

13 June 2022



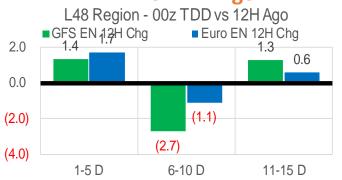
	Current	Δ from YD		m 7D vg
WTI Prompt	\$ 118.89	\$ (1.78)	~ \$	(1.6)

	Curront	Δ from YD	∆ fror	m 7D
	Current		A۱	vg
Brent Prompt	¢ 120.40	\$ (1.61)	— ¢	(1.4)
Prompt	φ 120.40	Φ (1.01)	Ψ	(1.4)

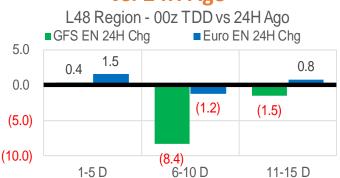
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Price Summary

Vs. 12H Ago



Vs. 24H Ago



	Current		Δ from 7D Avg
US Dry Production	96.4	0.58	▼ -0.08

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	35.8	2.05	1 .25

	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.4	a 0.17	0.11

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.9	a 0.14	a 0.10

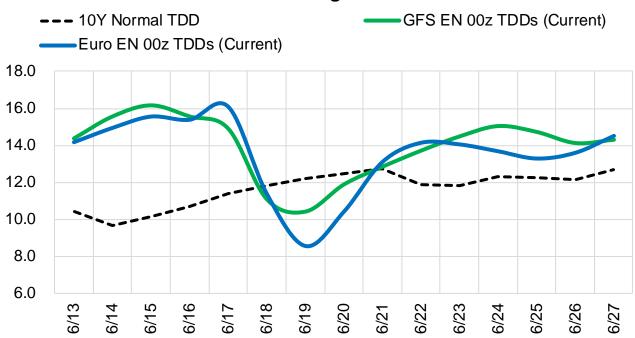
	Current	Δ from YD	Δ from 7D Avg		
Net LNG Exports	10.0	0.06	▼ -1.31		

	Current		rom YD	Δ from 7D Avg		
Mexican Exports	7.1		0.22	•	-0.06	

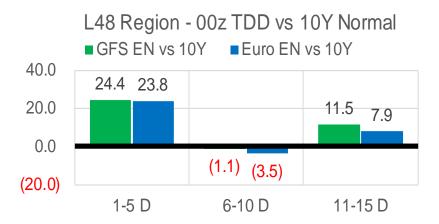


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	DoD	vs. 7D
Lower 48 Dry Production	97.5	96.2	96.5	96.3	96.3	95.8	96.4	0.6	▼ -0.1
Canadian Imports	5.7	6.0	6.1	5.9	5.7	5.7	5.9	0.1	0.0
L48 Power	34.9	35.7	36.3	35.2	33.1	33.7	35.8	2.0	0.9
L48 Residential & Commercial	8.4	8.9	8.3	8.1	7.8	8.3	8.4	0.2	0.1
L48 Industrial	20.6	21.3	22.1	22.9	23.6	23.9	24.2	0.2	1.8
L48 Lease and Plant Fuel	5.3	5.2	5.2	5.2	5.2	5.2	5.2	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.4	2.4	2.4	2.4	2.2	2.3	2.4	0.1	0.1
L48 Regional Gas Consumption	71.7	73.5	74.3	73.8	71.9	73.4	75.9	2.6	2.8
Net LNG Delivered	12.90	11.09	10.61	10.82	10.78	9.91	9.97	0.1	▼ -1.0
Total Mexican Exports	7.2	7.3	7.4	7.3	6.9	6.9	7.1	0.2	▼ 0.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.4	10.4	10.3	10.3	12.4	11.4	9.2		

EIA Storage Week Balances

Monthly Balances

Daily Model Error

EIA Reported Daily Storage Activity

	11-Jun	13-May	20-May	27-May	3-Jun	10-Jun	WoW	vs. 4W
Lower 48 Dry Production	93.5	96.1	95.2	96.2	96.9	96.5	▼-0.4	0.4
Canadian Imports	4.8	5.2	4.9	4.9	4.8	5.4	0.6	0.5
L48 Power	35.1	26.8	30.4	30.0	30.5	33.8	3.3	4.4
L48 Residential & Commercial	8.9	14.5	10.0	11.6	9.1	8.6	▼ -0.5	▼ -2.7
L48 Industrial	20.8	20.9	21.3	20.2	21.5	20.9	▼ -0.6	▼ -0.1
L48 Lease and Plant Fuel	5.1	5.2	5.1	5.2	5.2	5.2	▼ 0.0	0.0
L48 Pipeline Distribution	2.4	2.3	2.3	2.4	2.2	2.2	0.0	▼-0.1
L48 Regional Gas Consumption	72.3	69.6	69.1	69.4	68.6	70.7	2.1	1.5
Net LNG Exports	9.4	12.2	12.2	13.0	12.8	12.3	▼ -0.5	▼-0.3
Total Mexican Exports	7.3	7.0	7.0	7.0	7.1	7.1	▲ 0.1	0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	9.2 2.3 6.9	12.4 12.7 -0.3	11.8 11.4 0.4	11.6 12.9 -1.2	13.3 13.9 -0.5	11.8	-1.5	

	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	96.0	96.0	96.5	0.5	3.2
Canadian Imports	4.0	4.8	6.5	5.2	5.8	5.1	5.4	0.4	0.6
L48 Power	34.9	35.9	28.7	25.5	24.7	28.8	33.2	4.4	▼ -2.7
L48 Residential & Commercial	8.8	8.9	43.3	31.5	22.5	12.3	8.5	▼-3.8	▼-0.3
L48 Industrial	20.0	20.2	22.1	19.7	21.4	21.0	21.7	0.7	1.4
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	2.3	▼-0.1	- 0.2
L48 Regional Gas Consumption	70.8	72.5	102.7	84.7	76.4	69.5	70.9	1.4	▼-1.6
Net LNG Exports	4.0	10.2	12.4	12.9	12.3	12.5	11.9	▼-0.6	1.8
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	11.5	8.0	-22.1	-5.4	6.3	12.0	12.0		

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	DoD	vs. 7D
NRC Nuclear Daily Output	88.1	88.8	88.6	88.9	88.9	88.5	88.5	0.0	-0.1
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	16.8	16.1	16.3	16.0	16.0	16.4	16.4	0.0	0.1
NRC % Nuclear Cap Utilization	89.5	90.3	90.1	90.4	90.4	90.0	90.0	0.0	-0.1

Wind Generation Daily Average - MWh (EIA)

	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	DoD	vs. 7D
CALI Wind	3869	4079	3627	4002	2419	2343	3886	1543	496
TEXAS Wind	17332	15612	13604	15227	15045	11359	16388	5030	1692
US Wind	46904	42157	34054	40924	39000	29227	43521	14294	4810

Generation Daily Average - MWh (EIA)

	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	DoD	vs. 7D
US Wind	46904	42157	34054	40924	39000	29227	43521	14294	4810
US Solar	24674	25644	25432	23051	22766	25081	24551	-530	110
US Petroleum	802	1013	994	963	984	1004	967	-37	7
US Other	10541	10855	10832	10983	10945	10864	10533	-332	-304
US Coal	85647	96646	100140	98349	99344	95808	94981	-827	-1008
US Nuke	90940	90932	91034	91208	91325	91280	90804	-476	-316
US Hydro	33133	35286	37622	38885	18654	35793	36775	982	3546
US Gas	161258	192488	207111	208753	212089	210171	192585	-17586	-6060

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Storage Week Average Generation Data

	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	WoW Bcf/d
	-			-				Impact
NRC Nuclear Daily Output	76.7	79.3	81.7	84.2	86.2	88.3	2.1	-0.4
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	28.2	25.5	23.2	20.6	18.7	16.6	-2.1	
NRC % Nuclear Cap Utilization	78.0	80.7	83.1	85.7	87.6	89.8	2.2	
Wind Generation Weekly Av	erage - MW	h (EIA)						
	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	WoW Bcf/d
	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	-
CALI Wind	6-May	13-May 3983	20-May	27-May 2798	3-Jun	10-Jun 3842	WoW 574	Bcf/d
CALI Wind TEXAS Wind	•							Bcf/d Impact
	2929	3983	3452	2798	3268	3842	574	Bcf/d Impact -0.1

Generation Weekly Average - MWh (EIA)

Nuclear Generation Weekly Average - GWh (NRC)

						est.		
	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	WoW Bcf/d
	•	•	•	•				Impact
US Wind	57244	64974	50251	50129	57939	38594	-19345	3.5
US Solar	17079	18000	19634	17491	19451	24271	4820	-0.9
US Petroleum	931	341	262	448	863	966	103	0.0
US Other	7529	7615	7871	7684	8282	10842	2560	-0.5
US Coal	78898	81273	88922	88570	89706	95091	5385	-1.0
US Nuke	80558	83391	85510	88016	89606	90723	1116	-0.2
US Hydro	26831	28968	31973	33772	35051	33333	-1718	0.3
US Gas	145774	148473	172224	160070	165523	192051	26528	4.8

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

-0.3



Monthly Average Generation Data

	2Yr Ago	LY						
	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	86.7	86.7	81.3	73.3	81.7	88.3	85.9	-0.9
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0
NRC Nuclear Outage	18.2	18.1	23.6	31.6	23.2	16.6	19.0	0.9
NRC % Nuclear Cap Utilization	88.2	88.2	82.7	74.5	83.0	89.8	87.3	-0.9

Wind 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
CALI Wind	2318	3616	2250	3186	3361	3525	3449	-167
TEXAS Wind	9150	11200	14837	16311	16756	13455	15434	4233
US Wind	37429	42049	58528	64183	56462	38509	48503	6453

Generation Monthly Average - MWh (EIA)

	2Yr Ago	ĹY				MTD		
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY
US Wind	37429	42049	58528	64183	56462	38509	48503	6453
US Solar	11063	14731	14055	16291	18157	24025	20878	6147
US Petroleum	553	815	985	985	518	974	702	▼ -113
US Other	8118	7318	7189	7386	7723	10570	8970	1653
US Coal	77488	101671	82290	77545	85273	96162	91491	▼-10180
US Nuke	90312	90455	85256	77217	85496	90786	89099	▼ -1356
US Hydro	38519	31057	33958	29022	31369	34740	34015	2958
US Gas	165040	161100	137230	133068	157565	195166	175386	14286
US Total	427278	449555	419836	406228	443936	474836	463063	13508



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



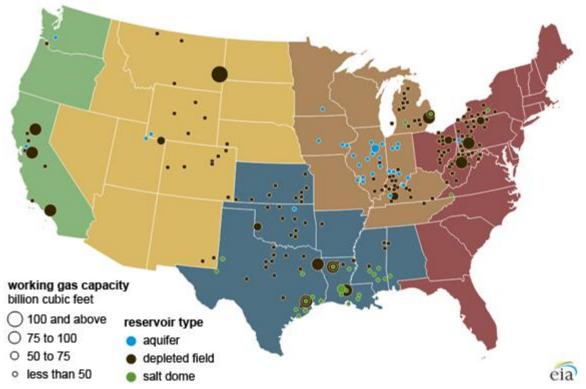
Regional S/D Models Storage Projection

Week Ending 10-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	12.8	-0.3	12.5	87
East	2.1	2.2	4.2	30
Midwest	5.1	-1.6	3.5	25
Mountain	4.2	-3.8	0.4	3
South Central	-1.2	3.7	2.4	17
Pacific	2.6	-0.7	1.8	13

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

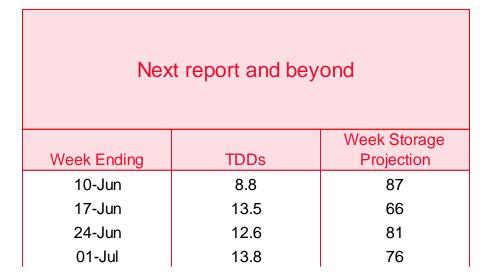
U.S. underground natural gas storage facilities by type (July 2015)



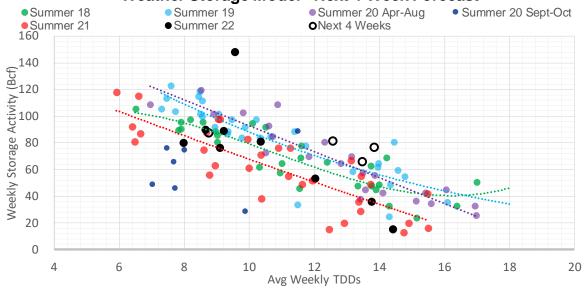


Weather Model Storage Projection

Market Report



Weather Storage Model - Next 4 Week Forecast



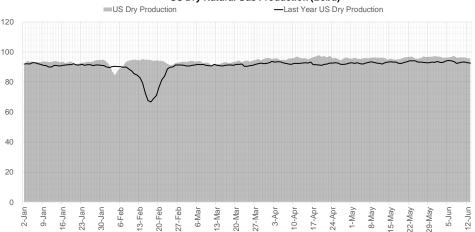
Go to larger image



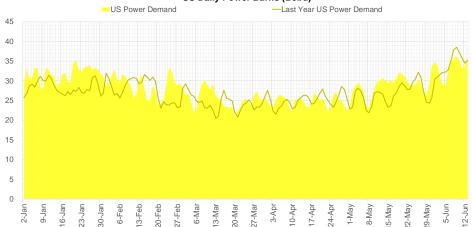


Supply - Demand Trends

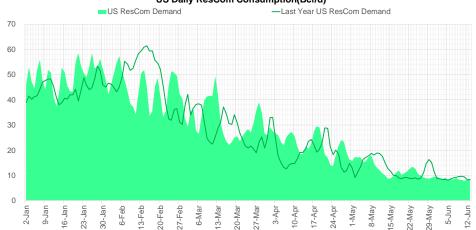
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



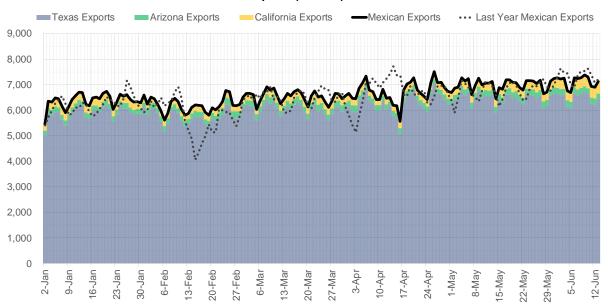
US Daily ResCom Consumption(Bcf/d)



Source: Bloomberg

Mexican Exports (MMcf/d)

Market Report



Net LNG Exports - Last 30 days (MMcf/d) Sabine Pass Exports Cameron Exports Cove Point Exports Elba Exports Lake Charles Exports Everett Exports Freeport Exports Golden Pass Exports LNG Exports ■Neptune Exports Chorpus Christie Import Northeast Exports 14,000 12,000 10,000 8,000 6,000 4,000 2,000 0 (2,000)3-Jun 28-May 29-May 30-May 31-May 4-Jun

Source: Bloomberg



Nat Gas Options Volume and Open Interest CME and ICE Combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
			40.00			2022		10.00	40000
7	2022	С	10.00	2635	8 7	2022 2022	C C	10.00 11.00	48630 41181
8	2022	С	10.00	2502	8	2022	C	10.50	37665
7	2022	С	9.00	2129	8	2022	C	12.00	36208
7	2022	P P	8.00	2126	10	2022	C	6.00	35500
8	2022	•	4.50	2053	10	2022	P	6.00	24693
8 3	2022	P	4.00	2001	10	2022	C	5.00	24019
	2023	C P	10.00	2000	9	2022	Č	6.00	23676
8	2022	P P	6.50	1886	7	2022	P	6.00	22121
10	2022 2022	C	6.00	1841	8	2022	C	12.10	22007
8 8	2022 2022	P	16.00	1824 1736	7	2022	Č	9.00	21574
8 7	2022	P P	8.50 7.50	1736	10	2022	P	3.00	20975
		C			7	2022	C	10.00	20899
8	2022	P	12.00	1694	10	2022	P	3.50	20695
10	2022	•	7.00	1650	9	2022	C	10.00	20544
8	2022	С	9.00	1576	7	2022	Č	11.10	20535
8	2022	C P	11.00	1475	8	2022	P	6.00	20150
8	2022		7.00	1473	10	2022	Р	2.50	19870
11	2022	С	20.00	1400	8	2022	C	6.00	19733
11	2022	С	25.00	1400	7	2022	P	7.00	19309
1	2023	P	7.50	1400	9	2022	Р	4.00	19168
4	2024	P	2.00	1350	5	2023	P	2.00	18927
5	2024	P	2.00	1350	7	2022	C	6.00	18847
6	2024	Р	2.00	1350	7	2022	Ċ	8.00	18583
7	2024	Р	2.00	1350	8	2022	Ċ	7.00	18255
8	2024	Р	2.00	1350	12	2022	Č	5.00	18221
9	2024	Р	2.00	1350	9	2022	Č	7.00	18066
10	2024	Р	2.00	1350	7	2022	Č	7.00	17651
8	2022	С	15.00	1324	7	2022	P	3.25	17344
7	2022	Р	7.00	1287	7	2022	С	9.50	17338
7	2022	Р	8.75	1164	10	2022	Р	2.00	17258
2	2023	С	9.00	1160	1	2023	С	10.00	16835
8	2022	Р	7.10	1115	10	2022	Р	4.00	16484
4	2023	P	2.00	1115	8	2022	С	9.00	16355
10	2022	С	11.00	1107	9	2022	С	4.00	15970
7	2022	Р	8.85	1076	3	2023	С	10.00	15861
10	2022	Р	8.00	1040	10	2023	Р	2.00	15805
9	2022	Р	6.50	1000	7	2022	Р	5.50	15801
2	2023	С	8.00	1000	10	2022	С	10.00	15542
8	2022	Р	8.00	950	9	2022	Р	2.50	15292
9	2022	Р	8.00	940	2	2023	С	10.00	15282
7	2022	Р	7.90	939	7	2022	Р	3.50	15279
7	2022	Р	6.50	868	7	2022	Р	5.00	15141
7	2022	C	9.50	845	9	2022	Р	2.75	14883
1	2023	С	10.00	829	8	2022	Р	7.00	14847
7	2022	С	14.00	815	10	2022	Р	3.25	14667
7	2022	С	12.00	788	9	2022	Р	3.00	14601
10	2022	Р	5.00	783	8	2022	Р	3.00	14554
7	2022	С	11.00	771	7	2022	Р	3.00	14532
5	2023	Р	2.00	750	11	2022	P Source	e: CME, ICE	14522.25

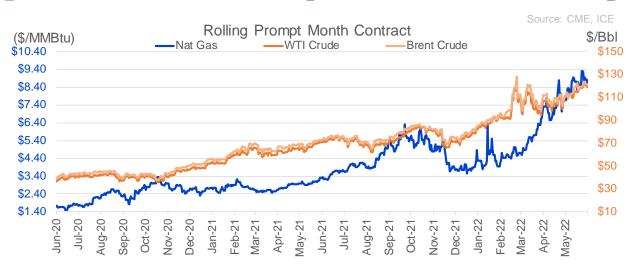




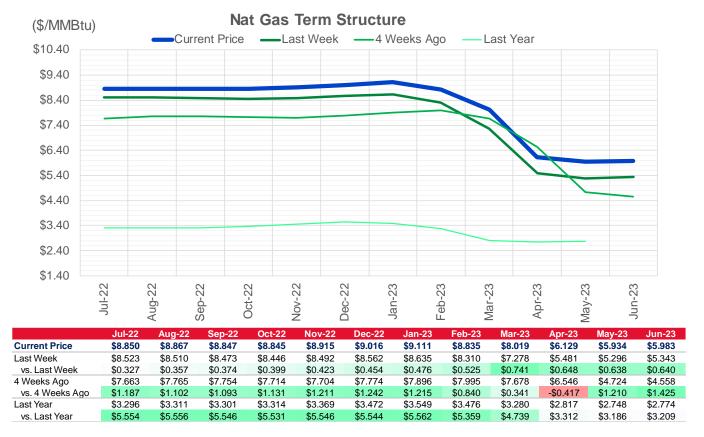
Nat Gas Futures Open Interest

CME and ICE Combined

CME Henry I	Hub Futures (10	0,000 MMBt	u)	ICE Henry H	Hub Futures Con	tract Equiva	alent (10,000 MM
	Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 22	106245	127940	-21695	JUL 22	83696	83932	-236
AUG 22	79366	75929	3437	AUG 22	63888	62990	898
SEP 22	138545	130969	7576	SEP 22	74841	72764	2077
OCT 22	95517	94846	671	OCT 22	71553	70937	616
NOV 22	52195	51695	500	NOV 22	59807	59714	93
DEC 22	52390	52419	-29	DEC 22	63466	63931	-465
JAN 23	63552	63153	399	JAN 23	67839	67499	341
FEB 23	27112	27550	-438	FEB 23	54195	54095	101
MAR 23	47023	45777	1246	MAR 23	53710	53722	-12
APR 23	63951	63715	236	APR 23	52488	52757	-268
MAY 23	64384	65679	-1295	MAY 23	53101	52993	108
JUN 23	25594	25335	259	JUN 23	45595	45625	-30
JUL 23	24760	24637	123	JUL 23	43933	43891	42
AUG 23	15521	15581	-60	AUG 23	43650	43647	3
SEP 23	19020	18866	154	SEP 23	42745	42742	3
OCT 23	41167	41266	-99	OCT 23	49576	49489	87
NOV 23	12444	12484	-40	NOV 23	43812	43738	75
DEC 23	13922	13985	-63	DEC 23	39965	39889	76
JAN 24	19902	19809	93	JAN 24	39924	39756	168
FEB 24	5991	6011	-20	FEB 24	27175	27198	-23
MAR 24	14115	14213	-98	MAR 24	32197	32111	87
APR 24	13199	13374	-175	APR 24	27493	27498	-4
MAY 24	6645	6470	175	MAY 24	26114	26111	4
JUN 24	2130	2137	-7	JUN 24	22491	22491	1
JUL 24	1978	1996	-18	JUL 24	22660	22667	-7
AUG 24	2958	2970	-12	AUG 24	22657	22664	-7
SEP 24	1390	1385	5	SEP 24	22070	22076	-7
OCT 24	7243	7354	-111	OCT 24	25165	25111	54
NOV 24	4503	4482	21	NOV 24	23538	23516	22
DEC 24	7101	7098	3	DEC 24	25385	25307	78







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	8.75	8.39	-0.36
TETCO M3	\$/MMBtu	7.42	7.83	0.41
FGT Zone 3	\$/MMBtu	7.60	8.67	1.07
Zone 6 NY	\$/MMBtu	7.60	7.89	0.29
Chicago Citygate	\$/MMBtu	8.27	8.26	-0.01
Michcon	\$/MMBtu	8.28	8.20	-0.08
Columbia TCO Pool	\$/MMBtu	7.64	7.67	0.03
Ventura	\$/MMBtu	7.70	8.21	0.51
Rockies/Opal	\$/MMBtu	7.85	8.00	0.15
El Paso Permian Basin	\$/MMBtu	7.86	7.76	-0.10
Socal Citygate	\$/MMBtu	9.23	9.76	0.53
Malin	\$/MMBtu	8.93	8.41	-0.52
Houston Ship Channel	\$/MMBtu	8.30	8.38	80.0
Henry Hub Cash	\$/MMBtu	8.65	8.13	-0.52
AECO Cash	C\$/GJ	6.30	5.52	-0.78
Station2 Cash	C\$/GJ	5.91	8.12	2.21
Dawn Cash	C\$/GJ	8.26	8.27	0.01

Source: CME, Bloomberg

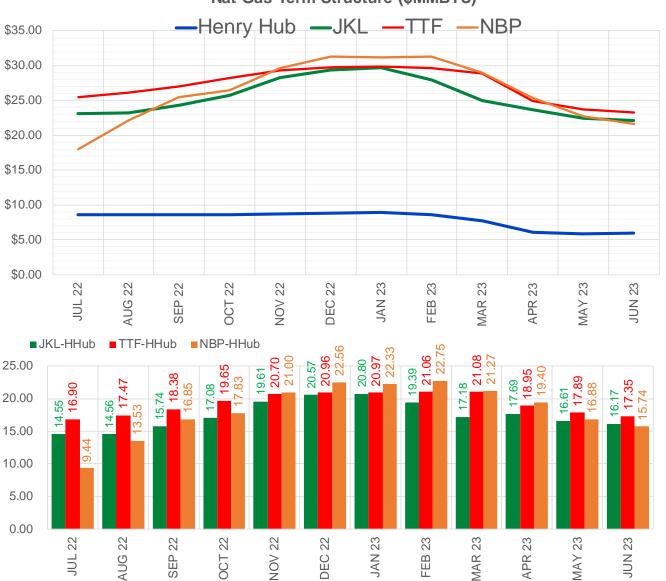




					V	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	V	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224		0.000		0.000		2.206
NatGas Oct21/Nov21	\$/MMBtu	0.361		0.000		0.000		0.306
NatGas Oct21/Jan22	\$/MMBtu	-1.817		0.000		0.000		-2.052
NatGas Apr22/Oct22	\$/MMBtu	3.509		0.399		1.141		3.497
WTI Crude	\$/Bbl	120.67		1.800		10.180		49.760
Brent Crude	\$/Bbl	122.01		2.290		10.460		49.320
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	436.67		8.640		44.550		224.600
Propane, Mt. Bel	cents/Gallon	1.23		-0.017	\blacksquare	-0.018		0.287
Ethane, Mt. Bel	cents/Gallon	0.68		0.035		0.099		0.398
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						



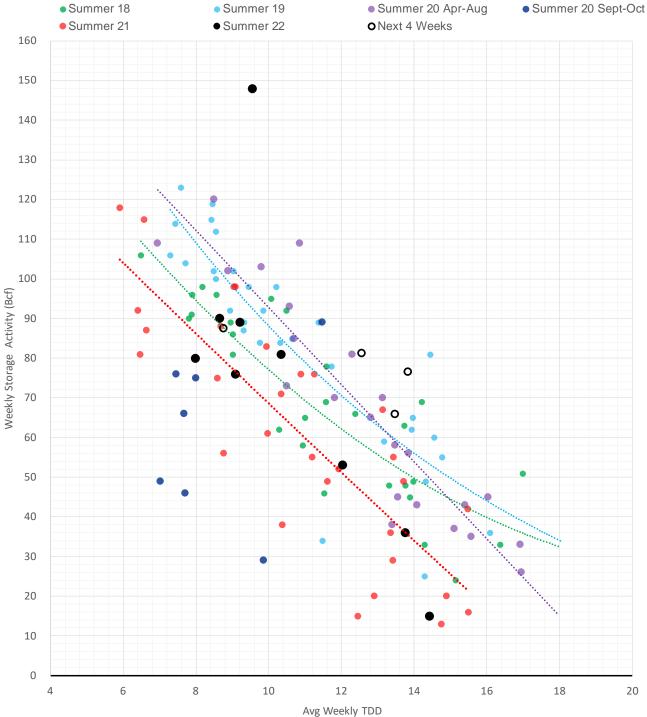
Nat Gas Term Structure (\$MMBTU)



	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	\$8.611	\$8.639	\$8.595	\$8.640	\$8.674	\$8.780	\$8.881	\$8.603	\$7.777	\$6.027	\$5.867	\$5.911
JKL	\$23.165	\$23.200	\$24.335	\$25.720	\$28.285	\$29.345	\$29.680	\$27.990	\$24.960	\$23.715	\$22.480	\$22.080
JKL-HHub	\$14.554	\$14.561	\$15.740	\$17.080	\$19.611	\$20.565	\$20.799	\$19.387	\$17.183	\$17.688	\$16.613	\$16.169
TTF	\$25.512	\$26.109	\$26.975	\$28.285	\$29.371	\$29.738	\$29.847	\$29.661	\$28.859	\$24.978	\$23.754	\$23.256
TTF-HHub	\$16.901	\$17.470	\$18.380	\$19.645	\$20.697	\$20.958	\$20.966	\$21.058	\$21.082	\$18.951	\$17.887	\$17.345
NBP	\$18.054	\$22.168	\$25.447	\$26.472	\$29.671	\$31.342	\$31.210	\$31.354	\$29.045	\$25.425	\$22.742	\$21.651
NBP-HHub	\$9.443	\$13.529	\$16.852	\$17.832	\$20.997	\$22.562	\$22.329	\$22.751	\$21.268	\$19.398	\$16.875	\$15.740









Weather Storage Model for Summer 2021 & 2022

