



**Table 1**  
GLJ Ltd.  
**Domestic Crude Oil and Natural Gas Liquids**  
**Price Forecast**  
Effective July 1, 2023

Year	Inflation %	CADUSD Exchange Rate USD/CAD	WTI Crude Oil (39.6 API, 0.24%S) Cushing, OK		Brent Spot Crude Oil (38.3 API, 0.37%S) UK	MSW, Light Crude Oil (40 API, 0.3%S) at Edmonton	Bow River Crude Oil (21.4 API, 2.8%S) at Hardisty	WCS Crude Oil (20.9 API, 3.5%S) at Hardisty	Heavy Crude Oil (12 API) at Hardisty	Light Sour Crude Oil (38 API, 1.1%S) at Cromer	Medium Crude Oil (29 API, 2.0%S) at Cromer	Alberta Natural Gas Liquids (Then Current Dollars) at Edmonton				
			Constant 2023 \$	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Ethane	Propane	Butane	Condensate
			USD/bbl	USD/bbl	USD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl	CAD/bbl
2013	0.9	0.971	121.84	97.96	108.77	93.47	76.33	75.01	65.11	92.30	88.13	N/A	38.88	68.81	104.70	
2014	1.9	0.906	114.43	93.00	99.71	94.58	81.08	81.03	73.73	92.68	89.67	N/A	45.53	69.20	102.44	
2015	1.1	0.783	58.92	48.78	53.60	57.20	45.50	44.82	39.25	55.49	51.87	N/A	6.49	36.75	60.42	
2016	1.4	0.755	51.92	43.38	45.05	53.08	39.83	38.96	32.78	51.46	48.84	N/A	13.40	34.49	56.25	
2017	1.6	0.771	60.01	50.94	54.80	62.84	50.91	50.53	44.74	62.09	59.96	N/A	28.57	44.46	66.86	
2018	2.3	0.772	75.07	64.73	71.55	69.22	49.03	49.52	39.42	72.94	69.60	N/A	26.79	32.96	78.60	
2019	1.9	0.754	64.67	57.02	64.24	69.16	59.26	58.75	54.11	69.65	67.97	N/A	16.98	24.29	70.19	
2020	0.7	0.746	43.85	39.44	43.28	45.28	36.21	35.56	30.45	45.45	44.01	N/A	16.25	22.02	49.52	
2021	3.4	0.798	75.13	67.92	70.78	79.71	69.24	68.74	62.14	80.10	77.58	N/A	43.25	51.66	85.47	
2022	6.8	0.769	100.69	94.23	98.89	119.60	97.20	97.07	89.65	118.45	114.83	N/A	50.08	61.62	121.60	
2023 Q1	5.1	0.740	76.13	76.13	82.25	99.63	75.27	76.25	63.58	95.09	95.12	N/A	33.44	52.69	105.31	
2023 Q2 (est)	4.4	0.743	73.79	73.79	78.02	95.04	78.07	81.07	76.29	94.25	91.58	N/A	27.46	37.88	97.02	
2023 Q3	0.0	0.750	71.50	71.50	75.50	91.33	78.40	78.00	73.40	92.25	89.05	7.24	25.57	36.53	90.00	
2023 Q4	0.0	0.750	72.50	72.50	76.50	92.67	77.73	77.33	72.13	93.59	90.35	9.35	25.95	37.07	91.33	
2023 Full Year	2.4	0.746	73.48	73.48	78.07	94.67	77.37	78.16	71.35	93.80	91.53	N/A	28.10	41.04	95.92	
2023 Q3-Q4	0.0	0.750	72.00	72.00	76.00	92.00	78.07	77.67	72.77	92.92	89.70	8.30	25.76	36.80	90.67	
2024	2.0	0.750	72.06	73.50	77.67	92.67	74.40	74.00	66.20	93.59	90.35	11.40	39.38	50.97	96.67	
2025	2.0	0.755	72.50	75.43	80.00	94.50	76.14	75.74	67.88	95.45	92.14	13.99	42.53	51.98	98.58	
2026	2.0	0.765	72.50	76.94	82.00	95.14	81.37	80.97	73.69	96.09	92.76	14.11	42.81	52.33	101.88	
2027	2.0	0.765	72.50	78.48	82.53	97.04	83.38	82.98	75.70	98.01	94.61	14.39	43.67	53.37	103.92	
2028	2.0	0.765	72.50	80.05	84.14	98.98	86.54	86.14	79.19	99.97	96.51	14.70	44.54	54.44	106.00	
2029	2.0	0.765	72.50	81.65	85.85	100.96	88.36	87.96	80.91	101.97	98.44	15.01	45.43	55.53	108.12	
2030	2.0	0.765	72.50	83.28	87.58	102.97	90.11	89.71	82.55	104.00	100.40	15.33	46.34	56.64	110.27	
2031	2.0	0.765	72.50	84.95	89.32	105.04	91.91	91.51	84.22	106.09	102.41	15.66	47.27	57.77	112.48	
2032	2.0	0.765	72.50	86.65	91.11	107.15	93.74	93.34	85.93	108.22	104.47	15.99	48.22	58.93	114.73	
2033+	2.0	0.765	72.50	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	

Historical futures contract price is an average of the daily settlement price of the near month contract over the calendar month.



**Table 2**  
GLJ Ltd.  
**Domestic Natural Gas and Sulphur**  
**Price Forecast**  
Effective July 1, 2023

Year	Henry Hub		Alberta				Saskatchewan			British Columbia		Huntingdon/ Sumas Spot USD/MMBtu	Dawn @ Ontario USD/MMBtu	Sulphur FOB Vancouver USD/lt	Sulphur @ Alberta Plant Gate CAD/lt
	Constant	Then	AECO/NIT	Plant Gate			Plant Gate		Westcoast	Spot					
	2023 \$ USD/MMBtu	Current USD/MMBtu	Spot CAD/MMBtu	Spot CAD/MMBtu	ARP CAD/MMBtu	Empress CAD/MMBtu	SaskEnergy CAD/MMBtu	Spot CAD/MMBtu	Station 2 CAD/MMBtu	Plant Gate CAD/MMBtu					
2013	4.63	3.73	3.18	2.96	2.98	3.14	3.09	3.10	3.14	2.94	3.71	4.07	105.74	72.85	
2014	5.26	4.28	4.50	4.26	4.22	4.72	4.39	4.42	4.29	4.07	4.37	5.98	145.41	108.67	
2015	3.18	2.63	2.70	2.47	2.56	2.89	2.71	2.61	1.80	1.59	2.31	2.99	139.61	126.11	
2016	3.06	2.55	2.18	1.94	1.93	2.36	2.18	2.09	1.77	1.60	2.18	2.56	82.96	59.11	
2017	3.56	3.02	2.19	1.93	2.22	2.60	2.41	2.29	1.56	1.34	2.62	3.05	105.62	60.15	
2018	3.56	3.07	1.54	1.33	1.36	3.06	1.68	2.71	1.24	1.03	3.60	3.09	133.79	87.84	
2019	2.87	2.53	1.81	1.59	1.48	2.52	1.73	2.20	1.02	0.75	4.70	2.44	84.79	36.94	
2020	2.37	2.13	2.26	2.03	2.00	2.24	2.45	2.05	2.21	1.94	2.16	1.88	57.90	2.56	
2021	4.11	3.71	3.65	3.37	3.27	3.93	3.94	3.70	3.35	3.05	3.94	3.63	176.47	68.63	
2022	6.97	6.51	5.38	5.05	5.05	6.45	5.85	6.25	4.57	4.17	8.10	6.06	262.87	118.15	
2023 Q1	2.76	2.76	3.14	2.82	3.70	3.28	4.32	3.04	2.91	2.54	8.30	2.71	123.52	33.73	
2023 Q2 (est)	2.29	2.29	2.04	1.75	2.02	2.41	2.62	2.17	2.04	1.74	2.45	2.02	85.03	45.61	
2023 Q3	2.75	2.75	2.38	2.08	2.08	2.63	2.58	2.16	2.13	1.77	2.10	2.70	85.00	38.33	
2023 Q4	3.00	3.00	3.00	2.69	2.69	3.25	3.19	2.78	2.75	2.38	2.35	2.95	85.00	38.33	
2023 Full Year	2.70	2.70	2.64	2.33	2.62	2.89	3.18	2.54	2.46	2.11	3.80	2.59	94.64	39.00	
2023 Q3-Q4	2.88	2.88	2.69	2.38	2.38	2.94	2.88	2.47	2.44	2.08	2.23	2.83	85.00	38.33	
2024	3.73	3.80	3.60	3.28	3.28	3.65	3.53	3.38	3.55	3.18	3.70	3.75	120.00	85.00	
2025	4.00	4.16	4.35	4.02	4.02	4.40	4.27	4.13	4.35	3.98	4.06	4.11	125.00	90.56	
2026	4.00	4.25	4.39	4.05	4.05	4.44	4.30	4.17	4.39	4.01	4.15	4.20	127.50	91.67	
2027	4.00	4.33	4.47	4.14	4.14	4.52	4.39	4.25	4.47	4.10	4.23	4.28	130.05	95.00	
2028	4.00	4.42	4.56	4.22	4.22	4.61	4.47	4.34	4.56	4.19	4.32	4.37	132.65	98.40	
2029	4.00	4.50	4.65	4.31	4.31	4.70	4.56	4.43	4.65	4.28	4.40	4.45	135.30	101.87	
2030	4.00	4.60	4.75	4.41	4.41	4.80	4.66	4.53	4.75	4.37	4.50	4.55	138.01	105.41	
2031	4.00	4.69	4.84	4.50	4.50	4.89	4.75	4.62	4.84	4.46	4.59	4.64	140.77	109.01	
2032	4.00	4.78	4.94	4.59	4.59	4.99	4.84	4.72	4.94	4.56	4.68	4.73	143.59	112.69	
2033+	4.00	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	

Unless otherwise stated, the gas price reference point is the receipt point on the applicable provincial gas transmission system known as the plant gate.  
The plant gate price represents the price before raw gathering and processing charges are deducted.



**Table 3**  
GLJ Ltd.  
**International Crude Oil**  
**Price Forecast**  
Effective July 1, 2023

	United States		Europe	Latin America	Mideast Gulf and Mediterranean							Africa	Asia-Pacific		Russia / C.I.S.	
	Cushing, OK WTI 39.6 API 0.24% S	Louisiana LLS* 35.6 API 0.37% S	UK Brent 38.3 API 0.37% S	Mexico Maya 21.8 API 3.33% S	Oman DME 34 API 2.00% S	OPEC Basket 32.7 API 1.77% S	Abu Dhabi Murban 40.2 API 0.79% S	Iran Iran Light 33.6 API 1.46% S	Algeria Saharan 45.3 API 0.09% S	Iraq Basrah Medium 27.9 API 3% S	Kuwait Export Blend 31.4 API 2.52% S	Nigeria Bonny Light 33.4 API 0.16% S	Indonesia Minas 35.3 API 0.09% S	Malaysia Tapis 45.2 API 0.03% S	Russia ESPO** 34.8 API 0.62% S	Russia Sokol 34.8 API 0.29% S
Year	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl	USD/bbl
2023 Q3-Q4	72.00	74.48	76.00	63.08	73.72	72.96	75.77	72.96	75.32	72.20	76.76	75.24	73.42	79.80	61.56	64.60
2024	73.50	76.12	77.67	67.57	75.34	74.56	77.44	74.56	76.97	73.79	78.45	77.67	75.03	81.55	68.35	69.90
2025	75.43	78.40	80.00	72.00	77.60	76.80	79.76	76.80	79.28	76.00	80.80	80.00	77.28	84.00	76.00	76.80
2026	76.94	80.36	82.00	73.80	79.54	78.72	81.75	78.72	81.26	77.90	82.82	82.00	79.21	86.10	81.02	82.00
2027	78.48	80.88	82.53	74.28	80.05	79.23	82.28	79.23	81.79	78.40	83.36	82.53	79.72	86.66	85.01	86.66
2028	80.05	82.46	84.14	75.73	81.62	80.77	83.89	80.77	83.38	79.93	84.98	84.14	81.28	88.35	86.66	88.35
2029	81.65	84.13	85.85	77.27	83.27	82.42	85.59	82.42	85.08	81.56	86.71	85.85	82.93	90.14	88.43	90.14
2030	83.28	85.83	87.58	78.82	84.95	84.08	87.32	84.08	86.79	83.20	88.46	87.58	84.60	91.96	90.21	91.96
2031	84.95	87.53	89.32	80.39	86.64	85.75	89.05	85.75	88.52	84.85	90.21	89.32	86.28	93.79	92.00	93.79
2032	86.65	89.29	91.11	82.00	88.38	87.47	90.84	87.47	90.29	86.55	92.02	91.11	88.01	95.67	93.84	95.67
2033+	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

\* LLS - Light Louisiana Sweet

\*\* ESPO - Eastern Siberian Pacific Ocean Blend

Historical futures contract price is an average of the daily settlement price of the near month contract over the calendar month.

GLJ Forecasts a variety of other benchmarks that may not be presented and can be obtained upon request.



**Table 4**  
GLJ Ltd.  
**International Natural Gas & LNG**  
**Price Forecast**  
Effective July 1, 2023

Year	US Natural Gas						European Natural Gas			Asia-Pacific	India
	Henry Hub Natural Gas USD/MMBtu	Midwest @ Chicago USD/MMBtu	Rockies Natural Gas USD/MMBtu	Algonquin Natural Gas USD/MMBtu	Malin Natural Gas USD/MMBtu	Permian Natural Gas USD/MMBtu	NBP Natural Gas USD/MMBtu	TTF Natural Gas USD/MMBtu	Russian Natural Gas USD/MMBtu	JKM Natural Gas USD/MMBtu	India Domestic Natural Gas USD/MMBtu
2023 Q3-Q4	2.88	2.68	2.68	3.81	2.78	2.38	13.25	13.50	10.25	13.75	4.86
2024	3.80	3.65	3.60	5.68	3.70	3.30	17.50	18.00	16.50	17.40	3.99
2025	4.16	4.01	3.96	6.04	4.06	3.66	13.74	14.49	12.74	14.14	4.53
2026	4.25	4.10	4.05	6.13	4.15	3.75	12.00	12.75	11.00	12.50	4.53
2027	4.33	4.18	4.13	6.21	4.23	3.83	10.75	11.50	9.75	11.90	4.47
2028	4.42	4.27	4.22	6.30	4.32	3.92	10.98	11.73	9.98	12.13	4.50
2029	4.50	4.35	4.30	6.38	4.40	4.00	11.20	11.96	10.20	12.36	4.59
2030	4.60	4.45	4.40	6.48	4.50	4.10	11.43	12.20	10.43	12.60	4.73
2031	4.69	4.54	4.49	6.57	4.59	4.19	11.66	12.45	10.66	12.85	4.92
2032	4.78	4.63	4.58	6.66	4.68	4.28	11.89	12.70	10.89	13.10	5.12
2033+	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

NBP - National Balancing Point LNG

JKM - Japanese Korean Marker LNG

TTF - Title Transfer Facility LNG

Russian Gas - Average European import border price



**Table 5**  
**GLJ Ltd.**  
**Natural Gas Liquids**  
**Price Forecast**  
 Effective July 1, 2023

Year	Canadian Natural Gas Liquids					US Natural Gas Liquids							Asia/Europe/Other	
	Edmonton				E/P Mix*	Conway			Mont Belvieu				Far East Index	
	Ethane CAD/bbl	Propane CAD/bbl	Butane CAD/bbl	Condensate CAD/bbl		Propane USD/bbl	Butane USD/bbl	Condensate USD/bbl	Ethane USD/bbl	Propane USD/bbl	Butane USD/bbl	Condensate USD/bbl	Propane USD/bbl	Butane USD/bbl
2023 Q3-Q4	8.30	25.76	36.80	90.67	9.20	27.36	34.56	65.52	10.06	28.80	32.40	61.92	38.00	49.40
2024	11.40	39.38	50.97	96.67	12.16	27.93	35.28	66.89	13.30	29.40	33.07	64.68	44.27	54.37
2025	13.99	42.53	51.98	98.58	13.31	41.49	52.80	68.64	14.56	43.00	51.29	66.38	44.00	52.00
2026	14.11	42.81	52.33	101.88	13.60	42.32	53.86	70.02	14.88	43.86	52.32	67.71	45.10	53.30
2027	14.39	43.67	53.37	103.92	13.86	43.16	54.94	71.42	15.16	44.73	53.37	69.06	45.39	53.64
2028	14.70	44.54	54.44	106.00	14.13	44.03	56.03	72.85	15.46	45.63	54.43	70.44	46.28	54.69
2029	15.01	45.43	55.53	108.12	14.42	44.91	57.15	74.30	15.77	46.54	55.52	71.85	47.22	55.80
2030	15.33	46.34	56.64	110.27	14.70	45.80	58.30	75.78	16.08	47.47	56.63	73.29	48.17	56.93
2031	15.66	47.27	57.77	112.48	15.00	46.72	59.47	77.30	16.40	48.42	57.77	74.76	49.13	58.06
2032	15.99	48.22	58.93	114.73	15.30	47.66	60.65	78.85	16.73	49.39	58.92	76.25	50.11	59.22
2033+	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Butane prices at Conway and Mont Belvieu represent a blended price of two thirds normal butane and one third iso-butane.

\*Conway E/P mix is blended at 80%-20%



**Table 6**  
 GLJ Ltd.  
**International Exchange Rates**  
**Forecast**  
 Effective July 1, 2023

Year	Inflation %	Canada CADUSD Exchange Rate CAD/USD	UK GBPUSD Exchange Rate GBP/USD	Euro EURUSD Exchange Rate EUR/USD	Norway NOKUSD Exchange Rate USD/NOK	Australia AUDUSD Exchange Rate AUD/USD	China USDCNY Exchange Rate USD/CNY	Japan USDJPY Exchange Rate USD/JPY
2023 Q3-Q4	0.0	0.750	1.250	1.080	10.500	0.670	7.00	140.00
2024	2.0	0.750	1.255	1.100	10.100	0.710	6.90	140.00
2025	2.0	0.755	1.255	1.150	10.100	0.720	6.90	140.00
2026	2.0	0.765	1.272	1.170	10.100	0.720	6.90	140.00
2027	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00
2028	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00
2029	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00
2030	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00
2031	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00
2032	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00
2033+	2.0	0.765	1.300	1.170	10.100	0.720	6.90	140.00

GLJ Forecasts a variety of other exchange rates that can be obtained upon request.



**Table 7**  
 GLJ Ltd.  
**Power and Refined Products**  
**Forecast**  
 Effective July 1, 2023

Year	Power	Canadian Fuels			US Fuels		
	Alberta AESO CAD/MWh	Diesel ULS* CAD/Ltr	Gasoline Regular CAD/Ltr	Heating Oil CAD/Ltr	Diesel ULS* USD/Gallon	Gasoline Regular USD/Gallon	Heating Oil USD/Gallon
2023 Q3-Q4	179.37	1.43	1.38	1.33	3.46	3.17	2.52
2024	143.16	1.44	1.39	1.34	3.53	3.23	2.57
2025	108.82	1.46	1.42	1.37	3.62	3.32	2.64
2026	100.94	1.47	1.43	1.38	3.69	3.39	2.69
2027	102.84	1.50	1.46	1.41	3.77	3.45	2.75
2028	104.90	1.53	1.48	1.44	3.84	3.52	2.80
2029	107.00	1.56	1.51	1.46	3.92	3.59	2.86
2030	109.14	1.60	1.54	1.49	4.00	3.66	2.91
2031	111.32	1.63	1.58	1.52	4.08	3.74	2.97
2032	113.55	1.66	1.61	1.55	4.16	3.81	3.03
2033+	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Canadian fuel prices are national average prices in CAD/Litre

US fuel prices are national average prices in USD/Gallon

\* ULS - Ultra Low Sulphur