

	Cı	ırrent	Δ fro	m YD	Δ from 7D Ava		
Nat Gas Prompt	\$	7.82	\$	0.16	\$	0.28	

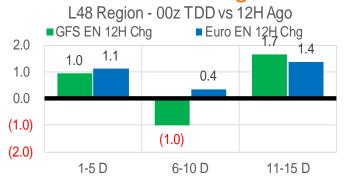
	Current	Δ from YD	Δ from Ανζ	
WTI Prompt	\$ 109.65	\$ (0.84)	\$	3.1

	Curront	Δ from YD	∆ fron	ո 7D
	Current	ם ווטווו זם	Αv	g
Brent Prompt	\$ 110.58	\$ (0.97)	\$	2.3

Page Menu

Short-term Weather Model Outlooks
Lower 48 Component Models
Regional S/D Models Storage Projection
Weather Model Storage Projection
Supply – Demand Trends
Nat Gas Options Volume and Open Interest
Nat Gas Futures Open Interest
Price Summary

Vs. 12H Ago



Vs. 24H Ago

L48 Region - 00z TDD vs 24H Ago

GFS EN 24H Chg

0.0

(0.4)

(2.6)

1-5 D

6-10 D

11-15 D

	Current	Δ from YD	Δ from 7D Avg		
US Dry Production	95.7	0.85	- 0.04		

		Current	Δ from YD	Avg
4	US Power Burns	28.9	▼ -0.44	▼ -0.21

	Current	Δ from YD	Δ from 7D Avg		
US ResComm	9.4	a 0.66	▼ -1.49		

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.8	a 0.06	▼ -0.23

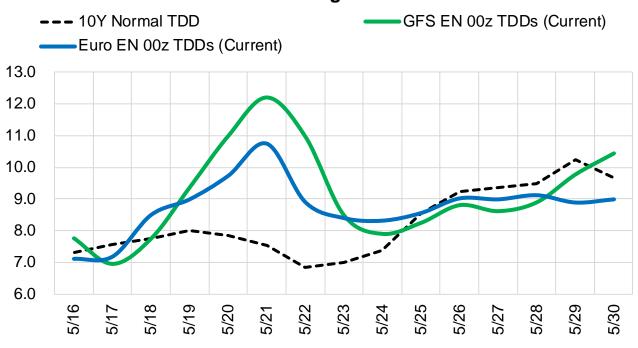
	Current		Δ from 7D Avg		
Net LNG Exports	12.2	0.51	▲ 0.14		

	Current	Δ from YD	Δ from 7D Avg		
Mexican Exports	7.0	0.65	0.06		

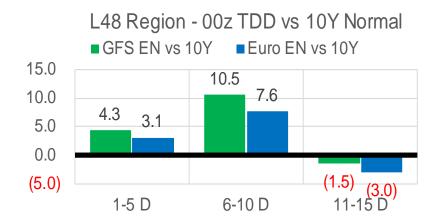


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	10-May	11-May	12-May	13-May	14-May	15-May	16-May	DoD	vs. 7D
Lower 48 Dry Production	96.1	96.1	96.0	95.7	95.2	94.9	95.7	8.0	a 0.0
Canadian Imports	5.2	4.9	5.2	5.1	4.9	4.7	4.8	0.1	▼ -0.2
L48 Power	28.2	29.9	30.0	30.5	30.1	29.3	28.9	▼-0.4	-0.8
L48 Residential & Commercial	12.6	11.7	10.6	9.7	8.5	8.7	9.4	0.7	- 0.9
L48 Industrial	20.9	20.9	21.1	21.2	21.3	21.4	21.5	0.1	a 0.3
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.2	5.2	5.1	5.1	0.0	▼ 0.0
L48 Pipeline Distribution	2.3	2.4	2.3	2.3	2.2	2.2	2.2	0.0	▼ -0.1
L48 Regional Gas Consumption	69.2	70.0	69.2	68.8	67.3	66.7	67.0	0.3	▼ -1.5
Net LNG Delivered	12.51	12.31	11.87	11.81	11.83	11.67	12.18	0.5	a 0.2
Total Mexican Exports	7.2	7.1	7.0	7.1	6.9	6.4	7.0	0.7	0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	12.3	11.6	13.1	13.1	14.0	14.8	14.3		

EIA Storage Week Balances

▲ 0.2 ▼-0.1 ▼-0.8 ▼-0.7 ▲ 0.5 ▲ 1.6 ▼-2.4 ▼-6.2
▲ 0.5 ▲ 1.6
▼ -2.4 ▼ -6.2
▼ -0.5 ▼ -0.7
▲ 0.0 ▼ 0.0
▼-0.1 ▼-0.2
▼ -2.5 ▼ -5.6
▲ 0.0 ▼ 0.0
▲ 0.1 ▲ 0.3
1.8

Monthly Balances									
	2Yr Ago	LY					MTD		
	May-20	May-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	MoM	vs. LY
Lower 48 Dry Production	87.0	93.0	93.4	92.7	95.0	96.2	95.8	▼-0.4	2.9
Canadian Imports	3.9	4.5	6.7	6.6	5.2	5.8	5.4	▼-0.4	0.9
L48 Power	26.9	26.5	31.5	28.9	25.6	24.8	27.7	3.0	1.2
L48 Residential & Commercial	12.8	12.8	49.1	44.4	30.7	22.2	13.8	▼-8.4	1.0
L48 Industrial	19.4	20.9	24.7	22.5	21.8	22.0	21.3	▼ -0.7	0.4
L48 Lease and Plant Fuel	4.7	5.0	5.1	5.1	5.2	5.2	5.2	- 0.1	0.2
L48 Pipeline Distribution	2.2	2.2	3.8	3.6	2.9	2.6	2.4	- 0.2	0.1
L48 Regional Gas Consumption	65.9	67.5	114.3	104.4	86.2	76.8	70.4	▼-6.4	2.9
Net LNG Exports	6.7	10.8	12.4	12.4	12.9	12.3	12.1	▼-0.2	1.3
Total Mexican Exports	4.8	6.8	6.3	6.2	6.5	6.7	7.0	0.2	▲ 0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	13.6	12.4	-32.9	-23.7	-5.4	6.2	11.7		

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	8-May	9-May	10-May	11-May	12 -M ay	13-May	14-May	DoD	vs. 7D
NRC Nuclear Daily Output	78.0	79.2	79.9	80.4	81.0	81.3	81.3	0.0	1.4
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	26.9	25.7	24.9	24.5	23.9	23.5	23.5	0.0	-1.4
NRC % Nuclear Cap Utilization	79.3	80.5	81.3	81.7	82.4	82.7	82.7	0.0	1.4

Wind Generation Daily Average - MWh (EIA)

	8-May	9-May	10-May	11 -M ay	12 -M ay	13-May	14-May	DoD	vs. 7D
CALI Wind	4621	3997	3684	3767	2800	2413	1662	-751	-1885
TEXAS Wind	20061	21168	20896	18474	19001	12388	11449	-939	-7216
US Wind	68342	81201	65666	61454	68832	47704	35389	-12316	-30145

Generation Daily Average - MWh (EIA)

	8-Мау	9-May	10-May	11-May	12-May	13-May	14-May	DoD	vs. 7D
US Wind	68342	81201	65666	61454	68832	47704	35389	-12316	-30145
US Solar	17283	18103	17690	16718	16402	18239	18692	452	1286
US Petroleum	187	248	282	386	268	357	265	-92	-23
US Other	7196	7053	7409	7790	8112	8224	7397	-828	-234
US Coal	76144	76009	84621	85465	83318	85557	86495	938	4643
US Nuke	82340	83649	84062	84471	84722	84133	83587	-545	-308
US Hydro	24641	27832	31633	32624	33198	33294	31009	-2286	471
US Gas	121087	136613	154001	168496	166557	178406	175675	-2732	21482

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	;)					
	8-Apr	15-Apr	22-Apr	29-Apr	6-May	13-May	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	75.0	71.9	72.3	73.5	76.7	79.3	2.7	-0.5
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	29.9	32.9	32.6	31.4	28.2	25.5	-2.7	
NRC % Nuclear Cap Utilization	76.3	73.2	73.5	74.8	78.0	80.7	2.7	
Wind Generation Weekly Av	verage - MW	h (EIA)						
	8-Apr	15-Apr	22-Apr	29-Apr	6-May	13-May	WoW	WoW Bcf/d Impact
CALI Wind	2611	3434	3613	3153	2929	3983	1055	-0.2
TEXAS Wind	14468	16530	15612	18327	16902	17705	802	-0.1
US Wind	59878	66240	61556	66986	57243	64974	7730	-1.4
							14%	
						0.0		
Generation Weekly Average	- MWh (EIA)				est.		
						G31.		WoW
	8-Apr	15-Apr	22-Apr	29-Apr	6-May	13-May	WoW	Bcf/d
	0 / tp:	10 / ф1	22 /\p:	20 / tp:	o may	10 may		Impact
US Wind	59878	66240	61556	66986	57243	64974	7730	-1.4
US Solar	15518	16118	15897	16968	16920	17255	335	-0.1
US Petroleum	1015	964	984	992	931	341	-590	0.1
US Other	7183	7154	7544	7717	7528	7486	-42	0.0
US Coal	77514	77087	79629	77532	78898	81273	2375	-0.4
US Nuke	78807	75674	76478	77438	80545	83391	2846	-0.5

See National Wind and Nuclear daily charts

29415

134338

28355

133366

26722

131482

26824

32524

134633

Source: Bloomberg, analytix.ai

28932

148086

2108

-0.4

0.4



Monthly Average Generation Data

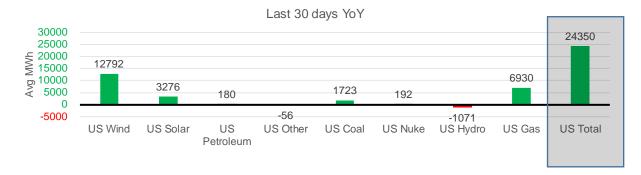
Nuclear Generation Monthly	Nuclear Generation Monthly Average - GWh (NRC)										
	2Yr Ago	LY				MTD					
	Same 30 days	Same 30 days	Feb-22	Mar-22	Apr-22	May-22	Last 30 days	Last 30 days YoY			
NRC Nuclear Daily Output	79.9	76.6	87.3	81.3	73.3	79.3	76.5	-0.1			
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0			
NRC Nuclear Outage	25.0	28.3	17.5	23.6	31.6	25.6	28.4	0.1			
NRC % Nuclear Cap Utilization	81.2	77.9	88.8	82.7	74.5	80.6	77.8	-0.1			

Wind Generation Monthly Average - MWh (EIA)

_	2Yr Ago	LY				MTD		
	Same 30 days	Same 30 days	Feb-22	Mar-22	Apr-22	May-22	Last 30 days	Last 30 days YoY
CALI Wind	2848	3116	1495	2250	3186	3117	3182	67
TEXAS Wind	11086	12157	11750	14837	16311	15889	16601	4444
US Wind	40787	46688	54543	58528	64179	54164	59480	12792

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD		
	Same 30 days	Same 30 days	Feb-22	Mar-22	Apr-22	May-22	Last 30 days	Last 30 days YoY
US Wind	40787	46688	54543	58528	64179	54164	59480	12792
US Solar	11107	13815	12442	14058	16208	17427	17091	3276
US Petroleum	724	554	1331	985	985	512	734	180
US Other	7960	7646	8632	7206	7386	7571	7590	▼ -56
US Coal	56279	78759	105631	82291	77558	82616	80483	1723
US Nuke	83982	80069	92027	85256	77217	82794	80261	192
US Hydro	35011	29299	32284	33959	29023	29065	28229	-1071
US Gas	135710	138654	153733	137232	133060	156696	145584	6930
US Total	370260	395734	461069	419842	406189	431571	420084	24350



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



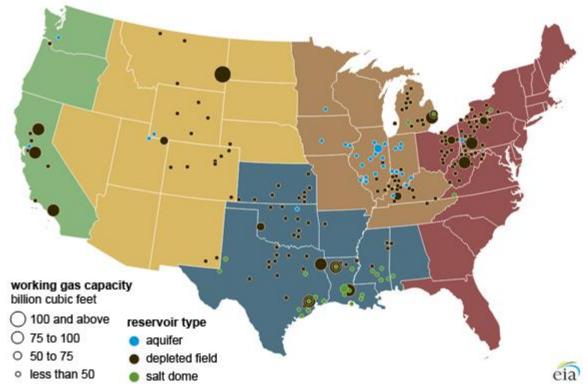
Regional S/D Models Storage Projection

Week Ending 13-May

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	13.1	0.2	13.3	93
East	0.5	2.5	3.0	21
Midwest	4.7	-0.5	4.2	29
Mountain	4.8	-3.4	1.4	10
South Central	2.0	2.3	4.3	30
Pacific	1.1	-0.7	0.4	3

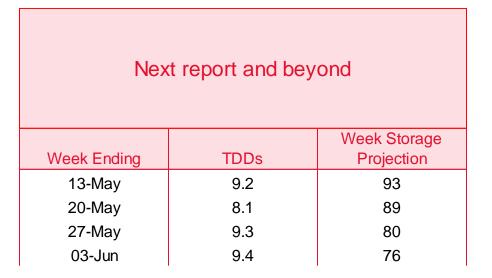
^{*}Adjustment Factor is calcuated based on historical regional deltas

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

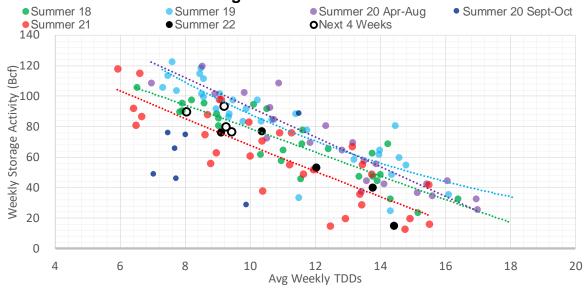




Weather Model Storage Projection



Weather Storage Model - Next 4 Week Forecast



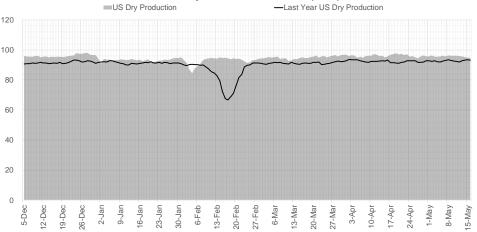
Go to larger image



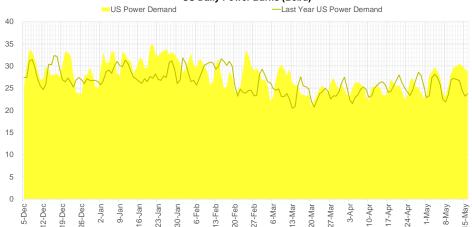


Supply - Demand Trends

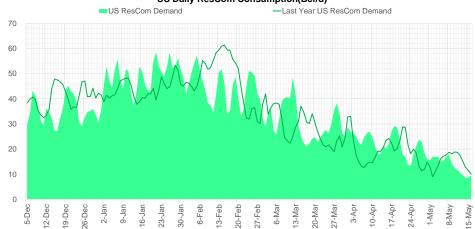
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



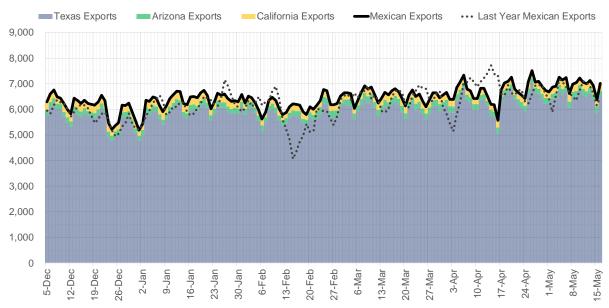
US Daily ResCom Consumption(Bcf/d)



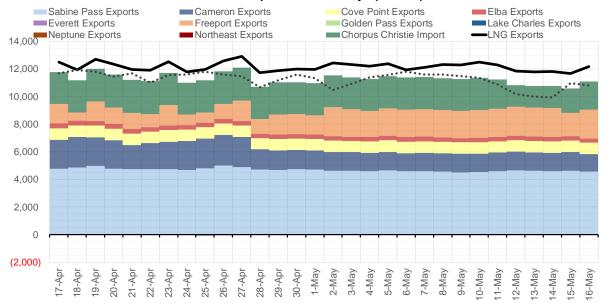
Source: Bloomberg



Mexican Exports (MMcf/d)







Source: Bloomberg



Nat Gas Options Volume and Open Interest CME and ICE Combined

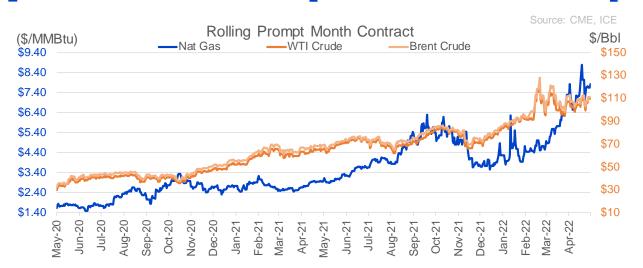
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE O
9	2022	С	14.00	3500	8	2022	С	10.00	50651
6	2022	Р	6.50	3148	8	2022	С	10.50	41522
6	2022	С	10.00	3110	10	2022	С	6.00	35247
6	2022	Р	6.00	3034	6	2022	С	6.00	25139
6	2022	С	9.00	2630	10	2022	С	5.00	24289
9	2022	С	15.00	2525	9 10	2022 2022	C P	6.00 3.00	23730
6	2022	Р	7.00	2151	10	2022	P P	3.50	21117 20880
7	2022	С	8.00	1689	10	2022	P P	3.50 2.50	19730
7	2022	C	9.00	1535	8	2022	C	6.00	19666
10	2022	P	3.50	1400	6	2022	P	4.00	19541
7	2022	P	7.00	1380	6	2022	C	7.00	19461
7	2022	С	10.00	1284	6	2022	C	12.00	19371
6	2022	С	8.00	1267	7	2022	C	8.00	19257
10	2022	Р	3.00	1260	6	2022	C	10.00	19012
11	2022	Р	3.00	1250	7	2022	C	6.00	19012
12	2022	Р	3.00	1250	10	2022	P	6.00	18920
10	2022	Р	2.75	1200	6	2022	P	6.00	18719
11	2022	Р	2.75	1200	12	2022	C	5.00	18221
12	2022	Р	2.75	1200	8	2022	C	7.00	18213
5	2023	Р	4.00	1065	9	2022	C	7.00	17849
12	2022	Р	4.25	1028	6	2022	Č	5.00	17647
12	2022	Р	5.25	1028	9	2022	C	10.00	17589
8	2022	С	8.00	1025	6	2022	P	5.50	17551
7	2022	С	8.20	1000	10	2022	P	2.00	17420
8	2022	С	8.10	1000	6	2022	P	7.00	17390
2	2023	С	9.00	1000	7	2022	C	7.00	17369
6	2022	С	9.75	951	7	2022	P	3.25	17344
7	2022	Р	6.50	933	10	2022	P	4.00	17239
12	2022	Р	6.00	900	6	2022	P	3.00	17223
7	2022	Р	6.00	889	6	2022	Р	4.75	17117
6	2022	Р	5.50	871	6	2022	C	9.00	16907
6	2022	С	8.25	870	7	2022	Č	10.00	16247
6	2022	С	9.50	843	1	2023	Č	10.00	16119
6	2022	С	8.50	833	6	2022	P	3.50	15958
8	2022	С	10.50	795	6	2022	Р	5.00	15769
3	2023	Р	4.00	765	5	2023	P	2.00	15736
6	2022	С	10.50	690	2	2023	C	10.00	15594
4	2023	Р	4.00	665	11	2022	P	4.00	15571
6	2023	Р	4.00	665	9	2022	P	2.50	15291
7	2023	Р	4.00	665	7	2022	С	9.00	15176
8	2023	Р	4.00	665	7	2022	P	3.50	14978
9	2023	Р	4.00	665	9	2022	Р	2.75	14933
10	2023	Р	4.00	665	10	2022	Р	3.25	14717
10	2022	С	15.00	618	9	2022	P	3.00	14716
1	2023	Р	4.00	615	7	2022	P	3.00	14641
6	2022	С	12.00	594	8	2022	C	9.00	14633
10	2022	С	20.00	545	8	2022	P	3.00	14603
7	2022	С	12.50	500	10	2022	C	8.00	14558
8	2022	С	8.25	500	6	2022	Р	3.75	14259.5
							Source	: CME, ICE	



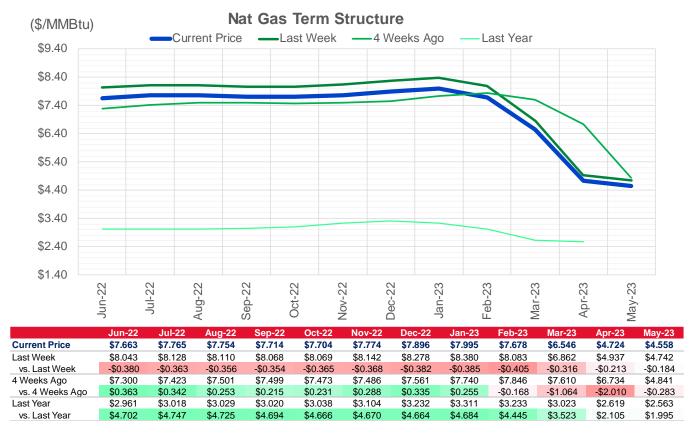
Nat Gas Futures Open Interest

CME and ICE Combined

CME Henry I	Hub Futures (10		J)		lub Futures Con	tract Equiva	alent (10,000 MM
	Current	Prior	Daily Change		Current	Prior	Daily Change
JUN 22	62149	66105	-3956	JUN 22	82401	82954	-553
JUL 22	195012	190142	4870	JUL 22	76609	75870	740
AUG 22	60167	59584	583	AUG 22	59340	59288	52
SEP 22	86437	84770	1667	SEP 22	64378	64312	66
OCT 22	96017	95130	887	OCT 22	77087	77173	-86
NOV 22	52440	52276	164	NOV 22	58524	58371	153
DEC 22	48780	48682	98	DEC 22	62443	62537	-94
JAN 23	62731	62613	118	JAN 23	66276	66105	171
FEB 23	27354	27634	-280	FEB 23	56412	56419	-8
MAR 23	38995	38846	149	MAR 23	55245	55417	-171
APR 23	58506	57965	541	APR 23	53667	53707	-40
MAY 23	61720	60959	761	MAY 23	52856	52847	9
JUN 23	25411	26052	-641	JUN 23	45232	44772	460
JUL 23	21459	20848	611	JUL 23	44175	44182	-7
AUG 23	13640	13345	295	AUG 23	43887	43917	-30
SEP 23	18210	17587	623	SEP 23	43124	43430	-306
OCT 23	33210	32378	832	OCT 23	50489	50588	-99
NOV 23	12912	12878	34	NOV 23	44217	44314	-97
DEC 23	13982	13987	-5	DEC 23	40245	40334	-90
JAN 24	20326	20346	-20	JAN 24	38887	38948	-61
FEB 24	5848	5860	-12	FEB 24	26129	26110	20
MAR 24	14447	14189	258	MAR 24	30405	30405	-1
APR 24	11909	11659	250	APR 24	26292	26225	67
MAY 24	6364	6321	43	MAY 24	25624	25578	46
JUN 24	1803	1803	0	JUN 24	22033	22026	8
JUL 24	1994	1992	2	JUL 24	22133	22128	5
AUG 24	2962	2961	1	AUG 24	22241	22233	8
SEP 24	1367	1366	1	SEP 24	21621	21613	8
OCT 24	6708	6704	4	OCT 24	24005	24021	-16
NOV 24	4678	4677	1	NOV 24	22474	22467	8







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	7.65	7.62	-0.03
TETCO M3	\$/MMBtu	6.87	7.33	0.46
FGT Zone 3	\$/MMBtu	6.91	8.03	1.12
Zone 6 NY	\$/MMBtu	6.91	7.20	0.29
Chicago Citygate	\$/MMBtu	7.29	7.74	0.45
Michcon	\$/MMBtu	7.50	7.71	0.21
Columbia TCO Pool	\$/MMBtu	6.99	7.31	0.32
Ventura	\$/MMBtu	8.03	7.80	-0.23
Rockies/Opal	\$/MMBtu	7.27	7.52	0.26
El Paso Permian Basin	\$/MMBtu	7.32	7.17	-0.16
Socal Citygate	\$/MMBtu	7.62	7.99	0.37
Malin	\$/MMBtu	7.00	7.71	0.71
Houston Ship Channel	\$/MMBtu	7.43	7.91	0.48
Henry Hub Cash	\$/MMBtu	7.78	7.67	-0.11
AECO Cash	C\$/GJ	5.87	5.73	-0.14
Station2 Cash	C\$/GJ	5.22	7.39	2.17
Dawn Cash	C\$/GJ	7.45	7.73	0.28

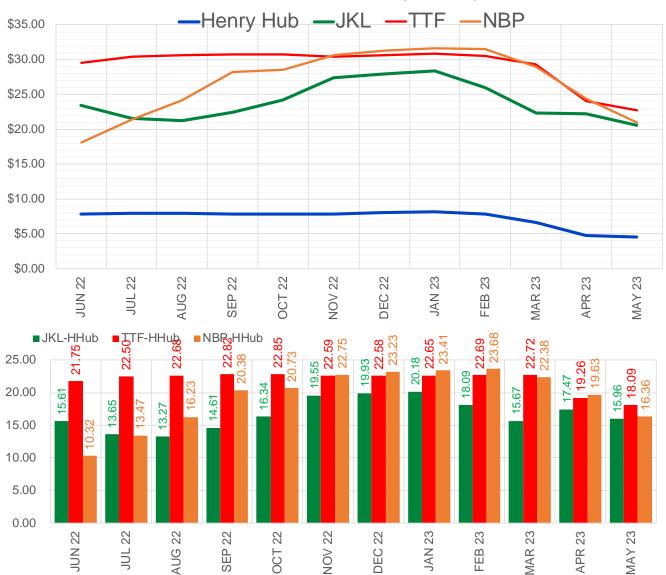
Source: CME, Bloomberg



						4.304		
					VS	s. 4 Weeks		
	Units	Current Price	VS.	. Last Week		Ago	VS	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224		0.000		0.000		2.204
NatGas Oct21/Nov21	\$/MMBtu	0.361		0.000		0.000		0.295
NatGas Oct21/Jan22	\$/MMBtu	-1.817		0.000		0.000		-2.090
NatGas Apr22/Oct22	\$/MMBtu	2.368		-0.365		0.218		2.343
WTI Crude	\$/Bbl	110.49		0.720		3.540		45.120
Brent Crude	\$/Bbl	111.55		-0.840		-0.150		42.840
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	392.12		-3.310		6.640		188.500
Propane, Mt. Bel	cents/Gallon	1.25		-0.027		-0.097		0.436
Ethane, Mt. Bel	cents/Gallon	0.58		-0.023		0.071		0.318
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						

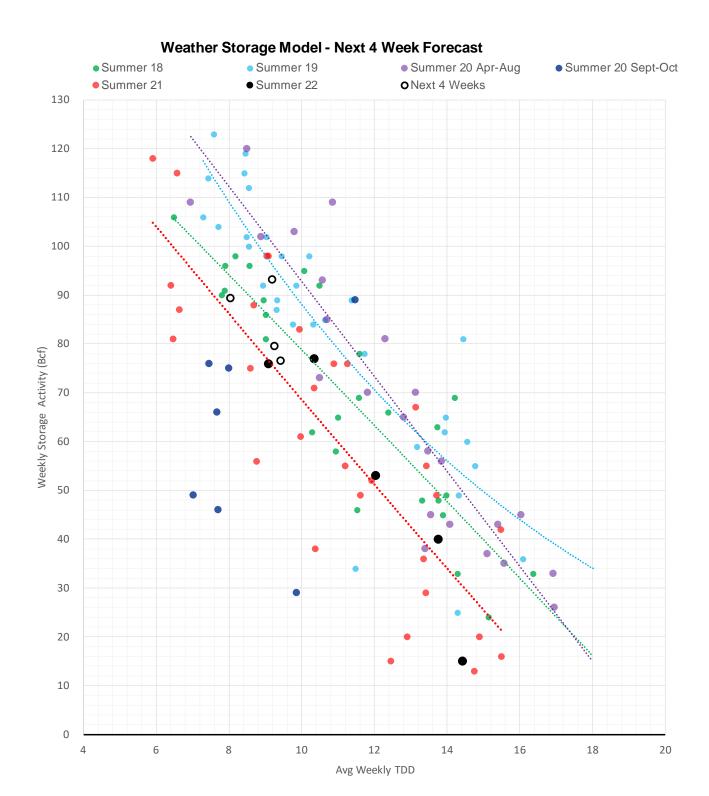


Nat Gas Term Structure (\$MMBTU)



	JUN 22	JUL 22	AUG 22	SEP 22	OCT 22	NOV 22	DEC 22	JAN 23	FEB 23	MAR 23	APR 23	MAY 23
Henry Hub	\$7.824	\$7.930	\$7.925	\$7.884	\$7.873	\$7.871	\$8.062	\$8.181	\$7.853	\$6.635	\$4.757	\$4.588
JKL	\$23.433	\$21.580	\$21.195	\$22.490	\$24.210	\$27.425	\$27.995	\$28.365	\$25.945	\$22.305	\$22.230	\$20.550
JKL-HHub	\$15.609	\$13.650	\$13.270	\$14.606	\$16.337	\$19.554	\$19.933	\$20.184	\$18.092	\$15.670	\$17.473	\$15.962
TTF	\$29.571	\$30.431	\$30.607	\$30.707	\$30.722	\$30.456	\$30.644	\$30.835	\$30.546	\$29.359	\$24.017	\$22.681
TTF-HHub	\$21.747	\$22.501	\$22.682	\$22.823	\$22.849	\$22.585	\$22.582	\$22.654	\$22.693	\$22.724	\$19.260	\$18.093
NBP	\$18.144	\$21.396	\$24.157	\$28.266	\$28.602	\$30.617	\$31.296	\$31.592	\$31.534	\$29.011	\$24.390	\$20.950
NBP-HHub	\$10.320	\$13.466	\$16.232	\$20.382	\$20.729	\$22.746	\$23.234	\$23.411	\$23.681	\$22.376	\$19.633	\$16.362







Weather Storage Model for Summer 2021 & 2022

