tech startups could focus on offering health information systems to health-care institutions, allowing them to provide accurate and culturally sensitive medical information in English and French. In turn this would promote health literacy across communities in Quebec. Mobile health apps designed to assist patients in managing chronic conditions, prescription medications, and preventive care could also be considered and incorporated.

In addition, possibilities exist to improve efficiency in health-care record management and storage in the province. In this case, tech startups could offer solutions that facilitate managing health records and reduce the risk of errors associated with manual record-keeping, while facilitating quicker and more accurate decision-making by health-care professionals. Tech-driven solutions could also enhance data security and privacy measures, safeguarding sensitive patient information. Cloud-based storage systems could also enable seamless sharing of medical records among health-care providers.

These opportunities not only address linguistic considerations, but also contribute to health equity, the overall enhancement of health-care delivery in Quebec, job creation and collaborative economic development.

POTENTIAL CONTRIBUTORS TO THESE TYPES OF COLLABORATIVE ECONOMIC DEVELOPMENT POSSIBILITIES

- ▮ Community Health and Social Services Network
- ▮ McGill University Health Centre
- ▮ McGill Faculty of Medicine
- ▮ McGill Dobson Centre
- ▮ St. Mary's Hospital
- ▮ Jewish General Hospital
- ▮ Lakeshore General
- ▮ Shriners Hospital for Children
- ▮ Lachute Hospital
- ▮ Jeffrey Hale – Saint Brigid's

PUBLIC SECTOR

- ▮ Investissement Québec
- ▮ MedTeq
- ▮ BioQuébec
- ▮ Digital Health Canada
- ▮ Montreal Invivo
- ▮ Transmedtech Institute

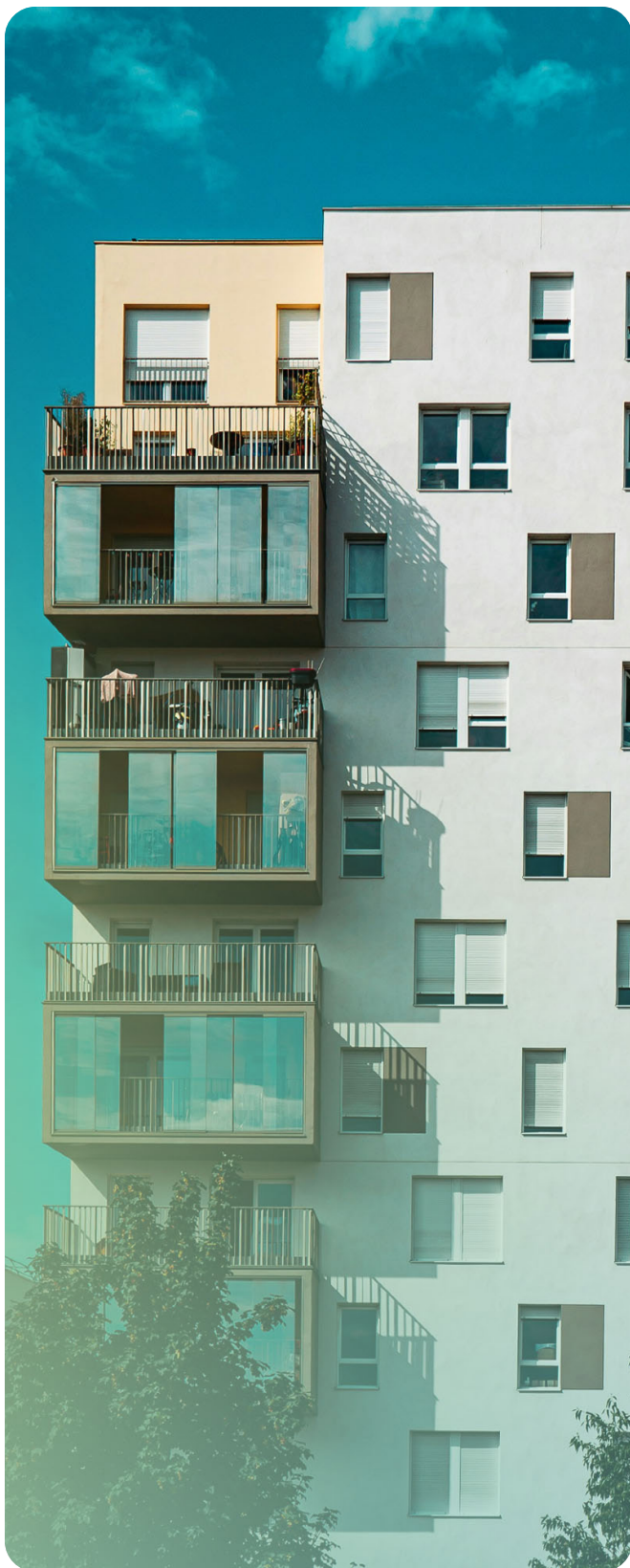
PRIVATE SECTOR

- ▮ Techstars
- ▮ Centech
- ▮ Campus des technologies de la santé
- ▮ MEDXLAB
- ▮ BDC Venture Capital
- ▮ Amplitude
- ▮ AQC Capital

CIVIL SOCIETY SECTOR

- ▮ Angés Québec
- ▮ Technology accelerators and incubators
- ▮ PME MTL

<https://bmlhealth.com/blog/all/news/industry-news/2022/08/18/montreal-digital-health-and-medical-technology-incubators-accelerators-venture-capital-investors-and-other-financing-resources-for-digital-health-startups/>



ILLUSTRATIVE EXAMPLE 6

Building and providing sustainable and affordable housing to low-income households

There may be a possibility to help the province increase its supply of affordable housing through the construction of sustainable units with energy efficiency measures.

One example is an initiative funded by The Green Municipal Fund that provides affordable housing units with net-zero energy objectives at rents 59% lower than the median in the community of Dorimène in Lévis. The fund considers this project to be “highly replicable and [one that] can scale easily to other municipalities across the country”^{lxxxv}. The pilot project lowered rents through adopting conventional energy efficiency measures, such as thermal insulation and proper ventilation, as well as innovations including photovoltaic solar panels, heat recovery and geothermal energy storage to achieve five-times lower than normal energy consumption.

The establishment of a cooperative dedicated to providing sustainable and affordable housing services in communities across Quebec presents a transformative opportunity to address social and environmental challenges. By integrating energy-efficient measures into the construction and maintenance of housing units, this initiative not only contributes to the reduction of carbon footprints, but also ensures long-term affordability for residents. Focusing on low-income households, the cooperative can play a pivotal role in expanding housing supply and meeting the critical demand for accessible living spaces.

POTENTIAL CONTRIBUTORS TO THIS OPPORTUNITY:

NETWORKS AND ASSOCIATIONS

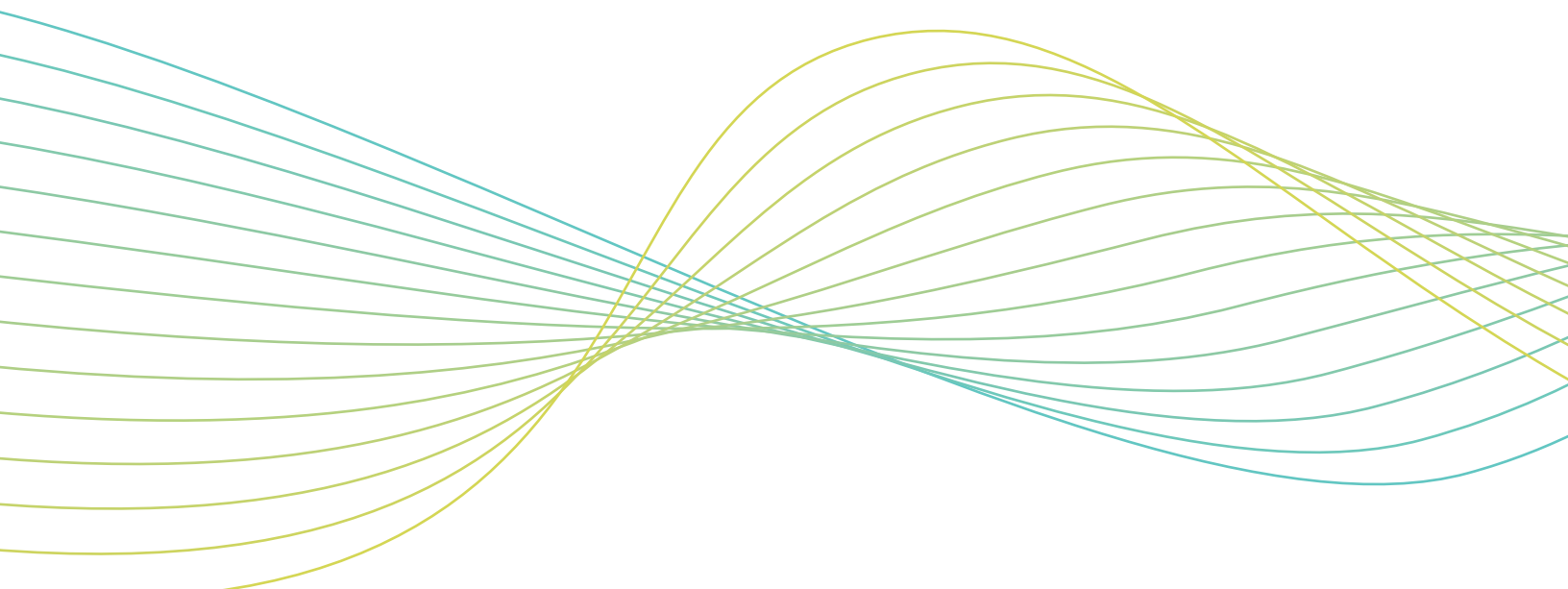
- ▮ Réseau Québécois des OSBL d'habitation

CIVIL SOCIETY SECTOR

- ▮ The Canadian Housing and Renewal Association

PUBLIC SECTOR

- ▮ Canada Mortgage and Housing Corporation
- ▮ Société d'habitation du Québec
- ▮ AccèsLogis Québec Program



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08 Appendices



APPENDIX 1. LIST OF BUSINESSES ORGANIZATIONS AND NETWORKS IN REPORT

EDUCATION AND RESEARCH INSTITUTIONS

- ▮ McGill University: <https://www.mcgill.ca/>
- ▮ Université de Montréal: <https://www.umontreal.ca/>
- ▮ Université Laval: <https://www.ulaval.ca/>
- ▮ Concordia University: <https://www.concordia.ca/>
- ▮ Bishop's University: [Register for our In Person Open House - Bishop's University \(ubishops.ca\)](https://www.ubishops.ca/)
- ▮ Montreal Institute for Learning Algorithms (MILA): <https://mila.quebec/en/>
- ▮ English Montreal School Board: <https://www.emsb.qc.ca/>
- ▮ Fédération des Centres de Services scolaires du Québec : [Accueil \(fcscsq.quebec\)](https://www.fcscsq.quebec.ca/)
- ▮ Centre interuniversitaire de recherche en analyse des organisations (CIRANO): <https://cirano.qc.ca/>
- ▮ Consortium for Research and Innovation in Industrial Bioprocesses in Quebec: <https://cribig.qc.ca/en/#:~:text=The%20CRIBIQ%20is%20a%20sectorial,of%20the%20bioeconomy%20in%20Quebec>
- ▮ Future Skills Centre: <https://fsc-ccf.ca/>
- ▮ École des Entrepreneurs du Québec: https://app.eequbec.com/repertoire?gad_source=1&gclid=CjwKCAjw17qvBhBrEiwA1rU9w4xDHfQiT_xRdWlxWf_eupmBqUrX5a5Y7LfdOFn4gzmahCry_m7lYxoCQloQAvD_BwE

MANUFACTURING

- ▮ Aspire Food Group: <https://aspirefg.com/>
- ▮ Armfoam: <https://sdquebec.ca/en/company/armfoam-inc>
- ▮ MDA Space: <https://mda.space/en/>
- ▮ Promark Electronics: <https://pmk.com/>

- ▮ Automation, Vision and Robotics (AV&R): <https://avr-global.com/>
- ▮ Roswell DHT: <https://www.roswelldht.com/>
- ▮ BusPas: <https://buspas.com/en/>
- ▮ Les matrices Carritec: <https://carritec.com/fr/>
- ▮ CMC Electronics: <https://cmcelectronics.ca/>
- ▮ Bell Textron Canada: <https://aiac.ca/members/bell-helicopter-textron/>
- ▮ Dimonoff: <https://www.dimonoff.com/>
- ▮ Shneider Electric: <https://www.se.com/ca/en/>
- ▮ Greenfield Global: <https://greenfield.com/>
- ▮ Airbus Canada: <https://www.airbus.com/en/our-worldwide-presence/airbus-in-americas/airbus-in-canada>
- ▮ Bombardier: <https://bombardier.com/en>
- ▮ Thales Canada: <https://www.thalesgroup.com/en/americas/canada>
- ▮ Les Dirigeables Flying Whales Québec inc.: <https://www.flying-whales.com/en/home/>
- ▮ Pratt & Whitney Canada: <https://www.prattwhitney.com/>

ELECTRIC POWER GENERATION, TRANSMISSION, AND DISTRIBUTION:

- ▮ TESCanada H2: <https://tes-h2.com/>
- ▮ Énergir: <https://energir.com/>

CONSTRUCTION

- ▮ SAF+: <https://safplusconsortium.com/>

AGRICULTURE AND FARMING

- ▮ Centre Agricole: <https://www.centreagricole.ca/>
- ▮ Savoura: <https://savoura.com/en/home/>
- ▮ G.S.P.M. Distribution: <https://gspm.ca/en/>
- ▮ Entosystem: <https://entosystem.com/en/>
- ▮ GoodLead Farms: <https://www.goodleaffarms.com/>

- ▮ Quebec Farmers' Association: <https://quebecfarmers.org/>
- ▮ Agrocentre Farnham: [Agrocentre Network | Farnham Agrocentre](#)
- ▮ Union des producteurs agricoles: <https://www.upa.qc.ca/>
- ▮ Quebec Reference Centre for Agriculture and Agri-food (CRAAQ): [CRAAQ | Cultivating expertise. Sharing knowledge](#)

HEALTH CARE

- ▮ Community Health and Social Services Network: <https://chssn.org/>
- ▮ Centre hospitalier de l'Université de Montréal (CHUM): <https://www.chumontreal.qc.ca/>
- ▮ McGill University Health Centre: <https://muhc.ca/>
- ▮ McGill Dobson Centre for Entrepreneurship: <https://www.mcgill.ca/dobson/>
- ▮ St. Mary's Hospital: <https://www.smhc.qc.ca/en/>
- ▮ Jewish General Hospital: <https://www.jgh.ca/>
- ▮ Lakeshore General: <https://fondationlakeshore.ca/our-hospital/>
- ▮ Shriners Hospital for Children: <https://www.shrinerschildrens.org/en/locations/canada>
- ▮ Lachute hospital: <https://gowell.ca/en/emergencies/csss-argenteuil>
- ▮ Jeffrey Hale – Saint Brigid's: <https://www.ciusss-capitalenationale.gouv.qc.ca/jhsb/en>

TELECOMMUNICATIONS

- ▮ TELUS: <https://www.telus.com/en>

TRANSPORTATION AND WAREHOUSING

- ▮ Société de transport de Laval (STL): <https://stlaval.ca/>
- ▮ Autorité régionale du transport métropolitain: <https://www.artm.quebec/>

- ▮ Régie intermunicipale de transport Gaspésie-Îles-de-la-Madeleine (RÉGÎM): <https://www.tourisme-gaspesie.com/fr/>

PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES

- ▮ Association québécoise des technologies: <https://www.aqt.ca/>
- ▮ Digital Health Canada: <https://digitalhealthcanada.com/>
- ▮ Montreal Invivo: <https://www.montreal-invivo.com/en/>
- ▮ Transmedtech Institute: <https://transmedtech.org/en/>
- ▮ Propulsion Québec: <https://propulsionquebec.com/>
- ▮ BioQuébec: <https://www.bioquebec.com/>
- ▮ Association québécoise des technologies: [AQT - L'incontournable réseau d'affaires des PME technos du Québec](#)
- ▮ Next Generation Manufacturing Canada: [Home | NGen: Next Generation Manufacturing Canada](#)
- ▮ MEDTEQ+: [envisAGE finances AgeTech collaborative projects \(envis-age.ca\)](#)
- ▮ Tangente IA: <https://kpidigital.com/tangente-ai/>
- ▮ KPI Digital: <https://kpidigital.com/>
- ▮ Brainbox AI: <https://brainboxai.com/en/>
- ▮ WSP: <https://www.wsp.com/fr-ca/ce-que-nous-faisons>
- ▮ Rand Canada: <https://www.rand.org/topics/canada.html>
- ▮ Epic Systems Corporation: <https://www.epic.com/>

ENVIRONMENTAL AND ECOLOGICAL SERVICES

- ▮ Clean Energy Canada: <https://cleanenergycanada.org/>

ECONOMIC DEVELOPMENT AND INVESTMENT PROMOTION

- Investissement Québec: <https://www.investquebec.com/quebec/fr>
- Québec International: <https://www.quebecinternational.ca/fr/accueil>
- Développement économique de l'agglomération de Longueuil: [DEL - Développement économique de l'agglomération de Longueuil](#)

PUBLIC SECTOR

- Innovation, Science and Economic Development Canada: <https://ised-isde.canada.ca/site/ised/en>
- Immigration, Refugees and Citizenship Canada: <https://www.canada.ca/en/immigration-refugees-citizenship.html>
- Emploi-Québec: [Postes actuellement offerts | Québec Emploi \(gouv.qc.ca\)](#)
- Société d'habitation du Québec: <https://www.habitation.gouv.qc.ca/>
- AccèsLogis Québec Program: <https://www.habitation.gouv.qc.ca/programme/programme/acceslogis-quebec>
- Green Municipal Fund: [Green Municipal Fund](#)
- Tourism Relief Fund (TRF): [Tourism Relief Fund \(canada.ca\)](#)

FINANCE

- Business Development Canada: <https://www.bdc.ca/en/>
- Desjardins: <https://www.desjardins.com/>
- Canada Mortgage and Housing Corporation: <https://www.cmhc-schl.gc.ca/>
- Export Development Canada: <https://info.edc.ca/>

TOURISM

- Bonjour Québec: <https://www.bonjourquebec.com/fr/>
- Association des tours opérateurs du Québec: [ATOQ | L'Association des tours opérateurs du Québec](#)
- Alliance de l'Industrie touristique du Québec: <https://alliancetouristique.com/>
- Tourisme d'Affaires Québec: <https://tourismedaffaires.com/>
- Aventure Ecotourisme Québec: [Aventure Écotourisme Québec - Au service des professionnels! \(aventure-ecotourisme.qc.ca\)](#)
- Indigenous Tourism Québec: [Indigenous Tourism Quebec - Art and Culture \(indigenousturism.com\)](#)
- Société des musées du Québec: [Les musées du Québec, des musées à découvrir \(musees.qc.ca\)](#)
- Destination Québec cité: [Guide officiel de la ville de Québec | Visiter Québec \(quebec-cite.com\)](#)
- The Canadian Housing and Renewal Association: [Homepage - Canadian Housing & Renewal Association \(chra-achru.ca\)](#)

SOCIAL ASSISTANCE

- Service d'orientation et d'intégration des immigrants au travail: [SOIT](#)
- Centre multiethnique de Québec: centremultiethnique.com
- Immigrant and Refugee Assistance Centre in Montreal: [Organisme d'aide aux immigrants à Montréal - La Maisonnée \(laimaisionnee.org\)](#)
- Centre William-Hingston: [English | Centre William-Hingston \(gouv.qc.ca\)](#)
- Center Eurêka: [Eureka – Au service des 40 ans et plus en recherche d'emploi \(centreeureka.org\)](#)

APPENDIX 2. LIST OF STRATEGIES AND PROGRAMS MENTIONED IN REPORT

DIGITAL PROGRAMS

- ▮ Pan-Canadian Artificial Intelligence Strategy: [Pan-Canadian AI Strategy – CIFAR](#)
- ▮ Stratégie de transformation numérique gouvernementale 2019-2023: [Stratégie de transformation numérique gouvernementale 2019-2023 | Gouvernement du Québec \(quebec.ca\)](#)
- ▮ The Canada Digital Adoption Program (CDAP): [CDAP Digital Advisor - CDAP Canada Digital Adoption Program | CDAP Grant & Digital Advisors \(cdap-canada-digital-adoption-program.ca\)](#)
- ▮ Digital Literacy Exchange Program: [Digital Literacy Exchange Program - Digital Literacy Exchange Program \(canada.ca\)](#)
- ▮ Québec's Programme de Soutien à la Commercialisation et à l'Exportation (PSCE): [Réalisez votre croissance mondiale avec EDC | EDC](#)
- ▮ CanExport SMEs: [Unlock your company's global growth with EDC | EDC](#)
- ▮ Offensive de transformation numérique: [Offensive de transformation numérique | Ministère de l'Économie, de l'Innovation et de l'Énergie \(gouv.qc.ca\)](#)

IMMIGRATION PROGRAMS

- ▮ Quebec Skilled Worker Program: [Regular Skilled Worker Program \(RSWP\) | Gouvernement du Québec \(quebec.ca\)](#)
- ▮ Programme de l'expérience Québécoise: [Programme de l'expérience québécoise \(PEQ\) | Gouvernement du Québec \(quebec.ca\)](#)
- ▮ Quebec Business Immigration (Immigrant Investor and Immigrant Entrepreneur programs): [Immigrate to Québec as an entrepreneur | Gouvernement du Québec \(quebec.ca\)](#)

- ▮ Quebec Business Immigration (Immigrant Investor and Immigrant Entrepreneur programs): [Immigrate to Québec as an investor | Gouvernement du Québec \(quebec.ca\)](#)
- ▮ Programme d'accompagnement et de soutien à l'intégration: [Programme d'accompagnement et de soutien à l'intégration \(PASI\) | Gouvernement du Québec \(quebec.ca\)](#)
- ▮ Rural and Northern Immigration Pilot: [Rural and Northern Immigration Pilot: who can apply - Canada.ca](#)

GREEN PROGRAMS AND STRATEGIES

- ▮ 2030 Quebec Green Hydrogen and Bioenergy Strategy: [Québec Green Hydrogen and Bioenergy Strategy | Gouvernement du Québec \(quebec.ca\)](#)
- ▮ Agricultural Clean Technology (ACT) Program: [Agricultural Clean Technology Program - Adoption Stream: Step 1. What this program offers - agriculture.canada.ca](#)
- ▮ INNOV-R initiative: [Home | INNOV-R](#)

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