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Energy, oil, and gas price forecast

Deloitte Canada foreshadows extremely low natural gas prices are not here to stay

September 30, 2024

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Forecast commentary

After peaking in June, Henry Hub prices have fallen to just under \$2.00/Mcf USD in the latter half of the summer.

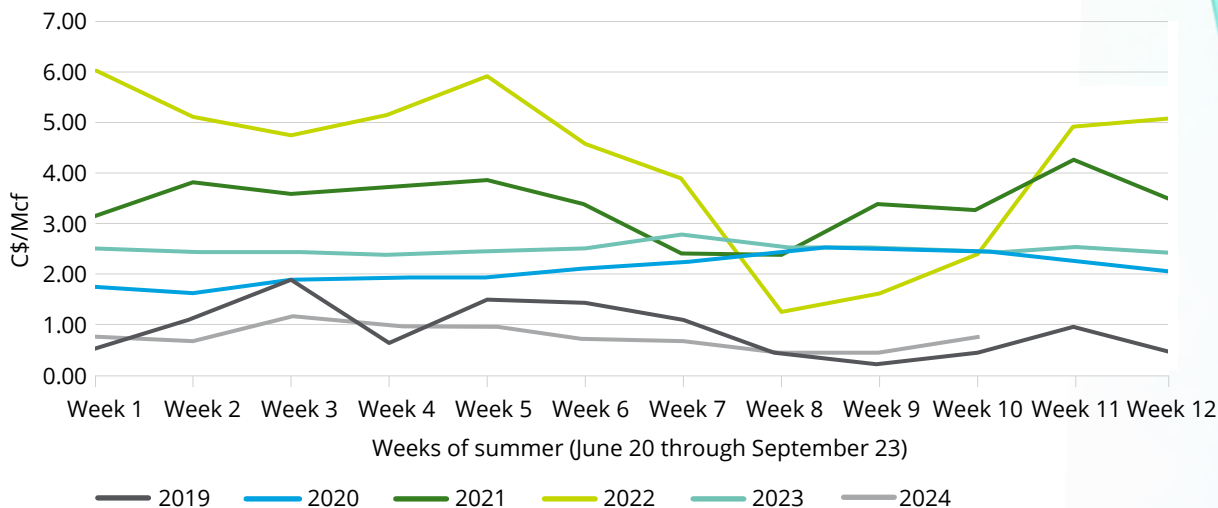
Local pricing at Waha in the Permian Basin once again moved into negative territory, as mentioned in a prior forecast commentary. These current prices do not incentivize continued development and in some cases does not allow for economic production of existing gas wells. Operators have been reducing their drilling activity in response to pricing in the US, with a decrease in natural gas rig counts of 24 in August year-over-year, which is a 20 percent drop¹. If these prices persist many companies will likely revisit their budgets and delay their development plans.

Meanwhile in Canada, AECO and Station 2 prices have largely remained below \$1.00/Mcf CAD since mid-June. But the rig count has only dropped by five rigs in August year-over-year, a six percent decrease¹. This highlights the difference in operating strategies across

the border where many companies in Canada have continually adapted to operating in a lower-price environment by focusing operations on liquids rich production, owning infrastructure, and managing operating costs overall.

AECO prices have not been this consistently depressed over summer since 2019, when ongoing maintenance outages sometimes pushed daily prices negative. Five years later, maintenance outages have not been as significant due to policy changes regarding injection into storage during maintenance outages, but many of the larger trends remain the same. Similar to 2019, several LNG export facilities are expected to come online in the US within the next year, leading to optimistic views of future pricing. More economic oil prices have also led to growth in associated natural gas production from oil well development, particularly in the Permian, as well as continued development in liquids rich plays like the Montney, both of which

Summer AECO prices (2019-2024)



Source: Daily Oil Bulletin

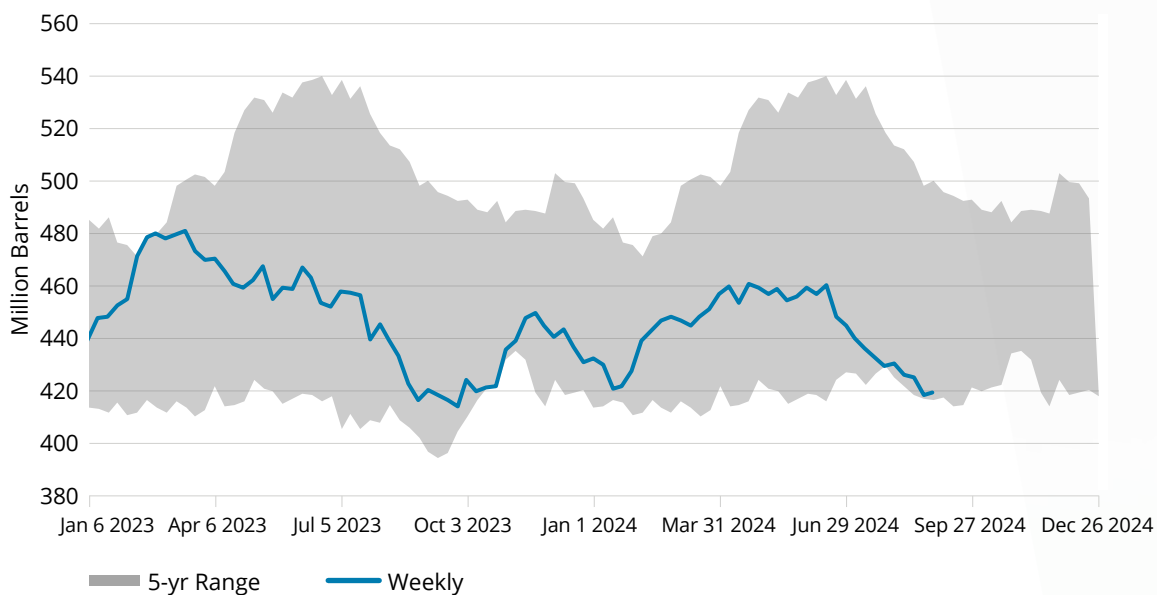
dampen the effectiveness of reduced natural gas drilling in decreasing production growth. Our price forecast reflects the optimism that these extremely low prices are not here to stay with increasing near term demand for natural gas from heating, power, and LNG exports. In the short term, if supply is not curbed to bring it in line with current demand, we expect that the volatility to continue.

As for oil, near-term prices have declined in the past quarter due to weakened demand in China². As of September 2024, the average of WTI and Brent prices dropped to their lowest point in 2024 at around US\$70/bbl. In response to weakening prices, OPEC+ has extended voluntary production cuts of 2.2 million bbls/d until December, instead of October 2024, thus delaying an increase in oil output³.

Despite the announcement, oil prices have not shown signs of increasing, unlike previous OPEC+ decisions that have had a significant impact on immediate price reactions. Moreover, there are additional concerns regarding economic activity in the market. The strong global demand for crude has led to a reduction in inventories in the US, where crude stocks are currently at their lowest levels since seen this year⁴. Domestic production remains high at over 13 million bbls/d and is forecasted to increase up to 14 million bbls/d in 2025, according to the EIA⁵.

It is these contending market forces, in conjunction with the choices made by OPEC+, that are determining whether the oil market is to be driven into oversupply, creating uncertainty about future pricing.

U.S. Crude Oil Stocks, Excluding Strategic Petroleum Reserve



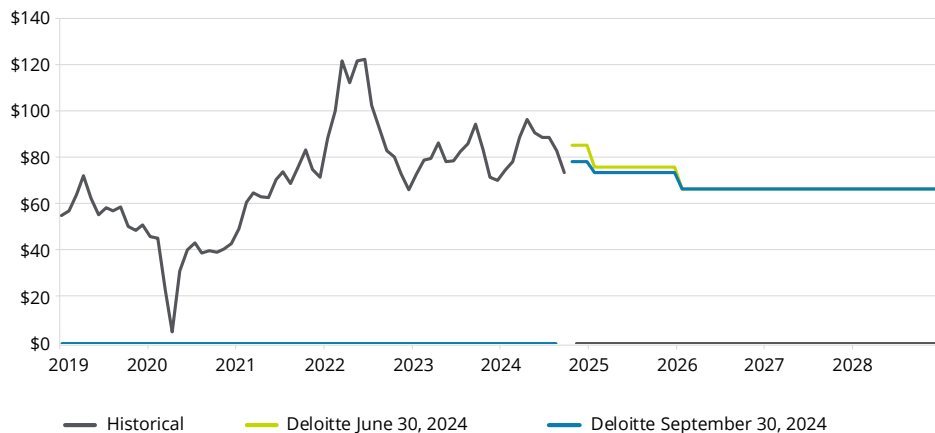
Source: U.S. Energy Information Administration

Endnotes

1. Baker Hughes, "[North America Rig Count Report](#)," September 20, 2024.
2. IEA Oil Market Report, "[Oil Market Report – September 2024](#)," September 2024.
3. Organization of the Petroleum Exporting Countries, "[Saudi Arabia, Russia, Iraq, the United Arab Emirates, Kuwait, Kazakhstan, Algeria, and Oman extend voluntary cuts](#)," September 5, 2024.
4. U.S. Energy Information Administration, "[Weekly Petroleum Status Report](#)," September 25, 2024.
5. U.S. Energy Information Administration, "[Short-Term Energy Outlook](#)," September 10, 2024.

Canadian domestic price forecast

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



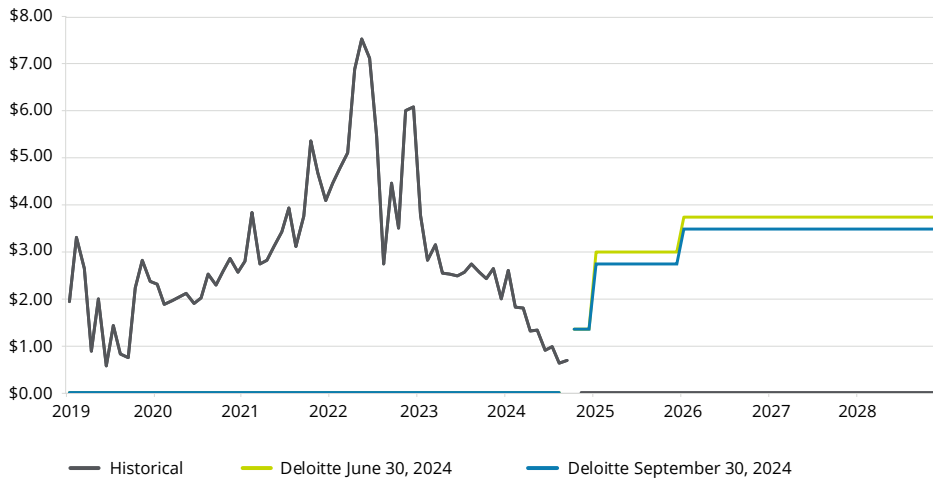
Forecast comments

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
Historical								
2021	\$78.57	\$67.99	\$92.87	\$80.36	\$68.21	\$63.82	3.4%	0.798
2022	\$105.82	\$94.79	\$133.38	\$119.47	\$96.96	\$92.06	6.8%	0.769
2023	\$80.78	\$77.64	\$103.29	\$99.27	\$80.17	\$72.95	3.9%	0.741
2024								
9 mths H	\$78.43	\$78.43	\$98.73	\$98.73	\$84.63	\$80.54	2.6%	0.735
3 mths F	\$72.00	\$72.00	\$94.50	\$94.50	\$78.10	\$73.60	0.0%	0.730
Avg.	\$76.82	\$76.82	\$97.67	\$97.67	\$83.00	\$78.81	-	0.734
Forecast								
2024	\$72.00	\$72.00	\$94.50	\$94.50	\$78.10	\$73.60	0.0%	0.730
2025	\$70.00	\$71.40	\$89.35	\$91.15	\$74.80	\$70.25	2.0%	0.750
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.

In comparison to our June 30, 2024 forecast, the long term AECO price was decreased solely due to COGEH price forecast guidelines. These guidelines recommend that the price forecast remain within 20% of the futures curve, which were affected by negative market sentiment at the time of publication.

Year	AB Ref.	AB AECO	AB AECO	BC Direct Station 2 sales	NYMEX	NYMEX
	Avg. price	Avg. price	Avg. price		Henry Hub	Henry Hub
	C\$/Mcf Current	C\$/Mcf Real	C\$/Mcf Current	C\$/Mcf Current	US\$/Mcf Real	US\$/Mcf Current
Historical						
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
2024						
9 mths H	\$1.24	\$1.34	\$1.34	\$1.15	\$2.09	\$2.09
3 mths F	\$1.25	\$1.35	\$1.35	\$1.05	\$2.75	\$2.75
Avg.	\$1.25	\$1.34	\$1.34	\$1.13	\$2.26	\$2.26
Forecast						
2024	\$1.25	\$1.35	\$1.35	\$1.05	\$2.75	\$2.75
2025	\$2.55	\$2.75	\$2.80	\$2.50	\$3.50	\$3.55
2026	\$3.40	\$3.50	\$3.65	\$3.35	\$4.00	\$4.15
2027	\$3.45	\$3.50	\$3.70	\$3.40	\$4.00	\$4.25
2028	\$3.50	\$3.50	\$3.80	\$3.45	\$4.00	\$4.35
2029	\$3.60	\$3.50	\$3.85	\$3.55	\$4.00	\$4.40
2030	\$3.65	\$3.50	\$3.95	\$3.60	\$4.00	\$4.50
2031	\$3.75	\$3.50	\$4.00	\$3.70	\$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
Forecast							
2024	\$72.00	\$76.00	\$70.25	\$75.00	\$77.50	\$64.00	\$63.00
2025	\$71.40	\$74.45	\$69.60	\$73.45	\$76.00	\$62.20	\$64.25
2026	\$70.75	\$73.85	\$68.95	\$72.85	\$75.45	\$61.40	\$68.65
2027	\$72.15	\$75.35	\$70.30	\$74.30	\$76.95	\$62.60	\$70.05
2028	\$73.60	\$76.85	\$71.70	\$75.75	\$78.50	\$63.85	\$71.45
2029	\$75.10	\$78.40	\$73.15	\$77.30	\$80.05	\$65.15	\$72.85
2030	\$76.60	\$79.95	\$74.60	\$78.85	\$81.65	\$66.45	\$74.35
2031	\$78.10	\$81.55	\$76.10	\$80.40	\$83.30	\$67.75	\$75.80

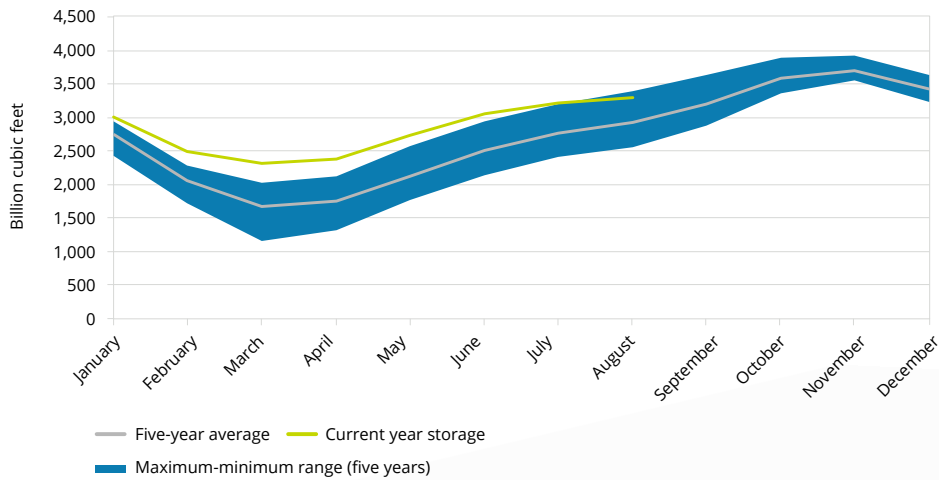
- International crude quality reference points for OPEC Basket, Venezuelan, Nigerian, UAE, Mexican, Chinese, Russian, and Indonesian crudes are now based on Brent in US dollars. For the purposes of this forecast, Brent is receiving a premium to WTI on the world markets.
- Current forecasts for other 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
Forecast								
2024	1.25	1.10	\$2.75	\$0.75	\$2.35	\$2.35	\$10.50	\$7.50
2025	1.30	1.10	\$3.55	\$2.80	\$3.35	\$3.35	\$10.20	\$7.35
2026	1.30	1.10	\$4.15	\$3.40	\$3.95	\$3.95	\$9.90	\$7.25
2027	1.30	1.10	\$4.25	\$3.45	\$4.05	\$4.05	\$10.10	\$7.40
2028	1.30	1.10	\$4.35	\$3.50	\$4.10	\$4.10	\$10.30	\$7.55
2029	1.30	1.10	\$4.40	\$3.60	\$4.20	\$4.20	\$10.50	\$7.70
2030	1.30	1.10	\$4.50	\$3.65	\$4.30	\$4.30	\$10.70	\$7.85
2031	1.30	1.10	\$4.60	\$3.75	\$4.35	\$4.35	\$10.90	\$8.05

Global trends

US natural gas storage



Storage

United States

Natural gas storage in the United States dropped below the five year maximum in August as US exports continued to grow and production remained relatively flat.

Source: Baker Hughes

Rigs

United States

Oil and gas rig counts have leveled off after dropping through the summer. Continued low gas prices and fears of weakening oil prices may keep rig counts flat or decreasing through the fall.

Canada

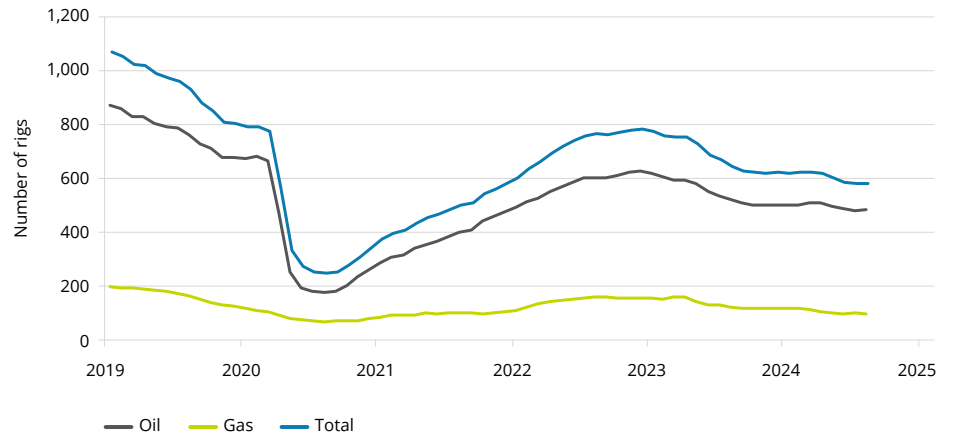
Oil and gas rig counts in Canada have been strong compared to recent years in spite of lower commodity prices, driven by increased oil drilling and helped by steady year over year gas drilling.

International

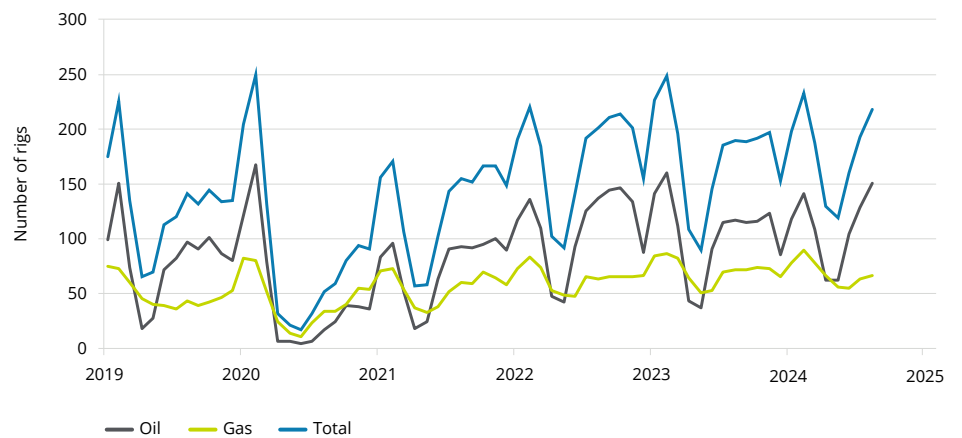
Rig counts have remained relatively stable across the globe. Weakening oil prices and extended OPEC production cuts may lead to slight decreases in the coming months.

*Source: Baker Hughes

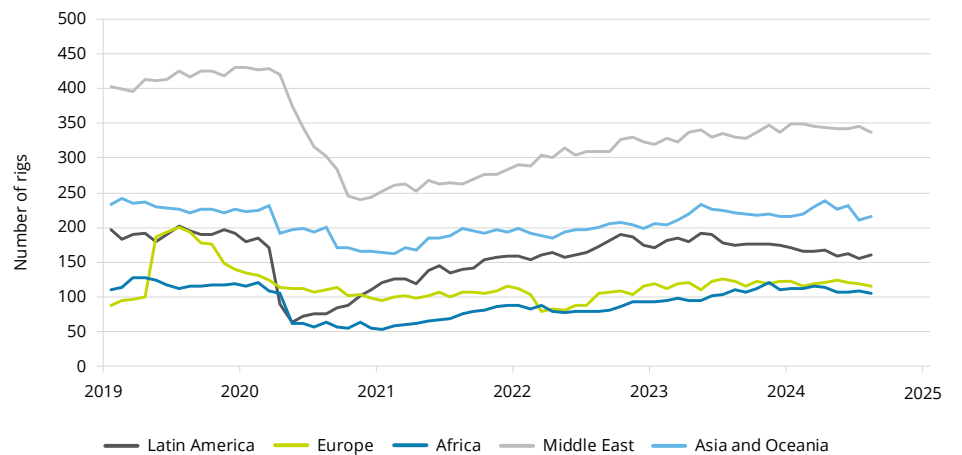
United States*



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
Historical								
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	\$83.97	\$69.13	\$49.89
2019	1.9%	1.9%	0.754	\$67.65	\$56.98	\$81.65	\$68.78	\$57.43
2020	0.7%	0.7%	0.746	\$45.67	\$39.23	\$52.47	\$45.07	\$36.09
2021	3.4%	3.4%	0.798	\$78.57	\$67.99	\$92.87	\$80.36	\$68.21
2022	6.8%	6.8%	0.769	\$105.82	\$94.79	\$133.38	\$119.47	\$96.96
2023	3.9%	3.9%	0.741	\$80.78	\$77.64	\$103.29	\$99.27	\$80.17
2024								
9 mths H	2.6%	2.6%	0.735	\$78.43	\$78.43	\$98.73	\$98.73	\$84.63
3 mths F	0.0%	0.0%	0.730	\$72.00	\$72.00	\$94.50	\$94.50	\$78.10
Avg.	N/A	N/A	0.734	\$76.82	\$76.82	\$97.67	\$97.67	\$83.00
Forecast								
2024	0.0%	0.0%	0.730	\$72.00	\$72.00	\$94.50	\$94.50	\$78.10
2025	2.0%	2.0%	0.750	\$70.00	\$71.40	\$89.35	\$91.15	\$74.80
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 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 2024 dollars with no escalation considered.

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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	
Historical												
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	
2024												
9 mths H	\$3.91	\$32.11	\$44.36	\$97.40	\$1.24	\$1.34	\$1.34	\$1.15	\$2.09	\$2.09	\$3.70	
3 mths F	\$3.80	\$28.35	\$42.55	\$94.50	\$1.25	\$1.35	\$1.35	\$1.05	\$2.75	\$2.75	\$2.50	
Avg.	\$3.88	\$31.17	\$43.91	\$96.67	\$1.25	\$1.34	\$1.34	\$1.13	\$2.26	\$2.26	\$3.40	
Forecast												
2024	\$3.80	\$28.35	\$42.55	\$94.50	\$1.25	\$1.35	\$1.35	\$1.05	\$2.75	\$2.75	\$2.50	
2025	\$7.85	\$27.35	\$41.00	\$91.15	\$2.55	\$2.75	\$2.80	\$2.50	\$3.50	\$3.55	\$25.50	
2026	\$10.20	\$25.40	\$38.05	\$84.55	\$3.40	\$3.50	\$3.65	\$3.35	\$4.00	\$4.15	\$52.00	
2027	\$10.40	\$25.90	\$38.80	\$86.20	\$3.45	\$3.50	\$3.70	\$3.40	\$4.00	\$4.25	\$53.05	
2028	\$10.60	\$26.40	\$39.55	\$87.95	\$3.50	\$3.50	\$3.80	\$3.45	\$4.00	\$4.35	\$54.10	
2029	\$10.80	\$26.95	\$40.35	\$89.70	\$3.60	\$3.50	\$3.85	\$3.55	\$4.00	\$4.40	\$55.20	
2030	\$11.05	\$27.50	\$41.15	\$91.50	\$3.65	\$3.50	\$3.95	\$3.60	\$4.00	\$4.50	\$56.30	
2031	\$11.25	\$28.05	\$42.00	\$93.35	\$3.75	\$3.50	\$4.00	\$3.70	\$4.00	\$4.60	\$57.45	
2032	\$11.50	\$28.60	\$42.80	\$95.20	\$3.80	\$3.50	\$4.10	\$3.75	\$4.00	\$4.70	\$58.60	
2033	\$11.70	\$29.15	\$43.70	\$97.10	\$3.90	\$3.50	\$4.20	\$3.80	\$4.00	\$4.80	\$59.75	
2034	\$11.95	\$29.75	\$44.55	\$99.05	\$3.95	\$3.50	\$4.25	\$3.90	\$4.00	\$4.90	\$60.95	
2035	\$12.20	\$30.35	\$45.45	\$101.00	\$4.05	\$3.50	\$4.35	\$4.00	\$4.00	\$4.95	\$62.15	
2036	\$12.45	\$30.95	\$46.35	\$103.05	\$4.10	\$3.50	\$4.45	\$4.05	\$4.00	\$5.05	\$63.40	
2037	\$12.70	\$31.55	\$47.30	\$105.10	\$4.20	\$3.50	\$4.55	\$4.15	\$4.00	\$5.15	\$64.70	
2038	\$12.95	\$32.20	\$48.25	\$107.20	\$4.30	\$3.50	\$4.60	\$4.20	\$4.00	\$5.30	\$65.95	
2039	\$13.20	\$32.85	\$49.20	\$109.35	\$4.35	\$3.50	\$4.70	\$4.30	\$4.00	\$5.40	\$67.30	
2040	\$13.45	\$33.50	\$50.20	\$111.55	\$4.45	\$3.50	\$4.80	\$4.40	\$4.00	\$5.50	\$68.65	
2041	\$13.70	\$34.15	\$51.20	\$113.75	\$4.55	\$3.50	\$4.90	\$4.50	\$4.00	\$5.60	\$70.00	
2042	\$14.00	\$34.85	\$52.20	\$116.05	\$4.65	\$3.50	\$5.00	\$4.55	\$4.00	\$5.70	\$71.40	
2043	\$14.30	\$35.55	\$53.25	\$118.35	\$4.75	\$3.50	\$5.10	\$4.65	\$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, and the Alberta government.
- 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.
- 1 Mcf is equivalent to 1 mmbtu.
- Real prices 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.

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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	
Historical					
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	
2024					
9 mths H	\$96.74	\$94.65	\$105.06	\$2.47	
3 mths F	\$93.00	\$92.50	\$98.10	\$3.35	
Avg.	\$95.80	\$94.11	\$103.32	\$2.69	
Forecast					
2024	\$93.00	\$92.50	\$98.10	\$3.35	
2025	\$89.60	\$86.55	\$95.20	\$4.55	
2026	\$82.95	\$79.85	\$89.75	\$5.00	
2027	\$84.65	\$81.45	\$91.55	\$5.10	
2028	\$86.30	\$83.10	\$93.35	\$5.20	
2029	\$88.05	\$84.75	\$95.25	\$5.30	
2030	\$89.80	\$86.45	\$97.15	\$5.40	
2031	\$91.60	\$88.15	\$99.05	\$5.50	
2032	\$93.45	\$89.90	\$101.05	\$5.60	
2033	\$95.30	\$91.70	\$103.10	\$5.75	
2034	\$97.20	\$93.55	\$105.15	\$5.85	
2035	\$99.15	\$95.45	\$107.25	\$5.95	
2036	\$101.15	\$97.35	\$109.40	\$6.10	
2037	\$103.15	\$99.30	\$111.55	\$6.20	
2038	\$105.25	\$101.25	\$113.80	\$6.35	
2039	\$107.35	\$103.30	\$116.10	\$6.45	
2040	\$109.50	\$105.35	\$118.40	\$6.60	
2041	\$111.65	\$107.45	\$120.75	\$6.70	
2042	\$113.90	\$109.60	\$123.20	\$6.85	
2043	\$116.20	\$111.80	\$125.65	\$7.00	
2043+	2.0%	2.0%	2.0%	2.0%	

Notes

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- 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).
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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
Forecast															
2024	\$72.00	\$68.50	\$69.00	\$73.00	\$70.25	\$66.50	\$76.00	\$75.00	\$61.00	\$77.50	\$74.50	\$75.00	\$64.00	\$63.00	\$81.00
2025	\$71.40	\$67.85	\$68.35	\$72.40	\$69.60	\$65.80	\$74.45	\$73.45	\$59.15	\$76.00	\$72.95	\$73.45	\$62.20	\$64.25	\$79.55
2026	\$70.75	\$67.10	\$67.65	\$71.80	\$68.95	\$65.05	\$73.85	\$72.85	\$58.25	\$75.45	\$72.30	\$72.85	\$61.40	\$68.65	\$79.05
2027	\$72.15	\$68.45	\$69.00	\$73.20	\$70.30	\$66.35	\$75.35	\$74.30	\$59.45	\$76.95	\$73.75	\$74.30	\$62.60	\$70.05	\$80.65
2028	\$73.60	\$69.80	\$70.35	\$74.70	\$71.70	\$67.65	\$76.85	\$75.75	\$60.60	\$78.50	\$75.25	\$75.75	\$63.85	\$71.45	\$82.25
2029	\$75.10	\$71.20	\$71.75	\$76.20	\$73.15	\$69.00	\$78.40	\$77.30	\$61.85	\$80.05	\$76.75	\$77.30	\$65.15	\$72.85	\$83.90
2030	\$76.60	\$72.65	\$73.20	\$77.70	\$74.60	\$70.40	\$79.95	\$78.85	\$63.05	\$81.65	\$78.25	\$78.85	\$66.45	\$74.35	\$85.60
2031	\$78.10	\$74.10	\$74.65	\$79.25	\$76.10	\$71.80	\$81.55	\$80.40	\$64.35	\$83.30	\$79.85	\$80.40	\$67.75	\$75.80	\$87.30
2032	\$79.65	\$75.55	\$76.15	\$80.85	\$77.60	\$73.25	\$83.20	\$82.00	\$65.60	\$84.95	\$81.45	\$82.00	\$69.15	\$77.35	\$89.05
2033	\$81.25	\$77.10	\$77.70	\$82.45	\$79.15	\$74.70	\$84.85	\$83.65	\$66.95	\$86.65	\$83.05	\$83.65	\$70.50	\$78.90	\$90.85
2034	\$82.90	\$78.65	\$79.25	\$84.10	\$80.75	\$76.20	\$86.55	\$85.35	\$68.25	\$88.40	\$84.70	\$85.35	\$71.90	\$80.45	\$92.65
2035	\$84.55	\$80.20	\$80.80	\$85.80	\$82.35	\$77.70	\$88.30	\$87.05	\$69.65	\$90.15	\$86.40	\$87.05	\$73.35	\$82.05	\$94.50
2036	\$86.25	\$81.80	\$82.45	\$87.50	\$84.00	\$79.25	\$90.05	\$88.80	\$71.00	\$91.95	\$88.15	\$88.80	\$74.85	\$83.70	\$96.40
2037	\$87.95	\$83.45	\$84.10	\$89.25	\$85.70	\$80.85	\$91.85	\$90.55	\$72.45	\$93.80	\$89.90	\$90.55	\$76.30	\$85.40	\$98.30
2038	\$89.70	\$85.10	\$85.75	\$91.05	\$87.40	\$82.45	\$93.70	\$92.35	\$73.90	\$95.65	\$91.70	\$92.35	\$77.85	\$87.10	\$100.30
2039	\$91.50	\$86.80	\$87.50	\$92.85	\$89.15	\$84.10	\$95.55	\$94.20	\$75.35	\$97.60	\$93.55	\$94.20	\$79.40	\$88.85	\$102.30
2040	\$93.35	\$88.55	\$89.25	\$94.70	\$90.95	\$85.80	\$97.45	\$96.10	\$76.90	\$99.55	\$95.40	\$96.10	\$81.00	\$90.60	\$104.35
2041	\$95.20	\$90.30	\$91.00	\$96.60	\$92.75	\$87.50	\$99.40	\$98.00	\$78.40	\$101.50	\$97.30	\$98.00	\$82.60	\$92.40	\$106.40
2042	\$97.10	\$92.10	\$92.85	\$98.55	\$94.60	\$89.25	\$101.40	\$100.00	\$80.00	\$103.55	\$99.25	\$100.00	\$84.25	\$94.25	\$108.55
2043	\$99.05	\$93.95	\$94.70	\$100.50	\$96.50	\$91.05	\$103.45	\$102.00	\$81.60	\$105.60	\$101.25	\$102.00	\$85.95	\$96.15	\$110.70
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.

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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
Forecast								
2024	1.250	1.100	\$2.75	\$0.75	\$2.35	\$2.35	\$10.50	\$7.50
2025	1.300	1.100	\$3.55	\$2.80	\$3.35	\$3.35	\$10.20	\$7.35
2026	1.300	1.100	\$4.15	\$3.40	\$3.95	\$3.95	\$9.90	\$7.25
2027	1.300	1.100	\$4.25	\$3.45	\$4.05	\$4.05	\$10.10	\$7.40
2028	1.300	1.100	\$4.35	\$3.50	\$4.10	\$4.10	\$10.30	\$7.55
2029	1.300	1.100	\$4.40	\$3.60	\$4.20	\$4.20	\$10.50	\$7.70
2030	1.300	1.100	\$4.50	\$3.65	\$4.30	\$4.30	\$10.70	\$7.85
2031	1.300	1.100	\$4.60	\$3.75	\$4.35	\$4.35	\$10.90	\$8.05
2032	1.300	1.100	\$4.70	\$3.80	\$4.45	\$4.45	\$11.15	\$8.20
2033	1.300	1.100	\$4.80	\$3.90	\$4.55	\$4.55	\$11.35	\$8.35
2034	1.300	1.100	\$4.90	\$3.95	\$4.65	\$4.65	\$11.60	\$8.50
2035	1.300	1.100	\$4.95	\$4.05	\$4.70	\$4.70	\$11.80	\$8.70
2036	1.300	1.100	\$5.05	\$4.10	\$4.80	\$4.80	\$12.05	\$8.85
2037	1.300	1.100	\$5.15	\$4.20	\$4.90	\$4.90	\$12.30	\$9.05
2038	1.300	1.100	\$5.30	\$4.30	\$5.00	\$5.00	\$12.55	\$9.20
2039	1.300	1.100	\$5.40	\$4.35	\$5.10	\$5.10	\$12.80	\$9.40
2040	1.300	1.100	\$5.50	\$4.45	\$5.20	\$5.20	\$13.05	\$9.60
2041	1.300	1.100	\$5.60	\$4.55	\$5.30	\$5.30	\$13.30	\$9.80
2042	1.300	1.100	\$5.70	\$4.65	\$5.45	\$5.45	\$13.55	\$10.00
2043	1.300	1.100	\$5.85	\$4.75	\$5.55	\$5.55	\$13.85	\$10.20
2043+	1.300	1.100	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

Notes

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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 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

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