



Price forecast

Oil, Gas & Chemicals

September 30, 2019



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Forecast commentary

Uncertainty prevails in global oil markets

The US Energy Information Administration (EIA) and the International Energy Agency (IEA) slashed crude oil demand growth estimates over the summer as geopolitical trade issues and declining global economies led to softening demand expectations. The disruption of Saudi Arabian oil production in mid-September caused a spike in oil futures as unrest in the Middle East brought greater uncertainty to the industry. It is unclear how the disruption of five percent of the global oil supply will affect long-term prices, as Saudi Arabia continues to deal with the fallout. Meanwhile, US production levels continued

to contribute significant volumes to global oil supply even as drilling activity slowed in major basins, with total rig counts 14 percent lower than September 2018.

Global crude oil prices have declined since the first half of 2019, with Brent and West Texas Intermediate (WTI) prices averaging \$61.85/bbl and \$56.40/bbl respectively over Q3 2019. Canadian oil prices have been relatively stagnant over the last three months, with considerably less volatility than seen in previous quarters, primarily due to stable price differentials.

Canadian oil prices have been relatively stagnant over the last three months, with considerably less volatility than seen in previous quarters, primarily due to stable price differentials.

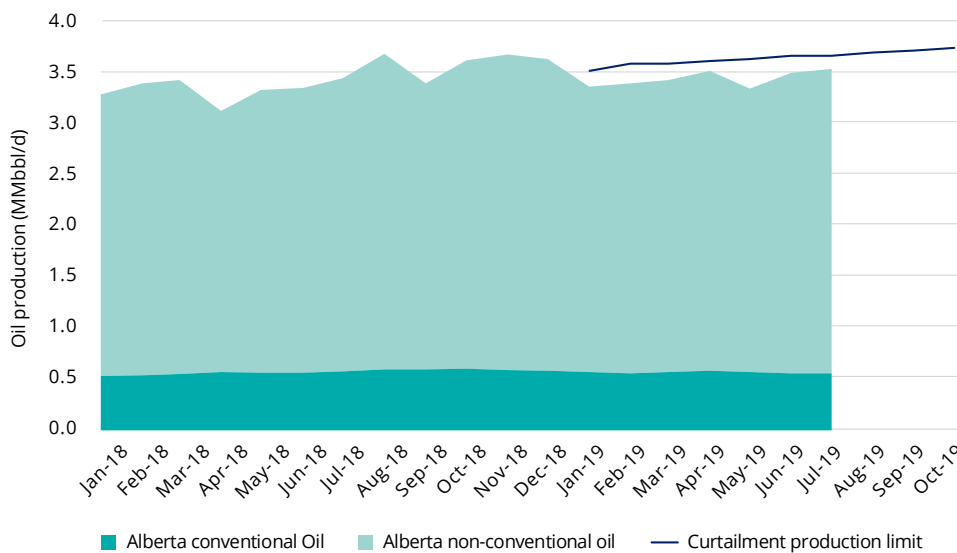


Alberta extends curtailments to aid prices

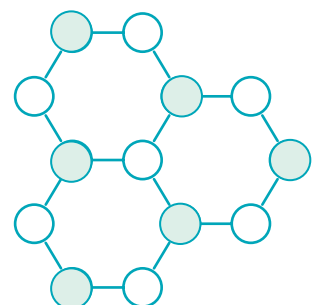
In August 2019, the Government of Alberta announced plans to extend crude oil curtailments to the end of 2020. The longer curtailment period likely will continue to stabilize Canadian crude oil prices and help maintain reasonable storage levels by ensuring production volumes do not outpace takeaway capacities. With no additional pipeline capacity expected for the Canadian market until Line 3 in 2020, the extended curtailments should ensure oil differentials do not widen substantially as seen in late 2018.

The Government of Alberta also announced that, starting in October 2019, minimum affected production levels would rise from 10,000 bbl/d to 20,000 bbl/d, allowing small and mid-sized producers to increase production and further invest in field development heading into the winter drilling months. Industry reports indicate the number of producers affected by curtailment will decrease at that time from 29 to 16, with the majority operating large oil sands projects. Under this amended policy, companies that produce volumes below the base threshold will no longer be able to transfer eligible volumes to other companies.

Alberta oil production with curtailments



Source: Alberta Government



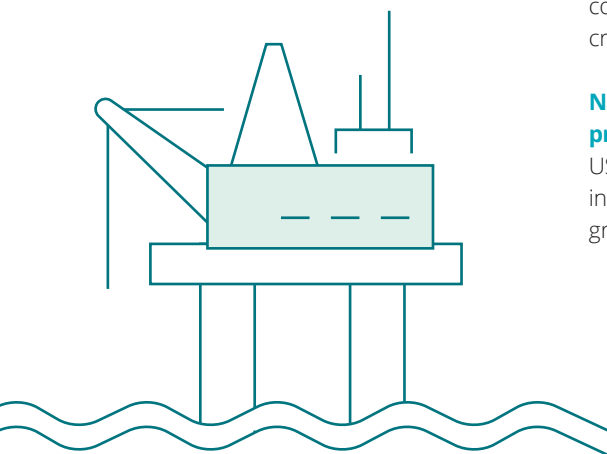
Some operators have questioned whether increased crude by rail volumes could be exempt from Alberta's production curtailments, since net new rail exports would reduce diluent volumes and free pipeline capacity for other producers in the system. This issue has not yet been addressed in the curtailment policy, but as the Alberta government looks to offload rail contracts in the coming months, the inclusion of a curtailment exemption could be a significant deciding factor for an eligible purchaser. In the US, Gulf Coast prices such as Mexico Maya have recently surpassed WTI as refineries in that region look to replace Venezuelan supply. This creates an opportunity for Canadian heavy oil producers to make the economics of crude by rail movement work when Western Canadian Select (WCS) to WTI differentials are narrow. Heavy oil producers with committed rail capacities will most likely diversify transportation methods and increase crude by rail volumes. If price differentials remain competitive and large producers decide to move increased volumes by rail, Alberta curtailment may be altered to reflect the increased export capacities. Overall, the curtailment extension should have positive effects on WCS and Edmonton pricing, since supply continues to meet (but not exceed) current crude oil export takeaway capacity.

Natural gas prices fall as US production increases

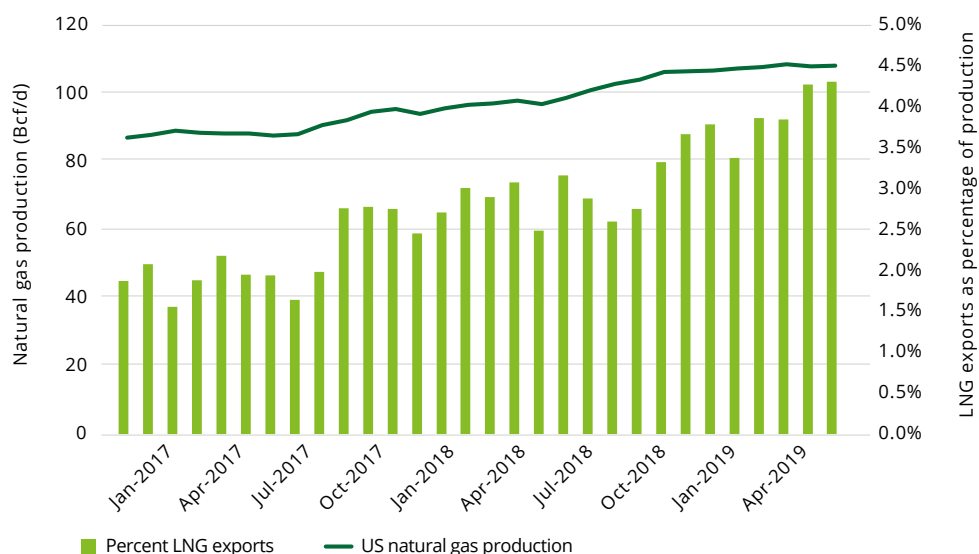
US natural gas production continued to increase throughout summer 2019, with growth primarily from the Marcellus basin,

but demand growth did not keep pace, resulting in falling natural gas markets. Henry Hub plummeted to US\$2.22/bbl in August, down 25 percent from August 2018, despite natural gas deliveries to domestic LNG facilities increasing to 6 Bcf/d, approximately seven percent of US dry natural gas production. Since January 2019, LNG facilities have exported a total of 775 Bcf, an increase of 57 percent from 2018 values over the same months. Two new trains, Freeport LNG in Texas and Elba Island LNG in Georgia, are scheduled to come on-stream by the end of Q3 2019, which will bring baseload LNG capacity to 6.4 Bcf/d, much lower than the projected 8.9 Bcf/d. LNG operations represent the fastest growing natural gas demand sector in the US, and the continuous addition of LNG export volumes should boost Henry Hub prices by increasing the currently lagging US natural gas demand.

US producers in the Permian basin have been dealing with natural gas egress issues over the past year, a problem commonly experienced by Canadian operators. Regional gas prices, such as the Waha sales point, saw an uptick over the last month as the Gulf Coast Express (GCX) pipeline began to relieve natural gas transport bottlenecks in Western Texas. In addition to GCX, several other planned gas pipelines will connect the Permian basin to the Gulf Coast, with two projects scheduled to enter service in 2020 and 2021 offering 4.1 Bcf/d of capacity. The integration of the GCX system will boost available natural gas feedstock for LNG export facilities.



US natural gas production and LNG exports



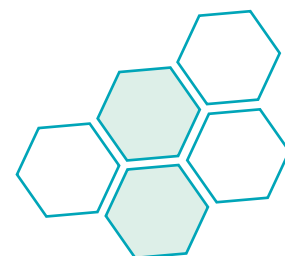
Source: EIA

Changes to tariffs aim to stabilize gas prices in Canada

Canadian gas prices remain volatile as summer prices fell from Q2 values. Reoccurring summer maintenance outages on the NOVA Gas Transmission Ltd. (NGTL) system have continued to affect Alberta Energy Company (AECO) prices as producers have limited ability to direct gas into storage. To aid gas producers and stabilize AECO pricing during planned maintenance schedules, the Canadian Energy Regulator recently approved temporary changes to NGTL tolls and tariffs. Transport to storage is considered an interruptible service within the current tariffs. It is intermittent during maintenance periods, primarily during summer months. The proposed changes will focus on managing system constraints during planned maintenance periods upstream of the Clearwater and Woodenhouse compressor stations for September to October 2019 and April to October 2020. With input from NGTL system

stakeholders and the Alberta government, tariffs will be adjusted so producers have greater access to storage facilities in the East Gate delivery area during maintenance activities. To manage capacity during maintenance activities, interruptible delivery and storage injection would be prioritized over both firm and interruptible receipt services, giving producers more constant access to natural gas storage facilities. This will increase and stabilize AECO prices from April to October, a historically volatile and low consumption time period. After 2020, it is expected that planned expansions of the NGTL system will alleviate critical capacity issues and maintenance outages will have less impact on producers.

To aid gas producers and stabilize AECO pricing during planned maintenance schedules, the Canadian Energy Regulator recently approved temporary changes to NGTL tolls and tariffs





Looking to the future of work in oil and gas

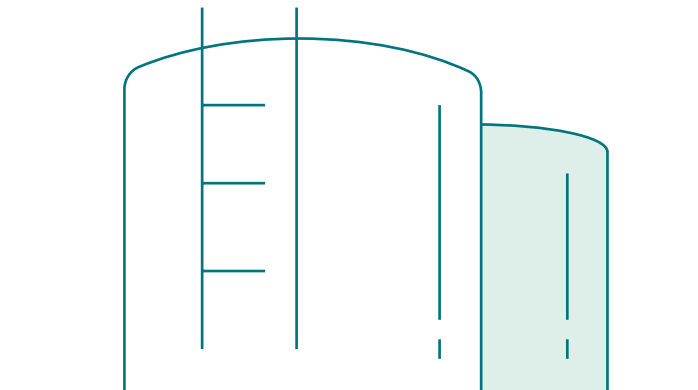
- **Neil Hunter**, *Director of Human Capital Consulting*

The digital transformation of Canada's workforce is well underway. Concern continues to grow among workers that robots will do all the work, and that traditional workplaces and long-term employment will disappear. Companies in all industries are making efforts to assure their talent, current and potential, that interesting and creative work will continue to be available in the future, they will have work—interesting, creative work—in the future, and they're working to use those same digital technologies and platforms to improve the employee experience.

But the oil and gas industry faces bigger challenges in this regard. Technical competence has long been favoured over leadership and “people” skills. As a result, the industry is now beginning to experience difficulty in attracting and retaining top talent, and so has further to go in reinventing the experience it offers employees in future. Engineers and operators will be looking for work with organizations that use the digital experience to provide a satisfactory, if not superior, employee experience.

Oil and gas businesses need to address that challenge quickly, as profound changes are coming soon to the nature of work, who does the work, and where the work is done:

- Developments in **automation**—robotics, cognitive, and AI technologies—will place smart machines alongside human workers.
- Oil and gas companies will need to explore **alternate work arrangements**, such as new shift scheduling approaches and better use of gig workers for project-based work. Full-time permanent work will increasingly be supplemented by managed services and freelancers.
- The **workplace** has expanded, with collaborative, teaming, and digital-reality technologies enabling work to get done from more places, and physical-virtual interactions moving into the mainstream.



What will work look like in the future?

Despite the increase in automation, we believe robots will create more jobs in the oil and gas industry than they replace. These jobs will involve using the head rather than the hands: as robots take over the repetitive tasks, humans will be better able to tackle the more interesting ones—the less-routine, interpersonal, and creative tasks, which will always be harder to automate. It's estimated that 86 percent of jobs created between now and 2030 will be knowledge-worker jobs.¹

How will workers become more digital?

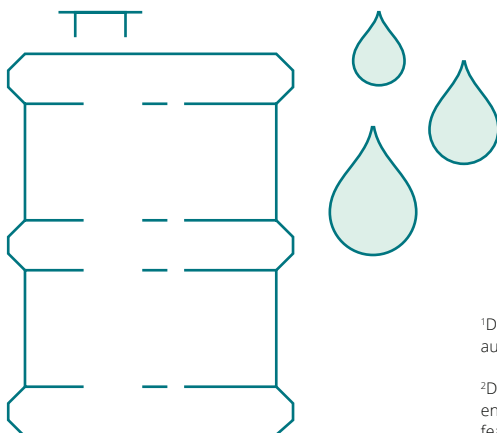
As work evolves, on-the-job learning will become the norm. It's cheaper, more relevant, and more focused than classroom learning, and technology is helping provide ways to learn that are faster and more flexible than ever before. On-the-job learning also makes it easier for workers to transfer their knowledge directly to the workplace, and it's more responsive to changing work and occupational requirements.

How can organizations stay ahead of the change curve?

The choices organizations make as they transform the way they do business will affect others. It's therefore important they take a broad view, framing the way they look at work, their workforce, and their workplace in ways that not only take advantage of opportunities for efficiency, but also increase value and meaning.

There are three important ways that organizations can direct this transformation:

- **Imagine** what the ideal future of work will look like at the organization, focusing on greater value and meaning as well as cost and efficiency. Look for ways to use data analytics and insights to help define the strategy for workforce transformation.
- **Compose** work tasks, workforces, and workplaces to take advantage of new automation technologies, alternative sources of talent, and opportunities to work collaboratively across locations.
- **Activate** the organization, its leadership, and workforce development programs in ways that enhance skills and encourage the development of effective, long-term interaction with new ways of working.²



¹Deloitte Australia, The path to prosperity: Why the future of work is human, Executive Summary, p. iii. <https://www2.deloitte.com/au/en/pages/building-lucky-country/articles/path-prosperity-future-work.html>

²Deloitte Insights, What is the future of work? Redefining work, workforces and workplaces. https://www2.deloitte.com/global/en/insights/focus/technology-and-the-future-of-work/redefining-work-workforces-workplaces.html?icid=dcom_promo_featured|global;en

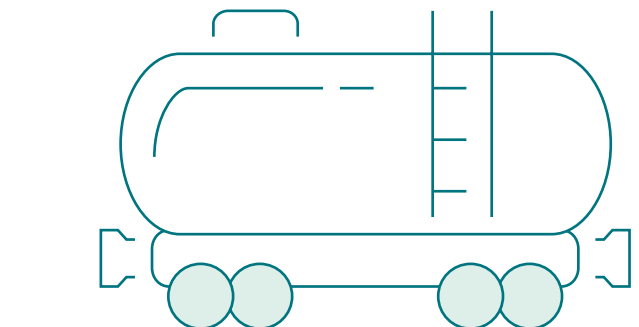
In the past, the oil and gas industry has been able to fix many problems with money. But now, with the industry still struggling since oil prices crashed in 2014 and the market getting tighter and competition increasing, the loss of top talent is becoming more acute. Employees must believe they'll be treated as well as in other industries. And while digital transformation can eliminate some of the repetitive work and improve efficiency and work processes, it cannot fix poor leadership.

The future of work in oil and gas will still be human. The types of jobs might change, and

the skills needed to do them, but people will still be at the centre of the workplace. Better training will ensure workers have the skills they need to navigate this new work landscape, and more flexible workplaces—and ways to work—will lead to more engaged employees.

The choices made by businesses now are critical: by placing Canadian energy organizations on a path towards greater prosperity, they will shape how we live in the future.

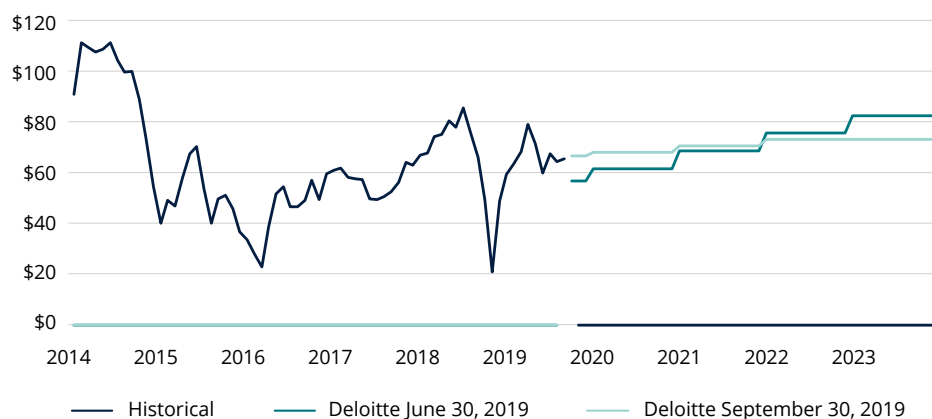
The future of work in oil and gas is a better employee experience that uses digital technology. The marriage of these two things will change the game for companies to differentiate themselves.



Canadian domestic price forecast

Crude oil price and market demand forecast

Edmonton par (real \$)



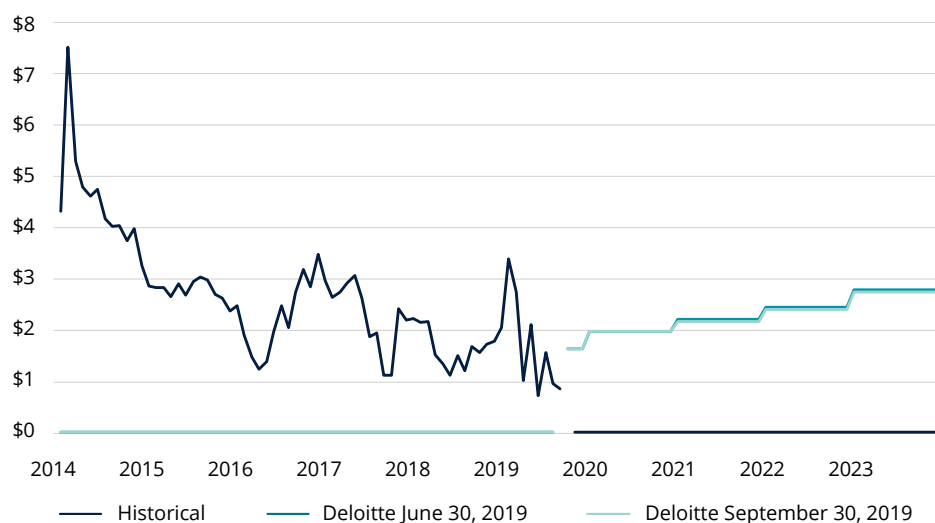
Forecast comments

- Edmonton Par is forecast as a differential to WTI. This differential is based on Canadian Light Sweet Oil Index Futures which began trading in January 2014.
- The Edmonton crude oil price is used as the basis for the remaining Canadian crude reference points. Offsets are based on five-year historical averages with recent years weighted more heavily in the determination.

| Year | WTI Cushing OK (40 API) | WTI Cushing, OK (40 API) | Edmonton City Gate (40 API) | Edmonton City Gate (40 API) | WCS Hardisty (20.5 API) | Heavy Oil Hardisty (12 API) | Cost Inflation | CAD to USD Exchange |
|-------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|----------------------------|-----------------------------------|-------------------|------------------------|
| | US\$/bbl | US\$/bbl | C\$/bbl | C\$/bbl | C\$/bbl | C\$/bbl | | |
| | Real | Current | Real | Current | Current | Current | Rate | Rate |
| Historical | | | | | | | | |
| 2016 | \$45.53 | \$43.15 | \$55.09 | \$52.22 | \$38.90 | \$34.08 | 1.4% | 0.755 |
| 2017 | \$52.91 | \$50.88 | \$64.35 | \$61.88 | \$50.53 | \$45.01 | 1.6% | 0.771 |
| 2018 | \$66.44 | \$64.94 | \$70.70 | \$69.10 | \$49.68 | \$45.34 | 2.3% | 0.772 |
| 2019 | | | | | | | | |
| 9 Mths H | \$56.84 | \$56.84 | \$69.72 | \$69.72 | \$60.05 | \$56.98 | 1.9% | 0.752 |
| 3 Mths F | \$57.00 | \$57.00 | \$69.75 | \$69.75 | \$56.60 | \$53.60 | 0.0% | 0.760 |
| Avg. | \$56.88 | \$56.88 | \$69.73 | \$69.73 | \$59.18 | \$56.14 | - | 0.754 |
| Forecast | | | | | | | | |
| 2019 | \$57.00 | \$57.00 | \$69.75 | \$69.75 | \$56.60 | \$53.60 | 0.0% | 0.760 |
| 2020 | \$59.00 | \$60.20 | \$71.05 | \$72.45 | \$59.05 | \$54.75 | 2.0% | 0.760 |
| 2021 | \$62.00 | \$64.50 | \$73.10 | \$76.05 | \$61.35 | \$56.15 | 2.0% | 0.780 |
| 2022 | \$65.00 | \$69.00 | \$75.00 | \$79.60 | \$63.65 | \$58.35 | 2.0% | 0.800 |
| 2023 | \$65.00 | \$70.35 | \$75.00 | \$81.20 | \$64.95 | \$59.55 | 2.0% | 0.800 |
| 2024 | \$65.00 | \$71.75 | \$75.00 | \$82.80 | \$66.25 | \$60.70 | 2.0% | 0.800 |
| 2025 | \$65.00 | \$73.20 | \$75.00 | \$84.45 | \$67.55 | \$61.95 | 2.0% | 0.800 |
| 2026 | \$65.00 | \$74.65 | \$75.00 | \$86.15 | \$68.90 | \$63.20 | 2.0% | 0.800 |

Natural gas price and market demand forecast

AECO natural gas (real \$)



Forecast comments

- The AECO natural gas price is forecast based on historical differentials to Henry Hub and future contracts traded on the NGX based in Calgary.

| Year | AB Ref. | AB AECO | AB AECO | BC Direct | NYMEX | NYMEX |
|-------------------|------------|------------|------------|-----------------|-----------|-----------|
| | Avg. Price | Avg. Price | Avg. Price | Station 2 Sales | Henry Hub | Henry Hub |
| | C\$/Mcf | C\$/Mcf | C\$/Mcf | C\$/Mcf | US\$/Mcf | US\$/Mcf |
| | Current | Real | Current | Current | Real | Current |
| Historical | | | | | | |
| 2016 | \$1.93 | \$2.28 | \$2.16 | \$1.75 | \$2.65 | \$2.52 |
| 2017 | \$2.13 | \$2.28 | \$2.19 | \$1.56 | \$3.10 | \$2.99 |
| 2018 | \$1.36 | \$1.57 | \$1.54 | \$1.26 | \$3.24 | \$3.17 |
| 2019 | | | | | | |
| 9 Mths H | \$1.13 | \$1.59 | \$1.59 | \$0.84 | \$2.62 | \$2.62 |
| 3 Mths F | \$1.25 | \$1.50 | \$1.50 | \$0.90 | \$2.65 | \$2.65 |
| Avg. | \$1.16 | \$1.56 | \$1.56 | \$0.85 | \$2.63 | \$2.63 |
| Forecast | | | | | | |
| 2019 | \$1.25 | \$1.50 | \$1.50 | \$0.90 | \$2.65 | \$2.65 |
| 2020 | \$1.65 | \$1.85 | \$1.90 | \$1.30 | \$2.85 | \$2.90 |
| 2021 | \$1.85 | \$2.05 | \$2.15 | \$1.50 | \$3.05 | \$3.15 |
| 2022 | \$2.20 | \$2.30 | \$2.45 | \$1.80 | \$3.15 | \$3.35 |
| 2023 | \$2.60 | \$2.65 | \$2.85 | \$2.20 | \$3.30 | \$3.55 |
| 2024 | \$2.65 | \$2.65 | \$2.95 | \$2.25 | \$3.30 | \$3.65 |
| 2025 | \$2.70 | \$2.65 | \$3.00 | \$2.30 | \$3.30 | \$3.70 |
| 2026 | \$2.75 | \$2.65 | \$3.05 | \$2.35 | \$3.30 | \$3.80 |

International price forecast

Crude oil price and market demand forecast

| Year | Av. WTI Spot | Brent Spot (38.3 API with 0.37% sulphur content) | Gulf Coast ASC | Avg. OPEC Basket | Nigerian Bonny Light (33.4 API FOB) | Mexico Maya (21.8 API FOB) | Russia Urals (31.7 API FOB) |
|-----------------|--------------|--|----------------|------------------|-------------------------------------|----------------------------|-----------------------------|
| | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl |
| | Real | Real | Real | Real | Real | Real | Real |
| Forecast | | | | | | | |
| 2019 | \$57.00 | \$62.00 | \$59.00 | \$60.75 | \$63.00 | \$56.00 | \$61.75 |
| 2020 | \$59.00 | \$63.00 | \$61.00 | \$61.75 | \$64.00 | \$56.00 | \$62.75 |
| 2021 | \$62.00 | \$65.00 | \$64.00 | \$63.75 | \$66.00 | \$56.00 | \$64.75 |
| 2022 | \$65.00 | \$67.00 | \$67.00 | \$65.75 | \$68.00 | \$58.00 | \$66.75 |
| 2023 | \$65.00 | \$67.00 | \$67.00 | \$65.75 | \$68.00 | \$58.00 | \$66.75 |
| 2024 | \$65.00 | \$67.00 | \$67.00 | \$65.75 | \$68.00 | \$58.00 | \$66.75 |
| 2025 | \$65.00 | \$67.00 | \$67.00 | \$65.75 | \$68.00 | \$58.00 | \$66.75 |
| 2026 | \$65.00 | \$67.00 | \$67.00 | \$65.75 | \$68.00 | \$58.00 | \$66.75 |

- International crude quality reference points for OPEC Basket, Venezuelan, Nigerian, UAE, Mexican, Chinese, Russian, and Indonesian crudes are now based on Brent in US dollars. For the purposes of this forecast Brent is receiving a premium to WTI on the world markets.
- Current forecasts for other Crude Oil reference points are based on historical trends to the WTI price.
- Brent, United Kingdom crude is based on 38.3°API with 0.37 per cent Sulphur content. Brent blend is a light sweet North Sea crude oil that serves as an international benchmark grade.
- United States Gulf Coast Argus Sour Crude Index (ASCI) is a blend of offshore Gulf Coast oil from Mars, Poseidon, and Southern Green Canyon.
- OPEC Basket represents the current grouping of crude oil prices from the OPEC member countries.
- Russia Urals 31.7°API is the FOB delivered price to the Mediterranean destinations.

Natural gas price and market demand forecast

| Year | USD to GBP Exchange | USD to EUR Exchange | NYMEX Henry Hub | Permian Waha | San Juan Ignacio | Rocky Mountain Opal | UK NBP | India Domestic Gas |
|-----------------|---------------------|---------------------|-----------------|--------------|------------------|---------------------|----------|--------------------|
| | | | US\$/Mcf | US\$/Mcf | US\$/Mcf | US\$/Mcf | US\$/Mcf | US\$/Mcf |
| | Rate | Rate | Real | Real | Real | Real | Real | Real |
| Forecast | | | | | | | | |
| 2019 | 1.25 | 1.13 | \$2.65 | \$1.15 | \$2.15 | \$2.15 | \$5.65 | \$3.17 |
| 2020 | 1.25 | 1.13 | \$2.85 | \$1.85 | \$2.35 | \$2.35 | \$5.85 | \$2.95 |
| 2021 | 1.25 | 1.13 | \$3.05 | \$2.05 | \$2.55 | \$2.55 | \$6.05 | \$3.10 |
| 2022 | 1.25 | 1.13 | \$3.15 | \$2.15 | \$2.65 | \$2.65 | \$6.15 | \$3.30 |
| 2023 | 1.25 | 1.13 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.35 |
| 2024 | 1.25 | 1.13 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 |
| 2025 | 1.25 | 1.13 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 |
| 2026 | 1.25 | 1.13 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 |



Global trends

Storage

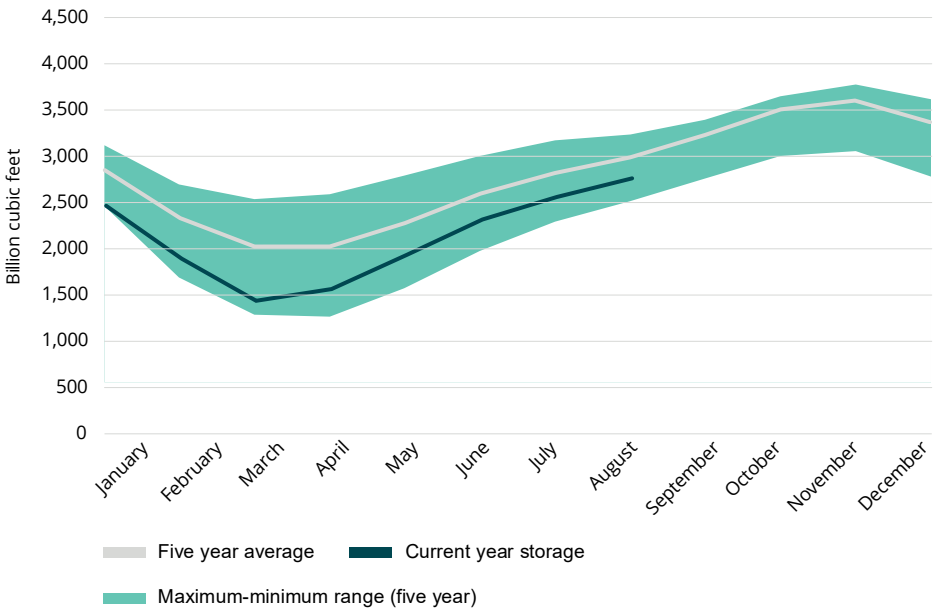
United States

- Natural gas storage in the United States has begun to pull in line with the five year average as production continues to grow faster than demand.

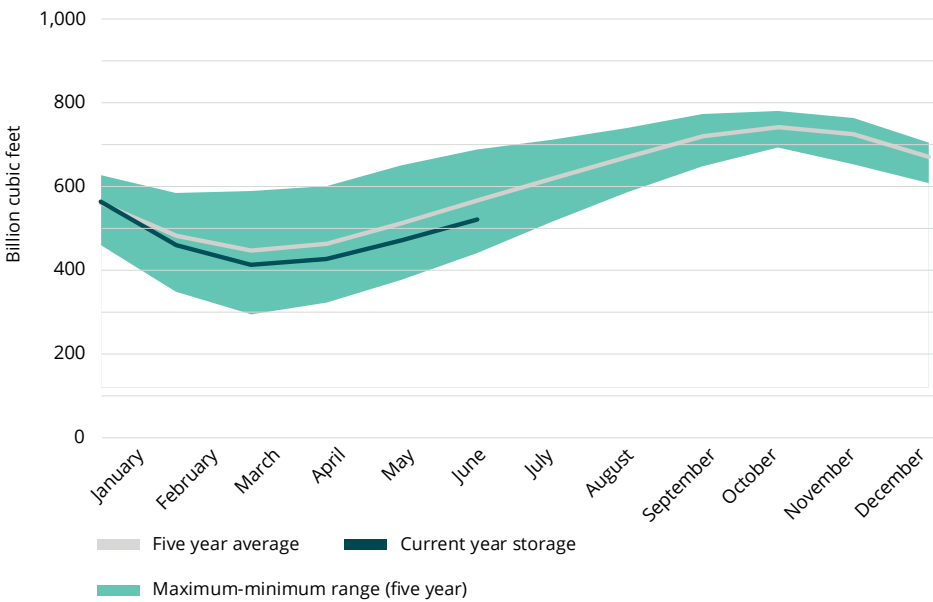
Canada

- Canadian natural gas storage remains below the five year average. Production growth has slowed due to continued low prices, while demand growth continues to be strong.

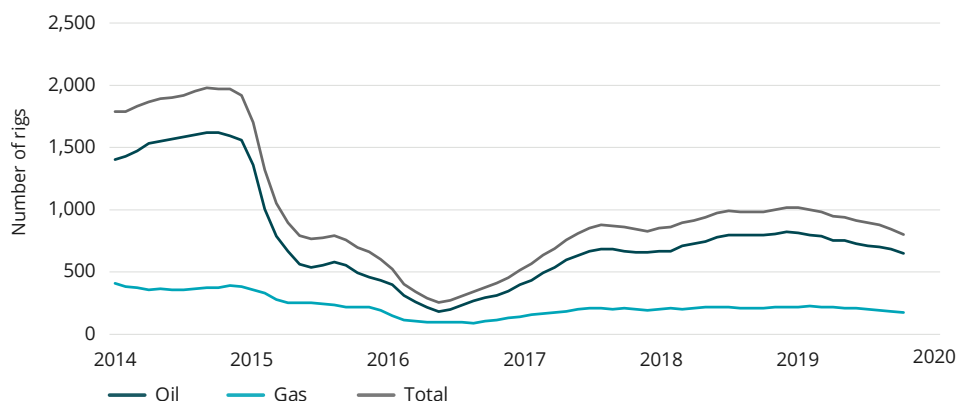
US natural gas storage



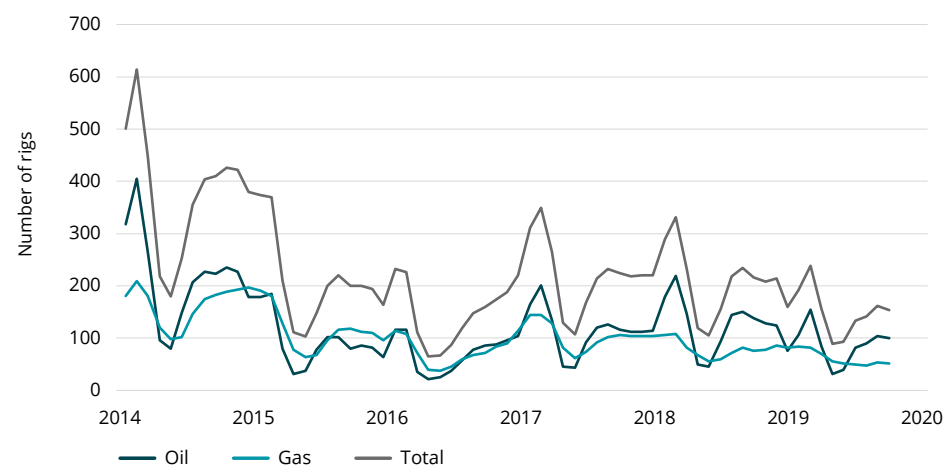
Canada natural gas storage



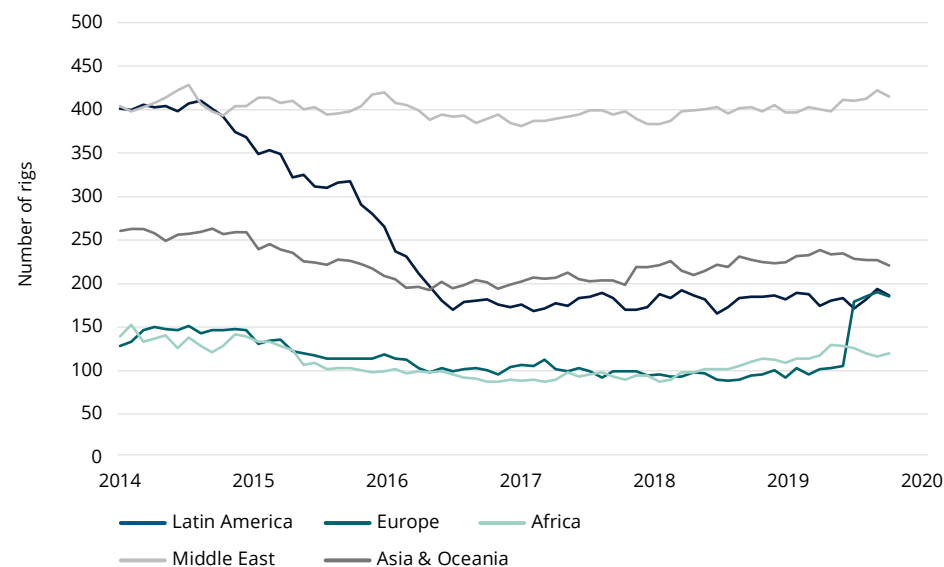
US rig counts



Canada rig counts



International rig counts



Rigs

United States

- Rig counts in the United States have dropped again over the last quarter. With both WTI and Henry Hub weakening over the last quarter, this trend is likely to continue in the coming months.

Canada

- Weak gas prices and the extensions of oil production curtailments have contributed to the lowest total rig counts in over 20 years.

International

- International rig counts continue to remain steady in most regions. The European count saw a large increase in May 2019 due to the decision by Baker Hughes to begin including Ukrainian rigs in their data. This added approximately 85 rigs to the total that were not previously included.

Canadian domestic price tables

| Year | Crude Oil Pricing | | | | | | | |
|-------------------|-------------------|----------------|---------------------|-------------------------|-------------------------|--------------------|--------------------|----------------------------|
| | Price Inflation | Cost Inflation | CAD to USD Exchange | WTI at Cushing Oklahoma | WTI at Cushing Oklahoma | Edmonton City Gate | Edmonton City Gate | WCS 20.5 Deg. API Hardisty |
| | Rate | Rate | Rate | US\$/bbl Real | US\$/bbl Current | C\$/bbl Real | C\$/bbl Current | C\$/bbl Current |
| Historical | | | | | | | | |
| 2009 | 0.3% | 0.3% | 0.880 | \$72.30 | \$61.65 | \$77.51 | \$66.10 | \$58.66 |
| 2010 | 1.8% | 1.8% | 0.971 | \$92.82 | \$79.40 | \$90.96 | \$77.80 | \$67.22 |
| 2011 | 2.9% | 2.9% | 1.012 | \$108.98 | \$94.88 | \$109.73 | \$95.54 | \$77.12 |
| 2012 | 1.5% | 1.5% | 1.001 | \$104.94 | \$94.11 | \$96.53 | \$86.57 | \$73.10 |
| 2013 | 0.9% | 0.9% | 0.972 | \$107.51 | \$97.91 | \$102.52 | \$93.36 | \$74.97 |
| 2014 | 1.9% | 1.9% | 0.906 | \$101.45 | \$93.26 | \$102.25 | \$94.00 | \$81.06 |
| 2015 | 1.1% | 1.1% | 0.783 | \$51.95 | \$48.69 | \$60.82 | \$57.00 | \$44.80 |
| 2016 | 1.4% | 1.4% | 0.755 | \$45.53 | \$43.15 | \$55.09 | \$52.22 | \$38.90 |
| 2017 | 1.6% | 1.6% | 0.771 | \$52.91 | \$50.88 | \$64.35 | \$61.88 | \$50.53 |
| 2018 | 2.3% | 2.3% | 0.772 | \$66.44 | \$64.94 | \$70.70 | \$69.10 | \$49.68 |
| 2019 | | | | | | | | |
| 9 Mths H | 1.9% | 1.9% | 0.752 | \$56.84 | \$56.84 | \$69.72 | \$69.72 | \$60.05 |
| 3 Mths F | 0.0% | 0.0% | 0.760 | \$57.00 | \$57.00 | \$69.75 | \$69.75 | \$56.60 |
| Avg. | N/A | N/A | 0.754 | \$56.88 | \$56.88 | \$69.73 | \$69.73 | \$59.18 |
| Forecast | | | | | | | | |
| 2019 | 0.0% | 0.0% | 0.760 | \$57.00 | \$57.00 | \$69.75 | \$69.75 | \$56.60 |
| 2020 | 2.0% | 2.0% | 0.760 | \$59.00 | \$60.20 | \$71.05 | \$72.45 | \$59.05 |
| 2021 | 2.0% | 2.0% | 0.780 | \$62.00 | \$64.50 | \$73.10 | \$76.05 | \$61.35 |
| 2022 | 2.0% | 2.0% | 0.800 | \$65.00 | \$69.00 | \$75.00 | \$79.60 | \$63.65 |
| 2023 | 2.0% | 2.0% | 0.800 | \$65.00 | \$70.35 | \$75.00 | \$81.20 | \$64.95 |
| 2024 | 2.0% | 2.0% | 0.800 | \$65.00 | \$71.75 | \$75.00 | \$82.80 | \$66.25 |
| 2025 | 2.0% | 2.0% | 0.800 | \$65.00 | \$73.20 | \$75.00 | \$84.45 | \$67.55 |
| 2026 | 2.0% | 2.0% | 0.800 | \$65.00 | \$74.65 | \$75.00 | \$86.15 | \$68.90 |
| 2027 | 2.0% | 2.0% | 0.800 | \$65.00 | \$76.15 | \$75.00 | \$87.85 | \$70.30 |
| 2028 | 2.0% | 2.0% | 0.800 | \$65.00 | \$77.70 | \$75.00 | \$89.65 | \$71.70 |
| 2029 | 2.0% | 2.0% | 0.800 | \$65.00 | \$79.25 | \$75.00 | \$91.40 | \$73.15 |
| 2030 | 2.0% | 2.0% | 0.800 | \$65.00 | \$80.80 | \$75.00 | \$93.25 | \$74.60 |
| 2031 | 2.0% | 2.0% | 0.800 | \$65.00 | \$82.45 | \$75.00 | \$95.10 | \$76.10 |
| 2032 | 2.0% | 2.0% | 0.800 | \$65.00 | \$84.10 | \$75.00 | \$97.00 | \$77.60 |
| 2033 | 2.0% | 2.0% | 0.800 | \$65.00 | \$85.75 | \$75.00 | \$98.95 | \$79.15 |
| 2034 | 2.0% | 2.0% | 0.800 | \$65.00 | \$87.50 | \$75.00 | \$100.95 | \$80.75 |
| 2035 | 2.0% | 2.0% | 0.800 | \$65.00 | \$89.25 | \$75.00 | \$102.95 | \$82.35 |
| 2036 | 2.0% | 2.0% | 0.800 | \$65.00 | \$91.00 | \$75.00 | \$105.00 | \$84.00 |
| 2037 | 2.0% | 2.0% | 0.800 | \$65.00 | \$92.85 | \$75.00 | \$107.10 | \$85.70 |
| 2038 | 2.0% | 2.0% | 0.800 | \$65.00 | \$94.70 | \$75.00 | \$109.25 | \$87.40 |
| 2038+ | 2.0% | 2.0% | 0.800 | 0.0% | 2.0% | 0.0% | 2.0% | 2.0% |

Notes:

- All prices are in Canadian dollars except WTI and NYMEX gas which are in U.S. dollars
- Edmonton city gate prices based on historical light oil par prices posted by the government of Alberta and Net Energy differential futures (40 Deg. API < 0.5% Sulphur)
- Real prices listed in 2019 dollars with no escalation considered

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| Natural Gas Liquids Pricing Edmonton Par Prices | | | | | Natural Gas Pricing | | | | Sulphur | | |
|--|---------|---------|---------|--------------------------|------------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------|-----------------------|--------------------------|
| Year | Ethane | Propane | Butane | Pentanes + Condensate | Alberta Reference Avg. Price | Alberta AECO Avg. Price | Alberta AECO Avg. Price | B.C. Direct Stn. 2 Sales | NYMEX Henry Hub | NYMEX Henry Hub | Alberta Plant Gate |
| | C\$/bbl | C\$/bbl | C\$/bb | C\$/bbl | C\$/mcf | C\$/mcf | C\$/mcf | C\$/mcf | US\$/Mcf | US\$/Mcf | C\$/lt |
| | Current | Current | Current | Current | Current | Real | Current | Current | Real | Current | Current |
| Historical | | | | | | | | | | | |
| 2009 | \$11.61 | \$34.62 | \$56.21 | \$69.49 | \$3.85 | \$4.64 | \$3.96 | \$4.17 | \$4.63 | \$3.95 | (\$5.08) |
| 2010 | \$11.53 | \$45.19 | \$68.79 | \$84.02 | \$3.76 | \$4.69 | \$4.01 | \$4.01 | \$5.13 | \$4.39 | \$56.94 |
| 2011 | \$10.30 | \$52.41 | \$86.98 | \$105.24 | \$3.46 | \$4.17 | \$3.63 | \$3.34 | \$4.59 | \$4.00 | \$101.60 |
| 2012 | \$6.73 | \$30.80 | \$75.47 | \$99.67 | \$2.25 | \$2.66 | \$2.39 | \$2.29 | \$3.07 | \$2.75 | \$126.81 |
| 2013 | \$8.68 | \$38.54 | \$77.44 | \$103.52 | \$2.98 | \$3.48 | \$3.17 | \$3.11 | \$4.09 | \$3.73 | \$62.17 |
| 2014 | \$12.46 | \$42.93 | \$59.43 | \$101.47 | \$4.22 | \$4.90 | \$4.50 | \$4.16 | \$4.78 | \$4.39 | \$88.99 |
| 2015 | \$7.49 | \$5.35 | \$33.70 | \$55.15 | \$2.56 | \$2.87 | \$2.69 | \$1.81 | \$2.81 | \$2.63 | \$107.45 |
| 2016 | \$6.04 | \$8.71 | \$31.45 | \$52.43 | \$1.93 | \$2.28 | \$2.16 | \$1.75 | \$2.65 | \$2.52 | \$45.40 |
| 2017 | \$6.11 | \$27.92 | \$40.98 | \$63.65 | \$2.13 | \$2.28 | \$2.19 | \$1.56 | \$3.10 | \$2.99 | \$41.85 |
| 2018 | \$6.90 | \$29.76 | \$46.17 | \$75.74 | \$1.36 | \$1.57 | \$1.54 | \$1.26 | \$3.24 | \$3.17 | \$89.25 |
| 2019 | | | | | | | | | | | |
| 9 Mths H | \$4.49 | \$14.76 | \$21.71 | \$66.93 | \$1.13 | \$1.59 | \$1.59 | \$0.84 | \$2.62 | \$2.62 | \$60.84 |
| 3 Mths F | \$4.20 | \$13.95 | \$24.40 | \$67.65 | \$1.25 | \$1.50 | \$1.50 | \$0.90 | \$2.65 | \$2.65 | \$65.00 |
| Avg. | \$4.41 | \$14.56 | \$22.38 | \$67.11 | \$1.16 | \$1.56 | \$1.56 | \$0.85 | \$2.63 | \$2.63 | \$61.88 |
| Forecast | | | | | | | | | | | |
| 2019 | \$4.20 | \$13.95 | \$24.40 | \$67.65 | \$1.25 | \$1.50 | \$1.50 | \$0.90 | \$2.65 | \$2.65 | \$65.00 |
| 2020 | \$5.30 | \$21.75 | \$36.25 | \$70.30 | \$1.65 | \$1.85 | \$1.90 | \$1.30 | \$2.85 | \$2.90 | \$66.30 |
| 2021 | \$6.00 | \$34.25 | \$49.40 | \$76.05 | \$1.85 | \$2.05 | \$2.15 | \$1.50 | \$3.05 | \$3.15 | \$67.65 |
| 2022 | \$6.85 | \$35.80 | \$51.75 | \$79.60 | \$2.20 | \$2.30 | \$2.45 | \$1.80 | \$3.15 | \$3.35 | \$69.00 |
| 2023 | \$8.00 | \$36.55 | \$52.75 | \$81.20 | \$2.60 | \$2.65 | \$2.85 | \$2.20 | \$3.30 | \$3.55 | \$70.35 |
| 2024 | \$8.15 | \$37.25 | \$53.80 | \$82.80 | \$2.65 | \$2.65 | \$2.95 | \$2.25 | \$3.30 | \$3.65 | \$71.75 |
| 2025 | \$8.35 | \$38.00 | \$54.90 | \$84.45 | \$2.70 | \$2.65 | \$3.00 | \$2.30 | \$3.30 | \$3.70 | \$73.20 |
| 2026 | \$8.50 | \$38.75 | \$56.00 | \$86.15 | \$2.75 | \$2.65 | \$3.05 | \$2.35 | \$3.30 | \$3.80 | \$74.65 |
| 2027 | \$8.65 | \$39.55 | \$57.10 | \$87.85 | \$2.80 | \$2.65 | \$3.10 | \$2.40 | \$3.30 | \$3.85 | \$76.15 |
| 2028 | \$8.85 | \$40.35 | \$58.25 | \$89.65 | \$2.85 | \$2.65 | \$3.15 | \$2.45 | \$3.30 | \$3.95 | \$77.70 |
| 2029 | \$9.00 | \$41.15 | \$59.45 | \$91.40 | \$2.95 | \$2.65 | \$3.25 | \$2.50 | \$3.30 | \$4.00 | \$79.25 |
| 2030 | \$9.20 | \$41.95 | \$60.60 | \$93.25 | \$3.00 | \$2.65 | \$3.30 | \$2.55 | \$3.30 | \$4.10 | \$80.80 |
| 2031 | \$9.40 | \$42.80 | \$61.85 | \$95.10 | \$3.05 | \$2.65 | \$3.35 | \$2.60 | \$3.30 | \$4.20 | \$82.45 |
| 2032 | \$9.55 | \$43.65 | \$63.05 | \$97.00 | \$3.10 | \$2.65 | \$3.45 | \$2.65 | \$3.30 | \$4.25 | \$84.10 |
| 2033 | \$9.75 | \$44.55 | \$64.30 | \$98.95 | \$3.15 | \$2.65 | \$3.50 | \$2.70 | \$3.30 | \$4.35 | \$85.75 |
| 2034 | \$9.95 | \$45.40 | \$65.60 | \$100.95 | \$3.25 | \$2.65 | \$3.55 | \$2.75 | \$3.30 | \$4.45 | \$87.50 |
| 2035 | \$10.15 | \$46.35 | \$66.90 | \$102.95 | \$3.30 | \$2.65 | \$3.65 | \$2.80 | \$3.30 | \$4.55 | \$89.25 |
| 2036 | \$10.35 | \$47.25 | \$68.25 | \$105.00 | \$3.35 | \$2.65 | \$3.70 | \$2.85 | \$3.30 | \$4.60 | \$91.00 |
| 2037 | \$10.55 | \$48.20 | \$69.65 | \$107.10 | \$3.45 | \$2.65 | \$3.80 | \$2.95 | \$3.30 | \$4.70 | \$92.85 |
| 2038 | \$10.80 | \$49.15 | \$71.00 | \$109.25 | \$3.50 | \$2.65 | \$3.85 | \$3.00 | \$3.30 | \$4.80 | \$94.70 |
| 2038+ | 2.0% | 2.0% | 2.0% | 2.0% | 2.0% | 0.0% | 2.0% | 2.0% | 0.0% | 2.0% | 2.0% |

Notes:

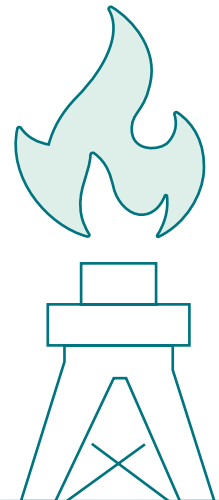
- All prices are in Canadian dollars except WTI and NYMEX gas which are in U.S. dollars
- Natural Gas Liquid prices are forecasted at Edmonton therefore an additional transportation cost must be included to plant gate sales point
- 1 Mcf is equivalent to 1 mmbtu
- Real prices listed in 2019 dollars with no escalation considered
- Alberta gas prices, except AECO, include an average cost of service to the plant gate
- NGL prices have been switched from a mix reference to a spec reference

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Additional crude reference prices

| Year | Crude oil pricing | | | Natural gas pricing |
|-------------------|---------------------------------------|--------------------------------|--|------------------------------------|
| | Lt. Sour 35 Deg. API Cromer, SK | MSO 31 Deg. API Hardisty | Synbit (AWB) 70% Bitumen 30% Cond. 21 Deg. API | Ontario Dawn Reference Point |
| | C\$/bbl | C\$/bbl | C\$/bbl | C\$/mcf |
| | Current | Current | Current | Current |
| Historical | | | | |
| 2009 | \$64.04 | \$63.76 | \$58.92 | \$4.80 |
| 2010 | \$76.40 | \$72.32 | \$67.64 | \$4.79 |
| 2011 | \$92.13 | \$83.39 | \$80.29 | \$4.34 |
| 2012 | \$84.27 | \$77.53 | \$74.75 | \$3.11 |
| 2013 | \$91.76 | \$82.65 | \$76.90 | \$4.13 |
| 2014 | \$92.91 | \$89.39 | \$82.03 | \$5.76 |
| 2015 | \$55.46 | \$54.70 | \$44.28 | \$3.72 |
| 2016 | \$51.37 | \$48.29 | \$39.58 | \$3.46 |
| 2017 | \$62.06 | \$58.16 | \$50.60 | \$3.97 |
| 2018 | \$73.06 | \$62.82 | \$54.46 | \$4.07 |
| 2019 | | | | |
| 9 Mths H | \$69.73 | \$66.59 | \$59.96 | \$3.31 |
| 3 Mths F | \$70.75 | \$66.75 | \$57.80 | \$3.30 |
| Avg. | \$69.98 | \$66.63 | \$59.42 | \$3.31 |
| Forecast | | | | |
| 2019 | \$70.75 | \$66.75 | \$57.80 | \$3.30 |
| 2020 | \$73.50 | \$68.40 | \$59.40 | \$3.60 |
| 2021 | \$77.10 | \$70.85 | \$62.10 | \$3.85 |
| 2022 | \$80.65 | \$74.30 | \$64.75 | \$4.00 |
| 2023 | \$82.25 | \$75.75 | \$66.05 | \$4.30 |
| 2024 | \$83.90 | \$77.30 | \$67.35 | \$4.35 |
| 2025 | \$85.60 | \$78.85 | \$68.70 | \$4.45 |
| 2026 | \$87.30 | \$80.40 | \$70.05 | \$4.55 |
| 2027 | \$89.05 | \$82.00 | \$71.45 | \$4.65 |
| 2028 | \$90.85 | \$83.65 | \$72.90 | \$4.70 |
| 2029 | \$92.65 | \$85.35 | \$74.35 | \$4.80 |
| 2030 | \$94.50 | \$87.05 | \$75.85 | \$4.90 |
| 2031 | \$96.40 | \$88.80 | \$77.35 | \$5.00 |
| 2032 | \$98.30 | \$90.55 | \$78.90 | \$5.10 |
| 2033 | \$100.30 | \$92.35 | \$80.50 | \$5.20 |
| 2034 | \$102.30 | \$94.20 | \$82.10 | \$5.30 |
| 2035 | \$104.35 | \$96.10 | \$83.75 | \$5.40 |
| 2036 | \$106.40 | \$98.00 | \$85.40 | \$5.55 |
| 2037 | \$108.55 | \$100.00 | \$87.10 | \$5.65 |
| 2038 | \$110.70 | \$102.00 | \$88.85 | \$5.75 |
| 2038+ | 2.0% | 2.0% | 2.0% | 2.0% |



Notes:

- All prices are in Canadian dollars except WTI and NYMEX gas which are in US dollars
- Edmonton city gate prices based on historical light oil par prices posted by the government of Alberta and Net Energy differential futures (40 Deg. API < 0.5% Sulphur)
- Natural Gas Liquid prices are forecasted at Edmonton therefore an additional transportation cost must be included to plant gate sales point
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International price tables

| Crude Oil Pricing | | | | | | | | | | | | | | | | |
|-------------------|------------------|---------------------|--------------------------|-----------------------|-----------------------|------------|---------------|------------|--|---------------------|------------------|----------------------|------------------------|-------------|--------------|-----------------|
| Year | Average WTI Spot | Alaskan North Slope | California Midway-Sunset | Louisiana Heavy Sweet | Louisiana Light Sweet | MARS Blend | Wyoming Sweet | Brent Spot | Gulf Coast Argus Sour Crude Index ASCI | Average OPEC Basket | Venezuelan Merey | Nigerian Bonny Light | Arabia UAE Dubai Feteh | Mexico Maya | Russia Urals | Indonesia Minas |
| | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl | US\$/bbl |
| | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real | Real |
| Forecast | | | | | | | | | | | | | | | | |
| 2019 | \$57.00 | \$59.00 | \$61.00 | \$61.00 | \$60.00 | \$59.00 | \$53.00 | \$62.00 | \$59.00 | \$60.75 | \$52.00 | \$63.00 | \$60.75 | \$56.00 | \$61.75 | \$57.00 |
| 2020 | \$59.00 | \$61.00 | \$63.00 | \$63.00 | \$62.00 | \$61.00 | \$55.00 | \$63.00 | \$61.00 | \$61.75 | \$54.00 | \$64.00 | \$61.75 | \$56.00 | \$62.75 | \$58.00 |
| 2021 | \$62.00 | \$64.00 | \$66.00 | \$66.00 | \$65.00 | \$64.00 | \$58.00 | \$65.00 | \$64.00 | \$63.75 | \$57.00 | \$66.00 | \$63.75 | \$56.00 | \$64.75 | \$60.00 |
| 2022 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2023 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2024 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2025 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2026 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2027 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2028 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2029 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2030 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2031 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2032 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2033 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2034 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2035 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2036 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2037 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2038 | \$65.00 | \$67.00 | \$69.00 | \$69.00 | \$68.00 | \$67.00 | \$61.00 | \$67.00 | \$67.00 | \$65.75 | \$59.00 | \$68.00 | \$65.75 | \$58.00 | \$66.75 | \$62.00 |
| 2038+ | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Notes:

- Venezuelan Merey replaced BCF-17 in the OPEC basket March 1, 2009.

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| Natural Gas pricing | | | | | | | | Ethanol | |
|---------------------|---------------|---------------|-----------------|---------------|------------------|-----------------|---------------|--------------------|-----------------|
| Year | USD to GBP | USD to EUR | NYMEX Henry Hub | Permian Waha | San Juan Ignacio | Rocky Mtn. Opal | UK NBP | India Domestic Gas | US CBOT Ethanol |
| | Exchange rate | Exchange rate | US\$/Mcf Real | US\$/Mcf Real | US\$/Mcf Real | US\$/Mcf Real | US\$/Mcf Real | US\$/Mcf Real | US\$/gal Real |
| Forecast | | | | | | | | | |
| 2019 | 1.250 | 1.130 | \$2.65 | \$1.15 | \$2.15 | \$2.15 | \$5.65 | \$3.17 | \$1.25 |
| 2020 | 1.250 | 1.130 | \$2.85 | \$1.85 | \$2.35 | \$2.35 | \$5.85 | \$2.95 | \$1.25 |
| 2021 | 1.250 | 1.130 | \$3.05 | \$2.05 | \$2.55 | \$2.55 | \$6.05 | \$3.10 | \$1.25 |
| 2022 | 1.250 | 1.130 | \$3.15 | \$2.15 | \$2.65 | \$2.65 | \$6.15 | \$3.30 | \$1.25 |
| 2023 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.35 | \$1.25 |
| 2024 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2025 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2026 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2027 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2028 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2029 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2030 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2031 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2032 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2033 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2034 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2035 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2036 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2037 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2038 | 1.250 | 1.130 | \$3.30 | \$2.30 | \$2.80 | \$2.80 | \$6.30 | \$3.50 | \$1.25 |
| 2038+ | 1.280 | 1.150 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

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Pricing philosophy

Price forecasting takes into account many variables that can influence future prices. Our experience tells us that we must continually review the forecasting tools we use to predict where oil and gas prices are heading. However, one constant influence on oil and gas pricing is the geo-political landscape. This impact is most accurately reflected in the financial industry's futures market for commodities, a main influence when Deloitte creates its price forecast. In other words, Deloitte looks to both the futures and the past when we create our forecasts.

This pricing philosophy challenges conventional thinking. The traditional view is based on the mean-reversion view of commodities presented by economists. Following this model, industry forecasts from 2000 to 2006 reflected a drop in prices over the long term from the current prices of the day – even though the futures market indicated otherwise. While the mean-reversion approach definitely has some merit, history has tended to reflect that the futures market is a more accurate barometer.

Client focus

At Deloitte, we believe it is part of our role to help our clients in both the oil and gas sector and the investment community make better long-term business decisions by providing them with the most accurate and realistic information. We understand that sound analysis of changing trends can influence decisions on mergers, acquisitions, divestitures and investments. One way we

ensure our price forecasts are as accurate as possible, given the continuing impact of near-term volatility, is to review our pricing assumptions on a quarterly basis.

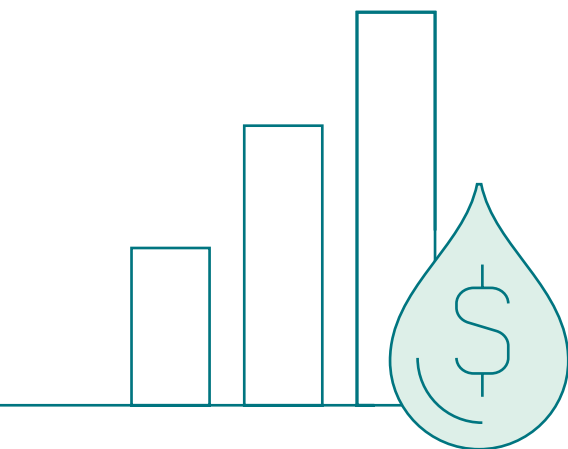
Our process

In preparing the price forecast, Deloitte considers the current monthly trends, the actual price and trends for the year-to-date and the prior year actual prices. The base forecast for both oil and gas is based on New York Mercantile Exchange (NYMEX) futures in US dollars.

Crude oil and natural gas forecasts are based on yearly variable factors, weighted to a higher percent for the current data and then reflect a higher percent to prior year historical data for the later years. Gas prices have been determined independently from oil prices, but still reflect the current competitive nature of the two fuels and historical oil-to-gas ratios for the latter years of the gas forecast.

Deloitte prepares our price and market forecasts based on information we collect from numerous government agencies, industry publications, oil refineries, natural gas marketers and industry trends. Inflation forecasts and exchange rates are also an integral part of the forecast.

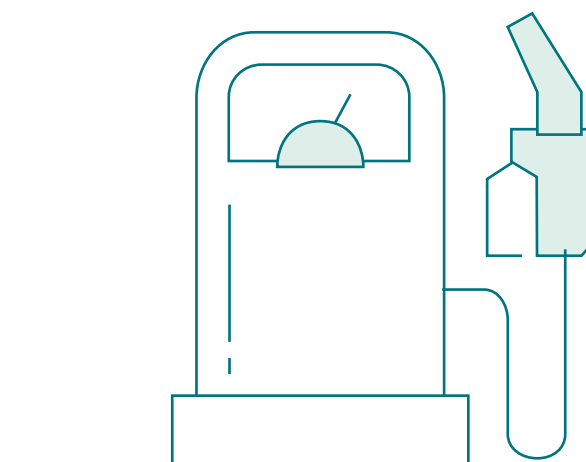
These forecasts are Deloitte's best estimate of how the future will look, and while they are considered reasonable, changing market conditions or additional information may require alteration from the indicated effective date.



Glossary

Some of the words, phrases and acronyms we use frequently when talking about pricing are listed below:

| | | | |
|------|---|-------|--|
| AECO | Alberta Energy Company - historical name of a virtual trading hub on the NGX system | LNG | Liquefied Natural Gas |
| ANS | Alaska North Slope | MESC | Middle East Sour Crude |
| ASCI | Argus Sour Crude Oil | MSO | Mixed Sour Crude Oil |
| AWB | Access Western Blend - Canadian condensate/bitumen mix | MSW | Canadian Light Sweet |
| BR | Bow River Crude Oil | NEB | Canadian National Energy Board |
| CAPP | Canadian Association of Petroleum Producers | NGX | Natural Gas Exchange |
| CBOT | Chicago Board Of Trade | NIT | Nova Inventory Transfer |
| CGA | Canadian Gas Association | NRC | Natural Resources Canada |
| CME | Chicago Mercantile Exchange | NYMEX | New York Mercantile Exchange |
| DCQ | Daily Contract Quantity | OECD | Organization of Economic Cooperation and Development |
| DOB | Daily Oil Bulletin | OPEC | Organization of Petroleum Exporting Countries |
| EIA | Energy Information Administration | PADD | Petroleum Administration Defense District |
| FERC | US Federal Energy Regulatory Commission | USGC | US Gulf Coast |
| FOB | Free on Board (shipper term) | USWC | US West Coast |
| IEA | International Energy Administration | WCS | Western Canada Select Crude Oil |
| LLB | Lloydminster Blend Crude Oil | WTI | West Texas Intermediate |
| | | WTS | West Texas Sour |





A vertical photograph on the left side of the page shows an offshore oil rig at sea during sunset. The sky is a gradient of orange, yellow, and pink, while the water is dark blue with white-capped waves. The rig is a complex of metal structures with several levels and platforms, some of which are illuminated by lights.

Contacts

Andrew Botterill

403-648-3239

abotterill@deloitte.ca

Lesley Mitchell

403-648-3215

lemitchell@deloitte.ca

Neil Hunter

403-267-1779

neihunter@deloitte.ca

Sarah Clowes

587-293-3201

saclowes@deloitte.ca

Jonathan Listoe

403-648-3254

jlistoe@deloitte.ca

Deloitte

Bankers Court

700, 850 - 2 Street SW

Calgary AB T2P 0R8

Canada

Tel: 403-267-1700

Fax: 587-774-5398



www.deloitte.ca/priceforecast

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