

9 June 2022



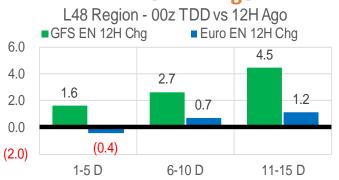
	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 121.91	\$ (0.20)	\$ 2.8

	Curront	Δ from YD	∆ fron	1 7D
	Current	ם ווטוו זם	Av	g
Brent	¢ 122.47	\$ (0.11)	A C	2 /
Prompt	φ 123.47	Ψ Φ (0.11)	Φ Φ	3.4

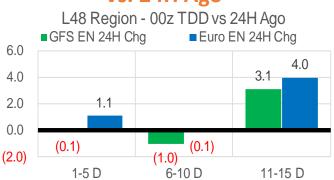
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Price Summary

Vs. 12H Ago



Vs. 24H Ago



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	95.6	- 0.31	▼ -0.71

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	34.9	a 0.41	3.14

	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.2	- 0.79	▼ -0.44

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	6.0	0.10	a 0.80

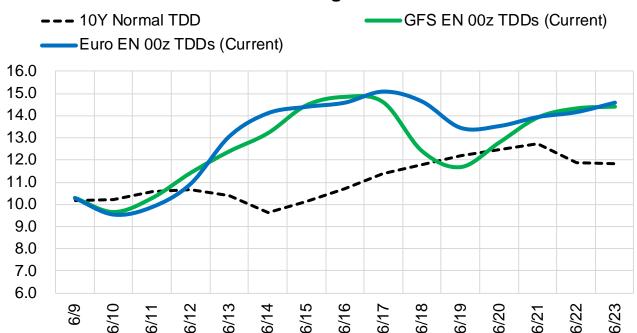
	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.2	0.09	▼ -1.42

	Current	Δ fr	om YD	rom 7D Avg
Mexican Exports	7.2		0.00	0.13

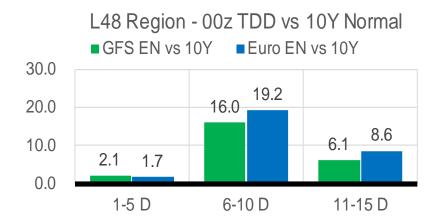


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	DoD	vs. 7D
Lower 48 Dry Production	95.8	95.9	95.9	96.2	97.5	95.9	95.6	▼-0.3	▼ -0.6
Canadian Imports	5.0	4.8	5.1	5.3	5.7	6.0	6.0	0.1	0.7
L48 Power	30.7	28.8	28.7	32.2	33.8	34.5	34.9	0.4	3.4
L48 Residential & Commercial	8.6	9.0	8.2	8.4	8.5	9.0	8.2	▼-0.8	-0.4
L48 Industrial	21.3	21.2	21.0	21.0	21.0	20.9	20.8	▼-0.1	▼ -0.3
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.2	5.3	5.2	5.1	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.1	2.1	2.0	2.2	2.3	2.4	2.4	▼ 0.0	0.2
L48 Regional Gas Consumption	67.9	66.3	65.1	69.0	70.8	71.9	71.3	▼-0.6	2.8
Net LNG Delivered	12.77	13.01	12.79	12.89	12.90	11.10	11.19	0.1	▼ -1.4
Total Mexican Exports	7.1	6.9	6.7	7.3	7.2	7.2	7.2	0.0	a 0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	13.0	14.6	16.4	12.3	12.2	11.6	11.9		

EIA Storage Week Balances

	4-Jun	6-May	13-May	20-May	27-May	3-Jun	WoW	vs. 4W
Lower 48 Dry Production	93.1	95.5	95.8	94.8	95.9	96.6	8.0	1.2
Canadian Imports	3.9	5.9	5.2	4.9	4.9	4.8	▼ 0.0	▼-0.4
L48 Power	27.8	26.2	26.8	30.4	30.0	30.5	0.5	2.1
L48 Residential & Commercial	11.8	16.8	14.5	10.0	11.6	9.1	▼ -2.6	▼ -4.2
L48 Industrial	18.5	21.1	20.9	21.3	20.0	21.3	1.3	0.5
L48 Lease and Plant Fuel	5.0	5.2	5.2	5.1	5.2	5.2	0.0	0.1
L48 Pipeline Distribution	2.2	2.4	2.3	2.3	2.4	2.2	▼ -0.1	▼ -0.1
L48 Regional Gas Consumption	65.4	71.8	69.6	69.1	69.2	68.3	▼ -0.9	▼-1.6
Net LNG Exports	11.0	12.2	12.2	12.2	13.0	12.8	▼ -0.2	0.4
Total Mexican Exports	7.2	6.9	7.0	7.0	7.0	7.1	▲ 0.0	△ 0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity	13.4 14.0	10.6 10.9	12.1 12.7	11.4 11.4	11.4 12.9	13.3	1.9	
Daily Model Error	-0.6	-0.3	-0.7	0.0	-1.4			

Monthly Balances									
	2Yr Ago	LY					MTD		
	Jun-20	Jun-21	Feb-22	Mar-22	Apr-22	May-22	Jun-22	MoM	vs. LY
Lower 48 Dry Production	87.9	93.2	92.7	93.5	95.9	95.6	96.4	0.7	3.2
Canadian Imports	4.0	4.8	6.5	5.2	5.8	5.1	5.2	▲ 0.1	0.4
L48 Power	34.9	35.9	28.7	25.5	24.7	28.8	32.1	3.3	▼-3.8
L48 Residential & Commercial	8.8	8.9	43.3	31.5	22.5	12.3	8.7	▼-3.6	▼ -0.1
L48 Industrial	20.0	20.2	22.1	19.7	21.4	20.9	21.2	0.3	1.0
L48 Lease and Plant Fuel	4.8	5.0	5.1	5.2	5.2	5.2	5.2	0.0	0.2
L48 Pipeline Distribution	2.3	2.4	3.5	2.9	2.6	2.3	2.2	▼-0.1	- 0.2
L48 Regional Gas Consumption	70.8	72.5	102.7	84.7	76.4	69.5	69.5	0.0	▼-3.0
Net LNG Exports	4.0	10.2	12.4	12.9	12.3	12.5	12.6	▲ 0.1	2.5
Total Mexican Exports	5.5	7.4	6.2	6.5	6.7	7.0	7.1	0.1	▼-0.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.5	8.0	-22.1	-5.4	6.2	11.8	12.4		

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	DoD	vs. 7D
NRC Nuclear Daily Output	87.8	87.8	87.4	87.4	88.1	88.8	88.6	-0.2	0.7
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	17.1	17.1	17.5	17.4	16.8	16.1	16.3	0.2	-0.7
NRC % Nuclear Cap Utilization	89.3	89.3	88.9	88.9	89.5	90.3	90.1	-0.2	0.7

Wind Generation Daily Average - MWh (EIA)

	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	DoD	vs. 7D
CALI Wind	1802	3399	4789	4362	4100	4236	3765	-470	-16
TEXAS Wind	14995	6487	7108	8979	17332	15612	13604	-2008	1852
US Wind	42153	28806	32252	35121	47127	42280	34534	-7746	-3422

Generation Daily Average - MWh (EIA)

	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	DoD	vs. 7D
US Wind	42153	28806	32252	35121	47127	42280	34534	-7746	-3422
US Solar	19336	23598	23381	23617	24676	25644	25467	-177	2091
US Petroleum	1005	991	1035	972	802	855	994	139	50
US Other	8091	10717	10751	10467	10529	10857	10829	-28	594
US Coal	102806	101026	96220	89456	85730	96743	102498	5755	7168
US Nuke	91515	89946	89628	89994	90940	90954	91034	80	538
US Hydro	36018	36100	35686	34053	33131	32424	38287	5863	3719
US Gas	195308	208586	192293	168276	161225	190854	207153	16299	21062

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



US Hydro

US Gas

Storage Week Average Generation Data

Nuclear Generation Weekly	Average - G	Wh (NRC	C)					
	29-Apr	6-May	13- M ay	20-May	27-May	3-Jun	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	73.5	76.7	79.3	81.7	84.2	86.2	1.9	-0.3
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	31.4	28.2	25.5	23.2	20.6	18.7	-1.9	
NRC % Nuclear Cap Utilization	74.8	78.0	80.7	83.1	85.7	87.6	1.9	
Wind Generation Weekly Av	verage - MWI	n (EIA)						
	29-Apr	6-May	13-May	20-May	27-May	3-Jun	WoW	WoW Bcf/d Impact
CALI Wind	3153	2929	3983	3452	2798	3443	644	-0.1
TEXAS Wind	18327	16902	17705	15706	14010	17915	3905	-0.7
US Wind	66986	57244	64974	50251	50129	58109	7980	-1.4
							16%	
						0.3		
Generation Weekly Average	- MWh (EIA)				est.		
								WoW
	29-Apr	6-May	13-May	20-May	27-May	3-Jun	WoW	Bcf/d
	•	•	•	•	•			Impact
US Wind	66986	57244	64974	50251	50129	58109	7980	-1.4
US Solar	17117	17079	18000	19634	17491	19342	1851	-0.3
US Petroleum	992	931	341	262	448	863	415	-0.1
US Other	7717	7529	7615	7871	7684	8246	563	-0.1
US Coal	77533	78898	81273	88922	88570	89768	1198	-0.2
US Nuke	77438	80558	83391	85510	88016	89606	1591	-0.3

See National Wind and Nuclear daily charts

26831

145774

28968

148473

31973

33772

160070

26721

131482

Source: Bloomberg, analytix.ai

35045

-0.2

1273



Monthly Average Generation Data

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY	
NRC Nuclear Daily Output	85.6	85.6	81.3	73.3	81.7	88.2	84.8	-0.8	
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	19.2	19.3	23.6	31.6	23.2	16.7	20.1	8.0	
NRC % Nuclear Cap Utilization	87.1	87.0	82.7	74.5	83.0	89.7	86.2	-0.8	

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY						
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY
CALI Wind	2446	3520	2250	3186	3391	3776	3440	-80
TEXAS Wind	9502	11017	14837	16311	16756	12369	15358	4341
US Wind	37088	41631	58528	64183	56491	36816	50003	8372

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD		
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY
US Wind	37088	41631	58528	64183	56491	36816	50003	8372
US Solar	10989	14600	14055	16272	18157	24072	20135	5535
US Petroleum	629	855	985	985	518	960	610	▼ -245
US Other	8154	7291	7189	7386	7723	10433	8598	1308
US Coal	73353	96732	82290	77545	85284	97719	90508	▼ -6224
US Nuke	89230	89328	85256	77217	85496	90675	88191	▼ -1137
US Hydro	38475	31245	33958	29022	31369	35808	34056	2811
US Gas	159808	154813	137230	133068	157565	193111	171802	16989
US Total	416490	436853	419836	406248	443976	472420	459704	22851



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



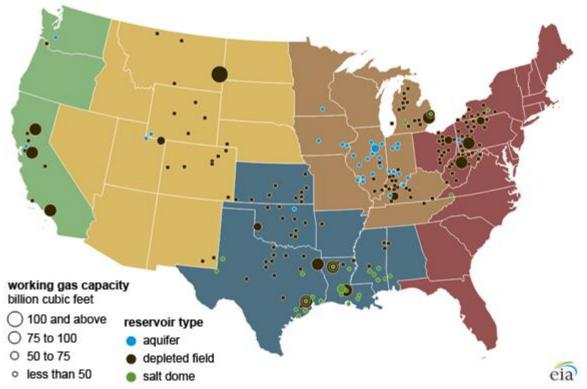
Regional S/D Models Storage Projection

Week Ending 3-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	14.0	0.1	14.1	99
East	2.2	2.2	4.4	31
Midwest	5.7	-1.0	4.8	33
Mountain	4.4	-3.9	0.6	4
South Central	-0.6	3.4	2.8	20
Pacific	2.3	-0.7	1.5	11

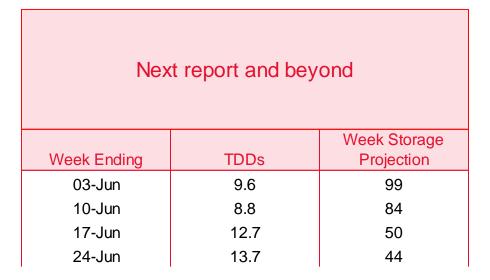
^{*}Adjustment Factor is calcuated based on historical regional deltas

U.S. underground natural gas storage facilities by type (July 2015)

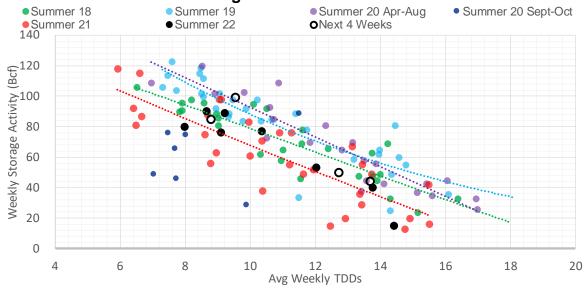




Weather Model Storage Projection



Weather Storage Model - Next 4 Week Forecast



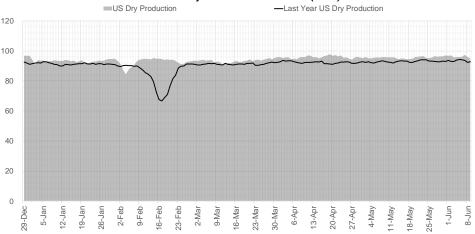
Go to larger image



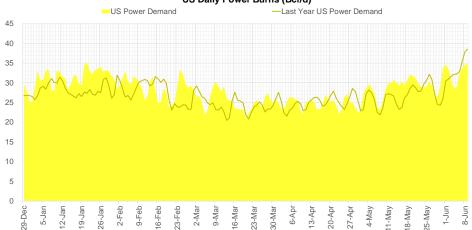


Supply - Demand Trends

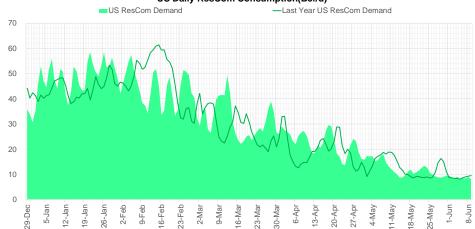
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



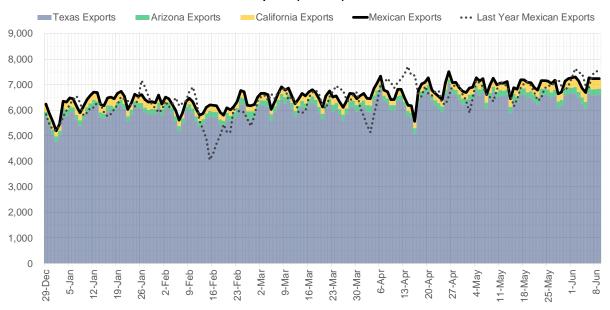
US Daily ResCom Consumption(Bcf/d)



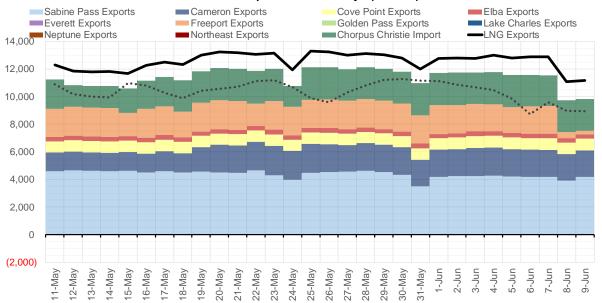
Source: Bloomberg



Mexican Exports (MMcf/d)







Source: Bloomberg



Nat Gas Options Volume and Open Interest CME and ICE Combined

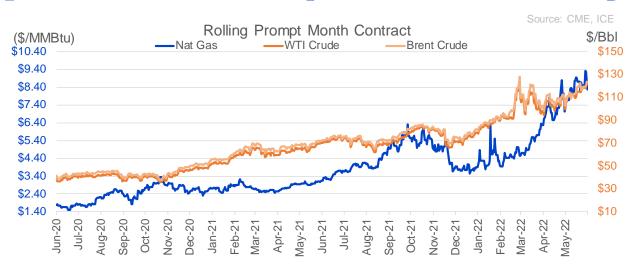
	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	ONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE OI
MONTH	YEAR			VOL	MONTH	YEAR			
8	2022	С	10.00	9138	8	2022	С	10.00	46354
8	2022	С	10.10	6201	8	2022	С	10.50	37096
8	2022	P	7.00	4644	10	2022	С	6.00	35685
7	2022	Р	7.00	4520	8	2022	С	12.00	33773
7	2022	С	10.00	3749	7	2022	С	11.00	31515
9	2022	Р	7.00	3646	10	2022	Р	6.00	24604
7	2022	С	9.00	3069	10	2022	С	5.00	24069
9	2022	Р	6.00	3054	9	2022	С	6.00	23676
8	2022	Р	6.00	2770	7	2022	С	10.00	22537
7	2022	Р	6.00	2763	7	2022	Р	6.00	22239
7	2022	С	11.00	2704	8	2022	С	12.10	22005
8	2022	Р	6.25	2426	7	2022	С	9.00	21183
7	2022	Р	7.25	2130	10	2022	Р	3.00	20975
1	2023	С	50.00	2075	7	2022	Р	7.00	20525
2	2023	C	50.00	2075	10	2022	Р	3.50	20524
3	2023	C	50.00	2075	7	2022	С	11.10	20508
8	2022	P	7.25	2003	9	2022	С	10.00	20085
7	2022	P	6.25	2000	10	2022	Р	2.50	19870
7	2022	Р	7.50	1841	8	2022	С	6.00	19733
, 7	2022	Р	6.50	1832	8	2022	Р	6.00	19646
7	2022	Ċ	12.00	1745	9	2022	Р	4.00	19416
8	2022	Č	9.00	1660	7	2022	С	6.00	18850
7	2022	P	9.00	1542	7	2022	С	8.00	18421
8	2022	C	12.00	1538	5	2023	Р	2.00	18277
7	2022	C	9.50	1440	8	2022	С	7.00	18255
9	2022	C	10.00	1400	12	2022	С	5.00	18221
10	2022	P	4.50	1351	9	2022	С	7.00	18091
8	2022	C			7	2022	С	7.00	17651
8 10	2022	P	15.00 3.00	1177	7	2022	Р	3.25	17344
		P P		1150	10	2022	Р	2.00	17258
7	2022	P P	9.50	1038	1	2023	С	10.00	16850
5	2023	P P	4.50	1025	10	2022	Р	4.00	16830
7	2022	P P	6.75	1023	9	2022	С	4.00	15970
7	2022	•	8.50	948	7	2022	Р	5.50	15695
8	2022	P	7.50	944	10	2022	С	10.00	15655
7	2022	P	8.00	928	3	2023	С	10.00	15486
7	2022	С	13.00	906	2	2023	С	10.00	15454
8	2022	C	11.50	904	8	2022	С	9.00	15425
5	2023	P	5.50	875	9	2022	Р	2.50	15292
7	2022	С	20.00	851	7	2022	Р	3.50	15271
8	2022	Р	5.00	832	7	2022	Р	5.00	15133
8	2022	С	17.00	807	10	2023	Р	2.00	15130
2	2023	Р	5.00	800	9	2022	Р	2.75	14883
7	2022	Р	7.75	797	10	2022	Р	3.25	14712
7	2022	С	10.75	762	9	2022	Р	3.00	14651
7	2022	Р	1.00	750	8	2022	Р	3.00	14552
11	2022	Р	6.00	750	7	2022	Р	4.50	14503
3	2023	С	7.00	677	11	2022	Р	4.00	14494
7	2022	Р	6.70	654	7	2022	Р	3.00	14491
7	2022	Р	5.70	650	8	2022	P	: CME, ICE	14355
							Source	: CME, ICE	



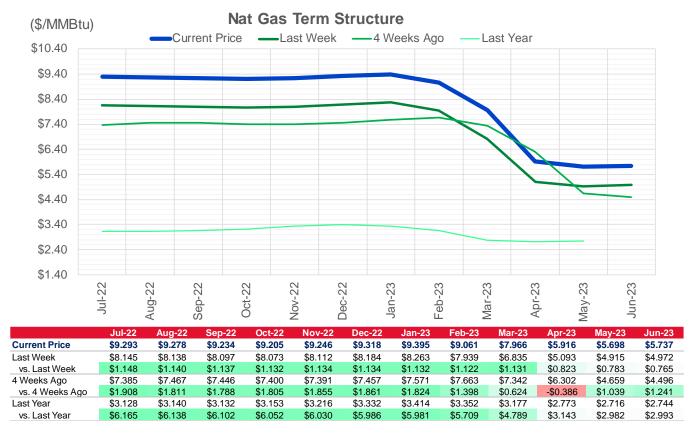
Nat Gas Futures Open Interest

CME and ICE Combined

CME Henry	Hub Futures (10	0,000 MMBt	u)	ICE Henry I	Hub Futures Con	ract Equiva	alent (10,000 MM
	Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 22	156797	181780	-24983	JUL 22	83516	90860	-7345
AUG 22	72396	78484	-6088	AUG 22	66660	61035	5625
SEP 22	124486	115465	9021	SEP 22	70447	68451	1996
OCT 22	96319	98753	-2434	OCT 22	70750	71114	-364
NOV 22	50009	50559	-550	NOV 22	59280	59283	-3
DEC 22	52495	52623	-128	DEC 22	64111	64500	-389
JAN 23	64462	65782	-1320	JAN 23	66822	66305	518
FEB 23	28562	28742	-180	FEB 23	53848	53719	129
MAR 23	45975	45744	231	MAR 23	53304	52973	331
APR 23	62975	62897	78	APR 23	52572	52549	24
MAY 23	66035	66323	-288	MAY 23	52987	52875	111
JUN 23	25391	25532	-141	JUN 23	45665	45759	-93
JUL 23	24500	24217	283	JUL 23	43798	43776	22
AUG 23	15528	15513	15	AUG 23	43700	43744	-44
SEP 23	18978	19121	-143	SEP 23	42754	42761	-7
OCT 23	41507	41188	319	OCT 23	49410	48844	566
NOV 23	12888	13114	-226	NOV 23	43680	43459	222
DEC 23	14192	13798	394	DEC 23	40323	39664	659
JAN 24	20196	20049	147	JAN 24	39623	39584	39
FEB 24	6240	6145	95	FEB 24	27080	26947	133
MAR 24	13807	13752	55	MAR 24	31813	31592	221
APR 24	12971	12739	232	APR 24	27402	27095	307
MAY 24	6623	6610	13	MAY 24	26007	25814	194
JUN 24	2028	2025	3	JUN 24	22393	22198	195
JUL 24	2009	1976	33	JUL 24	22589	22405	184
AUG 24	2981	2990	-9	AUG 24	22586	22402	184
SEP 24	1376	1371	5	SEP 24	22001	21814	188
OCT 24	7370	7386	-16	OCT 24	25140	24959	181
NOV 24	4500	4513	-13	NOV 24	23249	23095	154
DEC 24	7417	7386	31	DEC 24	25260	25101	160







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	8.75	8.71	-0.04
TETCO M3	\$/MMBtu	8.44	8.22	-0.22
FGT Zone 3	\$/MMBtu	8.48	8.90	0.42
Zone 6 NY	\$/MMBtu	8.48	8.23	-0.25
Chicago Citygate	\$/MMBtu	9.11	8.56	-0.55
Michcon	\$/MMBtu	8.85	8.49	-0.36
Columbia TCO Pool	\$/MMBtu	8.50	7.99	-0.51
Ventura	\$/MMBtu	8.80	8.49	-0.31
Rockies/Opal	\$/MMBtu	8.84	8.25	-0.59
El Paso Permian Basin	\$/MMBtu	8.75	8.02	-0.73
Socal Citygate	\$/MMBtu	10.26	9.98	-0.28
Malin	\$/MMBtu	8.93	8.73	-0.20
Houston Ship Channel	\$/MMBtu	9.04	8.68	-0.36
Henry Hub Cash	\$/MMBtu	9.43	8.43	-1.00
AECO Cash	C\$/GJ	6.84	5.60	-1.24
Station2 Cash	C\$/GJ	6.47	8.41	1.94
Dawn Cash	C\$/GJ	9.12	8.52	-0.60

Source: CME, Bloomberg



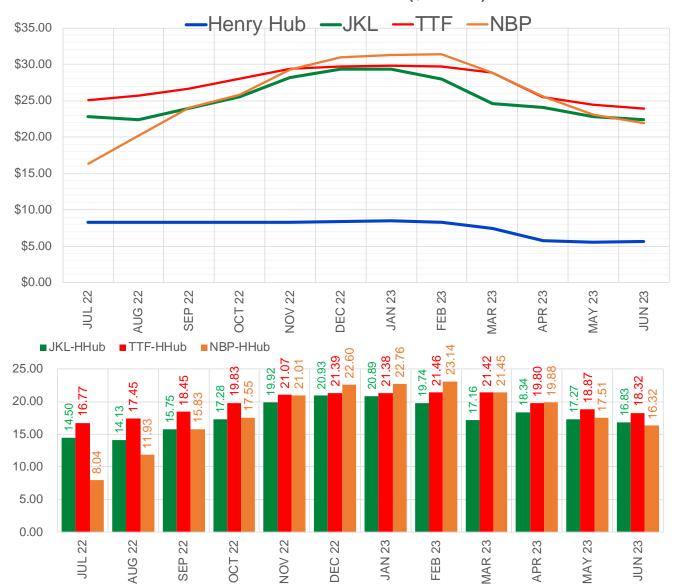


				4304	
				vs. 4 Weeks	
	Units	Current Price	vs. Last Weel	C Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	0.000	0.000	2.196
NatGas Oct21/Nov21	\$/MMBtu	0.361	0.000	0.000	0.295
NatGas Oct21/Jan22	\$/MMBtu	-1.817	0.000	0.000	▼ -2.079
NatGas Apr22/Oct22	\$/MMBtu	3.301	0.023	0.987	3.283
WTI Crude	\$/Bbl	122.11	6.850	16.400	52.150
Brent Crude	\$/Bbl	123.58	7.290	16.070	51.360
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	0.000	0.000	0.000
Heating Oil	cents/Gallon	431.43	17.100	36.310	218.480
Propane, Mt. Bel	cents/Gallon	1.25	0.024	-0.005	a 0.311
Ethane, Mt. Bel	cents/Gallon	0.65	0.002	0.075	0.380
Coal, PRB	\$/MTon	12.30	0.000	0.000	0.000
Coal, PRB	\$/MMBtu	0.70			
Coal, ILB	\$/MTon	31.05	0.000	0.000	0.000
Coal, ILB	\$/MMBtu	1.32			



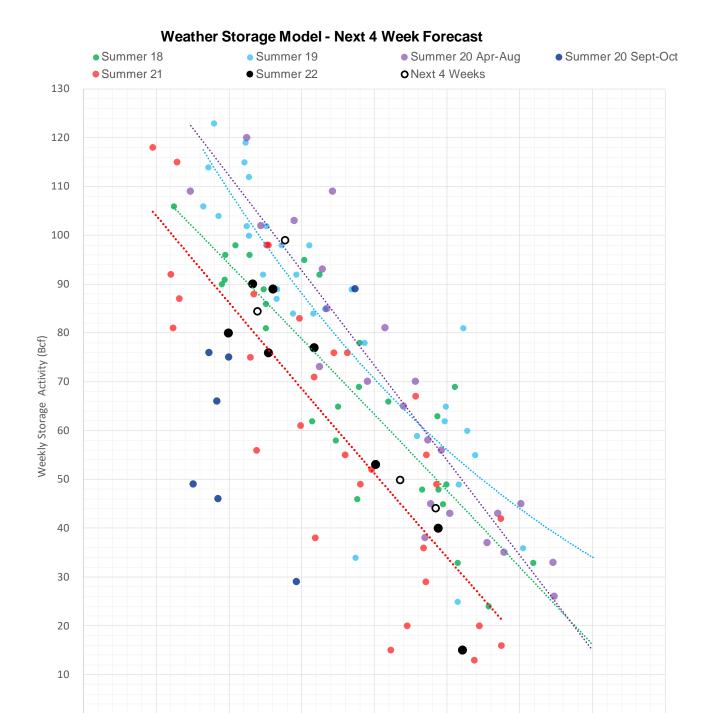
9 June 2022

Nat Gas Term Structure (\$MMBTU)



	JUL 22	AUG 22	SEP 22	OCT 22	NOV 22	DEC 22	JAN 23	FEB 23	MAR 23	APR 23	MAY 23	JUN 23
Henry Hub	\$8.273	\$8.275	\$8.244	\$8.235	\$8.299	\$8.388	\$8.500	\$8.240	\$7.425	\$5.716	\$5.561	\$5.615
JKL	\$22.775	\$22.405	\$23.990	\$25.510	\$28.220	\$29.315	\$29.390	\$27.980	\$24.580	\$24.060	\$22.835	\$22.445
JKL-HHub	\$14.502	\$14.130	\$15.746	\$17.275	\$19.921	\$20.927	\$20.890	\$19.740	\$17.155	\$18.344	\$17.274	\$16.830
TTF	\$25.039	\$25.725	\$26.690	\$28.062	\$29.366	\$29.774	\$29.879	\$29.697	\$28.847	\$25.512	\$24.432	\$23.931
TTF-HHub	\$16.766	\$17.450	\$18.446	\$19.827	\$21.067	\$21.386	\$21.379	\$21.457	\$21.422	\$19.796	\$18.871	\$18.316
NBP	\$16.309	\$20.208	\$24.076	\$25.786	\$29.305	\$30.988	\$31.263	\$31.380	\$28.873	\$25.596	\$23.067	\$21.938
NBP-HHub	\$8.036	\$11.933	\$15.832	\$17.551	\$21.006	\$22.600	\$22.763	\$23.140	\$21.448	\$19.880	\$17.506	\$16.323





Avg Weekly TDD



Weather Storage Model for Summer 2021 & 2022

