ENSERVA™

STATE OF THE INDUSTRY REPORT

Fall 2023-2024

CANADIAN INDUSTRY EVOLVES TO MEET GROWING CAPITAL INVESTMENT AND GLOBAL DEMAND

Prepared by Garrison Strategy
December 2023

GARRISON STRATEGY

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

For over 40 years, Enserva has championed advancing responsible development of Canadian energy and has provided its Canadian Drilling Activity Forecast to its membership, members of the petroleum industry and other interested parties. This State of the Industry Report builds off our Spring 2023 State of the Industry Report to provide an updated and detailed drilling forecast and outlook for the sector for 2023 and 2024.

SUMMARY

The outlook for Canada's upstream oil and gas industry and drilling service sector is very favourable. Prices are expected to remain strong, demand is expected to be robust, export capacity is expected to grow, and investment and drilling activity are expected to increase during the forecast period. That said, there are a number of downside risks to this outlook, including government policy, slowing economic growth, infrastructure delays, inflation, and labour shortages. Upside risks include geopolitical disruption, and OPEC+ production quotas.

1. GLOBAL ENERGY OUTLOOK

Supply and Demand

- The International Energy Agency (IEA) is forecasting "global oil demand to reach a record 102 million barrels per day" in 2023. Natural gas production levels are also expected to remain near historic highs, with production at 4,108 billions of cubic metres (bcm).
- That said, the IMF is projecting global growth to decrease from 3.5 per cent in 2022 to 3.0 per cent in both 2023 and 2024, due to higher central bank interest rates to combat inflation.
- In July, the IEA forecast was revised downward by 220 kb/d due to "persistent macroeconomic headwinds." In 2024 oil growth is expected to slow to 1.1 million barrels per day.
- The IEA anticipates that "global gas demand is expected to remain broadly flat in 2023 and return to moderate growth of 2 per cent in 2024, supported by the expansion of economic activity and assuming a return to average winter weather conditions in the Northern Hemisphere.

Security of Supply

- Energy security will continue to be a substantive factor in 2023 and 2024 as the Russian invasion of Ukraine continues to create geopolitical supply and demand disruptions. Russian oil and gas is being displaced in the EU, and fast-growing countries in Southeast Asia have a significant demand for energy long-term.
- Not only does this present an opportunity for Canada, but also an obligation, as there are significant global geopolitical ramifications if Russia is able to build stronger energy trade linkages into growing Asian markets on a long-term basis.

Decarbonization and the Evolving Energy Mix

- The continued demand for oil and gas for the foreseeable future, combined with the invasion of Ukraine have highlighted that security of supply, and affordability objectives are paramount near-term priorities, even while countries continue to have ambitious long-term decarbonization targets and ESG performance objectives. Canada's oil and gas producers are well-positioned in this regard, as Canada ranks as a leading ESG performer among all major oil producing countries.

2. CANADIAN INDUSTRY OUTLOOK

The outlook for the Canadian oil and gas industry is very favourable for 2024

- Prices for Canadian producers have leveled off in 2023 relative to 2022. For 2024, forecasters have increased their forward price expectations for oil, while their price expectations for gas have generally remained flat or declined slightly.

Inflation

- Inflation and supply chain constraints have put upward pressure on industry costs in recent years. However, with central banks focused globally on reducing inflation, industry cost inflation appears to have peaked in mid-2022, and has been receding since. The Canadian energy and petroleum producer price index remains slightly elevated relative the composite for all industrial product prices.

Capital Investment

- The upstream industry investment profile has evolved with the evolving dynamics in the global energy market. For the first three quarters of 2023, industry capital spending increased by 20 per cent on a year over year basis. This is consistent with 2023 upstream oil and gas company guidance, which has been revised upward relative to Q1 of this year.

- We now anticipate that 2023 capital expenditures will increase by 14.8 per cent relative to 2022, which is higher than our spring 2023 forecast of 11% year over year increase. In 2024, we forecast continued strong growth of 10.5 per cent year over year.

Production

- According to S&P Global, Canadian oil sands production is expected to reach 3.7 million barrels per day by 2030. This is half a million b/d more than today and an increase of 140,000 b/d in 2030 from last year's outlook. This growth is largely being driven by operational efficiency gains and step-out optimization.

- Canadian marketable gas production has generally been on the rise since 2021, with annual averages of 16.1 bcf/d in 2021, 17.3 bcf/d in 2022 and 17.6 bcf/d in 2023H1. Despite various ebbs and flows in short term demand, under current policy measures the Canadian Energy Regulator is forecasting production to reach 21.4 bcf/d by 2050.

- Within Canada a number of LNG projects off the coast of British Columbia are advancing and could be completed by the end of the decade, with potential production totalling nearly 6.4 bcf/day. First exports are expected mid-decade.

Canadian Drilling Forecast

- Based on increased upstream capital expenditures, improving, yet elevated, inflation data and the strong global and North American energy outlook, we anticipate increases in the number of wells drilled in 2023 and 2024.
    - Total wells drilled is expected to increase from 5,723 in 2022 to 5,852 in 2023 and 6,300 in 2024.
- BC is expected to see the most significant increase in drilling activity in line with the increase in capital expenditures expected in the province. Incremental drilling associated with LNG build out in British Columbia will drive activity for the foreseeable future. The Montney represents the vast majority (if not all) drilling activity in the province.
- Alberta drilling activity was flat in the first half of 2023 due to wildfire evacuations. However, we expect activity to pick up in the second half of the year, and potentially into 2024. Over 55 per cent of well activity occurs in 5 plays: the Clearwater, Montney, Cardium, McMurray and Spirit River. This trend is largely expected to remain consistent into 2024.
- Drilling activity in Saskatchewan was up 9 per cent in the first half of the year, and we expect activity to remain strong through 2023 and into 2024. The Viking, Frobisher, Bakken, Midale Beds are expected to be the top plays in 2023-24.
- Average total well depth has been on the rise since 2022, and we expect to see slightly longer wells on average in both 2023 and 2024.
    - In Alberta and BC, depth has been consistently increasing in the Clearwater, Montney, Viking, Duvernay and Charlie Lake plays over time.
    - In Saskatchewan, well depth has been consistently increasing in Viking and Frobisher.

3. FRACKING AND PRESSURE PUMPING

- Activity by play
  - The top frac plays in Canada are the Montney, Cardium and Duvernay, with the vast majority occurring in the Montney. Secondary frac plays in Alberta include the Viking, Wilrich, Notikewin and Falher, while the top frac plays in Saskatchewan include the Viking, Bakken and Shaunavon.
  - Step, Calfrac, Liberty and Haliburton are the most prevalent companies in the Montney. Iron Horse dominates the SK Viking. Element, Trian and Calfrac are the largest players in the Cardium, and Liberty leads activity in the Duvernay.
- Completion Technology
  - Plug and perf is clearly the dominant completion technology in the Alberta Montney and Duvernay. In the BC Montney, ball and seat is used in approximately 40 per cent of fracs, in addition to plug and perf. Sliding sleeve is the dominate technology used in Saskatchewan, as well as in the Cardium, Sparky and AB Viking. Ball and seat is dominate in the Wilrich, Notikewin and Falher plays.
- Hydraulic Horsepower
  - With increased drilling activity expected to be sustained in the near-term – particularly in the Montney – we expect HHP demand will increase by between 10-15 per cent in 2024 from 2022 levels, assuming utilization at approximately 80 per cent.
  - While companies have been cautious to avoid over-building capacity, additional horsepower will likely be added in 2024 in response to higher drilling activity. Trican, Haliburton and BJ Services are expected to add additional capacity.

4. CLOSURE AND RECLAMATION

- Closure and reclamation expenditures have been on the rise in western Canada, with advancing regulatory requirements companies must reclaim their environmental liabilities on an established schedule.
  - The Alberta industry-wide closure spend requirement increased from $422 million in 2022 to $700 million in each of 2023 and 2024. We expect spending to be $707 million in 2023 and $705 million in 2024.
  - In BC, we expect to see a continued increase in abandonment and reclamation expenditures from $39 million in 2022 to $52 million in 2023 and $57 million in 2024.
  - Saskatchewan introduced the Inactive Liability Reduction Program (ILRP) to take effect in 2023. As a result we expect abandonment and reclamation expenditures to increase from $115 million in 2022 to $150 million in 2023 and $165 million in 2024.

5. EMPLOYMENT FORECAST

- Despite higher in-migration levels and improved workforce planning efforts, service companies expect to see labour pressures persist in 2023 and 2024. Companies continue to struggle to attract qualified personal and are experiencing increased labour costs.
- Given the strong prices, capex and drilling activity forecast for the WCSB, it is expected that number of service sector jobs could grow by as much as 5,600 (8.3 per cent) in 2023, and an additional 5,500 (7.7 per cent) in 2024, as industry seeks to fill its employment vacancy backlog and add workers in anticipation of future growth.

6. EMERGENT ISSUES AND TRENDS

While there will continue to be a meaningful (and growing) role for oil and gas in the long-term energy mix, global demand for low emission energy and corresponding mineral requirements are going to increase to support the evolving energy mix. North American governments are responding accordingly.

- The U.S. introduced the most significant and comprehensive incentives to encourage investment in clean technology through its Inflation Reduction Act.
- The 2023 Canadian federal budget introduced a number of new measures, including the 2030 Emissions Reduction Plan, Federal Hydrogen Strategy and the Canadian Critical Minerals Strategy that are intended to position the country favourably to meet future global energy needs.
- Alberta, Saskatchewan and BC have developed emissions reduction, hydrogen and critical minerals policies, some of which integrate with the federal approach.

Enserva members are aptly positioned to take advantage of opportunities to support the evolving energy mix in Canada.

- Upstream companies have signaled their intent to invest substantially in carbon reduction technologies and infrastructure; and
- Investments in geothermal, critical minerals and hydrogen facilities/ infrastructure are all expected to increase across western Canada.

In response, service companies can apply their expertise and synergistic industry structure to the development of these opportunities. To ensure Enserva members can take advantage of these opportunities, enabling government policies that create the right conditions to invest will be required.

7. RISKS TO THE OUTLOOK

The outlook for Canada's upstream oil and gas industry and drilling service sector is very favourable. Prices are expected to remain strong, demand is expected to be robust, export capacity is expected to grow, and investment and drilling activity are expected to increase during the forecast period. That said, there are a number of risks to this outlook.

DOWNSIDE RISKS

Government Policy Risk

- The federal government recently released a "Regulatory Framework to Cap Oil and Gas Sector Greenhouse Gas Emissions," which would cap 2030 emissions at 35 to 38 percent below 2019 levels, while providing compliance flexibilities to emit up to a level about 20 to 23 percent below 2019 levels to come into effect in 2026.

- In March 2023, British Columbia released an "Energy Action Framework to Cap Emissions." Under the framework, the Province will "put in place a regulatory emissions cap for the oil and gas industry to ensure B.C. meets its 2030 emissions-reduction target for the sector." Depending on its design, there is the potential to significantly increase costs, decrease production, and/or reduce investment and

Slowing Global Economic Growth

The potential for slower global economic activity represents significant risk to the outlook.

- Many global central banks are continuing to combat inflation with higher interest rates, thereby slowing the prospects for global economic growth. The IMF is projecting global growth to decrease from 3.5 percent in 2022 to 3.0 percent in both 2023 and 2024. Given the current environment, we expect that both global and North American economic growth risks are weighted to the downside, as the effects of interest rate policies have yet to be fully manifested in the economy.

Energy Infrastructure Delays

Delays to energy infrastructure projects are a prevalent risk in the Canadian economy.

- The Trans Mountain Pipeline Expansion is expected to be operational in Q1 2024. However, it has been fraught with timeline delays and cost overruns and there is a possibility that it could face additional delays.

- TC Energy's Coastal GasLink project, which will deliver natural gas from north east BC to the LNG Canada facility, is expected to be completed by year-end 2023, with commissioning and clean-up work continuing into 2024 and 2025. There is the possibility it could face additional delays and costs. A comprehensive cost and schedule risk analysis commissioned by TC Energy estimated that an extension of construction well into 2024 would increase costs by up to $1.2 billion.

Labour Shortages

- The oil and gas service industry is already confronted with challenges in recruiting people to the industry. There is the potential that a lack of available skilled workers will prevent the industry from meeting/exceeding the drilling forecast estimates. There is also the prospect that the shortage of labour will drive up wages, which will in turn drive up industry costs and reduce the level of economic activity associated with industry investment.

Persistent Inflation

- Inflation remains a risk to the outlook, driving up the cost of labour or other inputs such as energy, steel and fabricated metals. The Canadian composite industrial price index has remained elevated relative to 2020 and while the upstream industry has generally converged towards the composite, price for steel and construction activities are higher. An increase in upstream investment and drilling activity, could drive the upstream industry price index higher increasing costs and eroding value.

UPSIDE RISKS

Geopolitical Disruption

- Geopolitical disruption remains a significant risk to this outlook. As was observed with the Russian invasion of Ukraine, a major geopolitical disruption has the potential to increase oil and gas prices and/or displace traditional sources of supply, thereby creating the conditions for additional oil and gas investment and production in Canada. The Israel-Gaza conflict could also have geopolitical implications for middle east and western nations.

OPEC+ Production Quotas

- Finally there is the risk of tighter OPEC+ production quotas, which has the potential to maintain or increase crude pricing. The OPEC+ group agreed in June to extend voluntary production cuts first introduced in April until the end of 2024, and have continued to support the production quotas at their regular monthly meetings since. Higher prices could lead to higher investment and drilling activity in Canada.

- Moreover, the OPEC 2023 World Oil Outlook is forecasting oil production to reach 116 million b/d in 2045, which is substantially higher than the IEA's forecast of approximately 100 million b/d. Higher prices could lead to higher investment and drilling activity in Canada.

ENSERVA™