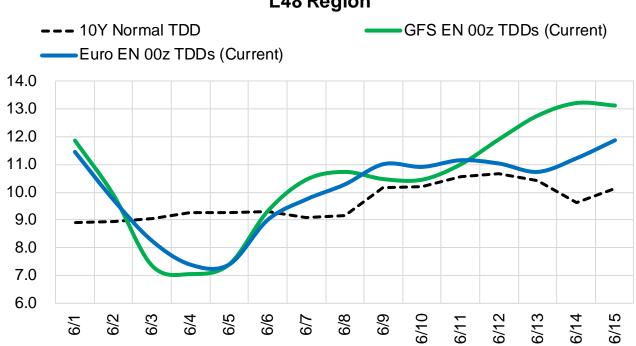


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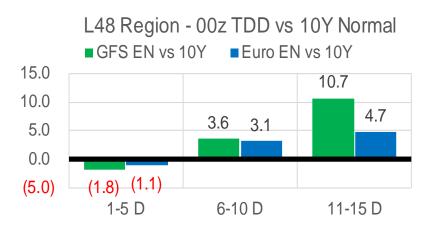


Short-term Weather Model Outlooks (00z)



L48 Region

Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

1 June 2022

Daily Balances

	26-May	27-May	28-May	29-May	30-May	31-May	1-Jun	DoD	vs. 7D
Lower 48 Dry Production	95.8	96.7	96.9	96.4	96.7	96.9	95.1	-1.8	T -1.4
Canadian Imports	4.8	4.8	4.7	4.6	4.8	4.9	4.8	-0.1	0.1
L48 Power	30.3	29.4	27.0	26.5	28.9	32.9	32.2	- 0.7	3 .0
L48 Residential & Commercial	9.8	9.3	8.9	8.7	9.0	9.3	8.7	- 0.6	-0.5
L48 Industrial	20.6	21.1	21.5	21.7	22.0	21.9	21.7	- 0.2	a 0.2
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.2	5.2	5.3	5.1	- 0.1	▼ -0.1
L48 Pipeline Distribution	2.3	2.2	2.0	2.0	2.2	2.4	2.2	- 0.2	a 0.1
L48 Regional Gas Consumption	68.2	67.1	64.7	64.1	67.3	71.8	69.9	T -1.9	2.7
Net LNG Delivered	13.23	13.01	13.12	13.03	12.82	11.95	12.66	0.7	v -0.2
Total Mexican Exports	7.1	7.1	7.1	6.7	7.2	7.2	7.2	0.0	0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity	12.1	14.2	16.6	17.1	14.2	10.9	10.2		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	22-Apr	29-Apr	6-May	13-May	20-May	27-May	WoW	vs. 4W
Lower 48 Dry Production	96.6	95.6	95.5	95.7	94.8	95.9	1.1	0.5
Canadian Imports	5.8	6.1	5.9	5.2	4.9	4.9	▼ 0.0	▼-0.7
L48 Power	24.9	24.7	26.2	26.8	30.4	30.0	v -0.4	3 .0
L48 Residential & Commercial	24.4	18.8	16.8	14.5	10.0	11.6	1 .6	▼ -3.4
L48 Industrial	21.5	21.7	21.1	20.9	21.3	21.0	V -0.3	- 0.3
L48 Lease and Plant Fuel	5.3	5.2	5.2	5.2	5.1	5.2	0 .1	▲ 0.0
L48 Pipeline Distribution	2.7	2.4	2.4	2.3	2.3	2.4	A 0.1	▼ 0.0
L48 Regional Gas Consumption	78.9	72.8	71.8	69.6	69.1	70.2	1.0	▼-0.7
Net LNG Exports	12.1	12.2	12.2	12.2	12.2	13.0	0.8	0.8
Total Mexican Exports	6.7	6.9	6.9	7.0	7.0	7.1	0.1	0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity	4.7 5.7	9.7 11.0	10.6 10.9	12.1 12.7	11.4 11.4	10.5	-0.9	
Daily Model Error	-1.0	-1.3	-0.3	-0.7	0.0			

Monthly Balances

	2Yr Ago	LY							
	Jun-20	Jun-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	MoM	vs. LY
Lower 48 Dry Production	87.9	93.2	93.4	92.6	93.5	95.9	95.7	▼-0.2	2.5
Canadian Imports	4.0	4.8	6.7	6.6	5.2	5.8	5.1	▼ -0.7	0.3
L48 Power	34.9	35.9	31.5	28.8	25.5	24.7	28.8	4 .1	▼-7.1
L48 Residential & Commercial	8.8	8.9	49.2	44.5	31.5	22.5	12.3	▼-10.3	3 .4
L48 Industrial	20.0	20.2	24.7	22.4	19.7	21.4	20.9	T -0.4	0.7
L48 Lease and Plant Fuel	4.8	5.0	5.1	5.1	5.2	5.2	5.2	T -0.1	A 0.1
L48 Pipeline Distribution	2.3	2.4	3.8	3.6	2.9	2.6	2.3	T -0.3	▼ -0.1
L48 Regional Gas Consumption	70.8	72.5	114.3	104.4	84.7	76.4	69.5	-6.9	▼ -3.0
Net LNG Exports	4.0	10.2	12.4	12.4	12.9	12.3	12.5	0.2	2.3
Total Mexican Exports	5.5	7.4	6.3	6.2	6.5	6.7	7.0	0.3	T -0.4
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.5	8.0	-32.9	-23.7	-5.4	6.2	11.8		

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	24-May	25-May	26-May	27-May	28-May	29-May	30-May	DoD	vs.7D
NRC Nuclear Daily Output	83.1	83.2	83.8	85.0	84.6	85.6	85.2	-0.3	1.0
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	21.8	21.7	21.0	19.8	20.3	19.3	19.6	0.3	-1.0
NRC % Nuclear Cap Utilization	84.5	84.6	85.3	86.5	86.0	87.0	86.7	-0.3	1.0

Wind Generation Daily Average - MWh (EIA)

	24-May	25-May	26-May	27-May	28-May	29-May	30-May	DoD	vs.7D
CALI Wind	1574	1508	2889	3837	4802	4175	3545	-630	414
TEXAS Wind	13490	13464	6857	12960	21861	24730	22862	-1868	7302
US Wind	44206	56894	41999	44188	67528	79029	80197	1168	24556

Generation Daily Average - MWh (EIA)

	24-May	25-May	26-May	27-May	28-May	29-May	30-May	DoD	vs. 7D
US Wind	44206	56894	41999	44188	67528	79029	80197	1168	24556
US Solar	16359	16338	18200	17184	17573	16230	18363	2133	1382
US Petroleum	432	478	392	643	733	643	856	214	303
US Other	7042	7131	6939	7029	6735	7423	7843	420	794
US Coal	88562	82232	87011	88804	75152	75350	85518	10168	2667
US Nuke	86890	87125	87771	88827	88698	88689	89060	372	1060
US Hydro	35039	34945	37534	36066	33613	31721	35118	3398	299
US Gas	155662	152243	162171	163178	131189	126941	144006	17065	-4558

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	22-Apr	29-Apr	6-May	13 - May	20-May	27-May	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	72.3	73.5	76.7	79.3	81.7	84.2	2.5	-0.5
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	32.6	31.4	28.2	25.5	23.2	20.6	-2.5	
NRC % Nuclear Cap Utilization	73.5	74.8	78.0	80.7	83.1	85.7	2.6	

Wind Generation Weekly Average - MWh (EIA)

	22-Apr	29-Apr	6-May	13-May	20-May	27-May	WoW	WoW Bcf/d Impact
CALI Wind	3613	3153	2929	3983	3452	2798	-654	0.1
TEXAS Wind	15612	18327	16902	17705	15706	14010	-1696	0.3
US Wind	61570	66986	57244	64974	50251	50129	-122	0.0
							0%	
						-0.1		

Generation Weekly Average - MWh (EIA)

	22-Apr	29-Apr	6-May	13-May	20-May	27-May	WoW	WoW Bcf/d Impact
US Wind	61570	66986	57244	64974	50251	50129	-122	0.0
US Solar	15897	16968	17033	18000	19634	17310	-2324	0.4
US Petroleum	984	992	931	341	262	448	186	0.0
US Other	7544	7717	7529	7615	7871	7568	-303	0.1
US Coal	79575	77533	78898	81273	88922	88449	-474	0.1
US Nuke	76478	77438	80558	83391	85510	88021	2511	-0.5
US Hydro	28355	26721	26831	28968	31973	33763	1790	-0.3
US Gas	133401	131482	145774	148473	172224	159667	-12557	-2.3

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

est.



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

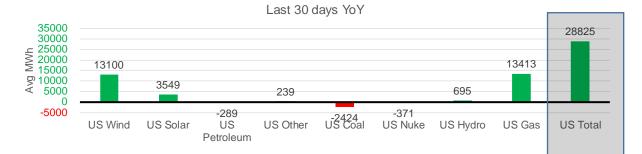
	2Yr Ago	LY				MTD		
	Same 30 days	Same 30 days	Feb-22	Mar-22	Apr-22	May-22	Last 30 days	Last 30 days YoY
NRC Nuclear Daily Output	83.2	82.5	87.3	81.3	73.3	76.3	82.2	-0.3
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0
NRC Nuclear Outage	21.7	22.4	17.5	23.6	31.6	28.6	22.7	0.3
NRC % Nuclear Cap Utilization	84.6	83.8	88.8	82.7	74.5	77.6	83.6	-0.3

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	2427	3277	1495	2250	3186	4170	3400	123
TEXAS Wind	9998	12243	11750	14837	16311	18569	16805	4561
US Wind	37098	44246	54543	58528	64183	65967	57346	13100

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	37098	44246	54543	58528	64183	65967	57346	A 13100
US Solar	11268	14523	12442	14057	16208	15329	18071	3549
US Petroleum	747	783	1331	985	985	795	494	~ -289
US Other	8284	7414	8632	7206	7386	6999	7653	239
US Coal	63576	87876	105631	82290	77545	73050	85452	T -2424
US Nuke	86983	86240	92027	85256	77217	80302	85869	T -371
US Hydro	38030	31095	32284	33959	29022	24512	31791	695
US Gas	145802	143546	153733	137232	133068	120576	156960	A 13413
US Total	390560	416071	461069	419842	406184	388454	444896	A 28825



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

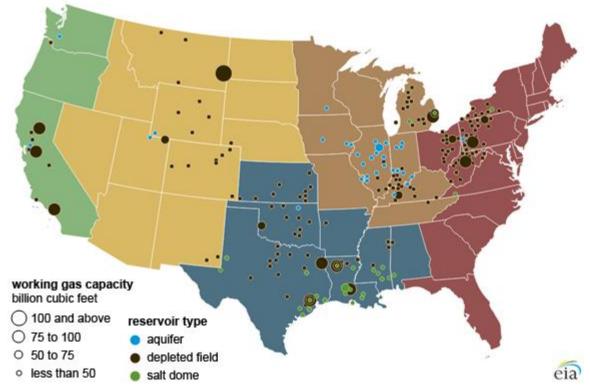


Regional S/D Models Storage Projection

Week Ending	27-May			
	Daily Raw	Daily Adjustment	Daily Average Storage Activity	Weekly Adjusted Storage
	Storage	Factor	(Adjusted) *	Activity
L48	11.4	-0.3	11.1	77
East	2.4	2.3	4.7	33
Midwest	4.7	-1.0	3.6	26
Mountain	4.3	-3.9	0.4	3
South Central	-1.5	3.0	1.5	11
Pacific	1.5	-0.6	0.9	6

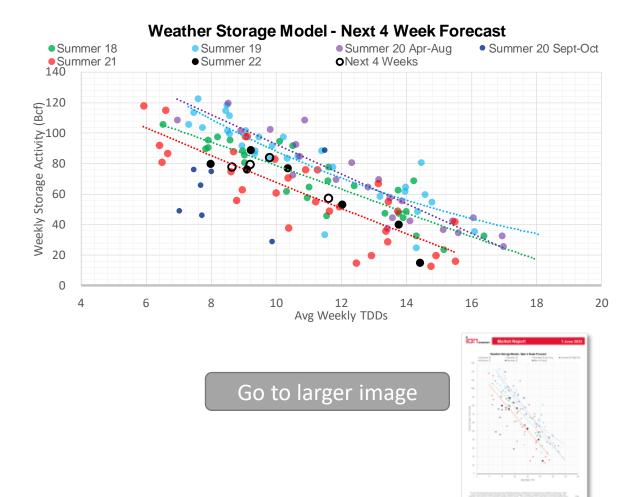
*Adjustment Factor is calcuated based on historical regional deltas

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

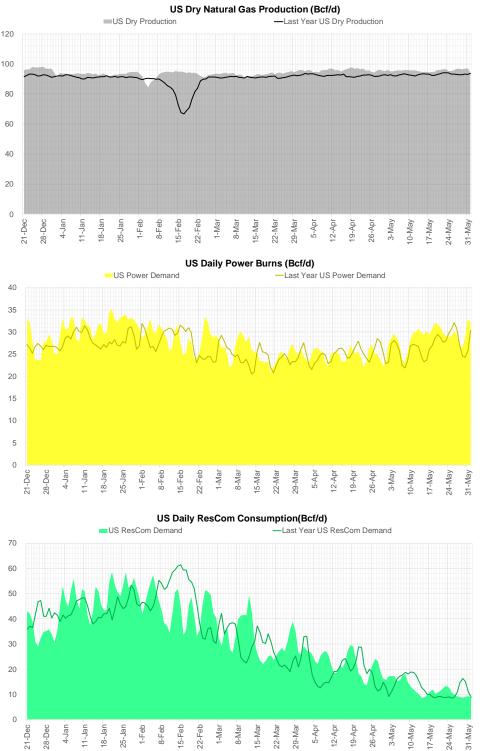


Weather Model Storage Projection

Next report and beyond									
Mask Ending	TDDa	Week Storage							
Week Ending	TDDs	Projection							
27-May	8.6	77							
03-Jun	9.8	84							
10-Jun	9.2	79							
17-Jun	11.6	57							

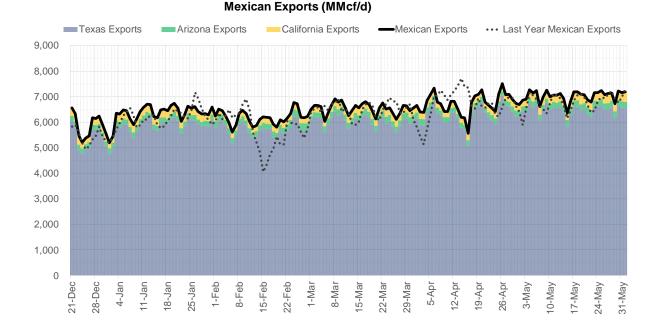


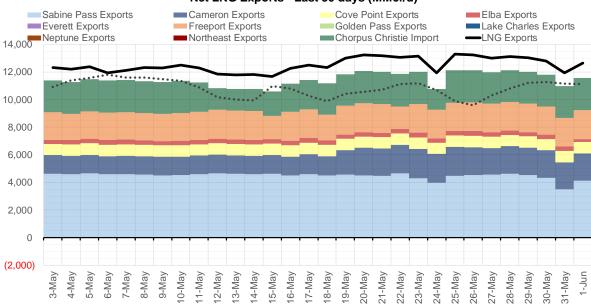




Source: Bloomberg







Net LNG Exports - Last 30 days (MMcf/d)

Source: Bloomberg

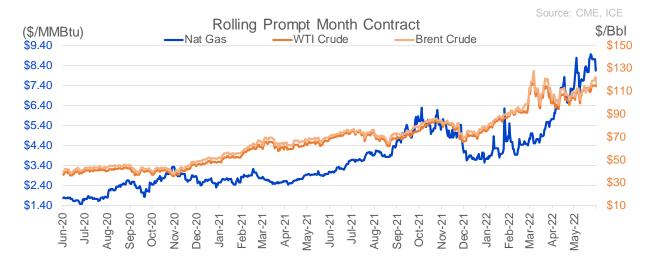


Nat Gas Options Volume and Open Interest CME and ICE Combined

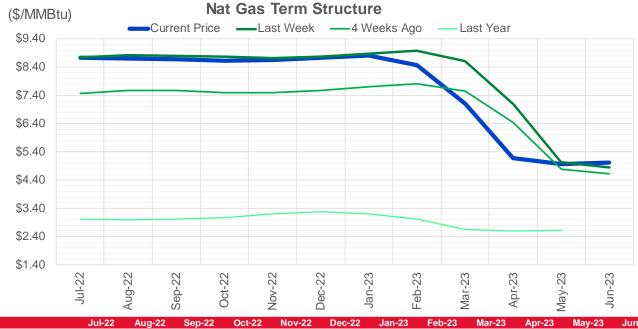
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
7	2022	Р	7.00	4367	8	2022	С	10.00	49951
7	2022	С	10.00	3249	8	2022	С	10.50	37432
7	2022	С	9.00	3016	10	2022	С	6.00	35308
8	2022	С	10.00	2858	8	2022	С	12.00	31681
7	2022	С	11.00	2749	7	2022	С	11.00	31277
8	2022	С	12.00	2697	10	2022	С	5.00	24089
8	2022	Р	5.50	2412	9	2022	С	6.00	23673
8	2022	С	17.00	2400	8	2022	С	12.10	22302
7	2022	Р	6.50	2274	7	2022	С	10.00	21996
8	2022	С	15.00	2236	7	2022	С	9.00	21954
8	2022	Р	5.00	1926	10	2022	Р	3.00	20785
7	2022	Р	7.50	1808	10	2022	Р	6.00	20643
7	2022	Р	7.25	1791	10	2022	Р	3.50	20524
8	2022	Р	6.00	1512	7	2022	С	11.10	20200
8	2022	С	20.00	1510	9	2022	С	10.00	20066
8	2022	С	9.50	1500	7	2022	Р	6.00	20054
7	2022	С	12.00	1441	10	2022	P	2.50	19868
8	2022	Р	7.00	1370	8	2022	С	6.00	19483
8	2022	Р	6.50	1226	7	2022	С	6.00	18943
3	2023	С	7.00	1225	7	2022	P	7.00	18722
3	2023	С	8.00	1100	8	2022	С	7.00	18259
8	2022	С	10.50	1084	12	2022	C C	5.00	18221
10	2022	С	10.00	1054	7 9	2022 2022		8.00 7.00	18132 18091
10	2022	Р	6.00	1017	9 7	2022 2022	C C		
10	2022	С	11.00	1006	7 10	2022 2022	P	7.00 2.00	17660 17408
9	2022	Р	5.00	965	7	2022	P	3.25	17344
7	2022	С	15.00	938	10	2022	P	4.00	17068
9	2022	Р	6.00	922	8	2022	C	9.00	17021
7	2022	С	13.25	902	5	2022	P	2.00	16336
1	2023	С	9.00	800	8	2023	P	6.00	16166
3	2023	С	10.00	800	1	2022	Ċ	10.00	16099
9	2022	С	10.00	793	2	2023	c	10.00	16074
8	2022	Р	8.00	774	7	2022	P	5.50	15601
8	2022	Р	7.50	703	7	2022	P	5.00	15492
7	2022	Р	8.50	662	9	2022	P	2.50	15291
8	2022	Р	4.00	652	3	2023	Ċ	10.00	14911
7	2022	Р	6.00	636	9	2022	P	2.75	14883
8	2022	Р	4.50	634	10	2022	P	3.25	14817
8	2022	С	13.00	629	10	2022	C	10.00	14665
11	2022	С	10.00	609	9	2022	P	3.00	14626
7	2022	Р	4.00	607	7	2022	Р	3.50	14604
10	2022	Р	4.50	600	8	2022	Р	3.00	14552
3	2023	С	9.00	600	10	2022	С	8.00	14530
12	2022	С	10.00	599	11	2022	Р	4.00	14494
7	2022	С	8.50	594	7	2022	Р	3.00	14491
7	2022	Р	4.50	594	12	2022	С	6.00	13934
7	2022	С	17.00	589	8	2022	С	8.00	13880
10	2022	С	12.00	579	10	2023	Р	2.00	13680
7	2022	С	9.50	576	10	2022	P	E: CME, ICE	13504
							Source	E CIVIE, ICE	

Nat Gas Futures Open Interest

CME Henry H	lub Futures (1			ICE Henry	Hub Futures Cont		No. 1 Contraction of the second se			
	Current	Prior	Daily Change		Current	Prior	Daily Change			
JUL 22	210103	209358	745	JUL 22	93914	91504	2411			
AUG 22	71197	68140	3057	AUG 22	59706	59349	357			
SEP 22	107122	107122	0	SEP 22	66266	65751	515			
OCT 22	94276	93990	286	OCT 22	72390	72488	-98			
NOV 22	49914	49636	278	NOV 22	59607	59298	309			
DEC 22	50028	50487	-459	DEC 22	62369	62292	78			
JAN 23	64370	64207	163	JAN 23	64349	64741	-392			
FEB 23	27776	27823	-47	FEB 23	54724	55351	-628			
MAR 23	40492	39791	701	MAR 23	54234	54473	-240			
APR 23	59213	59342	-129	APR 23	51839	51798	41			
MAY 23	61661	61323	338	MAY 23	51981	52042	-61			
JUN 23	26246	26086	160	JUN 23	45696	45592	104			
JUL 23	23718	24023	-305	JUL 23	43215	43170	45			
AUG 23	16106	15713	393	AUG 23	43372	43297	75			
SEP 23	19089	18949	140	SEP 23	42237	42163	74			
OCT 23	38935	38369	566	OCT 23	49045	48909	136			
NOV 23	12962	12787	175	NOV 23	43354	43728	-373			
DEC 23	14336	14552	-216	DEC 23	39413	39633	-221			
JAN 24	20887	20160	727	JAN 24	39673	39592	81			
FEB 24	6136	6094	42	FEB 24	26708	26701	7			
MAR 24	14060	14033	27	MAR 24	31164	31180	-16			
APR 24	12105	12125	-20	APR 24	27242	27273	-31			
MAY 24	6624	6569	55	MAY 24	26048	26033	15			
JUN 24	1895	1845	50	JUN 24	22437	22412	25			
JUL 24	2022	1966	56	JUL 24	22673	22648	25			
AUG 24	3027	2983	44	AUG 24	22708	22683	25			
SEP 24	1376	1330	46	SEP 24	22088	22063	25			
OCT 24	6843	6846	-3	OCT 24	24930	24905	25			
NOV 24	4491	4441	50	NOV 24	23253	23221	32			
DEC 24	7370	7325	45	DEC 24	25470	25436	34			



Market Report



	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
Current Price	\$8.727	\$8.712	\$8.673	\$8.640	\$8.668	\$8.735	\$8.810	\$8.467	\$7.105	\$5.176	\$4.980	\$5.034
Last Week	\$8.744	\$8.827	\$8.813	\$8.767	\$8.735	\$8.783	\$8.889	\$8.987	\$8.618	\$7.098	\$5.045	\$4.846
vs. Last Week	-\$0.017	-\$0.115	-\$0.140	-\$0.127	-\$0.067	-\$0.048	-\$0.079	-\$0.520	-\$1.513	-\$1.922	-\$0.065	\$0.188
4 Weeks Ago	\$7.475	\$7.566	\$7.566	\$7.507	\$7.506	\$7.568	\$7.716	\$7.821	\$7.543	\$6.446	\$4.779	\$4.632
vs. 4 Weeks Ago	\$1.252	\$1.146	\$1.107	\$1.133	\$1.162	\$1.167	\$1.094	\$0.646	-\$0.438	-\$1.270	\$0.201	\$0.402
Last Year	\$2.986	\$3.007	\$3.002	\$3.017	\$3.080	\$3.198	\$3.279	\$3.210	\$3.026	\$2.646	\$2.598	\$2.632
vs. Last Year	\$5.741	\$5.705	\$5.671	\$5.623	\$5.588	\$5.537	\$5.531	\$5.257	\$4.079	\$2.530	\$2.382	\$2.402

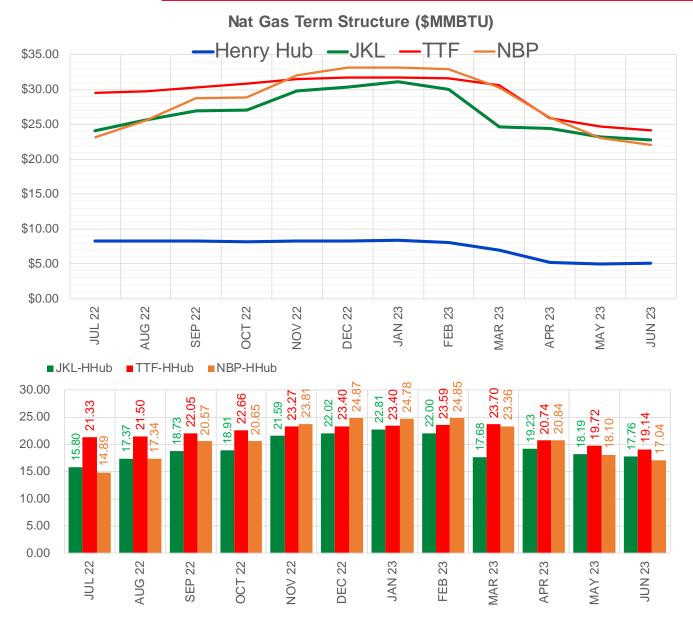
		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	8.65	8.38	-0.27
TETCO M3	\$/MMBtu	7.78	8.14	0.36
FGT Zone 3	\$/MMBtu	7.78	8.88	1.10
Zone 6 NY	\$/MMBtu	7.78	8.10	0.32
Chicago Citygate	\$/MMBtu	8.05	8.61	0.56
Michcon	\$/MMBtu	8.11	8.58	0.47
Columbia TCO Pool	\$/MMBtu	7.64	8.11	0.47
Ventura	\$/MMBtu	8.80	8.45	-0.35
Rockies/Opal	\$/MMBtu	7.90	8.35	0.45
El Paso Permian Basin	\$/MMBtu	7.40	8.09	0.69
Socal Citygate	\$/MMBtu	9.03	9.50	0.47
Malin	\$/MMBtu	8.24	8.57	0.33
Houston Ship Channel	\$/MMBtu	8.20	8.67	0.47
Henry Hub Cash	\$/MMBtu	8.46	8.44	-0.02
AECO Cash	C\$/GJ	5.90	6.42	0.52
Station2 Cash	C\$/GJ	5.59	8.42	2.83
Dawn Cash	C\$/GJ	8.11	8.60	0.49

Source: CME, Bloomberg



				vs. 4 Weeks	
	Units	Current Price	vs. Last Week	Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	0.000	▲ 0.000	2 .198
NatGas Oct21/Nov21	\$/MMBtu	0.361	0.000	▲ 0.000	0.308
NatGas Oct21/Jan22	\$/MMBtu	-1.817	0.000	▲ 0.000	-2.062
NatGas Apr22/Oct22	\$/MMBtu	2.737	-0.677	a 0.122	2 .716
WTI Crude	\$/Bbl	114.67	4 .900	12.260	46.950
Brent Crude	\$/Bbl	122.84	9.280	1 7.870	52.590
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	0.000	▲ 0.000	0.000
Heating Oil	cents/Gallon	409.09	a 30.910	a 0.820	a 201.940
Propane, Mt. Bel	cents/Gallon	1.23	a 0.004	-0.029	a 0.318
Ethane, Mt. Bel	cents/Gallon	0.60	a 0.002	a 0.012	a 0.331
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			

Market Report

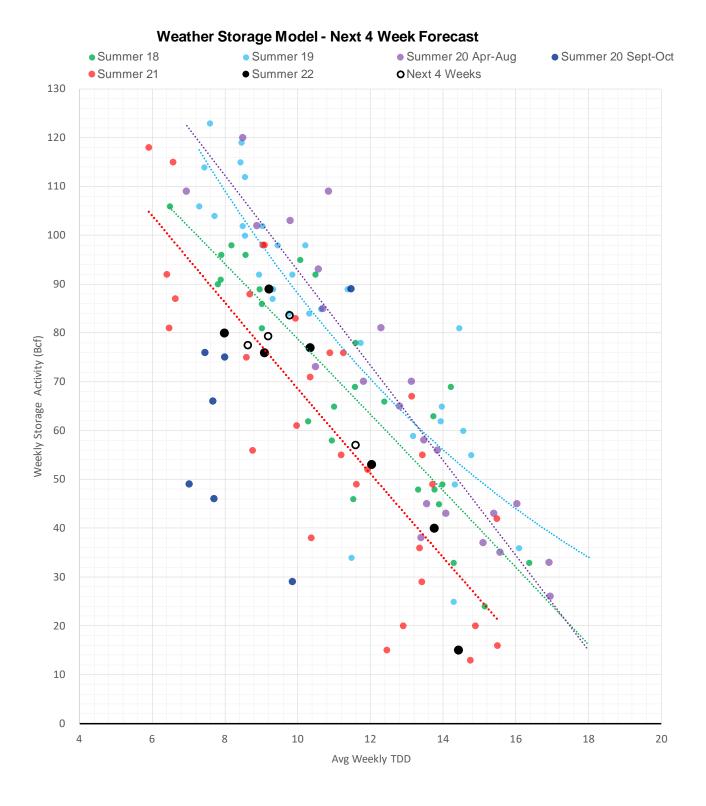


	JUL 22	AUG 22	SEP 22	OCT 22	NOV 22	DEC 22	JAN 23	FEB 23	MAR 23	APR 23	MAY 23	JUN 23
Henry Hub	\$8.274	\$8.267	\$8.229	\$8.215	\$8.220	\$8.311	\$8.368	\$8.057	\$6.970	\$5.165	\$4.993	\$5.037
JKL	\$24.075	\$25.640	\$26.955	\$27.120	\$29.805	\$30.335	\$31.175	\$30.055	\$24.650	\$24.395	\$23.180	\$22.795
JKL-HHub	\$15.801	\$17.373	\$18.726	\$18.905	\$21.585	\$22.024	\$22.807	\$21.998	\$17.680	\$19.230	\$18.187	\$17.758
TTF	\$29.605	\$29.765	\$30.282	\$30.876	\$31.493	\$31.710	\$31.771	\$31.643	\$30.668	\$25.905	\$24.712	\$24.172
TTF-HHub	\$21.331	\$21.498	\$22.053	\$22.661	\$23.273	\$23.399	\$23.403	\$23.586	\$23.698	\$20.740	\$19.719	\$19.135
NBP	\$23.166	\$25.611	\$28.800	\$28.861	\$32.031	\$33.178	\$33.146	\$32.911	\$30.334	\$26.001	\$23.092	\$22.073
NBP-HHub	\$14.892	\$17.344	\$20.571	\$20.646	\$23.811	\$24.867	\$24.778	\$24.854	\$23.364	\$20.836	\$18.099	\$17.036

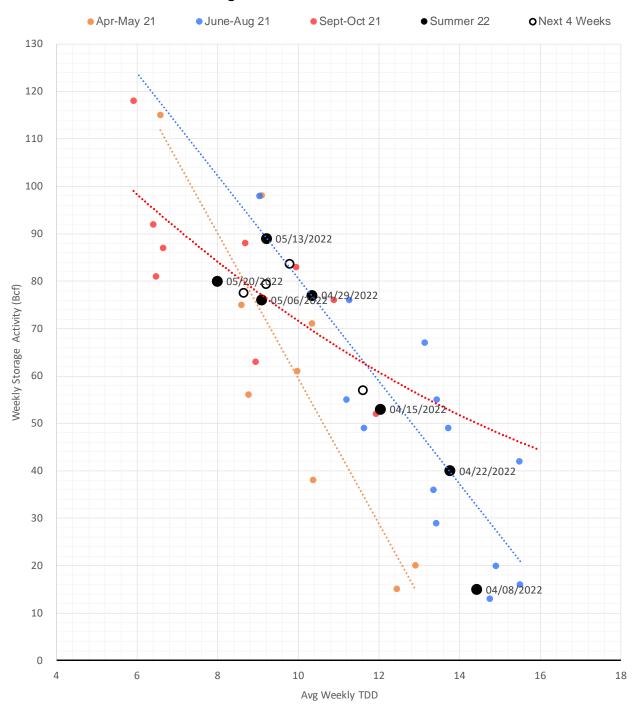
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1 June 2022









Weather Storage Model for Summer 2021 & 2022

Market Report

ENERGY

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