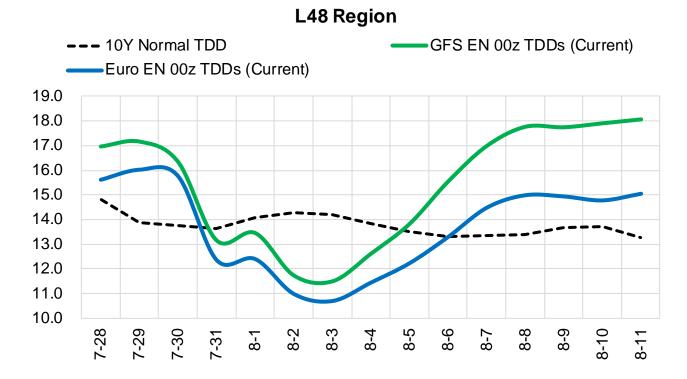
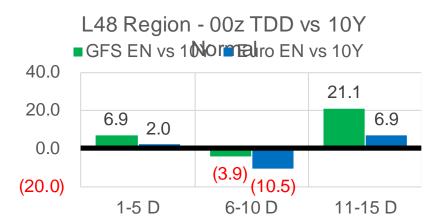




Short-term Weather Model Outlooks (00z)



Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

28 July 2021

Daily Balances

	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	DoD	vs.7D
Lower 48 Dry Production	92.4	92.4	92.3	92.3	92.8	92.1	91.2	-0.9	▼-1.1
Canadian Imports	4.7	5.1	5.3	5.5	5.7	5.8	5.8	▼ 0.0	0.4
L48 Power	39.6	40.0	40.2	41.5	43.4	44.2	42.7	T -1.5	1.2
L48 Residential & Commercial	8.3	7.9	7.7	7.7	8.3	8.3	8.3	0 .0	0.3
L48 Industrial	19.6	19.8	20.0	20.3	20.4	20.5	20.7	A 0.2	0.6
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.1	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.3	2.3	2.3	2.3	2.4	2.5	2.4	T -0.1	A 0.1
L48 Regional Gas Consumption	74.8	75.1	75.3	76.9	79.7	80.7	79.2	T -1.5	2.1
Net LNG Delivered	10.86	10.60	10.88	10.82	10.74	10.88	10.74	-0.1	T-0.1
Total Mexican Exports	7.4	7.1	6.6	6.5	7.0	7.5	7.4	-0.1	0.4
Implied Daily Storage Activity EIA Reported Daily Storage Activity	3.9	4.7	4.7	3.6	1.0	-1.1	-0.3		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	23-Jul	WoW	vs. 4W
Lower 48 Dry Production	92.3	93.2	92.2	91.8	92.3	92.2	-0.1	-0.2
Canadian Imports	5.1	4.7	5.2	5.1	5.2	4.9	▼ -0.3	T-0.1
L48 Power	34.8	34.4	39.7	37.1	38.7	39.7	1 .0	2.2
L48 Residential & Commercial	8.3	8.4	8.3	7.9	8.2	8.3	0 .0	0 .0
L48 Industrial	22.4	20.0	21.5	19.7	19.7	19.3	v -0.4	-0.9
L48 Lease and Plant Fuel	5.1	5.2	5.1	5.1	5.1	5.1	▼ 0.0	• 0.0
L48 Pipeline Distribution	2.1	2.1	2.4	2.1	2.2	2.3	0.0	a 0.1
L48 Regional Gas Consumption	72.7	70.1	77.0	72.0	74.0	74.7	0.7	1.4
Net LNG Exports	9.6	10.3	11.2	11.0	10.8	10.5	T -0.3	T -0.3
Total Mexican Exports	7.5	7.6	7.2	7.1	7.1	7.0	▼ -0.1	T -0.2
Implied Daily Storage Activity	7.6	9.9	2.0	6.8	5.6	4.9	-0.6	
EIA Reported Daily Storage Activity	7.9	10.9	2.3	7.9	7.0			
Daily Model Error	-0.2	-0.9	-0.2	-1.1	-1.4			

Monthly Balances

	2Yr Ago	LY					MTD		
	Jul-19	Jul-20	Mar-21	Apr-21	May-21	Jun-21	Jul-21	МоМ	vs. LY
Lower 48 Dry Production	91.9	89.1	91.5	92.3	92.2	92.8	92.0	▼ -0.7	3.0
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.2	0.3	0.8
L48 Power	40.8	43.7	24.3	25.0	27.1	35.3	39.3	A 3.9	▼-4.4
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.3	8.4	8.1	T -0.3	a 0.2
L48 Industrial	21.6	20.4	19.3	21.2	19.2	21.0	19.8	T -1.3	V -0.6
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.1	5.1	5.1	▼ 0.0	a 0.2
L48 Pipeline Distribution	2.3	2.4	2.5	2.3	2.1	2.2	2.2	A 0.1	V -0.2
L48 Regional Gas Consumption	77.8	79.4	80.6	73.3	66.7	72.0	74.5	2.5	▼ -4.9
Net LNG Exports	6.0	3.3	11.1	11.5	10.8	10.2	10.8	0.6	7.5
Total Mexican Exports	5.3	5.9	6.5	6.7	6.8	7.4	7.1	▼ -0.4	1.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity	7.8	5.0	-2.0	5.5	12.4	8.0	4.9		
Daily Model Error									

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	90.3	88.2	88.1	88.1	88.1	90.2	90.6	0.4	1.8
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	14.6	16.7	16.8	16.8	16.8	14.7	14.3	-0.4	-1.8
NRC % Nuclear Cap Utilization	91.8	89.7	89.6	89.6	89.6	91.7	92.1	0.4	1.8

Wind Generation Daily Average - MWh (EIA)

	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	DoD	vs.7D
CALI Wind	2516	2234	2083	2283	2561	1522	1522	0	-677
TEXAS Wind	3557	8911	15356	12202	8893	6079	6079	0	-3088
US Wind	26199	36855	44311	35200	25751	23692	23692	0	-8310

Generation Daily Average - MWh (EIA)

	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	DoD	vs. 7D
US Wind	26199	36855	44311	35200	25751	23692	23692	0	-8310
US Solar	13910	13963	13713	13420	13653	12092	12092	0	-1367
US Petroleum	3851	3859	4240	4458	4230	5003	5003	0	730
US Other	8963	8944	8939	8889	8805	9371	9371	0	386
US Coal	140467	132769	136904	136218	141479	152143	152143	0	12146
US Nuke	92831	88833	90641	91058	92840	92850	92850	0	1341
US Hydro	31536	29420	30221	27820	26804	29905	29905	0	620
US Gas	212350	198600	203302	202101	207181	235677	235677	0	25808

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	23-Jul	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	86.7	89.9	89.1	89.5	90.7	90.7	0.1	0.0
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	18.1	15.0	15.7	15.4	14.2	14.2	-0.1	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (EIA)

	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	23-Jul	WoW	WoW Bcf/d Impact
CALI Wind	2494	2568	2588	2604	3004	2064	-940	0.2
TEXAS Wind	7683	13415	8326	3739	10817	7162	-3655	0.6
US Wind	34128	49248	27216	25698	36364	26445	-9919	1.7

Generation Weekly Average - MWh (EIA)

								WoW
	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	23-Jul	WoW	Bcf/d
								Impact
US Wind	34128	49248	27216	25698	36364	26445	-9919	1.7
US Solar	15395	14070	14060	14162	14489	13855	-634	0.1
US Petroleum	3894	3331	5142	4035	4282	3892	-391	0.1
US Other	7784	8246	8886	9159	9554	9234	-321	0.1
US Coal	124096	118233	136480	131305	131524	137036	5512	-0.9
US Nuke	90270	93426	92257	92359	93735	93171	-563	0.1
US Hydro	31628	32185	33024	30127	30415	30030	-385	0.1
US Gas	193858	180182	208732	194610	199730	209066	9336	

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

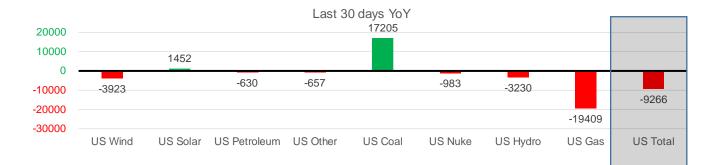
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	94.7	91.5	75.9	81.8	88.7	90.0	90.0	1.3	-1.5
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	10.1	13.4	29.0	23.1	16.2	14.9	14.9	-1.3	1.5
NRC % Nuclear Cap Utilization	96.3	93.0	77.1	83.2	90.2	91.5	91.5	1.3	-1.5

Wind Generation Monthly Average - MWh (Genscape)

	2Yr Ago	LY				MTD			
	Same 30 S days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	2758	2512	3113	3402	2913	2397	2367	-516	-145
TEXAS Wind	8342	9856	12104	12259	9675	7544	7302	-2130	-2554
US Wind	28707	32276	50706	46081	37299	29232	28353	-8068	-3923

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	28707	32276	50706	46081	37299	29232	28353	-878.8	▼ -3923
US Solar	9661	12397	13194	14486	14564	13914	13850	▼ -64.9	452
US Petroleum	5158	5000	2652	3012	4149	4205	4370	165	T -630
US Other	8882	9941	7154	7438	8157	9283	9284	 0	~ -657
US Coal	131953	119787	75976	86422	121348	136159	136992	& 833	A 17205
US Nuke	101507	93808	79237	85517	92175	92859	92825	- 34	-983
US Hydro	34358	33538	28444	30666	32574	30025	30307	283	▼ -3230
US Gas	211826	226523	133124	139477	188818	205348	207114	304	▼-19409
US Total	533535	532977	390883	413557	499432	521689	523712	487	▼ -9266



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

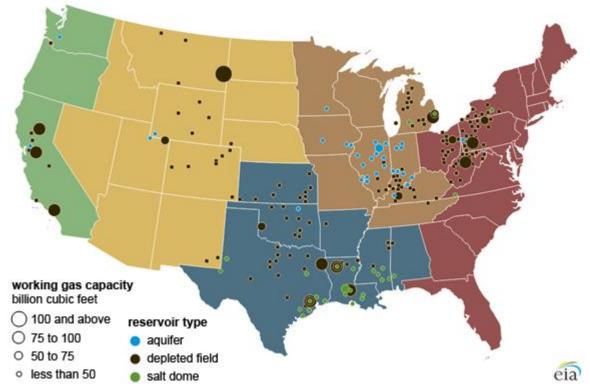


Regional S/D Models Storage Projection

Week Ending	23-Jul			
			Daily	
			Average	Weekly
		Daily	Storage	Adjusted
	Daily Raw	Adjustment	Activity	Storage
	Storage	Factor	(Adjusted) *	Activity
L48	4.6	1.3	5.9	41
East	1.7	1.3	3.1	22
Midwest	3.4	-0.4	2.9	21
Mountain	4.3	-4.1	0.3	2
South Central	-4.7	4.5	-0.2	-2
Pacific	-0.1	-0.1	-0.2	-1

*Adjustment Factor is calcuated based on historical regional deltas

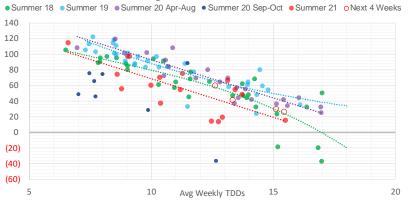
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
23-Jul	13.4	41
30-Jul	15.1	30
06-Aug	12.6	60
13-Aug	15.5	26

Weather Storage Model - Next 4 Week Forecast



Go to larger image



0 16-Feb

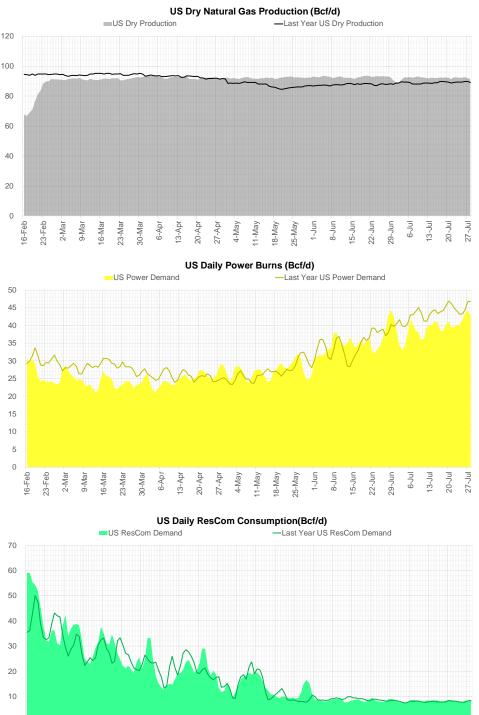
2-Mar

9-Mar

23-Mar 30-Mar

16-Mar

Supply – Demand Trends



Source: Bloomberg

20-Jul 27-Jul

6-Jul 13-Jul

15-Jun 22-Jun 29-Jun

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.

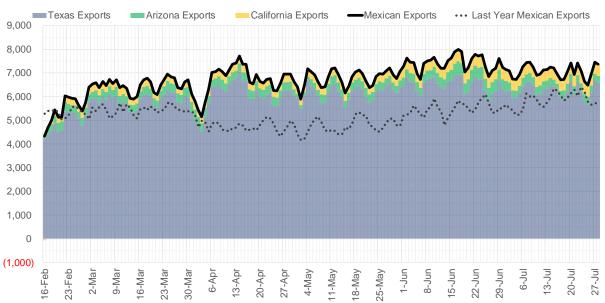
20-Apr 27-Apr

13-Apr

11-May 18-May 25-May 1-Jun 8-Jun

4-Mav

6-Apr



Net LNG Exports - Last 30 days (MMcf/d) Sabine Pass Exports Cameron Exports Cove Point Exports Elba Exports Golden Pass Exports Everett Exports Freeport Exports Lake Charles Exports LNG Exports Northeast Exports Chorpus Christie Import Neptune Exports 12,000 10,000 8,000 6,000 4,000 2,000 0 (2,000) 2-Jul 1-Jul 11-Jul 12-Jul 13-Jul 14-Jul 15-Jul 16-Jul 17-Jul 18-Jul 19-Jul 29-Jun 30-Jun 5-Jul 6-Jul 8-Jul 9-Jul Int-01 20-Jul 21-Jul 22-Jul 23-Jul 24-Jul 25-Jul 26-Jul 27-Jul 28-Jul 3-Jul 4-Jul 7-Jul

Mexican Exports (MMcf/d)

Source: Bloomberg

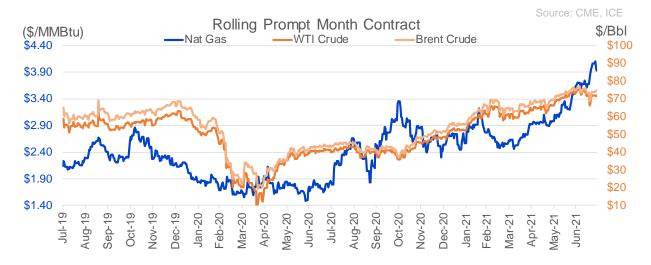


Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTR MON			STRIKE	CUMULATIVE OI
9	2021	С	4.50	4786	10	2021	С	4.00	42250
9	2021	P	3.00	4731	8	2021		3.50	39963
9	2021	P	3.50	4580	8	2021		4.00	36789
9	2021	C	4.00	4528	10	2021	С	5.00	34410
9	2021	C	4.75	4436	10	2021		3.50	33005
9	2021	C	4.25	4220	9	2021		4.00	31609
9	2021	P	3.25	4116	10	2021	Р	2.50	30103
11	2021	С	4.50	3686	8	2021		2.50	29350
10	2021	Р	3.50	3221	10	2021		3.25	28230
8	2021	С	4.10	3162	8	2021		3.00	27649
10	2021	С	4.50	2687	10	2021	С	4.50	27316
10	2021	Р	3.00	2615	10	2021		2.75	27244
10	2021	С	6.50	2572	10	2021		2.00	26294
8	2021	Р	4.00	2550	8	2021		3.25	24786
10	2021	Р	3.25	2501	8	2021	С	3.75	24450
12	2021	С	5.00	2463	12	2021		2.75	24346
8	2021	С	4.00	2363	9	2021		2.50	23376
10	2021	С	5.50	2294	10	2021		3.00	23323
9	2021	Р	3.75	2130	9	2021	С	3.50	23104
10	2021	С	5.00	2121	8	2021		3.25	23030
8	2021	С	4.25	2025	8	2021		3.50	22672
8	2021	Р	3.95	2024	11	2021	С	4.00	22647
9	2021	Р	3.35	1927	12			4.00	21628
10	2021	С	4.00	1846	10	2021		3.50	21611
9	2021	С	5.00	1820	12			2.50	21309
10	2021	С	6.00	1620	8	2021	С	4.25	20429
8	2021	С	4.05	1541	9	2021		2.00	20427
9	2021	C	4.65	1398	10	2021 2021		2.25	19800
9	2021	Р	3.60	1345	9 8	2021		3.00 2.00	19743 19668
9	2021	С	4.10	1343	8	2021		2.00	19608
9	2021	Р	3.70	1191	4	2022		2.90	19603
1	2022	С	5.50	1100	o 8	2021		2.90	19603
2	2022	Р	2.75	1075	9	2021	F C	3.25	18990
11	2021	Р	2.50	1012	9	2021		4.50	18542
11	2021	С	4.60	1011	10	2021		3.00	18501
11	2021	С	6.00	1011	8	2021		2.75	18483
11	2021	Р	3.60	1011	11	2021		3.00	18316
10	2021	Р	3.75	1009	8	2021		3.40	17479
9	2021	Р	3.05	1002	10	2021		3.75	16872
1	2022	Р	2.75	925	8	2021		4.50	16514
3	2022	Р	2.75	925	3	2022		5.00	16336
10	2021	С	4.25	924	12	2021		3.00	16242
3	2022	С	10.00	882	10	2021		6.00	16104
2	2022	С	10.00	854	9	2021	P	2.75	15821
9	2021	С	4.20	842	8	2021		3.00	15747
7	2022	С	4.00	810	11	2021		3.75	15339
8	2022	С	4.00	810	9	2021		5.00	15330
9	2022	С	4.00	810	8	2021	С	3.30	15264
10	2022	С	4.00	810	9	2021	С	4.25 e: CME, ICE	14882.5

Nat Gas Futures Open Interest CME, and ICE Combined

Civile, and ICE Combined							
CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 MM							
	Current	Prior	Daily Change		Current	Prior	Daily Change
AUG 21	2853	17136	-14283	AUG 21	89146	89734	-588
SEP 21	337059	341631	-4572	SEP 21	95346	92699	2647
OCT 21	160811	163977	-3166	OCT 21	104662	103899	763
NOV 21	122735	120569	2166	NOV 21	73141	73103	39
DEC 21	74015	73085	930	DEC 21	72888	72667	221
JAN 22	120672	120261	411	JAN 22	78832	78788	45
FEB 22	50853	50437	416	FEB 22	68753	68611	142
MAR 22	99043	98251	792	MAR 22	68250	67968	282
APR 22	102553	102437	116	APR 22	66108	65567	542
MAY 22	86872	87483	-611	MAY 22	66786	66840	-54
JUN 22	28997	28975	22	JUN 22	55639	55324	315
JUL 22	23111	23081	30	JUL 22	54775	54667	109
AUG 22	24256	24324	-68	AUG 22	56239	56108	132
SEP 22	24759	24641	118	SEP 22	55835	55723	113
OCT 22	60715	60509	206	OCT 22	58977	59014	-37
NOV 22	25258	25366	-108	NOV 22	48265	48265	0
DEC 22	21804	21850	-46	DEC 22	50453	50461	-8
JAN 23	15778	15827	-49	JAN 23	30559	30394	165
FEB 23	5682	5664	18	FEB 23	26278	26121	157
MAR 23	7517	7475	42	MAR 23	27860	28348	-488
APR 23	9417	9418	-1	APR 23	22657	22653	4
MAY 23	5718	5723	-5	MAY 23	23690	23688	3
JUN 23	2378	2375	3	JUN 23	22009	22019	-10
JUL 23	2566	2569	-3	JUL 23	22270	22283	-13
AUG 23	1770	1770	0	AUG 23	22284	22161	123
SEP 23	2014	2014	0	SEP 23	21656	21666	-10
OCT 23	2652	2651	1	OCT 23	23302	23156	146
NOV 23	1213	1113	100	NOV 23	22281	22305	-24
DEC 23	1742	1742	0	DEC 23	21724	21749	-25
JAN 24	993	993	0	JAN 24	12948	12901	47



\$1.734

\$2.368

\$1.786

\$2.296

\$1.932

\$2.144

\$2.385

\$1.752

Last Year

vs. Last Year

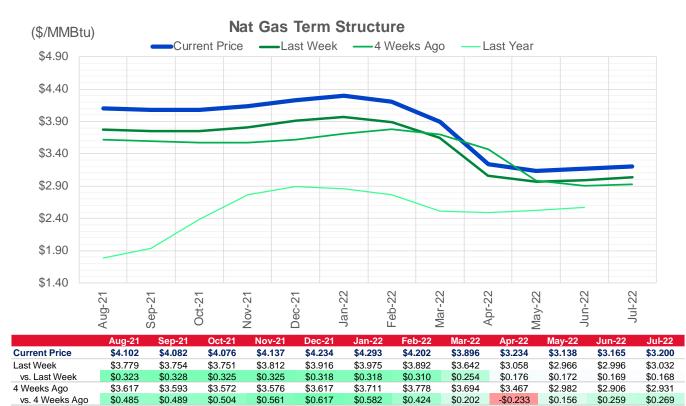
Market Report

\$2.524

\$0.641

\$2.570

\$0.630



\$2.763

\$1.471

\$2.888

\$1.405

\$2.858

\$1.344

\$2.761

\$1.135

\$2.516

\$0.718

\$2.484

\$0.654

				0.1.4
		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.35	3.54	0.19
TETCO M3	\$/MMBtu	3.86	3.48	-0.38
FGT Zone 3	\$/MMBtu	3.96	4.01	0.05
Zone 6 NY	\$/MMBtu	3.96	3.45	-0.51
Chicago Citygate	\$/MMBtu	3.90	3.77	-0.13
Michcon	\$/MMBtu	3.84	3.74	-0.10
Columbia TCO Pool	\$/MMBtu	3.42	3.28	-0.14
Ventura	\$/MMBtu	3.62	3.70	0.08
Rockies/Opal	\$/MMBtu	3.91	3.65	-0.26
El Paso Permian Basin	\$/MMBtu	3.91	3.76	-0.15
Socal Citygate	\$/MMBtu	6.35	5.21	-1.14
Malin	\$/MMBtu	4.00	4.19	0.19
Houston Ship Channel	\$/MMBtu	4.03	3.90	-0.13
Henry Hub Cash	\$/MMBtu	4.10	3.68	-0.42
AECO Cash	C\$/GJ	3.23	3.08	-0.15
Station2 Cash	C\$/GJ	3.21	4.05	0.84
Dawn Cash	C\$/GJ	3.83	3.76	-0.08

Source: CME, Bloomberg



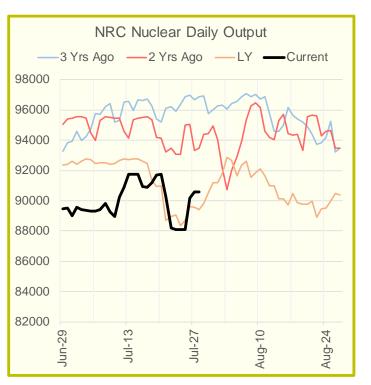
					VS	. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.322		0.090		0.333		0.313
NatGas Oct21/Nov21	\$/MMBtu	0.063		0.008		0.022		0.016
NatGas Oct21/Jan22	\$/MMBtu	0.219		0.012		0.024	$\mathbf{}$	-0.056
NatGas Apr22/Oct22	\$/MMBtu	-0.011		0.005		-0.010	\bullet	-0.079
WTI Crude	\$/Bbl	71.65		4.230		-1.330		30.610
Brent Crude	\$/Bbl	74.48		5.130		-0.280		31.260
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	214.39		13.120		2.200		90.180
Propane, Mt. Bel	cents/Gallon	1.09		0.013		0.122		0.598
Ethane, Mt. Bel	cents/Gallon	0.31		0.002		0.035		0.097
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

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ENERGY

