

# **PERSPECTIVE**

# The Construction Industry: Key to Solving the Housing Crisis

By Marc Desormeaux, Principal Economist, and Florence Jean-Jacobs, Principal Economist

### **SUMMARY:**

- ▶ With demographic demand far outpacing housing construction and housing affordability severely stretched, we built a profile of the construction industry in Quebec and Canada as a whole. A major focus of our analysis is the extent to which housing supply can meet demand in the future.
- ▶ Although homebuilding has proceeded at a solid clip and has seen its economic contribution rise over the past three years, the sector still faces myriad challenges. These include very high building costs, labour shortages, the dampening effects of weak economic growth, and competition for labour from the non-residential construction sector.
- ▶ Quebec and the rest of Canada should continue to welcome newcomers who can help fill labour shortages in the construction sector. However, we should also be mindful of hurdles preventing workers from contributing to their full potential. In particular, we should think about how to reduce discrimination and harassment in the construction sector.
- ▶ Efforts should also be made to bolster the residential construction sector's productivity. Evidence from other countries suggests that prefabricated housing and greater adoption of digital technologies can help in this respect.
- ▶ Ultimately, macroeconomic conditions are likely to present significant headwinds to our construction industry in the years ahead, but failure to meet our homebuilding objectives just isn't an option.

#### 1. Context

The construction industry is vitally important to Canada's economy. Nationally, it was the fifth-biggest sector in 2022, and the seventh-largest in Quebec. Last year, it accounted for almost 1.6 million jobs—roughly 8% of total employment—across the country, as well as a 7% share in Quebec. It also plays a critical role in supporting activity in other key industries, such as mining, manufacturing and financial services.

Although the industry has grown substantially over the past three years, it's also faced myriad challenges. Skyrocketing population growth and efforts to rebuild the economy after the COVID-19 pandemic have only increased the need to build more—not just homes but also infrastructure. But the pandemic also created acute supply chain bottlenecks that have pushed the costs of building materials into the stratosphere. Higher interest rates have compounded the problem by making it harder to finance new projects. Meanwhile, acute labour shortages from the pre-pandemic era got worse when the economy reopened.

An aging population and a looming wave of retirements are expected to add to the pressure in the years ahead.

Lately, amid acute housing unaffordability in Canada, concerns about the sector's longer-run prospects have naturally become even more pressing. Discussions on this front include both demand- and supply-side factors, which we explore in the sections below.

### 2. Factors Driving Demand

At a fundamental level, population growth is the key driver of demand for housing and infrastructure. Canada's headcount gains were strong before the pandemic and are skyrocketing now. This has fuelled household formation, putting upward pressure on both home values and rent. It's also increased the use of public services and infrastructure, and it's become clear that existing assets and facilities aren't sufficient to keep up with the needs of a rapidly rising population.

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Interest rates are also important. They impact the debt servicing costs borne by homeowners and prospective buyers, which in turn affect the relative appeal of renting. In the decade following the global financial crisis, central banks kept borrowing costs low as they sought to stimulate economies amid a tepid global economic recovery. Over the past two years, sharply higher interest rates implemented to curb inflation have caused pain, making it much more expensive to service mortgage debt and causing existing home sales to plunge. Yet purchase prices remain high relative to income, and that has shifted some demand into the rental market, rendering it significantly more expensive as well.

### 3. Lagging Supply

The factors that affect demand also affect supply. Faced with significant pressure on public services, many governments have announced ambitious plans to boost capital expenditures for healthcare and education facilities, as well as public transit. Population growth—and the demand it creates—also normally drives new home construction. It appears that the strength of headcount gains in 2023 helped keep homebuilding in high gear in some parts of Canada, offsetting the effect of sharply higher borrowing costs.

However, supply still is not keeping up with demand. Canada's long-term housing supply shortfall is well established. Research documenting the supply gap includes studies by the Canada Mortgage and Housing Corporation (CMHC) and our own work.

To understand whether the industry can address this supply shortfall, we next turn to an overview of the construction sector's recent performance and upcoming challenges.

### 4. Industry Overview and Recent Trends

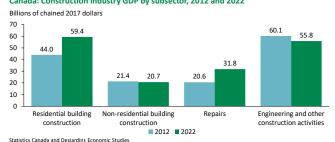
### **Economic Contribution**

Despite the construction industry's size, its contribution to GDP in Quebec and Canada as a whole has plummeted over the past 10 years, while the service industries' contribution has gone up. Residential construction has been driving most of the industry's growth for the past decade. Meanwhile, the GDP of non-residential construction stalled and that of engineering construction fell (graph 1). A similar trend is observed in Quebec (graph 2).

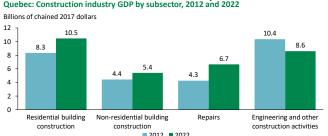
### Investment Composition and Trends

During the first three quarters of 2023, construction investments in Canada averaged \$283 billion (annualized, 2017 chained dollars), or 12% of GDP.1 In Quebec, they reached \$43.5 billion (9% of GDP). This includes residential and non-residential buildings along with engineering projects (roads, ports,

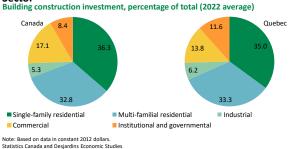
Graph 1 Residential Construction Has Been Driving Most of Canada's **Construction Industry Growth for the Past 10 Years** Canada: Construction industry GDP by subsector, 2012 and 2022



Graph 2 Repairs and Residential Construction Contributed the Most to GDP Growth for Quebec's Construction Industry Quebec: Construction industry GDP by subsector, 2012 and 2022



Graph 3 Investment in Building Construction Is Dominated by the Residential



Statistics Canada and Desjardins Economic Studies

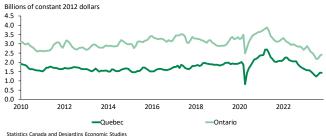
pipelines, and other public infrastructure). If we take a closer look at building construction, two-thirds of investment is in the residential sector (graph 3).

In Quebec and Ontario, residential investment has fallen from its April 2021 peak (graph 4 on page 3) as the real estate sector has slowed down. Meanwhile, industrial buildings have posted the strongest relative growth in non-residential construction in Canada, including Ouebec. In fact, it's the only construction investment category in Quebec that has grown in the past 12 months (graph 5 on page 3).

<sup>&</sup>lt;sup>1</sup> Construction investment is defined here as business gross fixed capital formation in residential and non-residential structures.



Graph 4
Residential Investment Is Pulling Back in Quebec and Ontario
Residential building construction investment in Quebec and Ontario,
January 2010 to October 2023 (seasonally adjusted data)



Graph 5
Quebec: The Industrial Building Segment Led Growth
Real investment in building construction, seasonally adjusted data



We can expect this trend to continue nationwide, including in Quebec. According to the <u>Commission de la construction du Québec</u> (CCQ), industrial construction is the only industry sub-sector where hours worked are expected to increase in 2024 (+25%), due to some major new projects. These include <u>warehouses</u>, <u>data centres</u> (made increasingly necessary by the artificial intelligence boom) and factories intended to develop the <u>battery industry</u> and manufacture electric vehicles, among other things.

### Industry Characteristics

The Quebec construction industry stands out from other sectors in a number of ways, outlined in Table 1. In the next section, we take a closer look at some of these characteristics as they may explain some of the challenges facing affordability and the future housing supply.

### 5. What Are the Most Pressing Challenges?

### Low Productivity

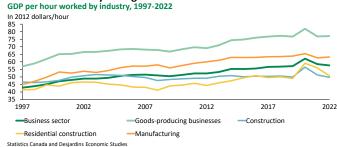
The construction industry lags behind other Canadian sectors in terms of productivity. Aside from a spike in 2020, its productivity barely changed over 10 years (+1% from 2012 to 2022). As a result, the construction sector is falling increasingly far behind other industries, including manufacturing and other goods-producing businesses (graph 6). But productivity in residential construction climbed by 14% over the same period,

Table 1
Characteristics of the Construction Industry

CHARACTERISTICS	EXAMPLES
Regional scope, limited outside competition	Presence in all regions
Dependent on economic cycles and public finances	<b>46%</b> of non-residential construction spending comes from the public sector in Canada, <b>59%</b> in Quebec
Large businesses work alongside small ones on construction sites	79% of workers are employed by companies with 1–99 employees (vs. the Canadian average of 62%)
High percentage of self-employed workers	24% of jobs in Canada vs. 13% average; 18% of jobs in Quebec vs. 11% average
■ Easy to start businesses, but shorter longevity	Enterprise birth and death rates are higher than the Canadian average
Frequent unemployment	Seasonal, frictional (between projects), cyclical, or weather- related
Regulated industry	Quebec has its own act (Act R-20)
Well-established unions	Share of workers covered by a union contract is 57% in Quebec (vs. 39% average for all industries) and 31% in Canada as a whole (vs. 30% average for all industries)
Small share of jobs held by immigrants and non-permanent residents	9% vs. average of 20% in Quebec, 22% vs. average of 29% nationwide
<ul> <li>Small share of jobs held by women</li> </ul>	Ranked last of all industries nationwide.
CCQ, Statistics Canada, ISQ, Ministère de l'Emploi et de la Solidarité sociale (	QC) and Desjardins Economic Studies

Graph 6

# Canada: Aside from a Spike in 2020, Labour Productivity in Construction Barely Changed Over 10 Years



compared to productivity declines in non-residential building (-5.5%) and engineering construction (-0.5%).

The situation is even worse in Quebec, where the industry's labour productivity slid 9.5% from 2012 to 2022 while rising in most other sectors (Table 2). In Ontario, labour productivity in the construction industry accelerated 6.9% over the same period. But it's worth noting that the non-residential sector is responsible for the loss of productivity in Quebec (-29% for engineering construction and -8% for non-residential buildings). Productivity stayed relatively flat in residential construction (+1.7%). However, that's still well below the 11.7% average gain in the business

Table 2
Quebec: Construction Is One of the Lowest-Ranked Industries in Terms of Labour Productivity

SECTOR	2022 GDP* PER HOUR WORKED	2012-2022 CHANGE (%)
Construction	45.6	-9.5
Residential construction	41.0	1.7
Manufacturing	58.9	5.2
Wholesale trade	62.4	25.3
Retail trade	35.3	37.9
Transportation and warehousing	40.4	1.0
Finance and insurance	86.8	42.3
Professional, scientific and technical services	47.7	0.4
Information and communication sector**	78.1	25.8
Services-producing sector	47.1	15.7
Goods-producing sector	62.8	5.4
All industries (business sector)	51.7	11.7

\* GDP in chained 2012 dollars; \*\* North American Industry Classification System (NAICS) codes 4173, 5112, 517, 518, 5415, 8112 as well as 334 excluding 3345. Statistics Canada and Desjardins Economic Studies

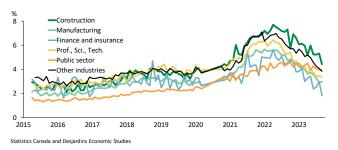


sector as a whole. We should also keep in mind that the level of productivity is lower in the residential construction sector than in non-residential construction across Canada, including Quebec.

### Labour Shortages for Certain Key Jobs

As mentioned in the introduction, the Canadian construction sector is still plagued by labour shortages (graph 7). And as we've shown in a recent <u>analysis</u>, this is also the case in Quebec.

Graph 7
Construction Industry Still Grappling With Labour Shortages
Job vacancy rate, Canada



Even though the industry and the government are already taking steps to reduce labour shortages, there's still a long way to go.<sup>2</sup> Labour shortages for certain occupations are more severe in Quebec, especially outside of urban centres (Table 3).

Table 3
Quebec's Construction Industry Faces Several Labour Shortages between Now and 2026

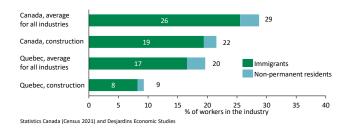
Occupation	Number of regions with shortages	Occupation	Number of regions with shortages
Civil engineer	16	Electrical engineer	15
Civil engineering technologist	16	Carpenter	15
Electrical and electronics engineering technologists	16	Power engineer and power systems operator	14
Welder	16	Electrician	13
Mechanic	16	Heavy equipment operator	13
Mechanical engineer	15	Construction trades helpers	12
Transport truck drivers	16		

Note: 16 regions in total (Nord-du-Québec and Côte-Nord regions have been combined). Government of Quebec and Desjardins Economic Studies

### Poor Integration of Immigrants

The construction industry lags behind other sectors when it comes to integrating immigrants. Construction is one of three sectors in Quebec (out of 20) that employs the smallest percentage of immigrants and non-permanent residents, who made up just 9% of the industry's workforce in 2021. This is just slightly more than in mining and oil and gas extraction, and in agriculture, forestry, fishing and hunting, which came in last at 7% and 8%, respectively. The average for all Quebec industries is 20% (graph 8).

Graph 8
Immigrants and Non-permanent Residents Represent a Small Share of the Construction Workforce, Especially in Quebec
Percentage of jobs held by immigrants and non-permanent residents (2021)

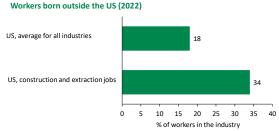


While the construction industry in Canada as a whole is faring better in this respect (15th out of 20), it remains well below the average for all industries. A closer look at the subsectors reveals that the issue is widespread in both residential and non-residential construction. Furthermore, the share of immigrants and non-permanent residents working in construction barely grew between 2019 and 2022 (from 21% to 22%) compared to other industries.

In short, immigration isn't benefiting construction as much as it does other industries, despite labour shortages in the sector. Compare this to the <u>United States</u>, where the situation is very different (graph 9). Workers born outside the US represented 34% of construction and extraction workers, compared to an average of 18% of workers in all sectors in 2022.

The <u>Bank of Canada</u> seems to be concerned that immigrants are making a smaller contribution to residential construction

Graph 9
Workers Born outside the US Hold 34% of Construction and Extraction Jobs



U.S. Bureau of Labor Statistics and Desjardins Economic Studies

<sup>&</sup>lt;sup>2</sup> The Quebec government launched its Action Plan for the Construction Sector in 2021. Its goals include attracting, training and recertifying 55,000 construction workers over a five-year period. Some of these measures aim to simplify access to jobs, speed up training, and better integrate groups that are under-represented in the industry. According to the CCQ (February 2023), certain measures appear effective, including steps to make it easier for students to work on construction sites, allow journeypersons to oversee two apprentices rather than one, and allow apprentices to perform residual tasks.



in Canada than in the United States. It believes this may be putting upward pressure on rent inflation and home prices in this country. Indeed, the data for Canada shows that immigration has driven up demand for housing more than supply. The most recent newcomers—non-permanent residents (NPRs)—are more likely to work in professional services and the information industry, while just 5% are employed in construction. This is well below the 8% of Canadian jobs that the sector represents. The <a href="Bank of Canada">Bank of Canada</a> concludes that "a near tripling of current NPR inflows into construction is needed to bring their share of employment up to the same level of the general population's participation in the construction industry."

This is why industry organizations and various levels of government want to implement strategies to increase the number of immigrants employed in the construction industry. A report commissioned by the CCQ made more than 30 recommendations to overcome the various challenges facing immigrants in the industry. These challenges include the complexity of the professional accreditation process, a lack of personalized information to support immigrants working in construction and their employers, language proficiency requirements, etc.

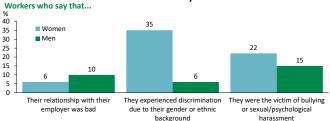
### Labour Relations and Limited Representation of Women

Women are another group that is poorly represented in the industry. Construction ranks last of 20 sectors in terms of the percentage of workers who are women (13% in Quebec and in Canada as a whole for 2023). This percentage is even lower if we use the <u>CCO's</u> definition of construction worker. Of the 197,900 active workers in Quebec covered by Act R-20 in 2022, just 3.65% were women. However, a higher percentage of new entrants in the industry are women (9%).

Problems with labour relations are also causing some workers to leave the industry, even though they're desperately needed. In a January 2021 report, the CCQ compared the 2004 and 2020 (January) results of a survey focusing on workers who leave the industry. Although the work is still similar in many respects, the authors note that some factors have deteriorated significantly, especially in the work environment. In 2020, a larger share of respondents mentioned poor working conditions and job instability. Nine percent of workers who left the profession say they experienced discrimination against their gender or ethnic background, and nearly 1 in 5 workers who left the profession (18%) said they were victims of bullying or sexual or psychological harassment. These figures are drastically higher among women, whether or not they've left the industry (graph 10).

While the industry's goal is to increase the number of women on construction sites, especially in light of labour shortages, companies will have to address these issues by implementing HR strategies to improve working conditions.

Graph 10
A Disproportionate Number of Women Have Experienced Difficult
Situations in the Construction Industry

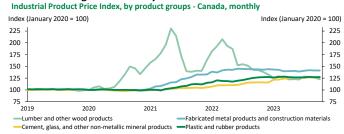


Note: This chart shows responses that were significantly different for men and women. 2020 survey data (conducted from January 6–27). CCQ and Desjardins Economic Studies

## Dependent on Economic Cycles and Fluctuations in the Real Estate Market

As mentioned above, the disruptions caused by the pandemic forced the industry to deal with challenges related to the supply and high prices of wood and other materials. Even now, the prices of the industrial products most used in construction are 20% to 40% higher than they were before the pandemic (graph 11). In addition, residential construction price indexes are still climbing in the Toronto census metropolitan area. In Greater Montreal, prices rose in many product categories, except for wood, plastics and composites, which fell in 2023.

Graph 11
The Prices of the Industrial Products Most Used in Construction Are 20% to 40% Higher Than They Were before the Pandemic



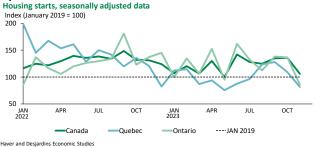
Statistics Canada and Desjardins Economic Studies

The industry is also affected by fluctuations in residential real estate and will be increasingly hard-hit by the slowdown that's already started in that sector. This is reflected in housing starts, which have dropped below 2019 levels in Ontario and Quebec (graph 12 on page 6).

The current economic cycle is particularly unfavourable for new homebuilding, and we think it's only a matter of time before greater weakness emerges. Despite recent government incentives and the housing needs of a fast-growing population, homebuilding will likely be held back by a number of constraints. Interest rates and building material costs are at 10-year highs. Labour shortages are holding back the construction industry. Accordingly, the CMHC estimates that some 40% of residential



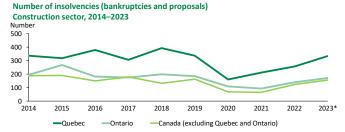
Graph 12
Housing Starts Have Dropped below 2019 Levels in Ontario and Quebec



developers will reduce the number of future projects while over 30% will put new projects on the back burner. That adds to exceptionally weak homebuilder sentiment. And while Toronto and Vancouver homebuilding has managed to stay firm so far in 2023, many projects that broke ground there this year were financed before the economic and interest rate backdrop worsened. So, it stands to reason that we'll see a more significant slowdown in those cities going forward.

A growing number of insolvencies among companies in this sector, especially in Quebec (graph 13), suggests that they're in increasingly dire financial straits and that economic conditions are already slowing down activity in the industry.

Graph 13
Insolvencies in the Construction Sector Are Heading Back up to 2019
Levels



\* Total for the 12 months from November 2022 to October 2023 (latest data available) Office of the Superintendent of Bankruptcy Canada and Desjardins Economic Studies

### 6. Outlook

Major Projects Will Attract a Significant Portion of the Workforce The labour shortage is even more challenging given that both residential and non-residential construction will be competing for the same workers for upcoming projects.

In Quebec, many large-scale construction projects have already started or been announced. The biggest ones are listed in Table 4.

The single biggest project announced by far is Hydro-Québec's recent 2035 action plan, which calls for \$155 billion – \$185

Table 4

Major Construction Projects Announced for Quebec			
PROJECTS	VALUE (\$M)	TIMELINE	
Civil engineering and roads			
Hydro-Québec action plan	155,000-185,000	2024-2035	
Réseau express métropolitain (REM)	7,950	2018-2027	
Extension of the STM's blue line	6,400	2021–2029	
Louis-Hippolyte-La Fontaine tunnel repair project (Montreal and the South Shore)	2,497	2020–2025	
Commercial sector			
Royalmount commercial development project (Montreal)	7,000	2018–2033	
Institutional sector			
Construction of a regional hospital (CSSS Vaudreuil- Soulanges)	2,595	2021–2026	
Industrial sector			
Northvolt plant construction (phase 1)	7,300	2024-2028	

billion in investment from 2024 to 2035. This would be the largest source of investment and jobs during this period. The Crown corporation plans to mobilize around 35,000 construction workers each year to complete these investments. To give an idea of the enormity of this figure, last June (before Hydro-Québec announced its plan) the CCQ estimated that, on average, the construction industry would need 16,000 more workers for each year from 2023 to 2027 to meet demand from major projects. That's in addition to the 174,000 employees who were active in the industry and were subject to Act R-20 in the first half of 2023.

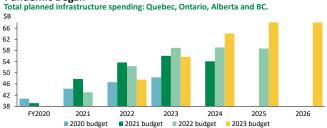
The second biggest planned project is the construction of an electric vehicle battery manufacturing plant in Montérégie at an estimated cost of \$7.3 billion.

The CCQ lists another 34 construction projects that have already started, including \$26.2 billion in civil engineering and road work, \$10.2 billion in industrial construction, and \$20.0 billion in the institutional and commercial sectors, for a grand total of \$56.4 billion.

Non-residential construction will also create enormous demand for workers in other provinces. Major projects already underway or planned for the years ahead include the LNG Canada export terminal in BC, petrochemicals facilities in Alberta, a large potash mine in Saskatchewan, and electric vehicle plants in Ontario. Broadly speaking, the energy transition—whether we're talking about renewable energy ventures or mining sector activity will also draw on the existing pool of construction resources and labour. In addition, spending on infrastructure remains a priority. This includes the infrastructure that will be needed to access the critical minerals that are vital to Canada's climatefocused industrial strategy. Nearly all provinces are planning to boost capital expenditures in health care, educational facilities, and public transit over the coming years to meet the needs of a growing population. That said, the array of construction industry challenges discussed above has already resulted in significant delays for major projects (graph 14 on page 7).



Graph 14
Major Projects Have Experienced Multiple Delays since the Pandemic Began



Provincial budgets and Desjardins Economic Studies

### Innovation Is Required to Meet the Need for New Housing

With demand for construction workers mounting amid industry labour shortages, the easiest solution appears to be better integration of certain minority groups such as immigrants. This should certainly be an area of focus for public policy.

But that's not the whole story. Even in the US, where foreign-born workers are more likely to work in construction than US-born citizens, the industry is plagued with lagging labour productivity. Research has found that productivity in the sector has been falling or, at best, stayed flat over many decades. This analysis suggests that the industry's ability to transform material inputs into outputs has declined, and that the market doesn't seem to reallocate activity to higher-productivity firms and states. Others believe the loss of productivity could be due to fewer economies of scale in an industry dominated by small businesses. Still others point to the regulatory environment (e.g., regulations that can discourage mass-production projects, incentivize smaller lots, or tend to favour incumbents vs. new entrants).

Clearly, Canada isn't the only country facing this problem. What can be done? Table 5 lists some of the productivity-enhancing innovations being implemented around the globe. For instance, offsite construction of modular and prefabricated homes (to be quickly assembled onsite) shortens building times thanks to parallel work streams. A McKinsey <u>analysis</u> finds that offsite construction makes it possible for home builders to accelerate project timelines by 20% to 50%, <u>with some</u>

Table 5
Productivity-Enhancing Innovations in the Construction Industry

EXAMPLES	
Prefabricated and modular building (off-site construction)	
Improved material sourcing processes and supply chain management	
Compact planning strategies	
Pre-approved building plans	
IoT connected construction sites (using networks of sensors, devices and software)	
Building Information Modeling (BIM)	
Construction Management Software (CMS)	
Using drones for mapping, surveying, inspections or 3D modelling	

PlanRadar, Global Construction Review, McKinsey, and Desjardins Economic Studies

companies claiming they slashed building time by half or more. Countries like Sweden, Japan and Singapore have put in place regulatory incentives for offsite prefabrication. In Sweden, about 80% of houses have prefabricated elements, and the increase in productivity is estimated at 10% compared to conventional construction. In Japan about 15% of new detached/semi-detached houses are prefabricated. In comparison, roughly 6% of permanent housing in the US involves significant prefabrication. Although comparable statistics for Canada are not readily available, estimates are likely closer to the US.

Part of the solution should also be for the construction sector to adopt digital solutions. In fact, the industry is among the laggards in this respect (BDC). One example of this technology is Building Information Modelling—software and protocols that allow all stakeholders on a project to work on a shared digital 3D model. Another is Construction Management Software—cloud-based software that helps construction teams manage a project's planning, scheduling, communication, and documentation.

### 7. Conclusion

The severe housing supply shortfall in Canada is by now well established, and our work confirms that labour shortages will make it hard to close the gap. Canada should improve its effectiveness in welcoming newcomers who can help meet demand for workers in the construction sector. Right now, the immigration pathway towards permanent residency is <u>underused</u> by newcomers with construction skills. Indeed, in 2022, only 455 permanent residents were admitted under the Federal Skilled Trades Program, which includes qualified construction workers. Government and industry measures to attract, train and retain skilled talent in high-demand occupations should be pursued nationwide as well. But there are also real barriers to integration for workers who are already here. Canada will continue to finetune its immigration policy to meet housing supply objectives in the years ahead. As that process continues, we should also think about how to reduce discrimination and harassment in the construction sector

But easing labour constraints is by no means a silver bullet for the residential construction sector, or for meeting our homebuilding needs. Productivity gains will need to do some of the lifting. Prefabrication is one approach that can help in this respect, and Canada can look at how it's been successfully implemented in other countries. Construction companies also stand to gain from improved adoption of digital technologies.

Ultimately, macroeconomic conditions are likely to present significant headwinds to our construction industry in the years ahead, but failure to meet our homebuilding objectives just isn't an option. As we've argued many times before, we need all levels of government to stop passing the buck and work together to make sure the industry has the labour and capital it needs to thrive. Canada's status as a welcoming, affordable, clean and prosperous place depends on it.