

**Deloitte.**



## **Energy, oil, and gas price forecast**

Drought conditions pose a challenge for oil and gas development in 2024

March 31, 2024

Forecast commentary	3
Drought conditions pose a challenge for oil and gas development in 2024	8
Canadian domestic price forecast	12
International price forecast	14
Global trends	15
Canadian domestic price tables	17
International price tables	20
Pricing philosophy	22
Glossary	23

# Forecast commentary

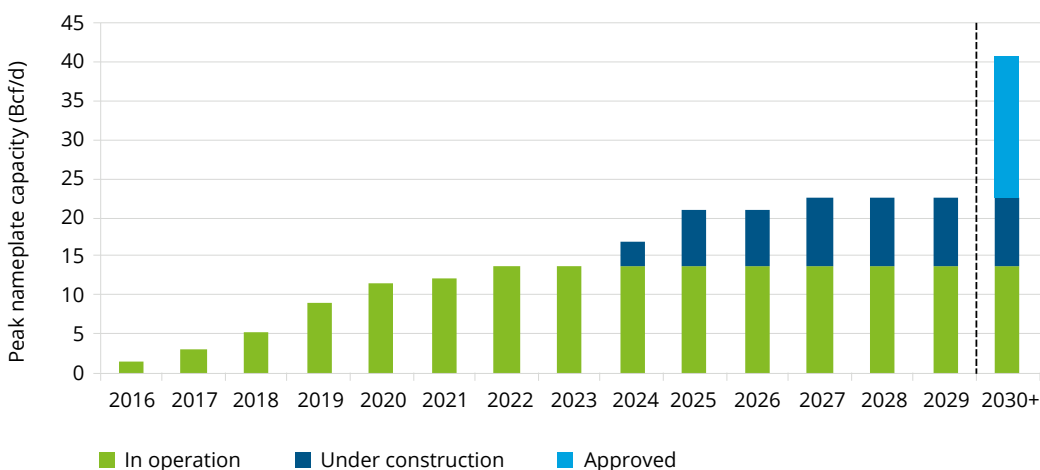
**Natural gas prices in North America remained below expectations throughout the winter as seasonally warm weather for much of the continent kept demand muted and storage levels high.** Natural gas production in the United States and Canada remains near record highs, and exports from both countries have remained steady but haven't been enough to boost prices.

In January 2024, the US Department of Energy (DOE) announced a pause on approvals of new LNG exports to countries that don't have a free trade agreement with the United States. This is unlikely to affect any projects that have received export approval but are pre-final investment decision (FID), though it remains unclear what the process will be for projects that need to renew their export approvals if production doesn't commence within the required seven years.

According to estimates from the U.S. Energy Information Administration (EIA), projects currently under construction are expected to expand US liquefied natural gas (LNG) export capacity by more than 60% in the coming years, up to more than 20 Bcf/d at peak capacity.<sup>1</sup> When including projects that have received regulatory approval, including export approval from the DOE, it expects capacity to double to more than 40 Bcf/d into the 2030s. This represents nearly 40% of current US production levels.

The decision to pause and re-evaluate the approval process in the United States is likely driven as much by energy security and domestic pricing concerns as it is by environmental concerns, given the large volumes of gas that are now destined for export rather than domestic use.

## US LNG capacity, in operation, under construction, and approved



Source: U.S. Energy Information Administration

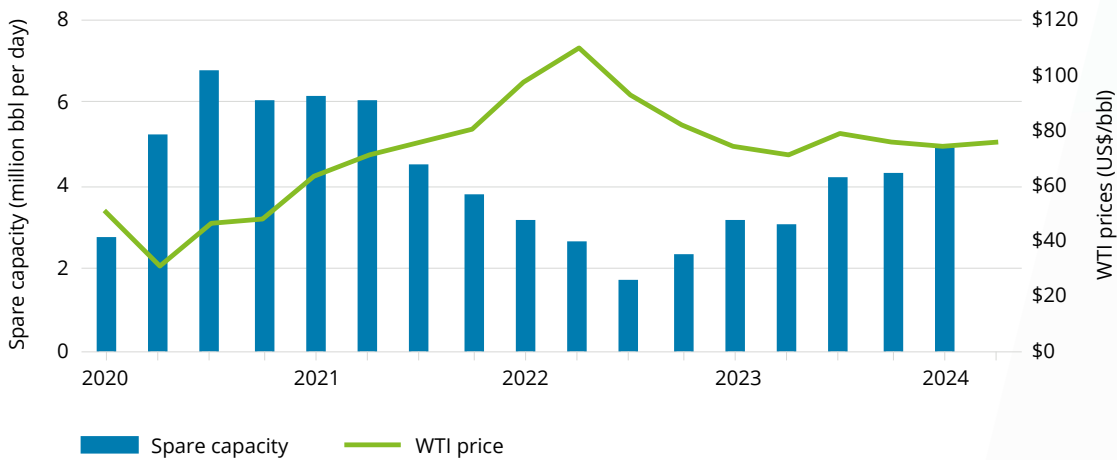
An example of these concerns can be seen in the Australian market, where the development of significant LNG export capacity has led to rising domestic natural gas prices as the local population competes with the world gas market. According to the Australian government, the country produces approximately 15 Bcf/d and exports more than 80% of this production via LNG markets.<sup>2</sup> Rising natural gas prices led the government to bring in a domestic price cap of AU\$12/GJ in December 2022, which has been extended until at least mid-2025.

In Canada, LNG Canada's export facility is nearing completion and expected to start commercial operations some time in 2025. Construction on the Woodfibre LNG facility is expected to begin in 2024, and intentions to start construction on the Ksi Lisims LNG project and Tilbury Phase 2 LNG expansion in 2024 have been published as well. According to Natural Resources Canada, the completion of these projects should lead to an export capacity in excess of 4 Bcf/d by 2030, with an additional 2 Bcf/d from projects currently awaiting FID.<sup>3</sup> This represents approximately 20% to 30% of current production levels in Western Canada. All these projects are expected to source their gas from Canadian producers, bringing optimism on sector growth despite the current price environment.

Oil prices continue to hang in the balance at around US\$80/bbl with muted volatility, despite ongoing geopolitical events looming over the global market. Without material disruptions to actual production volumes or vital transport routes, oil markets have remained stable and exceptionally adept at supplying volumes in Q1 2024 against the backdrop of concerned market sentiment. Global oil supplies continue to meet demand and OPEC's spare capacity is sitting at a multi-year high.<sup>4</sup>

Determined to keep oil prices steady, OPEC+ members agreed in March to extend output cuts of 2.2 MMbbl/d into the second quarter of 2024. Russia concurrently announced voluntary production and export cuts of 471 Mbb/d through the end of June. This move is aimed at mitigating current economic uncertainty and fostering market stability. The current global supply surplus and slower demand further suggest oil prices will remain padded from volatility throughout the year, as forecast by the EIA.<sup>5</sup>

### OPEC spare production capacity and WTI prices (US\$/bbl)



Source: U.S. Energy Information Administration

In North America, the long-awaited Trans-Mountain Expansion (TMX) project is poised to provide a new outlet for Canadian oil to expand into developed markets on the US West Coast and in Asia as line filling is expected to begin in Q2 2024. As the pipeline moves closer to calling on producers for line fill, the tightening between Western Canadian

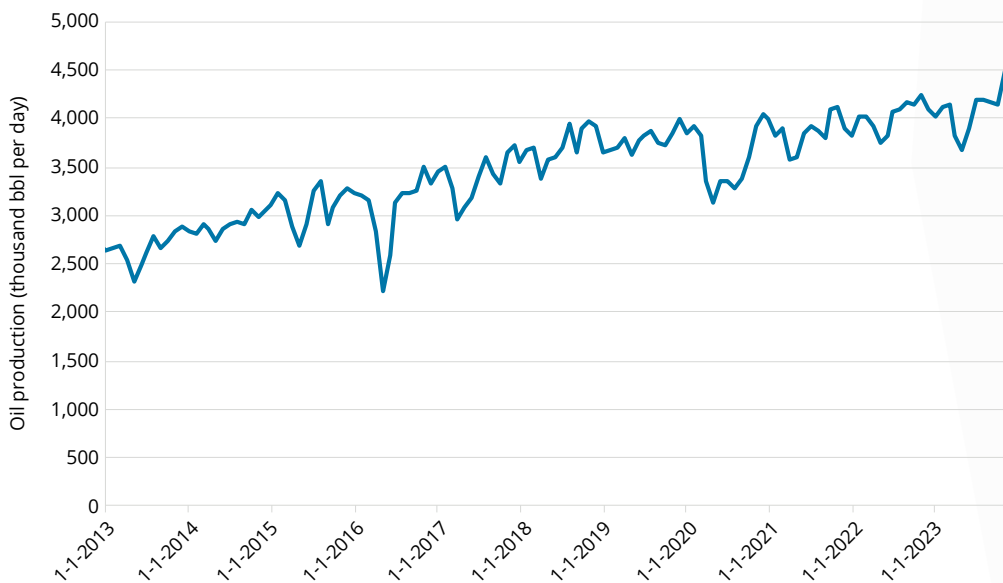
Select (WCS) and West Texas Intermediate (WTI) in the short term is coming into sharper view. To take advantage of the additional market access, several oil sands operators have stated that they will strategically increase their drilling activities and capital deployment in alignment with the expected improvement in WCS pricing with the startup of the pipeline.

### Industry activity

The Canadian Association of Petroleum Producers (CAPP) expects capital expenditures in the upstream sector to increase by 4% in 2024 to \$40.6 billion.<sup>6</sup> However, some producers have indicated that they're beginning to trim capital and reallocate it toward oil-related investments due to weakened gas prices or to divert gas-related expenditures to the latter half

of 2024. There are similar trends in the United States, with operators such as Chesapeake announcing reductions to their capital spending programs. There is, however, a guarded sense of optimism in Canada. Production was on the rise going into 2024 and is at record levels as operators anticipate the completion of the TMX pipeline in the coming quarter.<sup>7</sup>

### Alberta oil production



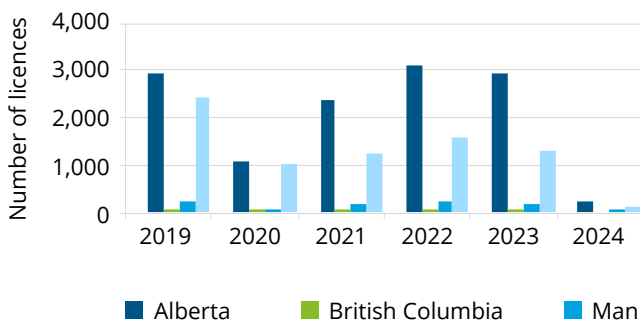
Source: Canada Energy Regulator

CAPP forecasts that capital spending in Alberta will remain steady at around \$29 billion, with nearly half of that going toward oil sands investment.<sup>8</sup> In British Columbia, it's expected to slightly increase to \$5 billion, with a primary focus on gas well drilling to supply the LNG export facilities.<sup>9</sup> This is evidenced by the significant uptick in the number of gas well licences the province issued for 2023.<sup>10</sup>

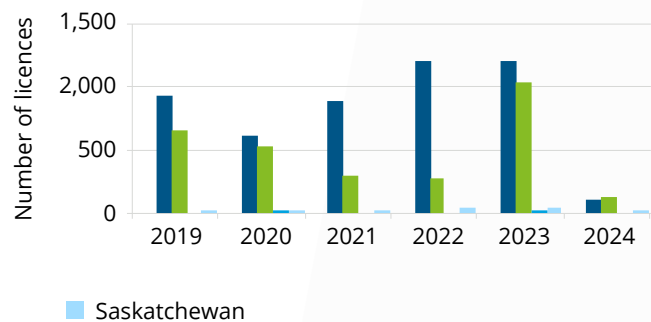
We expect drilling to strategically keep pace for 2024 even with drilling deferred to later in the year.

With both natural gas and oil infrastructure bringing change to the Canadian landscape in 2024, there is optimism in the sector but lots of room for volatility as the system settles with new capacity.

### Oil well licences



### Gas well licences



Source: Daily Oil Bulletin

### Endnotes

- U.S. Energy Information Administration (EIA), "[U.S. Liquefaction Capacity](#)," June 29, 2023.
- Department of Climate Change, Energy, the Environment and Water, "[Australian Energy Statistics](#)," accessed March 11, 2024.
- Natural Resources Canada, "[Canadian liquified natural gas projects](#)," December 14, 2023.
- U.S. Energy Information Administration (EIA), "[What Drives Crude Oil Prices?](#)" press release, February 6, 2024.
- U.S. Energy Information Administration (EIA), "[Short-Term Energy Outlook](#)," February 6, 2024.
- Canadian Association of Petroleum Producers (CAPP), "[CAPP Forecasts Capital Investment for Canadian Oil and Natural Gas Sector to Reach \\$40.6 Billion in 2024](#)," press release, February 27, 2024.
- Canada Energy Regulator (CER), "[2023 Estimated Production of Canadian Crude Oil and Equivalent](#)," February 10, 2024.
- CAPP, "CAPP Forecasts Capital Investment for Canadian Oil and Natural Gas Sector."
- Ibid.
- Daily Oil Bulletin, "[Oil And Gas Licences Issued In Western Canada](#)," accessed March 4, 2024.

## Spotlight article

# Drought conditions pose a challenge for oil and gas development in 2024

Across Western Canada, concerns about drought conditions are deepening. Water shortages could have devastating effects on communities as well as on water-dependent industries like agriculture and oil and gas. There are already serious discussions being had about reduction and conservation measures.

This presents challenges and questions for oil and gas producers in Alberta and British Columbia, especially as they are primarily located in significant areas of drought.

### **Persistent drought conditions**

Certain areas are more prone to drought than others for a variety of reasons, including climate conditions, flows from the snowpack, and glacial runoff, as well as overall water demand. Northern Alberta and British Columbia have not generally faced drought concerns, but persistent drought conditions through last summer and fall, combined with the lower-than-average snowpack in the mountains this winter, are increasing the likelihood of drought and limited water supply in the north in 2024.<sup>1</sup>

Media reports are careful to note that winter isn't over, that the snowpack could still improve, and that spring and summer could see significant rainfall. Yet all signs point to a continued state

of concern. Provincial data up to early February showed that the BC snowpack was on average 39% below normal, and the British Columbia Energy Regulator (BCER) notes that four major water basins in the province's northeast are currently rated at drought level 5—the most severe there is—which means “adverse impacts to socio-economic or ecosystem values are almost certain.”<sup>2</sup> BC Premier David Eby is reported to have called this “the most dramatic drought conditions that we've seen” in the province.<sup>3</sup>

In Alberta, the Peace River has logged its lowest average flow this century, and as of early March, the provincial government's water information portal is showing multiple water shortage advisories in northern areas.<sup>4</sup> Concerns have risen to the point that an Albertan “Drought Command Team” has begun negotiating with major water users in the province to find ways of reducing usage.<sup>5</sup>

### **Water is critical to the oil and gas industry**

Limited water supply could have significant effects on oil and gas producers. Development is concentrated in northeast British Columbia and northwest Alberta—and water use is important for drilling and completion operations.



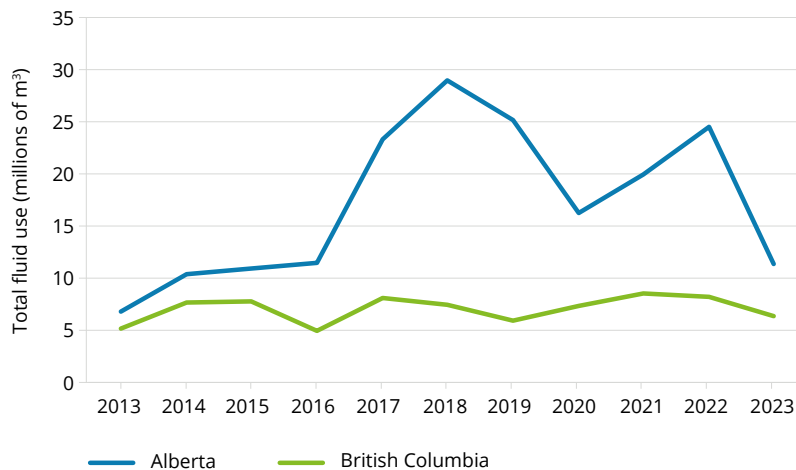
The vast majority of natural gas development today involves hydraulic fracturing, a process that uses combination of water, sand, and chemicals to develop pathways for natural gas to be brought to the surface. Canada's production base has a concentrated need for water, and it's located right in the middle of some of the country's most severe drought zones.

The Alberta Energy Regulator (AER) provides some insight into water use within oil and gas operations.<sup>6</sup> In 2022, the last year of data provided by the AER, just over 1% of the total water used was recycled water. The remaining 99% was primarily fresh water, with only 3% being "alternative water"—defined by the AER as "water other than surface water and non-saline groundwater, including saline groundwater, produced oilfield water, hydraulic fracturing flowback water, and wastewater."

While operations are clearly very dependent on fresh water, operators have been increasing their use of alternative water. It might seem obvious for producers to focus on this option during drought concerns, but there are limitations that make it difficult. Operators might not have viable sources, or they might not have the infrastructure, such as water storage equipment and facilities, to support this move. There are also stringent requirements for storing and transporting large volumes of alternative water.

There are a few regulatory updates, outlined by the AER, that are expected to decrease fresh water use in 2024 by removing barriers to using alternative water. These updates aim to facilitate a company's ability to stockpile it for fracturing and transport it through temporary surface pipelines.

### Total fluid use in fracture operations by year



Source: GeoSCOUT

The overall fluid use in fracturing operations has fluctuated substantially in recent years, with 2023 reflecting the lowest use since 2016. The AER explains that the amount of water used depends heavily on the geological factors of the formation being targeted. For example, wells in the Duvernay Formation and Montney Formation use an average of ten and four times more water, respectively, than wells in the Cardium Formation.

#### **Bad timing all around**

Drought conditions will present a range of challenges for oil and gas development in 2024. The most significant field development is slated for areas that are directly associated with the expected opening of the country's first and only

and alternative water sources are creating friction across the entire system.

#### **Seeking alternatives**

Governments have started asking for water use to be limited and alternative sources to be considered. In December, the AER warned fossil fuel companies that their access to water could be restricted if dry conditions persisted into 2024.<sup>8</sup> That warning is now material: the Mountain View Regional Water Services Commission, which owns and operates the Anthony Henday Water Treatment Plant on the Red Deer River, has banned oil and gas operations from using its treated water.<sup>9</sup> It's reasonable to think that other regions will do the same if conditions continue.

Governments have started asking for water use to be limited and alternative sources to be considered. In December, the AER warned fossil fuel companies that their access to water could be restricted if dry conditions persisted into 2024.

large-scale liquid natural gas export facility, LNG Canada, in Kitimat, British Columbia. A \$40-billion joint venture between five global energy firms, its purpose is to ship liquid natural gas overseas and open up Canada's natural gas market directly to Asia for the first time.<sup>7</sup>

This venture naturally has the industry anticipating increased demand for natural gas. Companies will be looking at ramping up production and drilling new wells to supply the new operation. They are hopeful that the diversion of supply overseas will result in higher prices in Canada and make room for others to produce gas for the United States.

It's no surprise that drought conditions and the resultant need for conservation

So, natural gas developers are going to need to explore increased use of alternative water sources. Using recycled water or other alternative water sources, with additives to achieve the necessary composition for effective fracture operations, is an option, but it comes with costs.

As restrictions come into place, producers will no doubt be measuring the additional costs of using recycled water against the pace of their development. Recycled water is much more complex to use than fresh water. It requires additional equipment and services as it needs to be stored, treated, and transported. Companies will also be considering whether recycled water will impact the effectiveness of their drilling itself, which could also add to the costs.

In the current low-price environment, companies are already starting to cut back their investment budgets.<sup>10</sup> But if the increased costs of fracture operations dissuade producers from developing and gas production decreases, prices will respond to the lower supply and start to move upward. There is, however, an inflection point at which higher prices will overcome the higher costs of development and inevitably spur activity.

### **A challenge for 2024**

The socio-economic impacts of drought conditions are wide-reaching and serious. Amid continuing water shortages, it's important for producers to rise to the challenge.

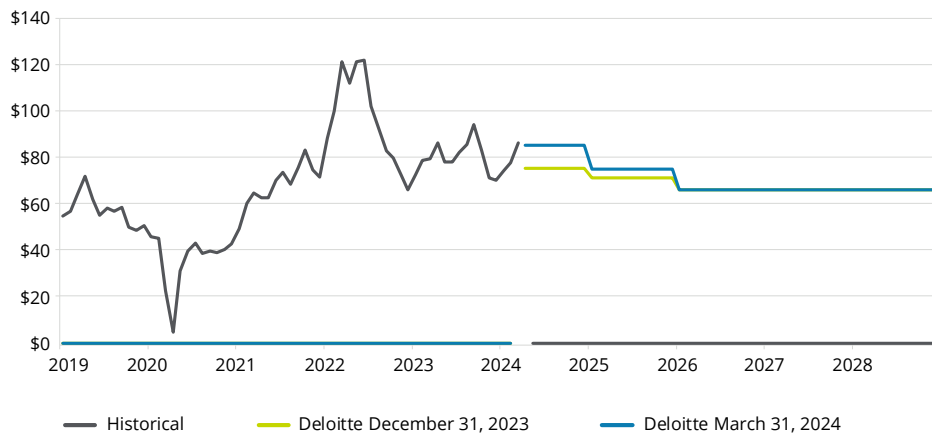
Companies should act quickly to shift their strategies and consider alternative approaches to development and water use. It won't be easy, but ultimately, it's the right move, both for business and for the surrounding communities.

### **Endnotes**

- <sup>1</sup> British Columbia Energy Regulator, "[Water Use Suspensions Expected in 2024 \(IU 2024-02\)](#)," January 26, 2024.
- <sup>2</sup> David P. Ball, "[Sparse snowpack levels across B.C. raise drought fears](#)," CBC News, February 8, 2024; British Columbia Energy Regulator, "[Water Use Suspensions Expected in 2024 \(IU 2024-02\)](#)," January 26, 2024.
- <sup>3</sup> Ball, "Sparse snowpack levels."
- <sup>4</sup> Jason Markushoff, "[A societal issue: Drought-plagued Alberta braces for even worse conditions](#)," CBC News, February 1, 2024; Alberta Government, "[Alberta River Basins](#)," accessed March 6, 2024.
- <sup>5</sup> Markushoff, "[A societal issue](#)."
- <sup>6</sup> Alberta Energy Regulator, "[Hydraulic Fracturing](#)," accessed March 8, 2024.
- <sup>7</sup> LNG Canada, "[About LNG Canada](#)," accessed March 8, 2024; Robert Tuttle and Ruth Liao, "[LNG Canada to begin start-up activities within next year](#)," Bloomberg News, July 6, 2023.
- <sup>8</sup> Carrie Tait, "[Alberta may cap water for oil and gas companies](#)," *The Globe and Mail*, December 15, 2023.
- <sup>9</sup> Emma Graney, "[With Alberta facing a continuing drought, some communities are banning oil and gas industry from using municipal water](#)," *The Globe and Mail*, January 31, 2024.
- <sup>10</sup> Chris Varcoe, "[Natural gas producers react to sagging prices this winter](#)," *Calgary Herald*, January 19, 2024.

# Canadian domestic price forecast

## Crude oil price and market demand forecast Hardisty WCS (real \$)



### Forecast comments

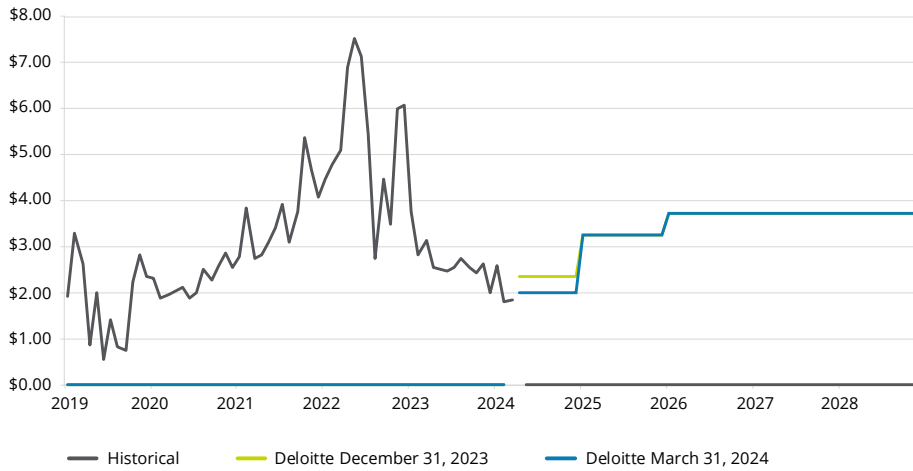
WCS is forecast as a differential to WTI. This differential is based on Western Canadian Select Crude Oil Futures.

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 Real	US\$/bbl Current	C\$/bbl Real	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	Rate	Rate
<b>Historical</b>								
2021	\$78.57	\$67.99	\$92.97	\$80.44	\$68.21	\$63.82	3.4%	0.798
2022	\$105.82	\$94.79	\$133.57	\$119.64	\$96.96	\$92.06	6.8%	0.769
2023	\$80.78	\$77.64	\$103.58	\$99.55	\$80.17	\$72.95	3.9%	0.741
<b>2024</b>								
3 mths H	\$77.01	\$77.01	\$94.15	\$94.15	\$79.66	\$73.94	3.0%	0.742
9 mths F	\$77.00	\$77.00	\$98.65	\$98.65	\$85.35	\$80.85	0.0%	0.750
Avg.	\$77.00	\$77.00	\$97.53	\$97.53	\$83.93	\$79.12	-	0.748
<b>Forecast</b>								
2024	\$77.00	\$77.00	\$98.65	\$98.65	\$85.35	\$80.85	0.0%	0.750
2025	\$72.00	\$73.45	\$89.60	\$91.40	\$76.80	\$72.20	2.0%	0.770
2026	\$68.00	\$70.75	\$81.25	\$84.55	\$68.95	\$64.25	2.0%	0.800
2027	\$68.00	\$72.15	\$81.25	\$86.20	\$70.30	\$65.55	2.0%	0.800
2028	\$68.00	\$73.60	\$81.25	\$87.95	\$71.70	\$66.85	2.0%	0.800
2029	\$68.00	\$75.10	\$81.25	\$89.70	\$73.15	\$68.20	2.0%	0.800
2030	\$68.00	\$76.60	\$81.25	\$91.50	\$74.60	\$69.55	2.0%	0.800
2031	\$68.00	\$78.10	\$81.25	\$93.35	\$76.10	\$70.95	2.0%	0.800

## Canadian domestic price forecast

### Natural gas price and market demand forecast

#### AECO natural gas (real \$)



### Forecast comments

The AECO natural gas price forecast is based on historical differentials to Henry Hub and future contracts traded on the NGX 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
<b>Historical</b>						
2021	\$3.27	\$4.21	\$3.64	\$3.34	\$4.52	\$3.91
2022	\$5.05	\$5.98	\$5.36	\$4.56	\$7.16	\$6.42
2023	\$2.59	\$2.80	\$2.69	\$2.23	\$2.64	\$2.54
<b>2024</b>						
3 mths H	\$2.25	\$2.08	\$2.08	\$2.14	\$2.15	\$2.15
9 mths F	\$1.75	\$2.00	\$2.00	\$1.70	\$2.50	\$2.50
Avg.	\$1.88	\$2.02	\$2.02	\$1.81	\$2.41	\$2.41
<b>Forecast</b>						
2024	\$1.75	\$2.00	\$2.00	\$1.70	\$2.50	\$2.50
2025	\$3.05	\$3.25	\$3.30	\$3.00	\$3.50	\$3.55
2026	\$3.65	\$3.75	\$3.90	\$3.60	\$4.00	\$4.15
2027	\$3.70	\$3.75	\$4.00	\$3.65	\$4.00	\$4.25
2028	\$3.80	\$3.75	\$4.05	\$3.75	\$4.00	\$4.35
2029	\$3.85	\$3.75	\$4.15	\$3.80	\$4.00	\$4.40
2030	\$3.95	\$3.75	\$4.20	\$3.90	\$4.00	\$4.50
2031	\$4.00	\$3.75	\$4.30	\$3.95	\$4.00	\$4.60

# International price forecast

## Crude oil price and market demand forecast

Year	Avg. WTI Spot	Brent Spot (38.3 API with 0.37% sulphur content)	Gulf Coast ASCI/MARS	Avg. OPEC Basket	Nigerian Bonny Light (33.4 API FOB)	Mexico Maya (21.8 API FOB)	Russia Urals (31.7 API FOB)
	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current
<b>Forecast</b>							
2024	\$77.00	\$81.00	\$75.00	\$80.00	\$82.00	\$69.00	\$66.00
2025	\$73.45	\$76.50	\$71.40	\$75.50	\$77.50	\$66.30	\$66.30
2026	\$70.75	\$73.85	\$68.65	\$72.85	\$74.90	\$63.45	\$68.65
2027	\$72.15	\$75.35	\$70.05	\$74.30	\$76.40	\$64.75	\$70.05
2028	\$73.60	\$76.85	\$71.45	\$75.75	\$77.95	\$66.05	\$71.45
2029	\$75.10	\$78.40	\$72.85	\$77.30	\$79.50	\$67.35	\$72.85
2030	\$76.60	\$79.95	\$74.35	\$78.85	\$81.10	\$68.70	\$74.35
2031	\$78.10	\$81.55	\$75.80	\$80.40	\$82.70	\$70.05	\$75.80

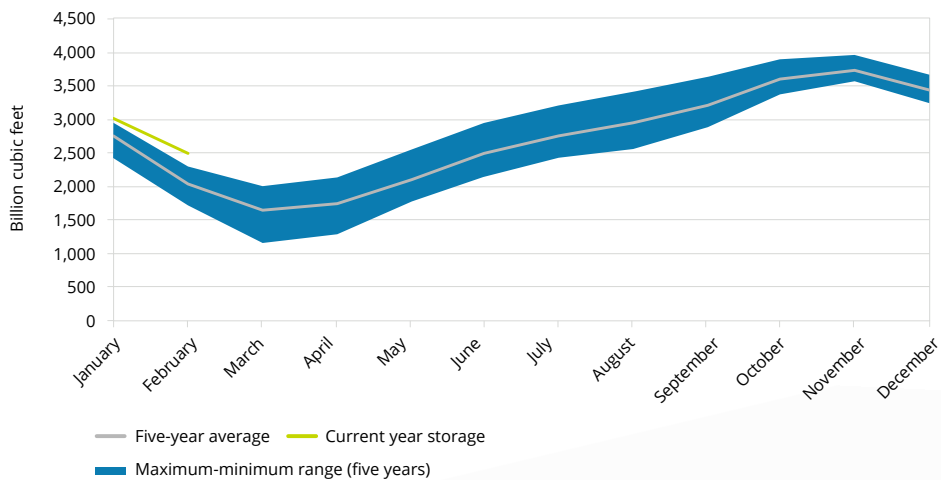
- International crude quality reference points for OPEC Basket, Venezuelan, Nigerian, UAE, Mexican, Chinese, Russian, and Indonesian crudes are now based on Brent in US dollars. For the purposes of this forecast, Brent is receiving a premium to WTI on the world markets.
- Current forecasts for other 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% 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 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
	Rate	Rate	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current
<b>Forecast</b>								
2024	1.25	1.10	\$2.50	\$1.50	\$2.30	\$3.50	\$8.50	\$8.00
2025	1.30	1.15	\$3.55	\$2.80	\$3.35	\$4.60	\$9.45	\$7.55
2026	1.30	1.15	\$4.15	\$3.40	\$3.95	\$5.20	\$9.90	\$7.25
2027	1.30	1.15	\$4.25	\$3.45	\$4.05	\$5.30	\$10.10	\$7.40
2028	1.30	1.15	\$4.35	\$3.50	\$4.10	\$5.40	\$10.30	\$7.55
2029	1.30	1.15	\$4.40	\$3.60	\$4.20	\$5.50	\$10.50	\$7.70
2030	1.30	1.15	\$4.50	\$3.65	\$4.30	\$5.65	\$10.70	\$7.85
2031	1.30	1.15	\$4.60	\$3.75	\$4.35	\$5.75	\$10.90	\$8.05

# Global trends

## US natural gas storage



## Storage

### United States

Natural gas storage in the United States is now above the five-year maximum, after holding above the five-year average for all of 2023.

Source: Baker Hughes

## Rigs

### United States

US oil and gas rig counts have remained relatively flat over the last two quarters. With gas prices dropping significantly in February 2024, gas rig counts may be lower in the second quarter of the year.

### Canada

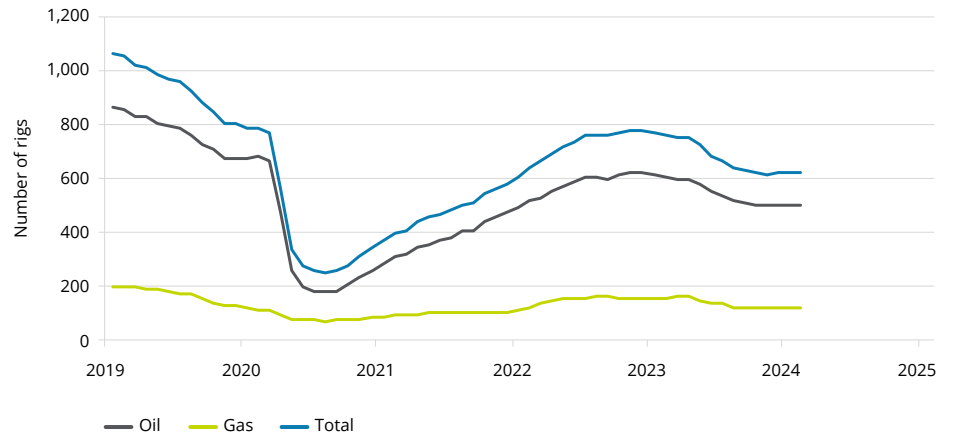
Oil and gas rig counts in Canada remain strong in comparison to 2023 in spite of lower commodity prices. Gas rig counts have grown year over year while prices have dropped significantly.

### International

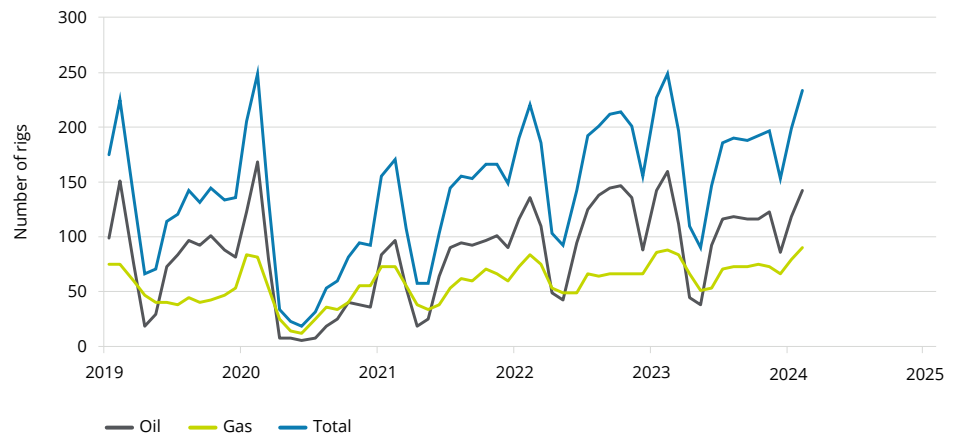
Notably, rig counts in Africa rose above those in Europe in November after a strong year of growth, primarily driven by activity in Nigeria. Rig counts have remained stable around the globe, with growth continuing in Africa and the Middle East.

\*Source: Baker Hughes

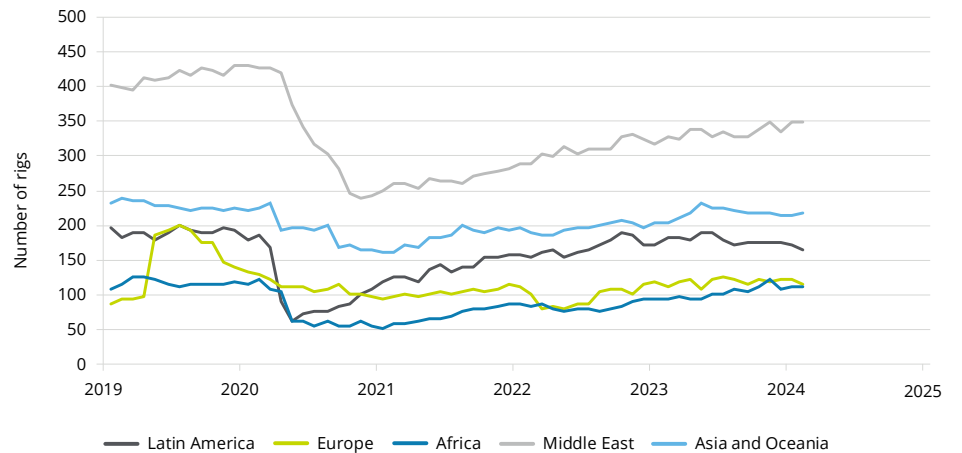
### United States\*



### Canada\*



### International\*





# Canadian domestic price tables

Crude oil pricing								
Year	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
<b>Historical</b>								
2014	1.9%	1.9%	0.906	\$120.44	\$93.26	\$121.39	\$94.00	\$81.06
2015	1.1%	1.1%	0.783	\$61.68	\$48.69	\$72.20	\$57.00	\$44.80
2016	1.4%	1.4%	0.755	\$54.05	\$43.15	\$65.41	\$52.22	\$38.90
2017	1.6%	1.6%	0.771	\$62.82	\$50.88	\$76.69	\$62.12	\$49.51
2018	2.3%	2.3%	0.772	\$78.88	\$64.94	\$83.94	\$69.10	\$49.89
2019	1.9%	1.9%	0.754	\$67.65	\$56.98	\$81.94	\$69.02	\$57.43
2020	0.7%	0.7%	0.746	\$45.67	\$39.23	\$53.19	\$45.69	\$36.09
2021	3.4%	3.4%	0.798	\$78.57	\$67.99	\$92.97	\$80.44	\$68.21
2022	6.8%	6.8%	0.769	\$105.82	\$94.79	\$133.57	\$119.64	\$96.96
2023	3.9%	3.9%	0.741	\$80.78	\$77.64	\$103.58	\$99.55	\$80.17
<b>2024</b>								
3 mths H	3.0%	3.0%	0.742	\$77.01	\$77.01	\$94.15	\$94.15	\$79.66
9 mths F	0.0%	0.0%	0.750	\$77.00	\$77.00	\$98.65	\$98.65	\$85.35
Avg.	N/A	N/A	0.748	\$77.00	\$77.00	\$97.53	\$97.53	\$83.93
<b>Forecast</b>								
2024	0.0%	0.0%	0.750	\$77.00	\$77.00	\$98.65	\$98.65	\$85.35
2025	2.0%	2.0%	0.770	\$72.00	\$73.45	\$89.60	\$91.40	\$76.80
2026	2.0%	2.0%	0.800	\$68.00	\$70.75	\$81.25	\$84.55	\$68.95
2027	2.0%	2.0%	0.800	\$68.00	\$72.15	\$81.25	\$86.20	\$70.30
2028	2.0%	2.0%	0.800	\$68.00	\$73.60	\$81.25	\$87.95	\$71.70
2029	2.0%	2.0%	0.800	\$68.00	\$75.10	\$81.25	\$89.70	\$73.15
2030	2.0%	2.0%	0.800	\$68.00	\$76.60	\$81.25	\$91.50	\$74.60
2031	2.0%	2.0%	0.800	\$68.00	\$78.10	\$81.25	\$93.35	\$76.10
2032	2.0%	2.0%	0.800	\$68.00	\$79.65	\$81.25	\$95.20	\$77.60
2033	2.0%	2.0%	0.800	\$68.00	\$81.25	\$81.25	\$97.10	\$79.15
2034	2.0%	2.0%	0.800	\$68.00	\$82.90	\$81.25	\$99.05	\$80.75
2035	2.0%	2.0%	0.800	\$68.00	\$84.55	\$81.25	\$101.00	\$82.35
2036	2.0%	2.0%	0.800	\$68.00	\$86.25	\$81.25	\$103.05	\$84.00
2037	2.0%	2.0%	0.800	\$68.00	\$87.95	\$81.25	\$105.10	\$85.70
2038	2.0%	2.0%	0.800	\$68.00	\$89.70	\$81.25	\$107.20	\$87.40
2039	2.0%	2.0%	0.800	\$68.00	\$91.50	\$81.25	\$109.35	\$89.15
2040	2.0%	2.0%	0.800	\$68.00	\$93.35	\$81.25	\$111.55	\$90.95
2041	2.0%	2.0%	0.800	\$68.00	\$95.20	\$81.25	\$113.75	\$92.75
2042	2.0%	2.0%	0.800	\$68.00	\$97.10	\$81.25	\$116.05	\$94.60
2043	2.0%	2.0%	0.800	\$68.00	\$99.05	\$81.25	\$118.35	\$96.50
2043+	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 US dollars.
- Edmonton City Gate prices are 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 are listed in 2024 dollars with no escalation considered.

## Disclaimer

No representation or warranty of any kind (whether expressed or implied) is given by Deloitte LLP as to the accuracy, completeness, currency, or fitness for any purpose of this document. As such, this document does not constitute the giving of investment advice, nor a part of any advice on investment decisions. Accordingly, regardless of the form of action, whether in contract, tort, or otherwise, and to the extent permitted by applicable law, Deloitte LLP accepts no liability of any kind and disclaims all responsibility for the consequences of any person acting or refraining from acting in reliance on this price forecast in whole or in part. **This price forecast is not for dissemination in the United States or for distribution to United States wire services.**

## Canadian domestic price tables

Natural gas liquid pricing Edmonton par prices					Natural gas pricing							Sulphur
Year	Ethane	Propane	Butane	Pentanes + Condensate	AB Reference Avg. price	AB AECO Avg. price	AB AECO Avg. price	BC Direct Stn. 2 sales	NYMEX Henry Hub	NYMEX Henry Hub	AB plant gate	
	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/Mcf Current	C\$/Mcf Real	C\$/Mcf Current	C\$/Mcf Current	US\$/Mcf Real	US\$/Mcf Current	C\$/Lt. Current	
<b>Historical</b>												
2014	\$12.46	\$42.93	\$59.43	\$101.47	\$4.22	\$5.82	\$4.50	\$4.16	\$5.67	\$4.39	\$88.99	
2015	\$7.49	\$5.35	\$33.70	\$55.15	\$2.56	\$3.41	\$2.69	\$1.81	\$3.33	\$2.63	\$107.45	
2016	\$6.04	\$8.71	\$31.45	\$52.43	\$1.93	\$2.70	\$2.16	\$1.75	\$3.15	\$2.52	\$45.40	
2017	\$6.11	\$27.92	\$40.98	\$63.65	\$2.13	\$2.71	\$2.19	\$1.56	\$3.68	\$2.99	\$41.85	
2018	\$6.90	\$29.76	\$46.17	\$75.74	\$1.36	\$1.87	\$1.54	\$1.26	\$3.85	\$3.17	\$89.25	
2019	\$5.00	\$15.82	\$21.40	\$67.57	\$1.48	\$2.15	\$1.81	\$1.02	\$3.05	\$2.57	\$37.54	
2020	\$6.20	\$16.11	\$20.93	\$47.14	\$2.00	\$2.62	\$2.25	\$2.20	\$2.37	\$2.04	\$2.60	
2021	\$10.08	\$45.46	\$40.28	\$82.91	\$3.27	\$4.21	\$3.64	\$3.34	\$4.52	\$3.91	\$69.73	
2022	\$15.05	\$51.37	\$64.88	\$118.21	\$5.05	\$5.98	\$5.36	\$4.56	\$7.16	\$6.42	\$120.05	
2023	\$7.33	\$31.35	\$48.62	\$99.82	\$2.59	\$2.80	\$2.69	\$2.23	\$2.64	\$2.54	\$14.91	
<b>2024</b>												
3 mths H	\$6.31	\$40.27	\$47.46	\$98.60	\$2.25	\$2.08	\$2.08	\$2.14	\$2.15	\$2.15	\$3.86	
9 mths F	\$5.60	\$39.45	\$49.35	\$98.65	\$1.75	\$2.00	\$2.00	\$1.70	\$2.50	\$2.50	\$10.00	
Avg.	\$5.78	\$39.65	\$48.88	\$98.64	\$1.88	\$2.02	\$2.02	\$1.81	\$2.41	\$2.41	\$8.46	
<b>Forecast</b>												
2024	\$5.60	\$39.45	\$49.35	\$98.65	\$1.75	\$2.00	\$2.00	\$1.70	\$2.50	\$2.50	\$10.00	
2025	\$9.30	\$36.55	\$45.70	\$91.40	\$3.05	\$3.25	\$3.30	\$3.00	\$3.50	\$3.55	\$51.00	
2026	\$10.90	\$33.80	\$42.30	\$84.55	\$3.65	\$3.75	\$3.90	\$3.60	\$4.00	\$4.15	\$52.00	
2027	\$11.15	\$34.50	\$43.15	\$86.20	\$3.70	\$3.75	\$4.00	\$3.65	\$4.00	\$4.25	\$53.05	
2028	\$11.35	\$35.20	\$44.00	\$87.95	\$3.80	\$3.75	\$4.05	\$3.75	\$4.00	\$4.35	\$54.10	
2029	\$11.60	\$35.90	\$44.90	\$89.70	\$3.85	\$3.75	\$4.15	\$3.80	\$4.00	\$4.40	\$55.20	
2030	\$11.80	\$36.60	\$45.80	\$91.50	\$3.95	\$3.75	\$4.20	\$3.90	\$4.00	\$4.50	\$56.30	
2031	\$12.05	\$37.35	\$46.70	\$93.35	\$4.00	\$3.75	\$4.30	\$3.95	\$4.00	\$4.60	\$57.45	
2032	\$12.30	\$38.10	\$47.65	\$95.20	\$4.10	\$3.75	\$4.40	\$4.05	\$4.00	\$4.70	\$58.60	
2033	\$12.55	\$38.85	\$48.60	\$97.10	\$4.20	\$3.75	\$4.50	\$4.10	\$4.00	\$4.80	\$59.75	
2034	\$12.80	\$39.60	\$49.55	\$99.05	\$4.25	\$3.75	\$4.55	\$4.20	\$4.00	\$4.90	\$60.95	
2035	\$13.05	\$40.40	\$50.55	\$101.00	\$4.35	\$3.75	\$4.65	\$4.30	\$4.00	\$4.95	\$62.15	
2036	\$13.30	\$41.20	\$51.55	\$103.05	\$4.45	\$3.75	\$4.75	\$4.40	\$4.00	\$5.05	\$63.40	
2037	\$13.60	\$42.05	\$52.60	\$105.10	\$4.55	\$3.75	\$4.85	\$4.45	\$4.00	\$5.15	\$64.70	
2038	\$13.85	\$42.90	\$53.65	\$107.20	\$4.60	\$3.75	\$4.95	\$4.55	\$4.00	\$5.30	\$65.95	
2039	\$14.15	\$43.75	\$54.70	\$109.35	\$4.70	\$3.75	\$5.05	\$4.65	\$4.00	\$5.40	\$67.30	
2040	\$14.40	\$44.60	\$55.80	\$111.55	\$4.80	\$3.75	\$5.15	\$4.75	\$4.00	\$5.50	\$68.65	
2041	\$14.70	\$45.50	\$56.90	\$113.75	\$4.90	\$3.75	\$5.25	\$4.85	\$4.00	\$5.60	\$70.00	
2042	\$15.00	\$46.40	\$58.05	\$116.05	\$5.00	\$3.75	\$5.35	\$4.95	\$4.00	\$5.70	\$71.40	
2043	\$15.30	\$47.35	\$59.20	\$118.35	\$5.10	\$3.75	\$5.45	\$5.05	\$4.00	\$5.85	\$72.85	
2043+	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%	2.0%	2.0%	0.0%	2.0%	2.0%	

### Notes

- Data sources include: EIA, DOB, NRC, Flint Hills Resources, and Government of Alberta.
- All prices are in Canadian dollars except WTI and NYMEX gas, which are in US dollars.
- Edmonton City Gate prices are 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 (NGL) 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 are listed in 2024 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.

### Disclaimer

No representation or warranty of any kind (whether expressed or implied) is given by Deloitte LLP as to the accuracy, completeness, currency, or fitness for any purpose of this document. As such, this document does not constitute the giving of investment advice, nor a part of any advice on investment decisions. Accordingly, regardless of the form of action, whether in contract, tort, or otherwise, and to the extent permitted by applicable law, Deloitte LLP accepts no liability of any kind and disclaims all responsibility for the consequences of any person acting or refraining from acting in reliance on this price forecast in whole or in part. **This price forecast is not for dissemination in the United States or for distribution to United States wire services.**

## Canadian domestic price tables

### Additional crude reference prices

Crude oil pricing				Natural gas pricing	
Year	Lt. Sour 35 deg. API Cromer, SK	MSO 31 deg. API Hardisty	Syncrude Sweet Premium 32.5 deg. API	Ontario Dawn Reference Point	
	C\$/bbl Current	C\$/bbl Current	C\$/bbl Current	C\$/Mcf Current	
<b>Historical</b>					
2014	\$92.91	\$89.39		\$5.76	
2015	\$55.46	\$54.70		\$3.72	
2016	\$51.37	\$48.29		\$3.46	
2017	\$62.06	\$58.16		\$3.97	
2018	\$73.06	\$62.82		\$4.07	
2019	\$69.68	\$65.72		\$3.22	
2020	\$45.41	\$43.55		\$2.51	
2021	\$80.08	\$76.58	\$83.62	\$4.55	
2022	\$117.99	\$113.47	\$128.10	\$7.92	
2023	\$98.03	\$93.82	\$106.17	\$3.19	
<b>2024</b>					
3 mths H	\$89.75	\$84.39	\$98.97	\$2.81	
9 mths F	\$97.15	\$92.65	\$105.35	\$3.10	
Avg.	\$95.30	\$90.59	\$103.76	\$3.03	
<b>Forecast</b>					
2024	\$97.15	\$92.65	\$105.35	\$3.10	
2025	\$89.85	\$86.80	\$97.20	\$4.40	
2026	\$82.95	\$79.85	\$89.75	\$4.95	
2027	\$84.65	\$81.45	\$91.55	\$5.05	
2028	\$86.30	\$83.10	\$93.35	\$5.15	
2029	\$88.05	\$84.75	\$95.25	\$5.25	
2030	\$89.80	\$86.45	\$97.15	\$5.35	
2031	\$91.60	\$88.15	\$99.05	\$5.45	
2032	\$93.45	\$89.90	\$101.05	\$5.55	
2033	\$95.30	\$91.70	\$103.10	\$5.70	
2034	\$97.20	\$93.55	\$105.15	\$5.80	
2035	\$99.15	\$95.45	\$107.25	\$5.90	
2036	\$101.15	\$97.35	\$109.40	\$6.00	
2037	\$103.15	\$99.30	\$111.55	\$6.15	
2038	\$105.25	\$101.25	\$113.80	\$6.25	
2039	\$107.35	\$103.30	\$116.10	\$6.40	
2040	\$109.50	\$105.35	\$118.40	\$6.50	
2041	\$111.65	\$107.45	\$120.75	\$6.65	
2042	\$113.90	\$109.60	\$123.20	\$6.80	
2043	\$116.20	\$111.80	\$125.65	\$6.90	
2043+	2.0%	2.0%	2.0%	2.0%	

### Notes

- Data sources include: EIA, DOB, NRC, Flint Hills Resources, and Government of Alberta.
- All prices are in Canadian dollars except WTI and NYMEX gas, which are in US dollars.
- Edmonton City Gate prices are 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 (NGL) 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 are listed in 2024 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.

### Disclaimer

No representation or warranty of any kind (whether expressed or implied) is given by Deloitte LLP as to the accuracy, completeness, currency, or fitness for any purpose of this document. As such, this document does not constitute the giving of investment advice, nor a part of any advice on investment decisions. Accordingly, regardless of the form of action, whether in contract, tort, or otherwise, and to the extent permitted by applicable law, Deloitte LLP accepts no liability of any kind and disclaims all responsibility for the consequences of any person acting or refraining from acting in reliance on this price forecast in whole or in part. **This price forecast is not for dissemination in the United States or for distribution to United States wire services.**

# International price tables

Crude oil pricing															
Year	Avg. WTI Spot	Alaskan North Slope	California Midway-Sunset	Louisiana Light Sweet	Gulf Coast ASCI/MARS	Wyoming Sweet	Brent Spot	Avg. OPEC Basket	Venezuelan Merey	Nigerian Bonny Light	Arabia UAE Dubai Feteh	UAE Murban	Mexico Maya	Russia Urals	Indonesia Minas
	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current	US\$/bbl Current
<b>Forecast</b>															
2024	\$77.00	\$73.00	\$76.00	\$78.50	\$75.00	\$74.50	\$81.00	\$80.00	\$63.00	\$82.00	\$79.50	\$80.50	\$69.00	\$66.00	\$78.50
2025	\$73.45	\$69.35	\$72.40	\$74.95	\$71.40	\$70.90	\$76.50	\$75.50	\$58.15	\$77.50	\$74.95	\$76.00	\$66.30	\$66.30	\$73.95
2026	\$70.75	\$66.60	\$69.70	\$72.30	\$68.65	\$68.15	\$73.85	\$72.85	\$55.15	\$74.90	\$72.30	\$73.35	\$63.45	\$68.65	\$71.25
2027	\$72.15	\$67.90	\$71.10	\$73.75	\$70.05	\$69.50	\$75.35	\$74.30	\$56.25	\$76.40	\$73.75	\$74.80	\$64.75	\$70.05	\$72.70
2028	\$73.60	\$69.30	\$72.50	\$75.25	\$71.45	\$70.90	\$76.85	\$75.75	\$57.35	\$77.95	\$75.25	\$76.30	\$66.05	\$71.45	\$74.15
2029	\$75.10	\$70.65	\$73.95	\$76.75	\$72.85	\$72.30	\$78.40	\$77.30	\$58.50	\$79.50	\$76.75	\$77.85	\$67.35	\$72.85	\$75.65
2030	\$76.60	\$72.05	\$75.45	\$78.25	\$74.35	\$73.75	\$79.95	\$78.85	\$59.70	\$81.10	\$78.25	\$79.40	\$68.70	\$74.35	\$77.15
2031	\$78.10	\$73.50	\$76.95	\$79.85	\$75.80	\$75.25	\$81.55	\$80.40	\$60.90	\$82.70	\$79.85	\$81.00	\$70.05	\$75.80	\$78.70
2032	\$79.65	\$75.00	\$78.50	\$81.45	\$77.35	\$76.75	\$83.20	\$82.00	\$62.10	\$84.35	\$81.45	\$82.60	\$71.45	\$77.35	\$80.25
2033	\$81.25	\$76.50	\$80.05	\$83.05	\$78.90	\$78.30	\$84.85	\$83.65	\$63.35	\$86.05	\$83.05	\$84.25	\$72.90	\$78.90	\$81.85
2034	\$82.90	\$78.00	\$81.65	\$84.70	\$80.45	\$79.85	\$86.55	\$85.35	\$64.60	\$87.75	\$84.70	\$85.95	\$74.35	\$80.45	\$83.50
2035	\$84.55	\$79.60	\$83.30	\$86.40	\$82.05	\$81.45	\$88.30	\$87.05	\$65.90	\$89.50	\$86.40	\$87.65	\$75.85	\$82.05	\$85.15
2036	\$86.25	\$81.15	\$84.95	\$88.15	\$83.70	\$83.05	\$90.05	\$88.80	\$67.20	\$91.30	\$88.15	\$89.40	\$77.35	\$83.70	\$86.85
2037	\$87.95	\$82.80	\$86.65	\$89.90	\$85.40	\$84.75	\$91.85	\$90.55	\$68.55	\$93.15	\$89.90	\$91.20	\$78.90	\$85.40	\$88.60
2038	\$89.70	\$84.45	\$88.40	\$91.70	\$87.10	\$86.45	\$93.70	\$92.35	\$69.95	\$95.00	\$91.70	\$93.00	\$80.50	\$87.10	\$90.40
2039	\$91.50	\$86.15	\$90.15	\$93.55	\$88.85	\$88.15	\$95.55	\$94.20	\$71.35	\$96.90	\$93.55	\$94.90	\$82.10	\$88.85	\$92.20
2040	\$93.35	\$87.85	\$92.00	\$95.40	\$90.60	\$89.90	\$97.45	\$96.10	\$72.75	\$98.85	\$95.40	\$96.80	\$83.75	\$90.60	\$94.05
2041	\$95.20	\$89.60	\$93.80	\$97.30	\$92.40	\$91.70	\$99.40	\$98.00	\$74.20	\$100.80	\$97.30	\$98.70	\$85.40	\$92.40	\$95.90
2042	\$97.10	\$91.40	\$95.70	\$99.25	\$94.25	\$93.55	\$101.40	\$100.00	\$75.70	\$102.85	\$99.25	\$100.70	\$87.10	\$94.25	\$97.85
2043	\$99.05	\$93.25	\$97.60	\$101.25	\$96.15	\$95.40	\$103.45	\$102.00	\$77.20	\$104.90	\$101.25	\$102.70	\$88.85	\$96.15	\$99.80
2043+	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

## Notes

- Data sources include: EIA, OPEC, ARC Energy, and Marex Spectron.
- Venezuelan Merey replaced BCF-17 in the OPEC Basket on March 1, 2009.

## Disclaimer

No representation or warranty of any kind (whether expressed or implied) is given by Deloitte LLP as to the accuracy, completeness, currency, or fitness for any purpose of this document. As such, this document does not constitute the giving of investment advice, nor a part of any advice on investment decisions. Accordingly, regardless of the form of action, whether in contract, tort, or otherwise, and to the extent permitted by applicable law, Deloitte LLP accepts no liability of any kind and disclaims all responsibility for the consequences of any person acting or refraining from acting in reliance on this price forecast in whole or in part. **This price forecast is not for dissemination in the United States or for distribution to United States wire services.**

## International price tables

Natural gas pricing								
Year	USD to GBP	USD to EUR	NYMEX Henry Hub	Permian Waha	San Juan Ignacio	Rocky Mtn. Opal	UK NBP	India domestic gas
	Exchange rate	Exchange rate	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current	US\$/Mcf Current
<b>Forecast</b>								
2024	1.250	1.100	\$2.50	\$1.50	\$2.30	\$3.50	\$8.50	\$8.00
2025	1.300	1.150	\$3.55	\$2.80	\$3.35	\$4.60	\$9.45	\$7.55
2026	1.300	1.150	\$4.15	\$3.40	\$3.95	\$5.20	\$9.90	\$7.25
2027	1.300	1.150	\$4.25	\$3.45	\$4.05	\$5.30	\$10.10	\$7.40
2028	1.300	1.150	\$4.35	\$3.50	\$4.10	\$5.40	\$10.30	\$7.55
2029	1.300	1.150	\$4.40	\$3.60	\$4.20	\$5.50	\$10.50	\$7.70
2030	1.300	1.150	\$4.50	\$3.65	\$4.30	\$5.65	\$10.70	\$7.85
2031	1.300	1.150	\$4.60	\$3.75	\$4.35	\$5.75	\$10.90	\$8.05
2032	1.300	1.150	\$4.70	\$3.80	\$4.45	\$5.85	\$11.15	\$8.20
2033	1.300	1.150	\$4.80	\$3.90	\$4.55	\$6.00	\$11.35	\$8.35
2034	1.300	1.150	\$4.90	\$3.95	\$4.65	\$6.10	\$11.60	\$8.50
2035	1.300	1.150	\$4.95	\$4.05	\$4.70	\$6.20	\$11.80	\$8.70
2036	1.300	1.150	\$5.05	\$4.10	\$4.80	\$6.35	\$12.05	\$8.85
2037	1.300	1.150	\$5.15	\$4.20	\$4.90	\$6.45	\$12.30	\$9.05
2038	1.300	1.150	\$5.30	\$4.30	\$5.00	\$6.60	\$12.55	\$9.20
2039	1.300	1.150	\$5.40	\$4.35	\$5.10	\$6.75	\$12.80	\$9.40
2040	1.300	1.150	\$5.50	\$4.45	\$5.20	\$6.85	\$13.05	\$9.60
2041	1.300	1.150	\$5.60	\$4.55	\$5.30	\$7.00	\$13.30	\$9.80
2042	1.300	1.150	\$5.70	\$4.65	\$5.45	\$7.15	\$13.55	\$10.00
2043	1.300	1.150	\$5.85	\$4.75	\$5.55	\$7.30	\$13.85	\$10.20
2043+	1.300	1.150	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

### Notes

- Data sources include: EIA, OPEC, ARC Energy, and Marex Spectron.
- Venezuelan Merey replaced BCF-17 in the OPEC Basket on March 1, 2009.

### Disclaimer

No representation or warranty of any kind (whether expressed or implied) is given by Deloitte LLP as to the accuracy, completeness, currency, or fitness for any purpose of this document. As such, this document does not constitute the giving of investment advice, nor a part of any advice on investment decisions. Accordingly, regardless of the form of action, whether in contract, tort, or otherwise, and to the extent permitted by applicable law, Deloitte LLP accepts no liability of any kind and disclaims all responsibility for the consequences of any person acting or refraining from acting in reliance on this price forecast in whole or in part. **This price forecast is not for dissemination in the United States or for distribution to United States wire services.**

# 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 geopolitical 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 past and the future when we create our forecast.

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 a 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 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

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

# Contacts

**Andrew Botterill**

403-648-3239

abotterill@deloitte.ca

**Lesley Mitchell**

403-648-3215

lemitchell@deloitte.ca

**Jonathan Listoe**

403-648-3254

jlistoe@deloitte.ca

---

Deloitte LLP  
Bankers Court  
700, 850 - 2 Street SW  
Calgary AB T2P 0R8  
Canada





[www.deloitte.ca/priceforecast](http://www.deloitte.ca/priceforecast)

**Legal disclaimer**

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor. Deloitte shall not be responsible for any loss sustained by any person who relies on this publication alone.

**About Deloitte**

At Deloitte, our Purpose is to make an impact that matters. We exist to inspire and help our people, organizations, communities, and countries to thrive by building a better future. Our work underpins a prosperous society where people can find meaning and opportunity. It builds consumer and business confidence, empowers organizations to find imaginative ways of deploying capital, enables fair, trusted, and functioning social and economic institutions, and allows our friends, families, and communities to enjoy the quality of life that comes with a sustainable future.

Deloitte provides industry-leading consulting, tax and legal, financial advisory, audit and assurance, and risk advisory services to nearly 90% of the Fortune Global 500® and thousands of private companies. We bring together world-class capabilities, insights, and services to address clients' most complex business challenges.

Deloitte LLP, an Ontario limited liability partnership, is the Canadian member firm of Deloitte Touche Tohmatsu Limited. Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see [www.deloitte.com/about](http://www.deloitte.com/about) for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

To learn more about Deloitte Canada, please connect with us on [LinkedIn](#), [X](#), [Instagram](#), or [Facebook](#).

© Deloitte LLP and affiliated entities.

Designed and produced by the Agency | Deloitte Canada. 24-8721609