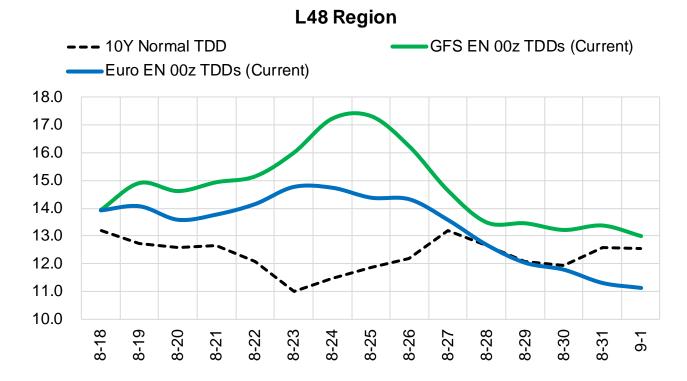
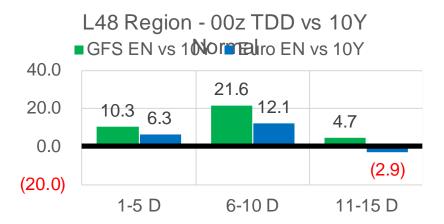




Short-term Weather Model Outlooks (00z)



Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

Daily Balances

	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	DoD	vs.7D
Lower 48 Dry Production	92.7	92.7	92.3	91.6	92.1	92.4	90.9	T -1.5	▼-1.4
Canadian Imports	5.7	5.3	4.8	4.6	4.9	4.8	4.8	0.0	T -0.2
L48 Power	44.0	41.8	37.9	36.3	38.3	39.2	39.0	- 0.2	▼ -0.5
L48 Residential & Commercial	8.1	7.9	7.2	7.1	7.5	7.8	7.7	▼ -0.1	0 .1
L48 Industrial	20.3	20.3	20.4	20.5	20.5	20.5	20.4	▼ -0.1	▼ 0.0
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.0	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.5	2.4	2.2	2.1	2.2	2.3	2.3	▼ 0.0	▼ 0.0
L48 Regional Gas Consumption	80.0	77.5	72.7	71.0	73.7	74.8	74.4	-0.5	T-0.6
Net LNG Delivered	10.39	11.08	10.53	11.06	11.00	11.01	10.93	-0.1	0.1
Total Mexican Exports	7.0	6.7	6.4	6.2	7.0	7.4	7.4	-0.1	0.6
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	1.1	2.7	7.4	8.0	5.4	3.9	3.1		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	vs. 4W
Lower 48 Dry Production	91.9	92.5	92.6	92.6	92.0	92.5	0.5	0.1
Canadian Imports	5.1	5.2	4.9	5.5	5.1	5.2	0.1	▲ 0.0
L48 Power	37.3	38.7	39.7	42.1	38.4	41.1	2.8	1 .4
L48 Residential & Commercial	8.2	8.4	8.4	8.3	7.8	7.7	V -0.1	- 0.5
L48 Industrial	19.4	19.6	19.7	20.7	20.5	20.3	- 0.2	a 0.2
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	0.0	▼ 0.0
L48 Pipeline Distribution	2.1	2.2	2.3	2.4	2.2	2.4	0.1	a 0.1
L48 Regional Gas Consumption	72.1	74.1	75.2	78.7	74.1	76.7	2.6	▲ 1.1
Net LNG Exports	11.0	10.8	10.5	10.8	10.6	9.9	▼ -0.6	▼-0.7
Total Mexican Exports	7.1	7.1	7.1	7.0	6.9	6.8	T -0.1	▼-0.2
Implied Daily Storage Activity	6.8	5.6	4.6	1.7	5.5	4.2	-1.3	
EIA Reported Daily Storage Activity Daily Model Error	7.9 -1.1	7.0 -1.4	5.1 -0.5	1.9 -0.2	7.0 -1.5			

Monthly Balances

	2Yr Ago	LY					MTD		
	Aug-18	Aug-18	Apr-21	May-21	Jun-21	Jul-21	Aug-21	MoM	vs. LY
Lower 48 Dry Production	85.0	85.0	92.3	92.7	93.0	92.3	92.1	▼ -0.2	7.1
Canadian Imports	5.0	5.0	4.6	4.5	4.8	5.2	5.0	-0.1	▲ 0.0
L48 Power	38.1	38.1	24.9	26.6	35.3	39.4	39.4	▼ 0.0	1.3
L48 Residential & Commercial	7.8	7.8	19.5	13.2	8.8	8.3	7.7	T -0.6	T -0.1
L48 Industrial	21.6	21.6	21.2	20.3	20.8	19.9	20.4	A 0.5	▼-1.2
L48 Lease and Plant Fuel	4.7	4.7	5.1	5.1	5.1	5.1	5.1	▼ 0.0	a 0.4
L48 Pipeline Distribution	2.2	2.2	2.3	2.1	2.2	2.3	2.3	0.0	— 0.1
L48 Regional Gas Consumption	74.4	74.4	73.0	67.2	72.3	75.1	74.9	▼ -0.2	0.5
Net LNG Exports	3.3	3.3	11.5	10.8	10.2	10.8	10.4	▼ -0.4	▲ 7.1
Total Mexican Exports	4.9	4.9	6.7	6.8	7.4	7.0	6.9	▼ -0.1	2.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	7.4	7.4	5.7	12.4	8.0	4.6	5.0		

Source: Bloomberg, analytix.ai

Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	DoD	vs. 7D
NRC Nuclear Daily Output	92.2	92.6	92.7	92.7	92.3	92.3	92.3	0.0	-0.2
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	12.7	12.3	12.2	12.2	12.6	12.6	12.6	0.0	0.2
NRC % Nuclear Cap Utilization	93.7	94.2	94.3	94.3	93.8	93.9	93.9	0.0	-0.2

Wind Generation Daily Average - MWh (EIA)

	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	DoD	vs.7D
CALI Wind	1903	2561	3629	4191	2822	2623	3042	419	87
TEXAS Wind	19443	16463	14046	7789	4346	2507	5411	2904	-5355
US Wind	52778	54647	48561	26370	22914	27068	31339	4272	-7384

Generation Daily Average - MWh (EIA)

	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	DoD	vs.7D
US Wind	52778	54647	48561	26370	22914	27068	31339	4272	-7384
US Solar	13445	13075	13885	13427	11447	12031	11780	-251	-1105
US Petroleum	5382	4803	5516	5347	3817	3268	3873	605	-816
US Other	10413	10353	10185	10342	9383	8955	9169	215	-769
US Coal	149372	149499	150898	152667	140750	128425	133603	5178	-11666
US Nuke	94812	95168	95067	95166	94844	94943	95017	74	17
US Hydro	27474	29190	30033	31082	27408	24827	27865	3038	-471
US Gas	219976	223405	228724	230902	206041	184034	208222	24188	-7292

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	89.5	90.7	90.7	89.3	90.6	91.5	0.9	-0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	15.4	14.2	14.2	15.6	14.3	13.3	-0.9	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (EIA)

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	WoW Bcf/d Impact
CALI Wind	2604	3004	2064	1905	2237	2507	271	0.0
TEXAS Wind	3739	10817	7162	7913	5180	16319	11139	-1.9
US Wind	25696	36364	26446	29735	22376	49671	27295	-4.6

Generation Weekly Average - MWh (EIA)

								WoW
	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	Bcf/d
								Impact
US Wind	25696	36364	26446	29735	22376	49671	27295	-4.6
US Solar	14165	14486	14023	13977	14129	14183	53	0.0
US Petroleum	4035	4282	3892	4729	4074	4647	573	-0.1
US Other	9159	9555	9336	9281	9058	9945	887	-0.1
US Coal	131313	131514	137620	146400	134732	140137	5405	-0.9
US Nuke	92359	93735	93488	92226	93269	94282	1012	-0.2
US Hydro	30129	30422	30191	29204	27732	26811	-921	0.2
US Gas	194605	199737	210464	224376	204525	207282	2757	

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

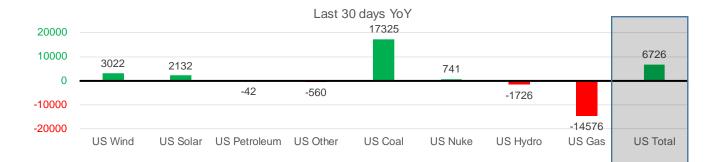
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	94.2	90.7	81.8	88.7	90.0	91.7	90.8	1.7	0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	10.7	14.2	23.1	16.2	14.9	13.2	14.0	-1.7	-0.2
NRC % Nuclear Cap Utilization	95.7	92.2	83.2	90.2	91.5	93.2	92.4	1.7	0.2

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD				
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY	
CALI Wind	2097	2393	3402	2913	2338	2691	2423	352	30	
TEXAS Wind	8032	8599	12259	9675	7217	9422	8446	2205	-153	
US Wind	25318	29233	46081	37299	29104	34597	32255	5493	3022	

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	25318	29233	46081	37299	29104	34597	32255	▼-2342.2	3022
US Solar	9165	11555	14488	14564	14195	13441	13687	4 245.7	A 2132
US Petroleum	5145	4402	3012	4150	4233	4265	4360	4 95	-42
US Other	9247	9954	7439	8162	9324	9502	9394	T -108	▼ -560
US Coal	127953	122329	86419	121357	137224	136837	139654	2817	A 17325
US Nuke	100435	92792	85517	92175	92897	94323	93533	-790	~ 741
US Hydro	33107	29948	30677	32577	29936	27360	28222	a 862	T -1726
US Gas	219630	225798	139478	188815	207789	205410	211222	780	▼-14576
US Total	531185	525693	413542	499468	524884	525868	532419	a 3901	6726



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

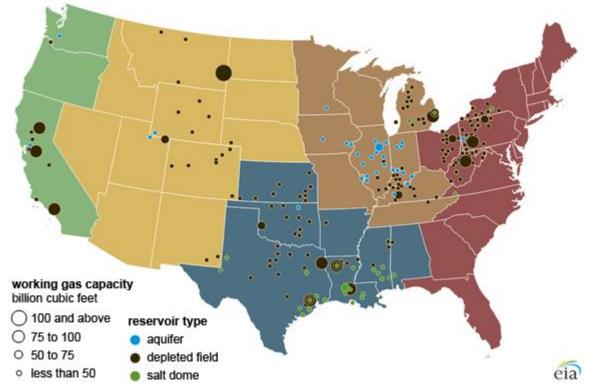


Regional S/D Models Storage Projection

Week Ending	13-Aug			
	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.9	1.3	5.2	36
East Midwest Mountain South Central	1.2 3.5 4.2 -5.0	1.4 -0.2 -4.2 4.5	2.5 3.3 0.0 -0.5	18 23 0 -4
Pacific	0.1	-0.2	-0.2	-1

*Adjustment Factor is calcuated based on historical regional deltas

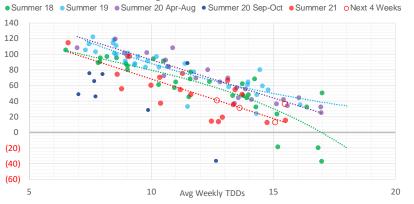
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
13-Aug	15.5	36
20-Aug	13.6	31
27-Aug	15.1	13
03-Sep	12.7	41

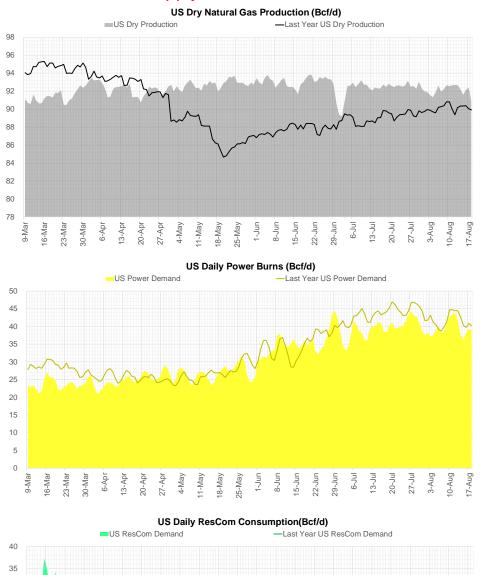
Weather Storage Model - Next 4 Week Forecast



Go to larger image



23-Mar 30-Mar 6-Apr 13-Apr 20-Apr



Supply – Demand Trends

Source: Bloomberg

I0-Aug

3-Aug

20-Jul 27-Jul

6-Jul 13-Jul

The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.

11-May 18-May 25-May 1-Jun 8-Jun 15-Jun 22-Jun 29-Jun

27-Apr

4-May

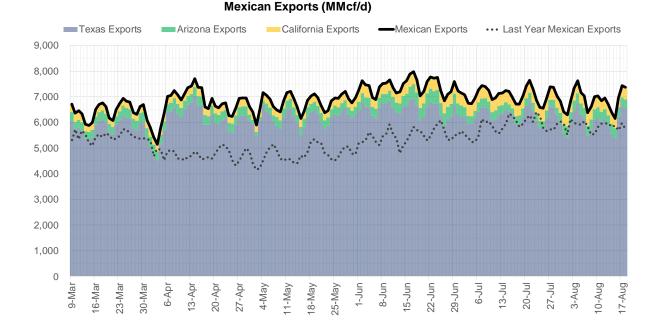


21-Jul

22-Jul

23-Jul 24-Jul 25-Jul 26-Jul 27-Jul 28-Jul 29-Jul 30-Jul

20-Jul



Sabine Pass Exports Cove Point Exports Cameron Exports Elba Exports Freeport Exports Golden Pass Exports Lake Charles Exports Everett Exports Northeast Exports Chorpus Christie Import LNG Exports Neptune Exports 12,000 10,000 8,000 6,000 4,000 2,000 0 (2,000)

2-Aug 3-Aug 4-Aug 5-Aug 6-Aug 7-Aug 8-Aug 9-Aug 0-Aug

31-Jul 1-Aug

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

Source: Bloomberg

5-Aug

6-Aug

4-Aug

B-Aug

12-Aug 13-Aug

11-Aug

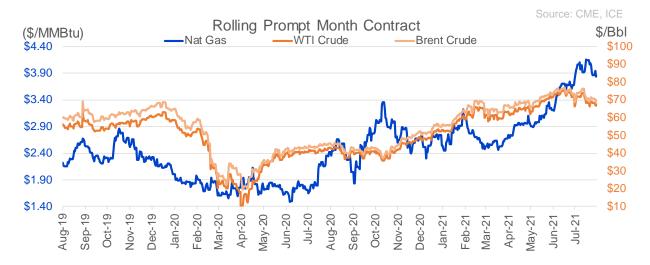


Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

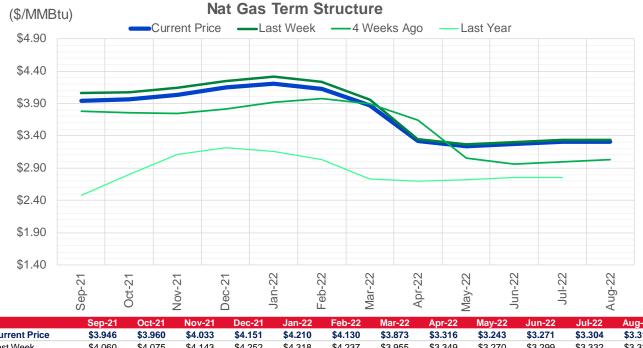
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
10	2021	С	4.50	15457	12	2021	Р	2.75	41770
10	2021	C	5.00	13397	10	2021	С	4.00	40438
10	2021	P	3.50	12242	10	2021	С	4.50	38680
9	2021	P	3.70	6861	12	2021	Р	2.50	38528
9	2021	Р	3.60	6836	10	2021	Р	3.50	37585
9	2021	Р	3.50	6814	10	2021	С	5.00	36804
9	2021	С	4.00	5241	10	2021	С	3.50	33004
10	2021	C	4.25	4253	9	2021	С	4.00	32369
9	2021	Р	3.80	3767	10	2021	Р	2.50	29844
9	2021	Р	3.45	3584	10	2021	Р	3.00	29097
9	2021	С	4.10	3256	10	2021	Р	2.00	28650
10	2021	С	4.00	3058	9	2021	С	4.25	28305
10	2021	P	3.75	2811	10	2021	С	3.25	28230
11	2021	С	4.50	2755	10	2021	Р	2.75	27057
9	2021	C	4.20	2551	9	2021	С	5.00	26581
9	2021	С	4.25	2506	12	2021	Р	3.00	25048
9	2021	С	3.90	2324	10	2021	С	6.00	24499
9	2021	P	3.85	2258	10	2021	С	4.25	24152
11	2021	С	4.00	2230	9	2021	Р	2.50	23385
11	2021	C	4.25	2001	11	2021	Р	3.00	22745
10	2021	Р	3.00	1996	9	2021	С	3.50	22611
9	2021	Р	3.75	1811	11	2021	С	4.00	22482
9	2021	Р	3.90	1506	9	2021	Р	3.00	22432
11	2021	Р	3.50	1470	12	2021	С	4.00	22141
3	2022	Р	3.00	1466	9	2021	С	4.50	20693
11	2021	С	6.00	1404	9	2021	P	2.00	20427
10	2021	Р	3.90	1250	9	2021	С	4.75	20406
9	2021	С	4.15	1232	9 10	2021	P P	3.25	20098
9	2021	C	3.85	1187	10	2021		2.25	19900
10	2021	Р	4.10	1122		2022	C P	3.00	19810
10	2021	Р	3.25	1121	9 9	2021 2021	P C	3.50 3.25	19487 18994
9	2021	С	3.75	1115	9 10	2021	c	3.25	18994
9	2021	P	3.65	1055	10	2021	c	3.00 5.00	17878
9	2021	Р	4.00	1043	10	2021	P	3.25	16859
11	2021	С	6.10	1000	10	2021	C	3.25	16814
1	2022	Р	3.50	935	10	2021	C	5.00	16274
3	2022	С	5.25	916	9	2022	P	2.75	15816
9	2021	P	3.55	853	3	2022	C	5.00	15473
2	2022	Р	3.00	850	2	2022	c	5.00	15201
1	2022	С	4.25	825	11	2022	c	3.75	15026
12	2021	С	4.25	800	1	2022	c	4.00	14782
10	2021	С	4.75	791	3	2022	P	2.50	14644
12	2021	P	3.50	765	9	2022	P	4.00	14517
2	2022	P	3.50	750	3	2022	C	3.00	14448
12	2021	С	5.00	732	11	2021	P	2.50	14398
9	2021	C	4.05	725	3	2022	C	8.00	13975
10	2021	C	5.25	714	12	2022	P	2.00	13889
10	2021	C	4.45	706	9	2021	P	2.60	13814
4	2022	P	3.00	700	9	2021	Р	3 75	13803.25
					-		Source	E: CME, ICE	

Nat Gas Futures Open Interest CME, and ICE Combined

Civil, and ICE Combined									
CME Henry H	lub Futures (1			ICE Henry	Hub Futures Cont		alent (10,000 MM		
	Current	Prior	Daily Change		Current	Prior	Daily Change		
SEP 21	94593	114412	-19819	SEP 21	80765	83707	-2943		
OCT 21	218680	213027	5653	OCT 21	107678	106604	1074		
NOV 21	190768	189712	1056	NOV 21	69417	69952	-534		
DEC 21	82842	83472	-630	DEC 21	75582	76678	-1096		
JAN 22	137861	137627	234	JAN 22	78016	78411	-394		
FEB 22	55450	56192	-742	FEB 22	69199	70991	-1793		
MAR 22	103763	103161	602	MAR 22	73610	74566	-956		
APR 22	112679	112879	-200	APR 22	69517	70884	-1368		
MAY 22	100088	99821	267	MAY 22	68466	70175	-1709		
JUN 22	31248	30957	291	JUN 22	53186	54925	-1739		
JUL 22	26387	26483	-96	JUL 22	54091	55461	-1369		
AUG 22	25457	25334	123	AUG 22	54335	56007	-1671		
SEP 22	26672	26635	37	SEP 22	54044	55775	-1731		
OCT 22	67063	67167	-104	OCT 22	61724	63136	-1412		
NOV 22	27831	27778	53	NOV 22	48091	49020	-929		
DEC 22	24597	24482	115	DEC 22	51509	52499	-990		
JAN 23	18020	17398	622	JAN 23	33348	33393	-46		
FEB 23	6436	6131	305	FEB 23	27973	27984	-12		
MAR 23	8810	9078	-268	MAR 23	29792	29806	-14		
APR 23	10881	10850	31	APR 23	24687	24640	47		
MAY 23	6460	6342	118	MAY 23	25640	25595	45		
JUN 23	4785	4768	17	JUN 23	23770	23730	40		
JUL 23	4222	3853	369	JUL 23	23871	23846	25		
AUG 23	3138	3473	-335	AUG 23	23736	23711	25		
SEP 23	3885	3880	5	SEP 23	23194	23169	25		
OCT 23	4882	4672	210	OCT 23	24965	24795	170		
NOV 23	1622	1404	218	NOV 23	24759	24920	-161		
DEC 23	1741	1850	-109	DEC 23	23552	23594	-42		
JAN 24	984	984	0	JAN 24	13235	13128	107		
FEB 24	873	873	0	FEB 24	11293	11302	-10		



Market Report



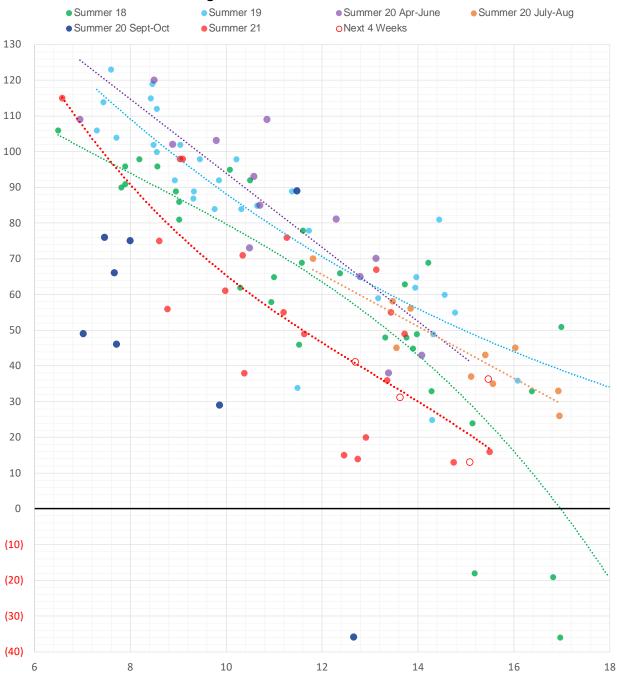
Current Price	\$3.946	\$3.960	\$4.033	\$4.151	\$4.210	\$4.130	\$3.873	\$3.316	\$3.243	\$3.271	\$3.304	\$3.312
Last Week	\$4.060	\$4.075	\$4.143	\$4.252	\$4.318	\$4.237	\$3.955	\$3.349	\$3.270	\$3.299	\$3.332	\$3.338
vs. Last Week	-\$0.114	-\$0.115	-\$0.110	-\$0.101	-\$0.108	-\$0.107	-\$0.082	-\$0.033	-\$0.027	-\$0.028	-\$0.028	-\$0.026
4 Weeks Ago	\$3.779	\$3.754	\$3.751	\$3.812	\$3.916	\$3.975	\$3.892	\$3.642	\$3.058	\$2.966	\$2.996	\$3.032
vs. 4 Weeks Ago	\$0.167	\$0.206	\$0.282	\$0.339	\$0.294	\$0.155	-\$0.019	-\$0.326	\$0.185	\$0.305	\$0.308	\$0.280
Last Year	\$2.339	\$2.476	\$2.803	\$3.110	\$3.211	\$3.162	\$3.029	\$2.736	\$2.692	\$2.717	\$2.750	\$2.757
vs. Last Year	\$1.607	\$1.484	\$1.230	\$1.041	\$0.999	\$0.968	\$0.844	\$0.580	\$0.551	\$0.554	\$0.554	\$0.555

		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.87	3.25	-0.62
TETCO M3	\$/MMBtu	3.72	3.13	-0.59
FGT Zone 3	\$/MMBtu	3.74	4.19	0.45
Zone 6 NY	\$/MMBtu	3.74	3.08	-0.67
Chicago Citygate	\$/MMBtu	3.72	3.97	0.25
Michcon	\$/MMBtu	3.70	3.94	0.24
Columbia TCO Pool	\$/MMBtu	3.60	3.27	-0.33
Ventura	\$/MMBtu	3.67	3.92	0.25
Rockies/Opal	\$/MMBtu	3.69	3.86	0.17
El Paso Permian Basin	\$/MMBtu	3.50	3.90	0.40
Socal Citygate	\$/MMBtu	5.15	5.33	0.18
Malin	\$/MMBtu	4.29	4.23	-0.06
Houston Ship Channel	\$/MMBtu	3.86	4.08	0.22
Henry Hub Cash	\$/MMBtu	3.93	3.90	-0.04
AECO Cash	C\$/GJ	2.20	3.00	0.80
Station2 Cash	C\$/GJ	2.21	4.12	1.91
Dawn Cash	C\$/GJ	3.70	3.92	0.22

Source: CME, Bloomberg



					vs	. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.234		-0.252		0.002		0.216
NatGas Oct21/Nov21	\$/MMBtu	0.074		0.005		0.019		0.025
NatGas Oct21/Jan22	\$/MMBtu	0.255		0.016		0.048	▼	-0.018
NatGas Apr22/Oct22	\$/MMBtu	0.017		0.020		0.033	▼	-0.030
WTI Crude	\$/Bbl	66.59		-1.700		-0.830		23.700
Brent Crude	\$/Bbl	69.03		-1.600		-0.320		23.570
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	203.61		-4.410		2.340		77.570
Propane, Mt. Bel	cents/Gallon	1.12		0.023		0.046		0.620
Ethane, Mt. Bel	cents/Gallon	0.34		-0.005		0.027		0.093
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						



Weather Storage Model - Next 4 Week Forecast

Market Report

ENERGY

18 August 2021

