



**2015–2024**  
**Key Highlights**

# Construction and Maintenance Looking Forward

## National Summary

The composition of resource-related investments is changing after more than a decade-long construction expansion, driven by new resource developments. Major infrastructure projects, sustaining capital<sup>1</sup> and maintenance<sup>2</sup> work that support Canada's new resource capacity become important drivers of labour market demands. Much of the change in the 2015 *Construction and Maintenance Looking Forward* scenario can be linked to this changing mix of construction activity.

Residential and commercial markets will also feel impacts, as population dynamics and immigration patterns contribute to construction investment growth across many regions.

For construction labour markets, these changing conditions imply generally slower growth with more stable employment sustained at peak levels.

Demographic trends remain a challenge, and with each passing year, the population's older age profile drives retirement and mortality and restricts growth in the younger labour force. There are exceptions to these patterns that drive short-term cycles in employment and specialized market conditions.

These market developments will change some of the stresses in construction human resources planning, but most of the big challenges related to retirement and training remain.

### BUILDFORCE'S LMI SYSTEM

BuildForce Canada uses a scenario-based forecasting system to assess future labour market conditions. This labour market information (LMI) system tracks measures for 34 trades and occupations. BuildForce consults with industry, including owners, contractors and labour groups, to validate the scenario assumptions and construction project lists, and seeks input from government on related analysis. It was necessary to recast this year's outlook prior to publishing to better reflect the significant changes in current market conditions.

<sup>1</sup> *Sustaining capital refers to the periodic addition (or replacement) of capital, which is required to maintain operations at existing levels.*

<sup>2</sup> *Maintenance refers to the process of maintaining equipment, including routine or on-stream work and turnaround/shutdown work, where an operating unit may be temporarily taken out of production.*

## HIGHLIGHTS (2015 TO 2024)

The 2015 scenario can be best explained in terms of 1) a core wave of resource investment focused on new mines and oil and gas developments, and 2) sustaining capital and maintenance of new resource capacity, pipelines, electrical generation, and distribution and transportation systems needed to support the resource extraction. (Supporting resource infrastructure is a major driver in the 2015 scenario.)

Lower commodity prices are prompting a shift from new resource developments to supporting systems. While the oil price decline is the most dramatic recent evidence of these changes, the changing conditions have been underway since the 2009 recession. The scenario includes the following major impacts:

- There will be slower growth in construction employment.
  - Over the last three years, from 2011 to 2014, national growth was 62,400 jobs, while gains across the 10-year scenario period, 2015-2024, will be just 81,000 jobs.
    - This pattern plays out with stronger job growth in some regions over the near term, 2015 to 2019.
- New construction jobs driven by expansion demand<sup>3</sup> are small compared to the looming increase in retirements, which will add 250,000 hires in replacement demand<sup>4</sup>.
- Meeting these demands from unemployment, moving the workforce across markets and provinces, and attracting Canada's youth into construction will not be enough.
  - An additional 100,000 new workers from outside construction – and likely outside of Canada – will be needed.

## RESIDENTIAL CONSTRUCTION

Over the 2015–2024 scenario period, lower population growth and an aging workforce will impact the housing industry. Lower population growth will keep housing starts in the historical average range, with growth early in the scenario period. As housing starts slow later in the period, renovation work is projected to rise in most regions. While the decline in new home construction may reduce employment in some cases, an aging workforce will increase the pace of retirements in the residential construction workforce, which adds to labour market challenges. The need to replace retiring skilled workers will dominate the hiring needs for many residential employers.

More than half of the investment in residential construction will be dedicated to renovation and maintenance work, and these demands will be driven steadily higher as the housing stock ages.

All of this means that reports of weaker housing starts can be misleading and create the impression of rising unemployment and surplus labour in the residential sector later in the scenario period, when the opposite is true. In many markets across Canada, it may be hard to find the specialized and experienced workers that are needed to build and renovate Canadian homes.

Residential construction is more cyclical in Newfoundland and Labrador, Saskatchewan and Alberta, where the resource cycle drives new housing lower across the scenario period.

Overall, employment gains in residential housing are not big, and in many provinces, gains are concentrated in renovation work. Across Canada from 2015 to 2024, residential construction employment rises by 15,000 jobs, with the biggest gains in Ontario, Quebec and British Columbia.

## NON-RESIDENTIAL CONSTRUCTION

Resource developments and related infrastructure construction drive engineering work, which has been a key market over the past 15-plus years. The list of proposed resource development projects grows shorter as the scenario period progresses, but a larger group of projects will focus on building infrastructure, sustaining capital and maintenance work needed to support production or bring the new products to market. Work on electricity generation and distribution, pipelines and transportation systems are all major contributors to new construction jobs – with many new projects starting between 2015 and 2017.

As immigrant populations and related residential activity grow, they drive a steady stream of commercial and institutional building demands. Indeed, commercial construction is a steady source of new construction jobs across all provinces. Demand for institutional building slows over the near term to 2019 and then rises across the remainder of the scenario period.

Overall, employment gains in non-residential construction across the 2015-2024 scenario are not large:

<sup>3</sup> Expansion demand refers to the estimated number of workers needed to meet the demands associated with changes in construction activity.

<sup>4</sup> Replacement demand refers to the loss of workers due to retirement and mortality (deaths).

- Big employment cycles in engineering projects are prominent in three provinces:
  - In Newfoundland and Labrador and Saskatchewan, resource projects are both winding down and scaling up later in the scenario period.
  - In Alberta, the oil price decline drives oil and gas construction lower until 2017 and then employment resumes growth.
- Total non-residential construction employment grows by 66,000 jobs across the scenario (11 percent above 2014).
  - Gains are strongest in the West and are linked to resource developments and infrastructure projects.

## THE AVAILABLE WORKFORCE

Recruiting challenges for construction extend well beyond the 81,000 (15,000 residential, 66,000 non-residential) new jobs projected across the 2015-2024 scenario period. BuildForce tracks annual changes in the labour force to identify the full range of labour requirements and workforce availability. To fill new job openings, employers have traditionally looked to young people entering the workplace, the unemployed in the local market and qualified candidates in other markets.

Rising retirements and limited growth in the youth population restrict recruiting options. In particular, demographic changes have steadily reduced unemployment – across construction markets and cycles – so that unemployment is now well below historical averages. With a few exceptions, during periods of weaker construction activity, unemployment will not be a consistent source for hiring. Conditions will shift recruiting to searches beyond local markets – both in other provinces and industries.

The BuildForce tracking system divides these labour force changes into retirements, new entrants<sup>5</sup> (aged 30 and younger, as first-time new entrants to the construction labour force) and net in-mobility<sup>6</sup>. Meeting most demands involves drawing workers from outside local markets. The national perspective tracks the recruiting challenges that remain after accounting for interprovincial mobility. Net in-mobility at the national level identifies immigration as a key labour source<sup>7</sup>. Construction employers are not alone. These demographic realities apply in most other industries. Immigration will be a key source of needed labour for economic growth in general.

The 2015 BuildForce LMI system has been expanded and improved. Using the 2011 National Household Survey, BuildForce has updated workforce estimates and added tracking for Electrical Power Line Technicians, for a total of 34 direct construction trades and occupations, and a new “other” occupations category that captures workers such as office staff, salespeople and engineers, etc. that work for construction firms, but are not directly involved in on-site construction activity. Including the “other” category, the BuildForce system now tracks the full construction industry labour force reported in the Labour Force Survey and other Statistics Canada material.

Tracking the workforce across the 2015-2024 scenario period results in the following estimates:

- For the core 34 direct construction trades and occupations:
  - construction’s total labour force increases by 72,000 workers to accommodate expansion demands
  - retirements are estimated at 250,000 workers
  - new entrants are estimated at 222,000
  - 100,000 workers will be needed from outside markets
- For the core 34 trades and occupations plus the “other” occupations:
  - construction’s total labour force rises by 95,000 workers to accommodate expansion demands
  - retirements are estimated at 325,000 workers
  - new entrants are estimated at 274,000 and may meet most of the demand
  - 146,000 construction workers will be needed – mostly from outside Canada

Unless otherwise indicated, the numbers reported here cover the totals for the 34 direct construction trades and occupations tracked by BuildForce. This convention preserves consistency with earlier versions of *Construction and Maintenance Looking Forward*.

National totals draw together many details, some of which are highlighted in the following provincial profiles. National net in-mobility subsumes the critical ebb and flow of construction workers across provinces. These flows have become the life blood of the industry’s supply side. The report returns to these movements in the last section.

<sup>5</sup> New entrants are measured by applying the traditional proportion of the provincial workforce that enters the construction industry. The projected estimate across the scenario assumes that the construction industry is able to recruit this group in competition with other industries.

<sup>6</sup> In-mobility refers to the arrival of workers from outside the local construction industry.

<sup>7</sup> Net in-mobility at the national level also includes the potential for drawing workers from other industries across Canada. While there are many examples of mobility across industries, the demographic restrictions that limit construction also apply to employers in other industries so that altogether, immigration needs for the occupations covered here will likely fall close to the BuildForce estimates.

## THE PROVINCES

This section summarizes conditions in each province from 2015 to 2024.

### *British Columbia*

Current and proposed mining, utilities, LNG<sup>8</sup> facilities and pipeline projects add new momentum to British Columbia's construction employment prospects. Compared to the other provinces, employment slowed from 2010 to 2014 in the province, but strength is gathering across most construction markets and will lift employment each year across the 2015-2024 scenario. Engineering activity leads the new resource projects, many of which are located in the North, with employment rising by 18,000 jobs from 2014 to 2018. After 2018, ongoing activity in industrial, commercial and institutional (ICI) building sustains growth.

B.C. employment growth totals 20,000 jobs (13 percent growth), leading all other provinces from 2015 to 2024. New jobs are spread across construction markets and employment rises in each year. Peak demands in 2018 for some non-residential trades will strain labour markets.

These changes in employment growth coincide with demographic trends that limit workforce growth and raise levels of retirement. Challenges for British Columbia employers will include managing three areas:

- the mobility of the workforce across regions
- training programs to meet growth
- recruiting in the face of competing demands in the other provinces

### *Alberta*

The 2014-2015 oil price decline will set back Alberta's economic development, as oil and gas investments decline over three years, from 2015 to 2017. Investment growth is projected to resume in 2018. This projected decline will be the biggest drop and longest interruption in the province's growth in more than 20 years.

Impacts spread out from the oil and gas industry, reaching housing, government and other consumer and business spending. Alberta's construction industry will face the brunt of the effects, including job losses in all markets from 2015 to 2017.

Prior to the oil price decline, Alberta was building considerable momentum in engineering construction with projects that started up between 2010 and 2014. When the price declines hit in late 2014, investment had more than doubled from 2009 and employment in the oil sands had risen by more than 70 percent from 2011 to 2014. This activity represents projects that are currently underway and will add to future production. New projects are delayed, however, and employment falls from 2015 to 2017. In the short term, the broader impact to Alberta shows that new construction declines and jobs are lost across most construction markets. The scenario projects that the price of oil continues to fall in 2015 and then begins to rise in 2016. Oil sands investment resumes as oil prices recover. Production activity is supported by pipelines and other infrastructure currently being planned and built.

By 2024, total construction employment is up 6 percent (10,300 jobs) from the record levels of 2014, with job gains in all markets. But the projected cycle in employment complicates the already challenging labour market planning of the construction industry. Major project delays over the next few years shift recruiting to years of lower labour force growth and higher retirements later in the scenario period. The workforce that is lost as out-of-province workers leave during the down cycle will have to be attracted back, and recruiting challenges return.

### *Saskatchewan*

Construction employment in Saskatchewan has more than doubled (growing 95 percent) in the past decade, making the province one of the strongest growth markets in Canada.

The resource and construction boom is expected to continue for another five years. Large-scale resource and infrastructure projects continue to play a key role, leading growth in two waves. Project start-ups between 2014 and 2016 peak in 2018, while a second round of projects starting in 2018 end later in the scenario period. Momentum is added by new jobs in industrial and commercial building, which grows each year at annual rates exceeding 5 percent from 2015 to 2017. Many, but not all, of industrial and engineering gains are lost as the projects end after 2018, and this downturn coincides with an extended down cycle in housing.

The 2015 scenario projects that this extraordinary expansion, which began in 2005, will run to 2019, spanning 15 years. Construction gains lead growth for the whole provincial economy. Saskatchewan, along with Alberta, has been a centre for resource developments that continues to attract investment and workers.

<sup>8</sup> Liquefied natural gas

Strong economic growth and in-migration add new opportunities and a young population to fuel a further expansion. Housing activity has more than doubled and this, in turn, supports the construction cycle. Housing continues to expand until 2016.

Saskatchewan's employment gains are straining against demographic and economic limits that will eventually slow growth. Global commodity demands are slowing and Canada's population growth is limited by an aging profile. Labour market conditions will continue to force Saskatchewan's construction industry to recruit from outside of local markets and this will bring them into competition for skills and work experience.

The expansion will run its course as long-term forces gain momentum. Housing activity turns down in 2017 and non-residential construction slows in 2019 as the resource and infrastructure projects wind down. By the end of the scenario in 2024, total employment is slightly above current levels.

## Manitoba

Since 2002, construction has been at the centre of steady economic growth for Manitoba. Growth attracts investment and adds new jobs, and few jurisdictions have enjoyed a regular diet of these benefits over the past decade. But momentum is slowing and developments in Manitoba will shift the pace of expansion into a lower gear while still sustaining modest growth.

Construction employment increases at the start of the scenario to fill the needs of resource and infrastructure projects that peak in 2016. As these projects wind down, balanced industry expansion proceeds at a pace that can be managed with the growing, local workforce.

The 2015 scenario anticipates a balanced expansion that spans all major construction markets across the scenario period to 2024. Employment gains (3,000 jobs, or 9 percent, above 2014) will be shared across all trades and occupations, and hiring priorities will shift from new projects at the start of the scenario period to replacing the retiring workforce later in the period.

## Ontario

In Ontario, transition to a new pattern of labour market adjustments starts in 2015, with slower overall construction growth and isolated market challenges across the 2015-2024 scenario period. Major projects start up, peak and wind down in some regions, while in others they move more evenly across the period, raising investment and employment to new, historic high levels.

Construction investment and employment expands across the scenario period, but the growth of 26,000 jobs from 2015 to 2024 is less in comparison to the reported gains from 2010 to 2014. Major resource and infrastructure project activity increases notably in 2015 and 2016 and then remains steady at high levels across the scenario period. After 2016, construction investment rises modestly for the remainder of the period. There are few big cycles across the scenario, but regional exceptions to these patterns drive short-term increases in employment.

Demographics continue to be an issue, as the province's older age profile results in significant retirements and limited growth in the younger labour force. This trend will increase over the decade as the baby boomers move toward retirement.

Ontario adds 26,000 construction jobs (7 percent) across the scenario period, with the gains equally divided between the residential and non-residential sectors.

## Quebec

Construction employment in Quebec has been experiencing modest declines since 2013, but a recovery is expected to start in 2016. These declines have been largely related to major project completions and a down cycle in new housing.

The new housing cycle turns up in 2016 and then immigration grows steadily, with added arrivals in each year to 2022. There are associated gains in household formations<sup>9</sup> and housing starts. Residential employment rises by 4,700 jobs across the 2015-2024 scenario period.

In the non-residential sector, proposed major mining projects start in 2017, adding new jobs as work rises to a peak in 2019. Major project activity will include pipelines, bridges, wind power and hydroelectric generation and transmission lines. Overall, the outlook scenario projects an additional 17,000 jobs in non-residential construction from 2015 to 2024. Adding residential gains, total employment gains reach 22,000 (13 percent above 2014).

The older age profile in Quebec will limit the natural rate of population and labour force growth. Construction labour requirements rise faster than those for the overall provincial workforce and Quebec employers are likely to face recruiting challenges.

<sup>9</sup> Household formation refers to the change in the number of households (persons living under one roof or occupying a separate housing unit) from one year to the next. It is the means by which population growth is transformed into demand for new housing.

## *New Brunswick*

The 2015 scenario for New Brunswick projects employment opportunities over the medium term, from 2016 to 2020. The province's construction industry hit a record employment level in 2010, capping a five-year cycle. A mix of strong industrial/engineering construction and weak new housing/commercial activity held this record level, unchanged, to 2013. Offsetting gains and losses will persist until 2016 when both housing and new resource projects will start a new, limited expansion to 2020. Peaks in pipeline, marine terminal and mining projects will tighten labour markets in 2017 and 2020. Employment rises above current peak levels, gaining 760 jobs or 3 percent by 2024.

Rising retirements and a shrinking younger population limit growth in the available skilled workforce across many trades. Construction employers in New Brunswick will face recruiting challenges – often linked to competing demands that may attract local workers to opportunities in other provinces.

## *Nova Scotia*

While Nova Scotia's total investment and employment fluctuate in a narrow band over the 2015-2024 scenario period, important changes across markets alter labour market conditions. From 2008 to 2013, the province's construction industry was sustained at record levels, as work shifted from residential peaks in 2011 and 2012 to engineering peaks in 2013. The record employment level reached in 2013 will act like a ceiling across the scenario, as work ebbs and flows close to, but below, that level. Total construction employment rises just 3 percent from 2015 to 2024.

A key change across the scenario is the shift out of new housing work and into residential renovation and non-residential building. Labour force adjustments will depend, in part, on the mobility of the workforce among these markets. Nova Scotia will also compete in the labour demands for major resource and infrastructure projects across Canada. Construction employers in Nova Scotia may face recruiting challenges – often linked to competing demands that may attract local workers to opportunities in other provinces.

## *Prince Edward Island*

The 2015 scenario for Prince Edward Island projects moderate gains in construction employment driven by rising immigration. Over the past decade, on-again, off-again growth in housing, engineering and industrial construction sustained historically high levels of employment. Weak housing activity was prominent in 2013 and 2014, and engineering and commercial projects filled the gap. Work continues to shift across markets over the 2015-2024 scenario and there is a period of general expansion from 2016 to 2020 that raises employment to record levels in all construction markets.

While engineering projects drive peaks and troughs for labour demand, an aging workforce requires immigration to meet the labour market demands across all industries. The province's natural population remains unchanged, as local deaths balance births in each year of the scenario, so immigration provides all the growth, creating regular demand for new housing and commercial building. Rising retirements will also be a highlight in this environment. Sustaining a skilled and experienced labour force will be a challenge as the workforce grows. A growth rate of 11 percent (560 jobs) in the total workforce is shared equally between the residential and non-residential sectors.

## *Newfoundland and Labrador*

The resource construction growth that has dominated the Newfoundland and Labrador economy for 10 years will reach a peak in 2015. The outlook scenario projects a cyclical path, and in the end, a moderate decline in employment by 2024. As resource projects are completed between 2016 and 2018, a large portion of the out-of-province workforce will return home, restoring a more normal level and mix of construction activity.

The outlook scenario anticipates a second wave of resource investment from 2018 to 2022 that carries employment back up, but still below, the 2015 peak. Employment drops by 1,700 jobs, with losses in both residential and non-residential work. Demographic restrictions will be significant at that time and the construction industry may face a challenge of drawing out-of-province workers back to fill jobs.

Core demographic changes in the provincial economy emerge across the scenario that will focus attention on the mobility of the workforce. The natural population is declining, as local deaths exceed births in each year, and retirements will rise. Sustaining a needed skilled and experienced labour force will be a challenge.

## HOW MARKETS ADJUST

Mobility forms the dominant labour market adjustment in the scenario environment described above. The BuildForce labour market system prepares market rankings that summarize local conditions and indicate the direction and timing of likely movements.

As the scenario begins, there is a key change in well-established patterns. The oil price decline is reversing mobility flows, as trades and occupations are leaving Alberta and returning to either home provinces or job opportunities in other provinces. Much depends on the timing of resource-related infrastructure work in the other Western provinces. It is possible that the flow from Alberta to fill new projects across the West might be sustained until 2018. At that point, oil sands development in Alberta will be growing again and competition for key trades will heat up. The period from 2018 to 2020 emerges as the interval when non-residential construction is expanding in most provinces, leaving few pockets with a reserve of key skilled trades.

Project timing in Central and Eastern Canada will also prompt some movement. For example, short-term demands in Newfoundland and Labrador may offer jobs for returning workers during 2015 and into 2016, but as major projects wind down, there is a risk that unemployment could rise in the East. These regional shifts would coincide with the potential movement across construction markets. There will be steady gains in commercial work in most provinces, and this could attract the residential workforce during the late stages of the housing downturn that will impact many provinces over the middle years of the scenario, from 2017 to 2020. Much depends on the portability of skills and experience into commercial construction.

Provincial scenarios also point to several situations where labour might be expected to move across regions. This is, for example, a focus in British Columbia, where northern projects might attract workers from the lower mainland.

In Ontario, a similar situation emerges, as work in the Greater Toronto Area could attract labour from Eastern Ontario and other regions. In all of these cases, there may be barriers that limit mobility and leave market imbalances.

The timing and direction of these movements depends on uncertain project schedules. Altering schedules, however, would not likely change the essential finding that mobility is the key to market adjustments. In this situation, hiring practices and training need to accommodate movement in many directions, including across provinces, industries, markets and regions.

Demographics will drive tighter markets, as annual increases in labour requirements over as small a threshold as 2 to 3 percent will exceed the normal increase in the local labour supply.

## CONCLUSIONS AND IMPLICATIONS

Forces driving construction markets across Canada are shifting. Many big resource projects are nearing completion and there will be a gap as commodity prices continue their cycle. In the interim, a backlog of resource-related infrastructure projects, sustaining capital and maintenance work will add jobs.

These changes will slow the long-term expansion in construction and alter established patterns of mobility and growth by trade and occupation.

While the 2015 scenario points to an interruption and changes in labour market conditions for some provinces across the scenario period, employment is growing and reaching record high levels in many construction markets. Recruiting, training and retention remain essential to meeting both expansion and replacement demands. Challenges for human resources planning remain.

Timely construction forecast data is available online at [www.constructionforecasts.ca](http://www.constructionforecasts.ca). Create customized reports on a broad range of selected categories within sector, trade or province covering up to 10 years.

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March 2015

Funded by the Government of Canada's  
Sectoral Initiatives Program

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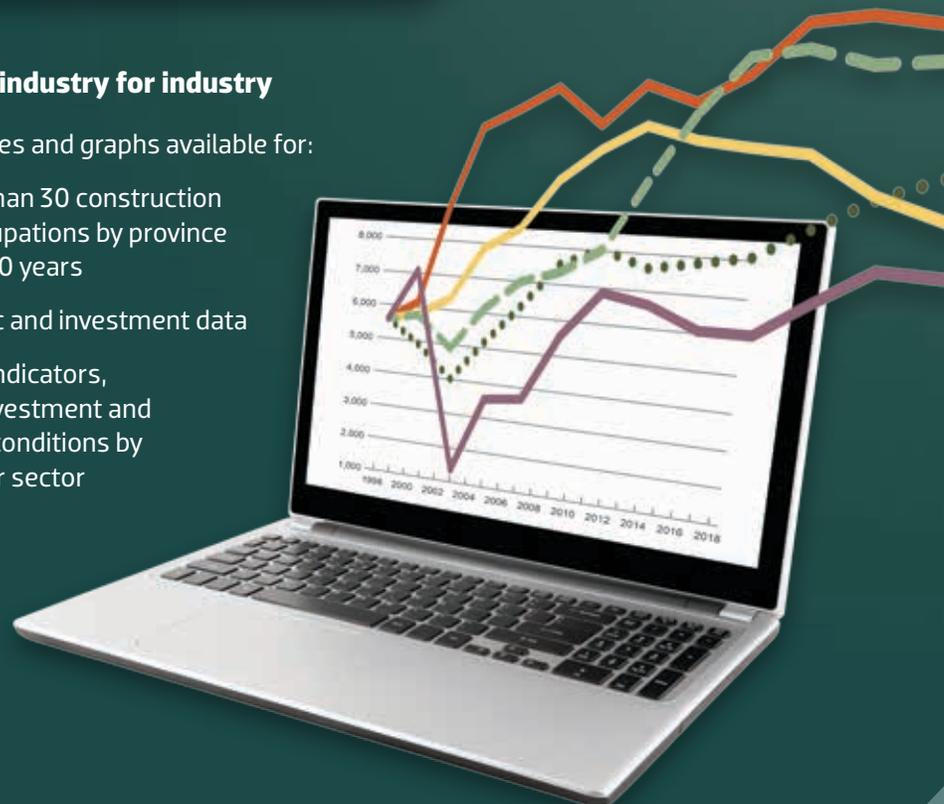
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