

CHAPMAN HYDROGEN AND PETROLEUM ENGINEERING LTD.
CRUDE OIL
HISTORICAL, CONSTANT, CURRENT AND FUTURE PRICES

January 1, 2024

Date	WTI [1] \$US/STB	Brent Spot (ICE)[2] \$US/STB	AB Synthetic Crude Price [3] \$CDN/STB	Western Canada Select [4] \$CDN/STB	Exchange Rate \$CDN/\$US
HISTORICAL PRICES					
2012	94.05	111.63	92.56	71.70	1.00
2013	97.98	108.56	100.17	75.76	0.97
2014	93.12	99.43	101.07	82.07	0.91
2015	48.69	53.32	62.17	46.23	0.78
2016	43.17	45.06	57.98	38.90	0.76
2017	50.86	54.75	67.75	49.63	0.77
2018	64.92	71.64	75.06	50.17	0.77
2019	57.00	64.11	75.28	57.86	0.75
2020	39.54	43.40	48.78	37.05	0.75
2021	67.89	70.39	83.73	68.00	0.80
2022	94.73	100.62	125.24	100.41	0.77
2023	77.59	82.49	107.36	77.29	0.74
CONSTANT PRICES (The average of the first-day-of-the-month price for the preceding 12 months-SEC)					
	79.28	83.96	111.15	79.96	0.74
FORECAST PRICES					
2024	72.99	76.68	99.99	74.95	0.75
2025	74.36	79.24	101.81	76.32	0.75
2026	76.03	80.69	102.71	76.99	0.76
2027	77.35	81.50	104.45	78.30	0.76
2028	78.90	83.13	106.48	79.82	0.76
2029	80.48	84.79	108.56	81.38	0.76
2030	82.09	86.49	110.68	82.96	0.76
2031	83.73	88.22	112.84	84.58	0.76
2032	85.40	89.98	115.04	86.24	0.76
2033	87.11	91.78	117.29	87.92	0.76
2034	88.85	93.62	119.58	89.64	0.76
2035	90.63	95.49	121.92	91.39	0.76
2036	92.44	97.40	124.31	93.18	0.76
2037	94.29	99.35	126.74	95.00	0.76
2038	96.18	101.33	129.22	96.86	0.76
2039	98.10	103.36	131.75	98.76	0.76

Escalated 2% thereafter

- Notes: [1] West Texas Intermediate quality (D2/S2) crude (40API) landed in Cushing, Oklahoma.
(Actual WTI strip oil prices are: \$US72.12/STB in 2024; \$US68.85/STB in 2025; \$US65.55/STB in 2026)
- [2] The Brent Spot price is estimated based on historic data.
(Actual Brent strip oil prices are: \$US75.68/STB in 2024; \$US73.37/STB in 2025; \$US70.78/STB in 2026)
- [3] Equivalent price for Light Sweet Crude (D2/S2) & Synthetic Crude landed in Edmonton.
- [4] Western Canada Select (20.5API), spot price for B.C., Alberta, Saskatchewan, and Manitoba.

CHAPMAN HYDROGEN AND PETROLEUM ENGINEERING LTD.
NATURAL GAS & BY-PRODUCTS
HISTORICAL, CONSTANT, CURRENT AND FUTURE PRICES

January 1, 2024

Date	Alberta GRP [1]		AECO Spot Gas[2]	Henry Hub Gas[3]	Propane C3 [4]	Butane C4 [4]	Condensate (Pentanes Plus) C5+[5]
	\$CDN/MMBTU	\$CDN/GJ	\$CDN/MMBTU	\$US/MMBTU	\$CDN/BBL	\$CDN/BBL	\$CDN/BBL
HISTORICAL PRICES							
2012	2.25	2.13	2.39	2.75	47.40	64.48	96.26
2013	2.98	2.82	3.17	3.73	50.09	91.43	100.72
2014	4.22	4.00	4.51	4.35	46.85	62.26	108.28
2015	2.62	2.48	2.71	2.76	6.17	36.81	59.14
2016	2.03	1.93	2.18	2.50	6.71	29.81	55.62
2017	2.05	1.94	2.50	2.96	25.55	39.62	67.15
2018	1.38	1.31	1.51	3.18	30.47	48.97	77.19
2019	1.31	1.24	1.81	2.57	14.98	21.39	70.46
2020	1.85	1.75	2.25	2.02	20.62	24.74	50.06
2021	3.05	2.89	3.58	3.91	42.31	38.12	70.39
2022	4.60	4.36	5.14	6.45	53.85	62.81	122.16
2023	3.00	2.84	2.51	2.59	31.68	49.39	108.73
CONSTANT PRICES (The average of the first-day-of-the-month price for the preceding 12 months-SEC)							
	3.28	3.11	3.04	3.06	32.95	51.03	111.33
FORECAST PRICES							
2024	2.09	1.99	2.09	2.70	31.45	50.60	96.99
2025	3.25	3.08	3.24	3.53	37.10	51.57	98.76
2026	3.85	3.66	3.85	4.10	37.35	52.02	99.63
2027	4.16	3.95	4.16	4.18	37.98	52.90	101.32
2028	4.25	4.03	4.24	4.26	38.72	53.93	103.29
2029	4.33	4.11	4.32	4.35	39.47	54.98	105.30
2030	4.42	4.19	4.41	4.43	40.24	56.06	107.36
2031	4.51	4.27	4.50	4.52	41.03	57.15	109.45
2032	4.60	4.36	4.59	4.61	41.83	58.27	111.59
2033	4.69	4.45	4.68	4.70	42.64	59.40	113.77
2034	4.78	4.54	4.78	4.80	43.48	59.90	115.99
2035	4.88	4.63	4.87	4.89	44.33	61.07	118.26
2036	4.98	4.72	4.97	4.99	45.19	62.26	120.58
2037	5.07	4.81	5.07	5.09	46.08	63.48	122.94
2038	5.18	4.91	5.17	5.19	46.98	64.72	125.34
2039	5.28	5.01	5.27	5.30	47.90	66.02	127.85

Escalated 2% thereafter

- Notes: [1] Alberta Gas Reference Price (GRP) represents the average of all system and direct (spot and firm) sales.
[2] The AECO C Spot price, which is the Alberta gas trading price.
(Actual AECO C spot gas prices are: \$US1.90/MMBTU in 2024; \$US2.95/MMBTU in 2025; \$US3.44/MMBTU in 2026).
[3] Henry Hub Spot is natural gas traded on the New York Mercantile Exchange (NYMEX).
(Actual Henry Hub strip gas prices are: \$US2.70/MMBTU in 2024; \$US3.53/MMBTU in 2025 and \$US4.45/MMBTU in 2026).
[4] Alberta average field price for Propane and Butane purchased at field locations.
[5] Edmonton condensate from GasAlbertaInc.