



2015–2024
Key Highlights

Construction and Maintenance Looking Forward

Alberta Oil Sands

The 2014-2015 oil price decline will slow Alberta's 15-year resource expansion. Cancellations of some new projects will interrupt growth, with declining investment and job losses over the next three years. Rebounding from 2009, investments more than doubled from 2010 to 2014 and construction employment in the oil sands and related engineering projects kept pace. Many of these projects are underway and the expected down cycle in the price of oil will not stop much of this work, but other projects are being cancelled or delayed over the near term.

New oil sands projects are delayed and the impact of the oil price decline has been felt across the Alberta economy, including government and other consumer and business spending, housing markets and industrial, commercial and institutional (ICI) building construction. While new investment declines, maintaining current oil sands production requires a steady flow of sustaining capital¹ and maintenance² work, adding to construction employment over the long run across the 2015-2014 *Construction and Maintenance Looking Forward* outlook period.

This short-term cycle brings down construction employment from 2015 to 2017 and then adds back the lost ground by 2020. By the end of the scenario period in 2024, oil sands activity adds 10 percent to 2014 employment levels.

While employment in most construction markets follows this cycle, it is the work in the oil sands that sets the pace. This report sets out the details and the labour market implications of these developments.

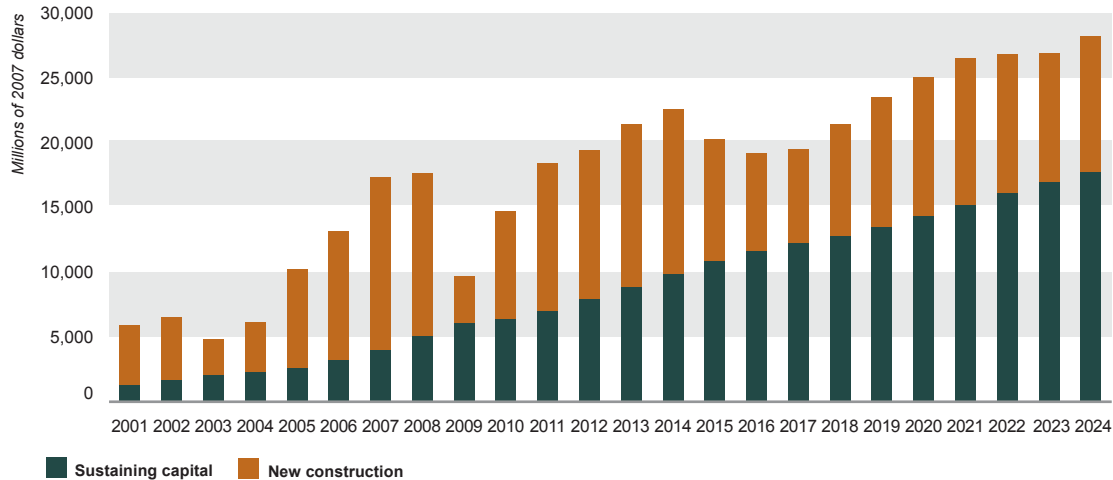
BUILDFORCE'S LMI SYSTEM

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.

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

² 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

This edition of the Alberta oil sands highlights report provides a detailed look at market conditions for the trades and occupations tracked by BuildForce that are unique to the oil sands projects.³ An assessment of market conditions for these occupations is also included in the Alberta *Construction and Maintenance Looking Forward* review for province-wide markets.

OIL SANDS DEVELOPMENT AND LABOUR REQUIREMENTS

- The large oil sands workforce is linked to virtually every aspect of the Alberta economy and the impacts extend to labour markets in other provinces.
- This analysis allocates oil sands construction employment across trades and occupations, and has identified the following principle oil sands workforce:
 - boilermakers
 - bricklayers (in refractory work)
 - carpenters (often as scaffolders)
 - construction estimators
 - construction managers

- construction millwrights
- crane operators
- electricians
- heavy equipment operators
- heavy-duty equipment mechanics
- insulators
- ironworkers
- pipefitters
- trades helpers and labourers
- truck drivers
- welders

- These trades and occupations are working on a long list of mining, in-situ and upgrader projects, as well as sustaining capital and maintenance that maintains production on existing sites.
- The 2014-2015 decline in the price of oil will delay projects, creating job losses that last from 2015 to 2017, and result in projected employment cuts of 15 percent or more.
- Expansion of oil sands facilities resumes after three years, regaining lost jobs across the remainder of the scenario period.

³ Twenty-one of the 34 trades and occupations tracked by BuildForce Canada are unique to the oil sands projects.

- This cycle is shared across all oil sands investments, but job losses are estimated to be more pronounced in mining.
- In-situ projects have stronger growth at the end of the scenario, rising by 10,000 jobs and dominating the expansion.
- Ongoing sustaining capital adds steady gains to jobs in the principle trades and occupations across the scenario period (see Figure 1).
- At the bottom of the cycle in 2017, oil sands employment is down by 15 to 17 percent from 2014 levels – the first drop since 2009.

THE AVAILABLE WORKFORCE

- Trades and occupations in the principle oils sands workforce are among the most mobile in Canada. As employment falls, unemployment rises, but the main market adjustments will be out-mobility as the out-of-province workforce departs and moves to other opportunities.
- These impacts are similar across all of the trades and occupations in the oil sands workforce, with declines over the near term to 2017. Employment then rises across the remainder of the scenario period as investment growth resumes.
- These same trades and occupations are also prominent in other engineering work (e.g., infrastructure) that faces a similar cycle.

RANKINGS, RISKS AND MOBILITY

The BuildForce LMI ranking system has been adapted for the oil sands workforce and each rank combines four distinct market measures: employment growth in the oil sands segment, unemployment across Alberta, net in-mobility⁴ and industry input on market conditions (see ranking table on page 4).

- Labour market cycles related to the oil price decline are more volatile for the oil sands workforce, as job losses in the downturn are larger.
- The oil price decline has similar impacts in both oil sands and the other Alberta construction labour markets, as the impacts span housing, government and other consumer and business spending.
- Ranks for the oil sands workforce, set out on page 4, are similar to the ranks for the broader Alberta construction industry, with weaker market conditions over the next three years.
- Ranks reflect changing conditions within each of the oil sands markets. Where ranks for a trade differ across provinces they signal the potential for mobility.

CONCLUSIONS AND IMPLICATIONS

The decline in the price of oil opens up important potential impacts across Canada's major construction labour markets:

- Major engineering projects are scheduled for British Columbia, Saskatchewan and Manitoba from 2015 to 2017 as oil sands requirements turn down.
 - These labour requirements may draw large numbers of workers out of Alberta.
 - Oil sands employers will need to attract these workers back during the 2018-2024 growth period.
- Later in the scenario period, demographic forces will add rising challenges across all trades and occupations as age profiles rise and retirements increase, resulting in the significant loss of skilled tradespeople.

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

⁴ In-mobility refers to the arrival of workers from outside the local construction industry.

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 THE ALBERTA OIL SANDS

TRADES AND OCCUPATIONS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Boilermakers	3	3	3	3	3	4	4	3	3	3	3
Bricklayers (primarily refractory)	3	2	2	2	3	4	4	4	4	3	4
Carpenters (including scaffolders)	4	3	2	2	3	3	4	4	4	4	4
Concrete finishers (cement masons)	3	2	2	2	3	4	4	4	4	4	4
Construction estimators	3	2	2	2	3	4	4	3	4	3	4
Construction managers	3	2	2	2	3	4	4	4	4	4	4
Construction millwrights	3	3	2	2	3	3	4	4	4	4	4
Contractors and supervisors	4	2	2	2	3	4	4	4	4	4	4
Crane operators	3	2	2	2	3	4	4	4	4	4	4
Electricians	3	3	2	2	3	4	4	4	3	3	3
Heavy equipment operators (except crane)	3	2	2	2	3	4	4	3	4	4	4
Heavy-duty equipment mechanics	5	4	2	2	3	4	4	4	4	4	4
Industrial instrument technicians	3	3	2	2	3	4	4	4	4	3	3
Insulators	3	3	2	2	3	4	4	4	4	4	4
Ironworkers (structural and reinforcing)	4	2	2	2	3	4	4	3	4	3	3

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TRADES AND OCCUPATIONS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Painters	4	3	2	2	3	4	4	4	4	4	4
Sheet metal workers	3	2	2	2	3	4	4	4	4	3	3
Steamfitters, pipefitters and sprinkler system installers	3	2	2	3	4	4	4	4	3	3	3
Trades helpers and labourers	3	3	2	2	3	3	4	4	4	4	4
Truck drivers	3	2	2	2	3	3	4	4	4	4	4
Welders and related machine operators	3	3	2	2	2	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

For the most detailed and comprehensive construction labour market data in Canada, visit

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Customizable tables and graphs available for:

- ◆ Data on more than 30 construction trades and occupations by province looking ahead 10 years
- ◆ Macroeconomic and investment data
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Also check out the Construction Map App for major resource construction projects mapped across Canada.

www.constructionmapapp.ca



Best viewed on tablets (or computers)

Timely construction forecast data is available online at 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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