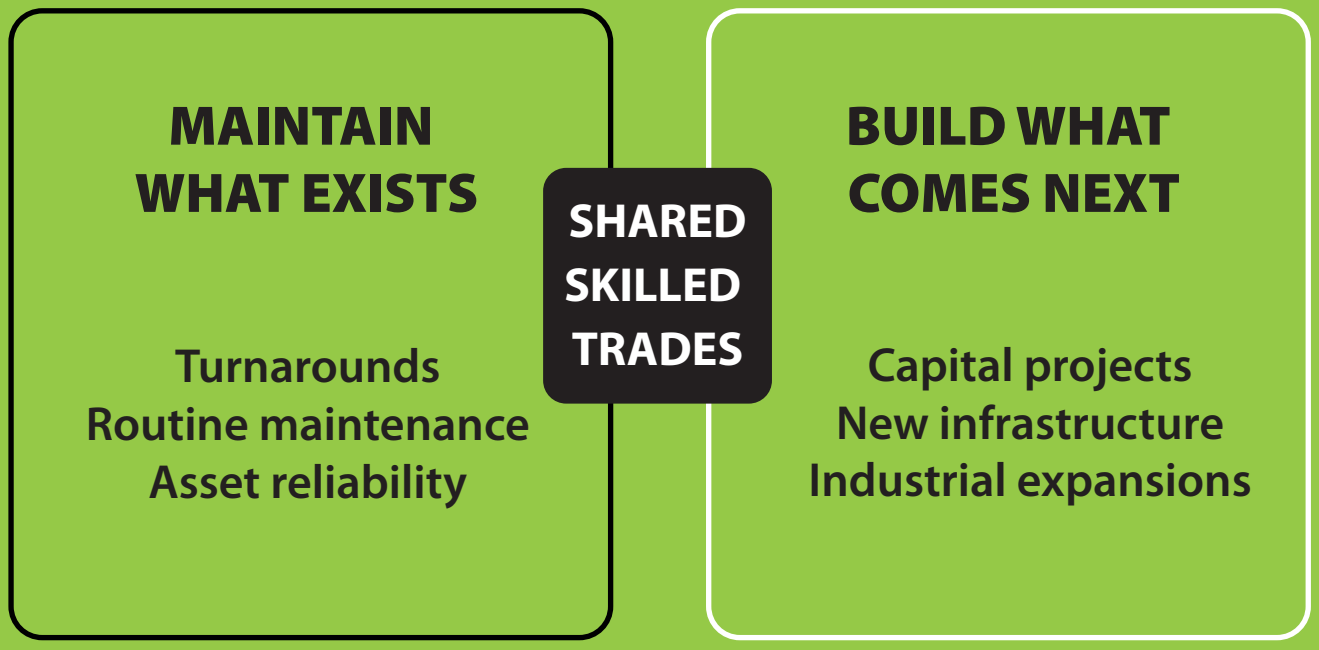
Workforce Warning Signals

Six Interconnected Workforce Pressures Threatening Canada's Industrial Future

AMCC
Association of Maintenance Contractors of Canada

A report prepared by the Association of Maintenance Contractors of Canada (AMCC)
November 2026

One workforce, competing demands



New investment and maintenance require the same specialized tradespeople and experienced supervisors.

Executive Summary

Canada has ambitious plans to expand its industrial capacity, strengthen its economic independence, and invest in infrastructure to support future growth. As attention turns to what the country intends to build, we must also consider whether Canada will have the skilled workforce required to maintain the industrial facilities it already depends upon.

Industrial maintenance is essential to Canada's economic strength. Across the country, skilled tradespeople keep refineries, upgraders, petrochemical plants, and other major industrial facilities operating safely and reliably. Their work protects existing capacity and supports the industries that drive Canada's economy.

That workforce is under increasing pressure.

For years, industry has warned about skilled labour shortages. What AMCC is now observing points to a more serious challenge. Several pressures are developing at the same time, and traditional approaches to recruitment, training, and workforce planning may no longer be enough. Increasingly, the research is confirming what AMCC members have been observing and experiencing firsthand.

This report identifies six warning signals affecting Canada's industrial maintenance workforce.

1. Experienced tradespeople are retiring, taking years of specialized knowledge, leadership and supervisory experience with them. Replacing that experience will take time.
2. Apprenticeship registrations are increasing, but completions are not keeping pace with projected workforce requirements. Inconsistent employment and access to training make it harder to develop the next generation of certified journeypersons.
3. Canada's skilled workforce is increasingly difficult to mobilize. Administrative and certification requirements can delay the movement of qualified workers between provinces and projects, even as demand for their skills grows.
4. Industry lacks a coordinated picture of future maintenance workforce requirements. Without better information, it is difficult to anticipate shortages, overlapping project schedules and periods of peak demand.
5. Major capital projects are creating new opportunities for skilled tradespeople across Canada, increasing competition for the same workers industrial maintenance depends upon. Compensation, employment stability, and opportunities to work closer to home are influencing where workers choose to work.
6. Weak productivity growth across the broader construction sector raises concerns about how industry will meet future demand. Better planning, coordination, and technology adoption offer opportunities to make more effective use of an increasingly constrained workforce.

The combined effect of these six pressures presents a far greater threat to Canada's industrial maintenance capacity than any one of them alone.

Retirements reduce experienced workforce capacity while industry needs qualified people to train and supervise apprentices. Major capital projects compete for many of the same skilled trades, while incomplete information about future maintenance requirements makes it difficult to anticipate overlapping demand. Improving productivity can help but cannot fully offset shortages of qualified workers.

The consequences extend beyond the maintenance sector. When industrial owners cannot secure the people needed to complete essential maintenance, they may face difficult decisions about deferred work, production schedules, and operating costs. These challenges can affect the reliability of existing infrastructure and the ability to support future industrial investment.

Building on AMCC's 2025 discussion paper, One Industry. One Workforce. One Future., this report identifies emerging workforce risks that require the attention of industrial owners, contractors, labour organizations, training providers, and governments.

This paper is a warning. It is intended to bring greater attention to workforce pressures that are already emerging and encourage the industry to consider their combined implications. No single contractor, industrial owner, labour organization, training provider or government can address these challenges alone.

AMCC will continue to bring industry leaders and workforce partners together to examine the risks, share their experiences, and identify where coordinated action can make the greatest difference. The decisions made today about workforce development, mobility, planning, and productivity will influence Canada′s ability to maintain its industrial capacity for years to come.

Introduction

Growing pressures on Canada's industrial maintenance workforce.

Canada's industrial maintenance workforce is showing signs of strain that could have significant consequences for the country's economic security, industrial productivity, and critical infrastructure.

During Canada's fall 2026 turnaround season, AMCC heard from industrial owners facing significant workforce shortages. Several project sites reported substantial shortfalls in securing the skilled tradespeople needed to meet peak craft demands. What industry has long warned could happen is now being experienced on the ground.

Canada's refineries, upgraders, petrochemical plants, and other major industrial facilities depend on a highly skilled maintenance workforce to operate safely, reliably, and competitively. These workers protect infrastructure that is essential to Canada's industrial economy and will remain critical as the country pursues new investment.

Yet the pressures facing this workforce cannot be explained by labour shortages alone.

Six interconnected warning signals point to a much larger challenge. Experienced tradespeople are retiring, apprenticeship completions are struggling to keep pace with future requirements, and competition for skilled workers is increasing. At the same time, barriers to workforce mobility, fragmented information about future labour demand, and changing employment opportunities are making it harder to plan for and secure the people industry needs. Productivity pressures add another challenge as the sector looks for ways to make better use of an increasingly constrained workforce.

These are not six independent problems. They are interconnected pressures on a workforce that Canada depends upon to maintain its existing industrial capacity while building for the future.

The consequences are significant. When qualified workers are unavailable at the time they are needed, maintenance schedules, costs, production reliability, and potentially workplace safety can all be affected. As Canada pursues new investments in energy, infrastructure, and industrial development, competition for the same skilled tradespeople will intensify.

AMCC has been examining these challenges through its work with industrial owners, maintenance contractors, labour organizations, and other industry stakeholders. In 2024, the Association convened a national Advisory Panel of owners, contractors, unions, regulators, and training providers. Its September 2025 discussion paper, One Industry. One Workforce. One Future., identified structural workforce challenges and the need for greater industry collaboration[1].

The latest evidence reinforces those concerns. BuildForce Canada's Construction and Maintenance Looking Forward 2026–2035 projects a national shortfall of 30,400 workers in non-residential construction and maintenance by 2035, including 15,500 in Alberta. Approximately 139,100 workers in the national non-residential construction and maintenance workforce are projected to retire over the same period[2].

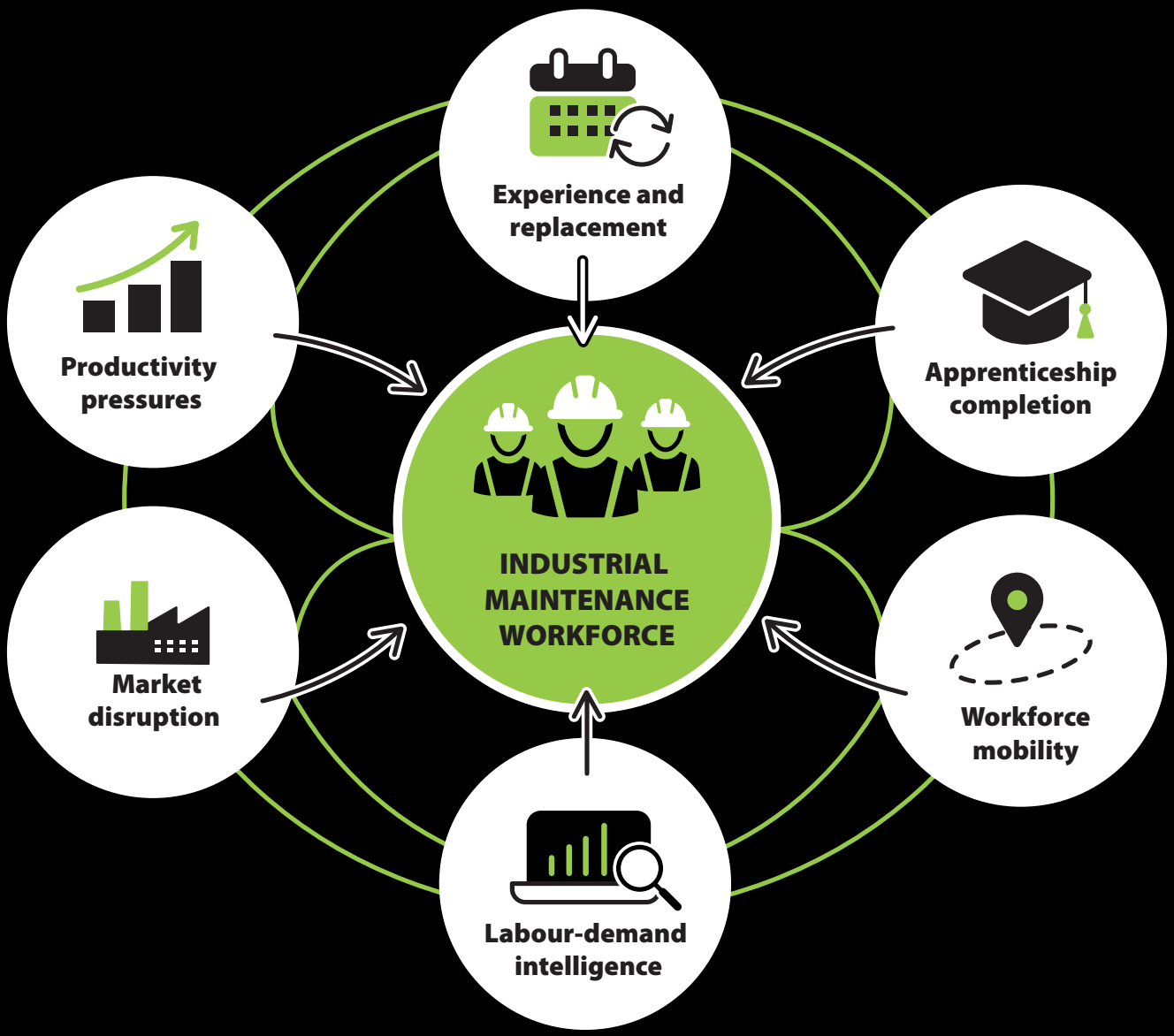
Those projections provide important context. AMCC's contribution is to examine what emerging workforce pressures mean specifically for industrial maintenance, drawing on published evidence and observations from the industry.

This paper examines each of the six warning signals in detail, drawing on workforce research and industry observations to explain the risks they present individually and the consequences of their combined impact on Canada's industrial maintenance capacity.

[1] Association of Maintenance Contractors of Canada, One Industry. One Workforce. One Future., Independent Advisory Panel Discussion Paper, September 2025.
[2] BuildForce Canada, Construction and Maintenance Looking Forward 2026–2035, pp. 12 and 202.

Six interconnected warning signals

One workforce faces six pressures that overlap and reinforce one another



The Six Warning Signals Are Connected. Together They Threaten Canada's Industrial Future.

Signal 1: The Experience and Replacement Gap

Canada's industrial maintenance sector is facing more than a shortage of skilled workers. It is confronting the loss of experienced tradespeople whose knowledge, technical expertise, and leadership cannot be easily or quickly replaced.

Nationally, 20 percent of the non-residential construction and maintenance workforce, about 139,100 workers, is projected to retire by 2035. That is 13,000 to 14,000 experienced people leaving every year. The cause is structural. Lower birth rates mean fewer young people are entering the workforce, and that pressure will not ease once the retirement wave has passed. Federal projections built independently of BuildForce show the same pattern, with replacement demand, driven overwhelmingly by retirements, accounting for more than two-thirds of all job openings in Canada through 2033[3].

For industrial maintenance, the consequences extend well beyond the number of workers available. Experienced journeypersons are also the supervisors, mentors, and technical leaders who develop the next generation of skilled tradespeople.

They possess specialized knowledge of complex industrial facilities, maintenance procedures, and safety requirements that often takes years of practical experience to acquire.

This experience gap also has implications for workplace safety. In Alberta, 55 percent of Workers' Compensation Board claims in construction involve workers in their first year on the job[4]. Experienced tradespeople play an essential role in identifying hazards, reinforcing safe work practices, and supervising less experienced workers. Their departure places additional pressure on the industry's ability to maintain its hard-won safety performance.

The warning is clear: ***Canada's industrial maintenance sector is not simply losing workers. It is losing the experience, leadership, and institutional knowledge needed to sustain a safe, productive, and highly skilled workforce. Rebuilding that capacity will take considerably longer than filling vacant positions.***

[3] BuildForce Canada, Construction and Maintenance Looking Forward 2026–2035, pp. 12–13; Employment and Social Development Canada, Canadian Occupational Projection System, 2025.

[4] Alberta Construction Safety Association, cited in Canadian Occupational Safety, May 2025.

Signal 2: Apprenticeship Completion – More Starts, Not Enough Finishers

Canada's industrial maintenance sector faces a growing challenge in developing the next generation of skilled tradespeople. While apprenticeship registrations are increasing, the number of apprentices completing their training and achieving journeyperson certification is not keeping pace with projected workforce requirements.

Alberta illustrates the challenge. New registrations in the largest construction programs rose more than 20 percent in 2024, to over 18,000. Completions, however, have not followed. They remain below the previous decade's average, and BuildForce is explicit that whether higher intake becomes more journeypersons depends on employer capacity and timely access to technical training[5].

The challenge is not simply attracting apprentices, but keeping them in the trades through consistent employment, timely technical training, and supervised experience.

An apprentice who receives only a few weeks of work at a time, with gaps between jobs, faces a greater risk of leaving the trade. Industrial maintenance employment can fluctuate with turnarounds and seasonal demand. Without continuity of work, higher registrations may produce more partially trained workers rather than the certified journeypersons industry needs.

The warning is clear: *Increasing apprenticeship registrations is necessary, but it is not enough. Unless industry can improve apprenticeship retention, provide more consistent employment, and strengthen pathways to certification, today's record intake will not produce the skilled journeypersons needed to replace retiring workers and meet future industrial maintenance demand.*

[5] BuildForce Canada, Construction and Maintenance Looking Forward 2026–2035, pp. 203–204.

Signal 3: Workforce Mobility – A National Workforce Facing Growing Competition

Canada has no surplus of skilled tradespeople to draw on, and the competition for them is now global. Countries investing in energy, infrastructure, and major industrial projects are competing for the same limited pool of skilled labour. Within Canada, barriers to interprovincial mobility compound the challenge. No province benefits when qualified workers face unnecessary obstacles to moving where they are needed. These barriers simply make Canada's existing workforce harder to access and deploy.

The pressure is not confined to the West. In Nova Scotia, for example, the federal occupational outlook gives the trades the highest rate of job openings of any occupational group through the next couple of years, while fewer workers are arriving from other provinces. BuildForce warns that limited mobility between provinces may make it harder to meet seasonal peaks in industrial maintenance demand. Improving mobility alone will not create additional skilled workers, but it could reduce the costs and delays of deploying the workers Canada already has.

Formal credential recognition is only part of the challenge. While Canada has mechanisms to support interprovincial recognition of trade qualifications, workers can still encounter differing administrative processes, site-specific safety certifications, orientations, and industrial owner requirements.

These serve important purposes in high-risk environments, but unnecessary duplication can delay qualified workers.

International recruitment presents another challenge. Skilled immigrants represent a potential source of additional labour, but differences in training standards, qualification recognition, and certification processes can make it difficult to integrate internationally trained tradespeople into the Canadian workforce. Addressing these challenges while maintaining appropriate competency and safety standards could help expand the pool of available skilled workers.

The warning is clear: ***Canada cannot afford unnecessary barriers that restrict access to an already limited skilled workforce. Improving interprovincial mobility, streamlining administrative requirements, and accelerating recognition of internationally trained workers will not eliminate the shortage, but they can help industry make better use of the skilled labour Canada already has.***

Signal 4: Fragmented Labour-Demand Intelligence – The System Is Flying Blind

The early warning signs of workforce shortages are often visible well before they affect industrial projects. The challenge is that no single organization has a comprehensive picture of the labour demands facing Canada's industrial maintenance sector.

Project owners understand their upcoming capital investments and maintenance requirements. Contractors see emerging staffing pressures, labour organizations understand workforce availability, and training institutions see the pipeline of new tradespeople. Yet this information remains fragmented, with limited coordination across the sector.

The consequences are significant. Major projects overlap with turnarounds, routine maintenance is not consistently visible, and the same regional workforce is pulled in several directions at once. Turnaround schedules are proprietary and not published anywhere, and concern about competition law over sharing workforce and project information keeps many companies from sharing any data at all[6].

Public forecasts provide an important foundation but cannot capture every emerging source of demand.

BuildForce Canada's projections rely on known projects and may not fully reflect investments still in development[7]. AMCC's review suggests that several proposed data centres and potash expansions may not be captured in current Alberta and Saskatchewan projections. While not every project will proceed, those that do could intensify competition for an already limited workforce.

Better labour-demand intelligence will not create additional workers, but it could help industry anticipate shortages, coordinate project schedules, improve workforce deployment, and align training investments with future needs. Greater collaboration among owners, contractors, labour organizations, training institutions, and governments, with appropriate safeguards for commercially sensitive information, is essential.

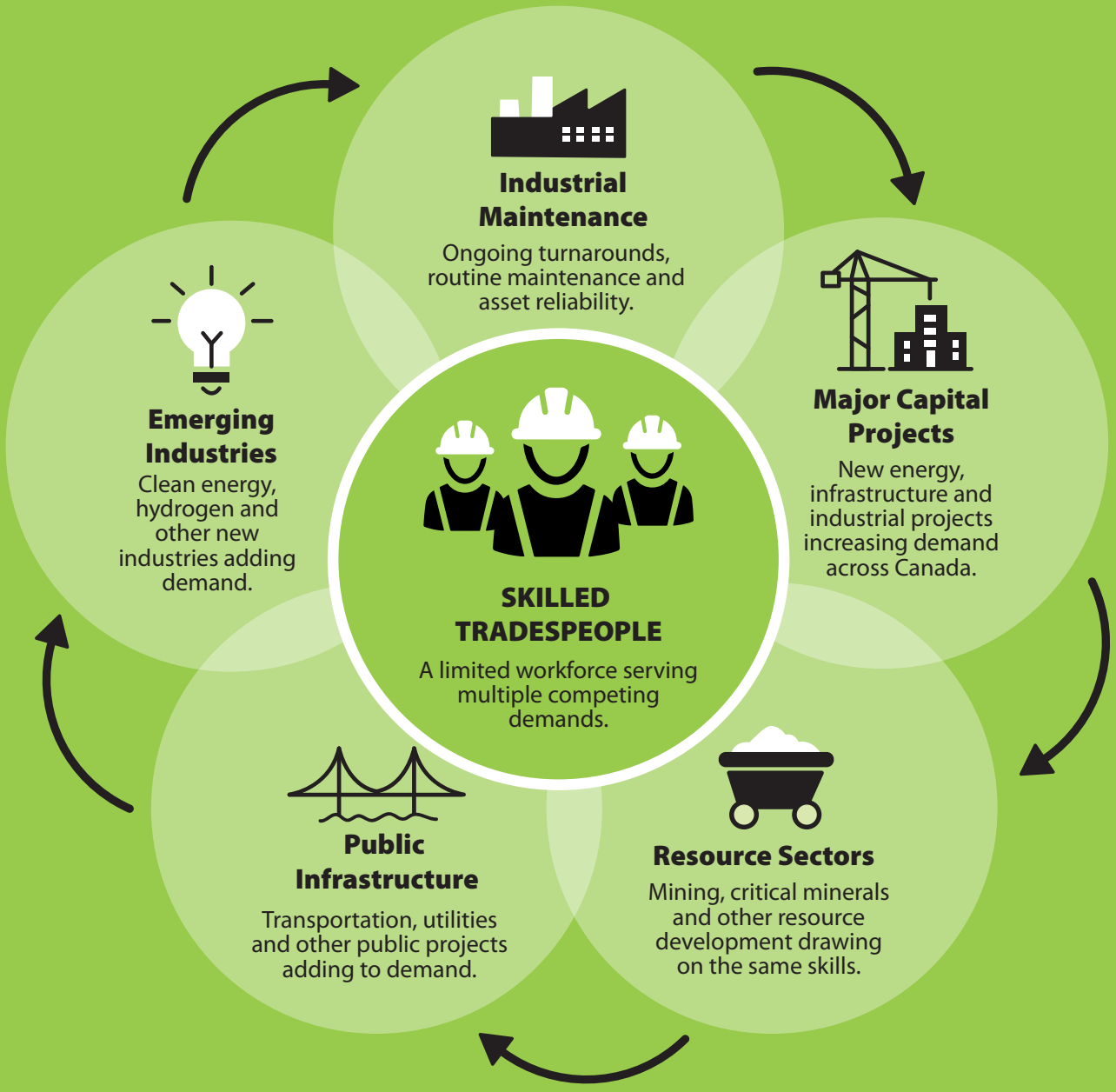
The warning is clear: ***Without a coordinated understanding of future labour demand, Canada's industrial maintenance sector risks discovering critical workforce shortages only when projects are underway and options for responding are limited.***

[6] Association of Maintenance Contractors of Canada, One Industry. One Workforce. One Future., Independent Advisory Panel Discussion Paper, September 2025, p. 11.

[7] BuildForce Canada, Construction and Maintenance Looking Forward 2026–2035, p. 9.

Market Disruptions

Multiple, interconnected sources of demand are competing for the same skilled tradespeople, creating a tighter and more complex labour market for industrial maintenance.



Signal 5: Market Disruptions — The Rules of Workforce Competition Are Changing

Two forces are reshaping competition for Canada's industrial maintenance workforce: growing demand from major capital projects and changing expectations among skilled tradespeople. Together, they are making traditional approaches to attracting and retaining workers less effective.

The first is competition from new investment. Across the country, major projects are competing directly with maintenance and turnaround work for the same skilled trades: LNG in British Columbia, pipelines and data centres in Alberta, potash and data centres in Saskatchewan, nuclear refurbishment in Ontario, mining in the North, and shipbuilding on both coasts and defence spending across the country.

Many of these projects compete through compensation packages that extend well beyond base wage rates. Retention incentives, living-out allowances, premiums, and compressed work schedules can significantly increase overall earnings and attract experienced tradespeople away from maintenance work. The competition is particularly acute for specialized workers and supervisors who can lead complex industrial projects.

Data centres are an emerging example. Although often viewed as commercial developments, their construction can require many of the same trades and experienced supervisors needed for industrial maintenance.

AMCC members report skilled workers being recruited for these projects in Saskatchewan and growing difficulty securing experienced personnel. Members are also observing increased competition for materials such as transformers, cable, and electrical equipment that maintenance projects depend on.

The second force is changing workforce expectations. Workers are placing greater importance on proximity to home, time with family, predictable employment, and quality of life. As other provinces develop their own major projects, industrial employers can no longer assume that higher wages will consistently attract workers from elsewhere in Canada.

The warning is clear: ***Industrial maintenance is competing for skilled workers in a market where base wages alone no longer determine employment decisions. As major capital projects offer attractive compensation and workers place greater value on stability and quality of life, the sector risks losing experienced tradespeople to competing opportunities at the very time they are needed most.***

Signal 6: Productivity Pressures — Doing More with a Constrained Workforce

Canada's construction sector has struggled with weak productivity growth for decades, raising concerns about its ability to meet growing demand with an increasingly constrained workforce. In the first quarter of 2026, construction productivity declined 2.3 percent, contributing to a broader national decline[8]. While a single quarter does not establish a long-term trend, construction productivity has lagged other business sectors for much of the past two decades[9], and federal projections anticipate annual growth of just 0.2 percent through 2033[10].

Technology offers opportunities to improve productivity, but adoption remains uneven. Digital planning, AI-enabled forecasting, predictive maintenance, and improved workforce scheduling could help industry make better use of available skilled labour. Yet in the second quarter of 2026, only 9.2 percent of construction businesses reported using AI, compared with 19.2 percent across all Canadian industries[11]. While these figures cover construction broadly rather than industrial maintenance specifically, they point to a wider challenge in adopting tools that could improve efficiency.

Industrial maintenance faces its own productivity challenges. Industry benchmarks suggest that technicians may spend only 25 to 35 percent of their working hours performing hands-on maintenance, commonly referred to as wrench time. Organizations with mature planning and scheduling practices have reported significantly higher levels, demonstrating the potential to reduce time lost to waiting for materials, equipment, instructions, or work coordination[12]. These benchmarks are not specific to Canadian industrial maintenance, but they highlight an important opportunity for improvement.

Productivity improvements cannot replace workforce development, but better planning, technology, and work coordination can help industry make better use of scarce skilled labour.

The warning is clear: ***Canada's industrial maintenance sector cannot rely on traditional workforce practices to meet growing demands with fewer experienced workers. Without meaningful improvements in planning, technology adoption, and productivity, existing workforce shortages will become increasingly difficult to manage.***

[8] Statistics Canada, Labour productivity, first quarter 2026.

[9] Statistics Canada, Economic and Social Reports, February 2026.

[10] ESDC, COPS 2025.

[11] Statistics Canada, Canadian Survey on Business Conditions, Q2 2026.

[12] Palmer, Maintenance Planning and Scheduling Handbook.

What is at Stake?

Protecting Canada's industrial capacity while building for the future

Deferred Maintenance Does Not Stay Deferred

Industrial maintenance depends on having the right skilled workers available at the right time. When a turnaround cannot be fully staffed, owners may face difficult decisions about project schedules, the scope of work, and operational priorities.

Maintenance that cannot be completed as planned may need to be rescheduled, creating additional costs and increasing pressure on future maintenance windows. Where essential work cannot safely be deferred, operators may face reduced production or extended shutdowns. Unplanned equipment failures can further compound the problem by creating additional demand for the same limited workforce.

Canada's Industrial Capacity Is at Risk

As workforce pressures intensify, the consequences extend beyond individual contractors or project owners. Delayed maintenance, rising labour costs, schedule disruptions, and reduced operational flexibility can affect industrial productivity and competitiveness.

The availability of a reliable, highly skilled maintenance workforce is also an important consideration for future investment. Companies making long-term capital decisions need confidence that the infrastructure they build can be maintained and operated efficiently throughout its working life.

An Economic Sovereignty Challenge

Canada is seeking to strengthen its economic security, expand its industrial capacity, and reduce its dependence on traditional export markets, particularly the United States. Achieving those ambitions will require significant investment in new energy, infrastructure, and industrial projects. Yet these new investments will compete for many of the same skilled tradespeople required to maintain Canada's existing industrial facilities.

Canada cannot build its way to greater economic independence without protecting the industrial capacity it already has. Ensuring that critical infrastructure can be maintained safely and reliably must be considered alongside plans for new investment and expansion.

The stakes are clear: Canada's industrial maintenance workforce is essential to protecting existing production capacity while supporting future economic growth. Without a more coordinated response to emerging workforce pressures, the country risks undermining both objectives.

What the Next Two and Five Years Look Like

The Next Two Years: 2026–2028

The clearest near-term warning comes from British Columbia. BuildForce Canada ranks labour market tightness on a five-point scale, with level 5 indicating conditions so constrained that projects may be delayed or deferred. Welders, ironworkers and steamfitters/pipefitters, trades essential to industrial maintenance and turnarounds, are each projected to reach level 5 in British Columbia during 2026 or 2027.

British Columbia has traditionally been an important source of skilled workers for Alberta during periods of peak industrial demand. However, major capital investments and growing demand within the province could significantly reduce the availability of workers willing or able to travel elsewhere.

Alberta faces similar pressures. The province's first 1,200 megawatts of contracted data centre capacity are scheduled to connect in 2027–2028[13]. Over the same period, BuildForce projects growth of 7 percent in heavy industrial construction and 10 percent in commercial and institutional construction, while non-residential maintenance activity remains relatively flat[14].

Even without significant growth in maintenance demand, the sector will face increasing competition for the skilled tradespeople needed to complete essential work. For industrial owners, this could mean greater difficulty staffing turnarounds, increased scheduling uncertainty, and higher costs as competing projects draw on the same limited workforce.

The Next Five Years: to 2031

Workforce pressures are expected to intensify toward the end of the decade. In Alberta, BuildForce's projections identify 2029 and 2030 as particularly challenging years for skilled trades availability. This period coincides with projected growth of 8 percent in heavy industrial construction and 17 percent in commercial and institutional construction during 2029–2031[15].

At the same time, the industry will be relying on apprentices entering the trades today to replace experienced workers approaching retirement. Alberta's record apprenticeship registrations in 2024 offer some promise, but their contribution to future workforce capacity will depend on retention, continuous employment, and successful completion of training.

These projections may also understate future demand if additional major capital investments proceed, including data centres and other projects not yet fully reflected in current forecasts.

The Window to Act Is Narrowing

The industry must respond before workforce pressures reach their projected peak. Apprenticeship training takes years, mobility improvements require coordination, and productivity gains depend on investments in planning, technology, and work practices.

By the time shortages become critical in 2029 or 2030, many of the opportunities to expand workforce capacity will already have been determined by decisions made several years earlier.

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[13] AESO, Large Load Projects, Phase 1 results, 2026; McCarthy Tétrault, 2025.

[14] BuildForce Canada, Construction and Maintenance Looking Forward 2026–2035, p. 197.

[15] BuildForce Canada, Construction and Maintenance Looking Forward 2026–2035, p. 197.

A phased response to six connected pressures

Addressing the workforce challenge requires a phased approach, with actions in the short, medium and long term.

Short term
Now - 2028

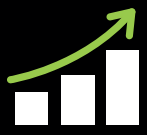
Medium term
2029 - 2030

Long term
2031+



Optimize and prepare

Demand visibility, labour mobility and apprenticeship retention.



Build and scale

Expand training, improve workforce mobility and increase productivity to meet growing demand.



Sustain and adapt

Maintain a sufficient, skilled and resilient workforce to meet ongoing industry and market needs.

By taking action in stages, the industry can stabilize the workforce today, expand capacity through 2030 and build long-term resilience to meet growing demand.

What Comes Next

From recognizing the risks to determining how industry responds.

The workforce pressures identified in this report are already beginning to affect Canada's industrial maintenance sector. Left unaddressed, they could increasingly limit industry's ability to maintain existing facilities, support new investment, and meet the country's broader economic ambitions.

This paper is a warning, not a plan. It identifies the risks that demand attention and makes the case for a coordinated response before workforce constraints become more difficult to manage.

The central question is whether Canada will have the skilled workforce required to maintain its existing industrial facilities while delivering the next generation of major capital projects.

Addressing that question requires a more coordinated understanding of future workforce demand, the capacity of the existing labour force, and the constraints affecting how skilled workers are trained, retained, and deployed. It also requires industry to identify where collective action can make a measurable difference.

AMCC's work through One Industry. One Workforce. One Future. established a foundation for that discussion. This report builds on that work, identifying emerging risks and the evidence that warrants closer examination.

The next step is to move from identifying the warning signals to determining what industry can do about them.

AMCC will engage industrial owners, contractors, labour organizations, workforce partners, training partners and governments to examine the findings, test them against operational experience and identify priorities for a coordinated response.

The warning signals are visible. The consequences are becoming clearer. What happens next will depend on industry's willingness to work together, anticipate future workforce needs and act before today's pressures become tomorrow's constraints.

About the Evidence

This report draws on published labour-market research, industry forecasts and observations shared by AMCC members and other industry stakeholders.

Some national and provincial statistics reflect the broader non-residential construction and maintenance workforce rather than industrial maintenance exclusively. These findings provide context for examining the specific workforce pressures facing industrial maintenance.

Industry observations reflect conditions reported to AMCC and should not be interpreted as statistically representative of the sector as a whole.

Forecasts and projections reflect the information and assumptions available at the time of publication and may change as economic conditions and investment plans evolve.



Workforce Warning Signals is a report prepared by the Association of Maintenance Contractors of Canada (AMCC), examining six interconnected pressures threatening Canada's industrial maintenance workforce.

The report builds on AMCC's 2025 discussion paper, **One Industry. One Workforce. One Future.** It highlights emerging risks to Canada's industrial capacity and the need for a coordinated response.

To learn more and access the report, visit **AMCCanada.ca.**