



**2015–2024**  
**Key Highlights**

# Construction and Maintenance Looking Forward

## Alberta

The 2015 *Construction and Maintenance Looking Forward* scenario for Alberta projects that the 2014-2015 decline in the price of oil will slow 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 cycle will be the longest interruption in the province's growth in more than 20 years.

The oil price decline has been felt across the Alberta economy, impacting housing, government and other consumer and business spending. The largest impacts are likely to be in construction, with projected job losses across the industry.

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 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 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 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. Postponing construction may shift recruiting into

### 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.

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 need to be attracted back.

A change in Alberta's construction activity will shift the traditional ebb and flow of construction workers among the provinces. The short-term impact may be a movement to meet needs in British Columbia and Saskatchewan.

## HIGHLIGHTS (2015 TO 2024)

- Responding to lower oil prices, overall construction employment falls by almost 20,000 jobs from 2015 to 2017, with losses concentrated in engineering projects and housing.
- Market adjustment falls more heavily on out-of-province workers, as some 14,000 leave Alberta. A smaller group of unemployed may remain in the local market.
- All construction markets are expected to shed jobs in the down cycle to 2017 and all are expected to rise again in a steady recovery to 2024.
- While new investment slows, maintaining current production requires a steady flow of sustaining capital<sup>1</sup> and maintenance<sup>2</sup> investment that employs a rising proportion of the construction workforce.
  - Across the scenario period, sustaining capital investment (see Figure 1) demands a large and growing workforce.
- Replacement demands related to retirements add to long-term labour requirements.
- These features create rising labour requirements for the construction industry – in spite of the current cycle.
- Recruiting to fill these jobs will continue to focus the industry on immigration and inter-provincial mobility as growth resumes over the long term.

## NON-RESIDENTIAL CONSTRUCTION

- By 2017, the oil-and-gas-driven cycle drops employment by 9,000 jobs.
  - Losses are concentrated in the oil sands and other engineering projects.
- After 2017, total employment in engineering construction increases by 13,000 jobs across the remainder of the scenario period, with most of the increase driven by projected renewed growth in the oil sands.
- In contrast, a modest down cycle followed by renewed growth drives institutional, commercial and industrial (ICI) construction up by 8,000 jobs to 2024 as overall economic conditions improve.
- Overall, non-residential construction employment grows by more than 16,000 jobs, as growth resumes from 2018 to 2024.
- The following trades and occupations that are traditional on the engineering projects are most vulnerable to the cycle and experience limited gains across the scenario:
  - concrete finishers
  - crane operators
  - heavy equipment operators

- heavy-duty equipment mechanics
- ironworkers
- truck drivers
- welders
- Another group of trades and occupations that is more concentrated in ICI follow a mild cycle to 2015 and see above-average job gains to 2024:
  - carpenters
  - elevator constructors and mechanics
  - floor covering installers
  - glaziers
  - painters
  - plasterers, drywall installers and finishers
  - refrigeration and air conditioning mechanics

## RESIDENTIAL CONSTRUCTION

- The oil price decline sets off a new housing cycle that drives employment down to 2017, with job losses estimated at 10,000.
- Recovery is moderate, with housing starts rising back close to current levels by 2024.
- Employment re-gains 8,700 jobs from 2018 to 2024 for a net overall loss of 1,200 jobs by the end of the scenario period.
- Cyclical changes are concentrated in new housing, while the renovation market, with limited impacts from the decline in the price of oil, adds 4,100 jobs.
- Employment for construction managers and home builders is more vulnerable to the cycle, with most other trades and occupations avoiding the most severe declines.

## THE AVAILABLE WORKFORCE

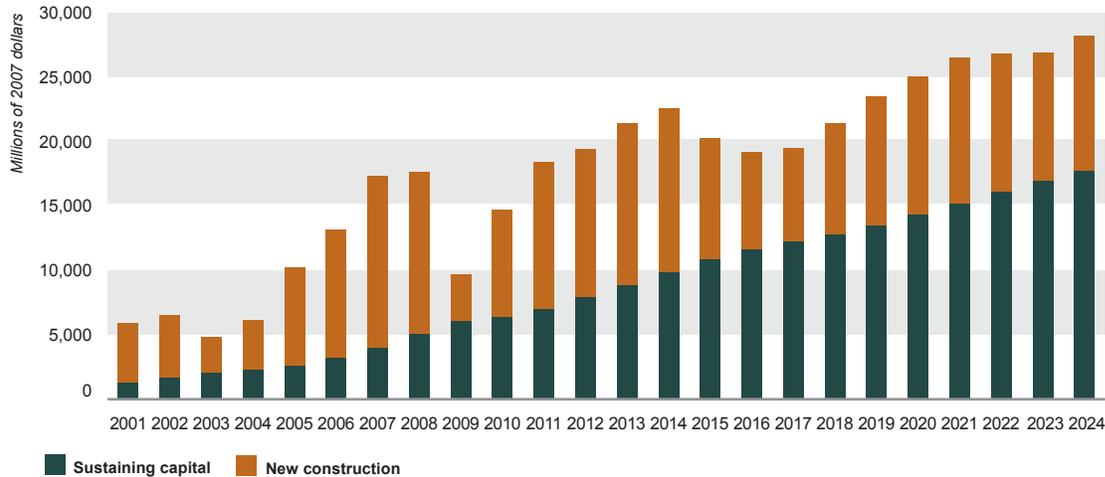
Province-wide demographic trends from 2015 to 2024 indicate:

- Alberta's population grows by 827,000 people across the decade.
- The province's relatively young population translates into natural population growth of 312,000 people from 2015 to 2024, as births exceed deaths.
- Across the scenario period, net in-migration is estimated at 515,000 people.
- The total provincial labour force (all industries) is estimated to rise by 380,000 workers across the outlook period to 2024.

<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.

**Figure 1: Oil Sands Investment – Construction, Machinery and Equipment (millions of 2007 dollars\*)**



\* Millions of 2007 dollars indicates that the investment values are in year 2007 dollars (base year), that is, adjusted for inflation. This is used to calculate the real physical year-to-year change of the value of construction, factoring out growth (increase value) due to increases in prices.  
Source: Statistics Canada and BuildForce Canada

## CHANGES IN CONSTRUCTION LABOUR SUPPLY

The BuildForce LMI system tracks supply and accounts for the change in the available labour force, including retirements, new entrants and net in-mobility<sup>3</sup>. Retirements measure permanent losses to the workforce, which are partially offset by the entry of first-time workers aged 30 and younger to the construction labour force. Figure 2 tracks the annual changes in the labour force across the forecast period.

- Replacement demands (retirements) are estimated at 36,200 workers, adding to demand requirements, and this represents a significant loss of skilled tradespeople across the outlook period.
  - The potential for about 34,600 new entrants<sup>4</sup> is nearly sufficient to meet these retirement demands.
  - Even with this advantage, rising labour requirements exceed the gains in the local labour force and more than 11,700 construction workers will need to be drawn from out of the province as growth resumes.
- Unemployment in construction has been driven to record low levels and replacement and expansion demands will hold unemployment close to recent minimum levels over most of the outlook period.

- Across the scenario period, the cyclical shift in the market sees a loss of workers from Alberta from 2015 to 2017 – this is a significant change from labour market patterns in previous years.

## RANKINGS, RISKS AND MOBILITY

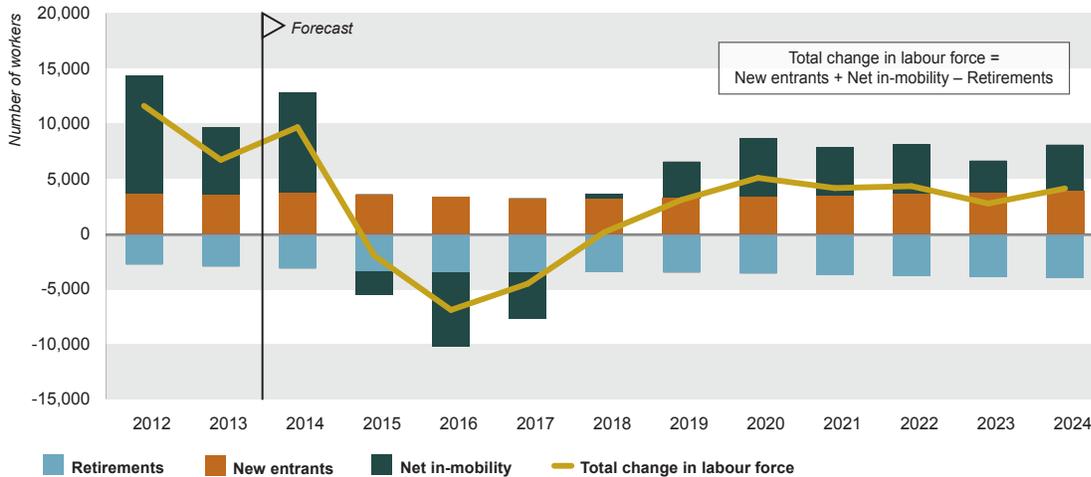
BuildForce assesses market conditions for 34 trades and occupations in Alberta using a ranking system that combines measures of the change in employment, unemployment, net in-mobility and adjustments based on industry input. The rankings reflect a combination of residential and non-residential market conditions unique to Alberta based on current and proposed construction activity. In addition, assumptions on provincial economic and population growth, new entrants to the labour force and migration patterns (interprovincial and international) are built into the forecast scenario and included in the ranking assessment (see ranking table on page 5).

- Ranks are lowest from 2015 to 2017 as employment falls.
- Markets tighten over the long term as projected new construction in the oil sands returns and requirements related to sustaining capital continue to rise.

<sup>3</sup> In-mobility refers to the arrival of workers from outside the local construction industry.

<sup>4</sup> The amount of new entrants is measured by applying the traditional proportion of the provincial workforce aged 30 and younger that enters the construction industry for the first time. The projected estimate across the scenario period assumes that the construction industry is able to recruit this group in competition with other industries.

**Figure 2: Annual Estimated Changes in Supply**



Source: BuildForce Canada

- Limited labour force growth later in the scenario period means that limited annual increases in employment (e.g., 3 percent or more) are enough to create tight labour markets.
- For the first time in many years, the scenario signals that a significant number of workers will leave Alberta over the near term and return to their home provinces.
  - This mobile workforce is concentrated on the big engineering-type projects.
  - Opportunities in British Columbia, Saskatchewan and Manitoba may draw on many of these trades.
- Higher ranks in 2024 often reflect the steady impact of rising retirements, especially in occupations such as construction managers, supervisors and contractors, which have a traditionally older age profile.

## CONCLUSIONS AND IMPLICATIONS

- The 2014-2015 oil price decline will drive investment and construction employment lower from 2015 to 2017.
- Conditions improve from 2018 to 2024 and employment rises modestly across the full scenario.
- Markets adjust from 2015 to 2017 with rising unemployment and the loss of construction workers to other provinces.
- Recovery after 2018 brings back the familiar construction industry challenges of recruiting for new resource projects and the need to look to immigration and inter-provincial mobility.
- This interruption to Alberta's expansion adds to the overall labour market challenges by shifting requirements to later in the decade when core demographic forces will restrict the availability of skilled trades.

The *Construction and Maintenance Looking Forward* national highlights report expands on the range of worker mobility options and industry implications.

## MARKET RANKINGS

1	Workers meeting employer qualifications are available in local markets to meet an increase in demand at the current offered rate of compensation and other current working conditions. Excess supply is apparent and there is a risk of losing workers to other markets.
2	Workers meeting employer qualifications are available in local markets to meet an increase in demand at the current offered rate of compensation and other working conditions.
3	The availability of workers meeting employer qualifications in the local market may be limited by large projects, plant shutdowns or other short-term increases in demand. Employers may need to compete to attract needed workers. Established patterns of recruiting and mobility are sufficient to meet job requirements.
4	Workers meeting employer qualifications are generally not available in local markets to meet any increase. Employers will need to compete to attract additional workers. Recruiting and mobility may extend beyond traditional sources and practices.
5	Needed workers meeting employer qualifications are not available in local markets to meet current demand so that projects or production may be delayed or deferred. There is excess demand, competition is intense and recruiting reaches to remote markets.
N/A	The labour market assessment for some trades is limited by the small size of the workforce (<100 employed). In consultation with the provincial LMI committee, the rank is suppressed because of limited statistical reliability.

## RANKINGS FOR TRADES AND OCCUPATIONS IN ALBERTA

TRADES AND OCCUPATIONS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Boilermakers</b>	3	3	3	3	3	3	4	3	3	3	3
<b>Bricklayers</b>	4	2	2	2	3	3	4	4	4	3	4
<b>Carpenters</b>	4	2	2	2	3	3	4	4	4	3	4
<b>Concrete finishers</b>	3	2	2	2	3	3	4	3	4	4	4
<b>Construction estimators</b>	4	2	2	2	3	3	4	3	4	3	4
<b>Construction managers</b>	4	2	2	2	3	3	4	4	4	4	4
<b>Construction millwrights and industrial mechanics</b>	3	3	2	2	3	3	3	4	4	4	4
<b>Contractors and supervisors</b>	4	3	2	2	3	3	4	4	4	4	4
<b>Crane operators</b>	4	3	2	2	3	3	4	4	4	4	4
<b>Drillers and blasters</b>	3	3	3	3	3	4	4	3	4	4	4
<b>Electrical power line and cable workers</b>	4	3	2	3	3	3	3	4	4	3	3
<b>Electricians</b>	4	3	2	2	3	3	4	4	3	3	3
<b>Elevator constructors and mechanics</b>	4	2	2	3	3	3	3	4	4	4	4
<b>Floor covering installers</b>	4	3	2	3	3	3	4	4	4	4	4
<b>Gasfitters</b>	4	3	2	2	3	3	4	4	4	3	4

*continued on next page*

TRADES AND OCCUPATIONS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Glaziers	3	3	2	2	3	3	4	4	4	4	4
Heavy equipment operators (except crane)	3	3	2	2	3	3	4	3	4	4	4
Heavy-duty equipment mechanics	5	4	2	2	3	3	4	4	4	4	4
Home building and renovation managers*	4	2	2	2	3	3	4	4	4	4	4
Industrial instrument technicians and mechanics	4	3	2	2	3	4	4	4	4	3	3
Insulators	3	3	2	3	3	4	4	4	4	4	4
Ironworkers and structural metal fabricators and fitters	4	3	2	2	3	3	4	3	4	3	3
Painters and decorators	4	3	3	3	3	3	4	4	4	4	4
Plasterers, drywall installers and finishers, and lathers	4	3	2	2	3	3	4	4	4	3	4
Plumbers	3	3	2	2	3	3	4	4	4	3	4
Refrigeration and air conditioning mechanics	4	3	3	3	3	3	4	4	4	4	4
Residential and commercial installers and servicers	4	3	3	2	3	3	4	4	4	3	4
Roofers and shinglers	4	3	2	3	3	3	3	3	3	3	3
Sheet metal workers	3	3	2	2	3	4	4	4	4	3	3
Steamfitters, pipefitters and sprinkler system installers	3	3	3	3	3	4	4	4	3	3	3
Tilesetters	4	2	2	2	3	3	4	4	4	3	4
Trades helpers and labourers	4	3	2	2	3	3	4	4	4	3	4
Truck drivers	3	3	2	2	3	3	4	4	4	4	4
Welders and related machine operators	3	3	2	2	3	3	4	4	4	3	3

\* The NOC classification for "Residential home builders and renovators" has changed to "Home building and renovation managers."

Source: BuildForce Canada

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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The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada.



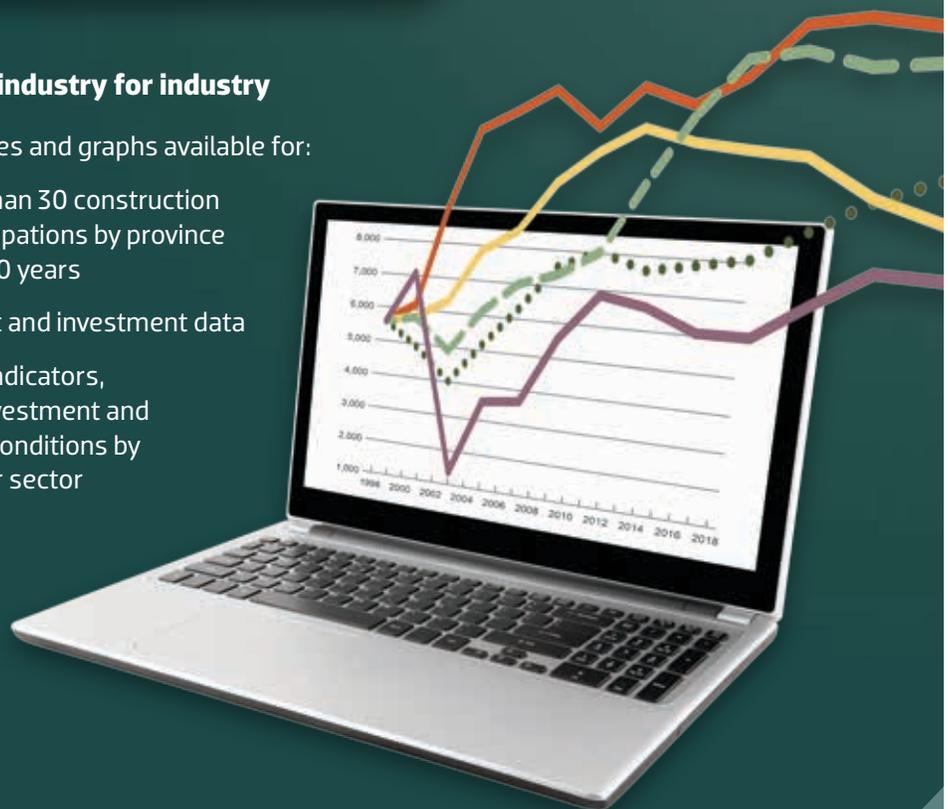
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