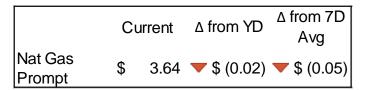


15 July 2021



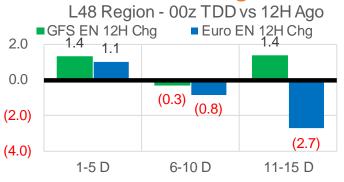
	С	urrent	Δ from YD		m 7D vg
WTI Prompt	\$	71.85	\$ (1.28)	~ \$	(2.3)

	_	urront	Δ from YD	∆ fro	m 7D
	C	urreni	ם וווטוו דם	A	vg
Brent Prompt	\$	73.62	\$ (1.14)	* \$	(1 7)
Prompt	Ψ	13.02	Ψ (1.14)	Ψ	(1.7)

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Short-term Weather Model Outlooks
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Nat Gas Futures Open Interest
Price Summary

Vs. 12H Ago



Vs. 24H Ago

L48 Region - 00z TDD vs 24H Ago

GFS EN 24H Chg

0.2

0.4

(1.0)

(3.5)
1-5 D

(3.4)
6-10 D

11-15 D

Current		Δ from YD	Δ from 7D Avg		
US Dry Production	90.0	▼ -1.77	▼ -2.05		

	Current	Δ from YD	Δ from 7D Avg		
US Power Burns	40.0	- 0.07	1.64		

	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.4	- 0.07	a 0.17

	Current	Δ from YD	Δ from 7D Avg		
Canadian Imports	5.3	▼ -0.39	a 0.12		

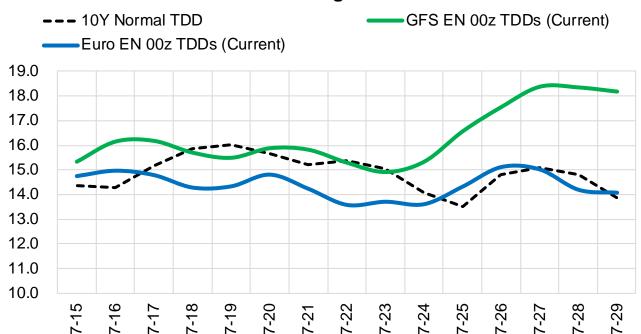
	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.9	▼ -0.18	a 0.05

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.1	▼ -0.25	▼ -0.08

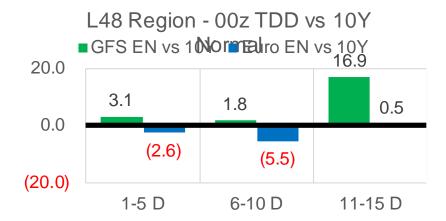


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	DoD	vs. 7D
Lower 48 Dry Production	92.8	92.3	92.2	91.7	91.4	91.8	90.0	▼-1.8	▼ -2.0
Canadian Imports	5.1	4.8	4.9	5.1	5.5	5.7	5.3	▼-0.4	▲ 0.1
L48 Power	38.1	36.0	36.3	39.3	40.1	40.1	40.0	▼-0.1	1.7
L48 Residential & Commercial	8.3	7.8	7.8	8.3	8.3	8.4	8.4	▼ -0.1	0.2
L48 Industrial	20.0	19.9	19.9	19.9	19.7	19.5	19.5	▼ -0.1	- 0.4
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	2.2	2.1	2.1	2.3	2.3	2.3	2.3	▼ 0.0	0.1
L48 Regional Gas Consumption	73.7	70.9	71.3	74.8	75.4	75.4	75.1	▼-0.3	1.5
Net LNG Delivered	10.92	10.84	10.55	10.49	10.87	11.08	10.90	▼-0.2	▲ 0.1
Total Mexican Exports	7.2	7.0	6.8	7.2	7.1	7.3	7.1	▼-0.2	▼ 0.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	6.0	8.4	8.5	4.2	3.6	3.6	2.3		

EIA Storage Week Balances

	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	WoW	vs. 4W
Lower 48 Dry Production	92.2	92.6	92.0	93.0	92.0	91.5	▼ -0.4	▼-0.9
Canadian Imports	3.9	4.8	5.1	4.7	5.2	5.1	▼ 0.0	0.2
L48 Power	27.8	34.4	34.8	34.6	39.9	37.3	▼ -2.6	1.4
L48 Residential & Commercial	11.9	8.5	8.2	8.4	8.3	7.9	- 0.4	V -0.4
L48 Industrial	17.8	21.3	22.2	19.7	21.4	19.5	▼ -1.9	▼ -1.7
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.0	2.1	2.1	2.1	2.4	2.1	▼-0.2	▼ 0.0
L48 Regional Gas Consumption	64.7	71.5	72.4	69.8	77.1	71.9	▼ -5.2	▼-0.8
Net LNG Exports	11.0	9.4	9.6	10.3	11.2	11.0	▼ -0.1	0.9
Total Mexican Exports	7.2	7.3	7.5	7.6	7.2	7.1	▼ -0.1	▼-0.3
Implied Daily Storage Activity	13.3	9.1	7.6	9.9	1.7	6.6	4.9	
EIA Reported Daily Storage Activity	14.0	2.3	7.9	10.9	2.3			
Daily Model Error	-0.7	6.9	-0.2	-0.9	-0.6			

Monthly Balances									
•	2Yr Ago	LY					MTD		
	Jul-19	Jul-20	Mar-21	Apr-21	May-21	Jun-21	Jul-21	MoM	vs. LY
Lower 48 Dry Production	91.9	89.1	91.5	92.3	92.0	92.5	91.5	▼-1.0	2.4
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.2	0.3	▲ 0.8
L48 Power	40.8	43.6	24.3	25.1	27.0	35.4	38.0	2.6	▼-5.7
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.3	8.4	8.1	▼ -0.3	0.1
L48 Industrial	21.6	20.4	19.4	21.2	19.0	20.8	19.7	▼ -1.2	- 0.7
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.0	5.1	5.1	▼ 0.0	0.1
L48 Pipeline Distribution	2.3	2.4	2.5	2.3	2.1	2.2	2.2	0.0	▼-0.3
L48 Regional Gas Consumption	77.8	79.4	80.6	73.3	66.5	71.9	73.0	1.1	▼-6.4
Net LNG Exports	6.0	3.3	11.1	11.5	10.8	10.2	10.9	8.0	7.7
Total Mexican Exports	5.3	5.9	6.5	6.7	6.8	7.4	7.1	▼ -0.3	1.2
Implied Daily Storage Activity	7.8	5.0	-2.0	5.4	12.4	7.9	5.6		
EIA Reported Daily Storage Activity Daily Model Error									



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	89.3	89.3	89.3	90.9	91.7	91.8	91.8	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	15.6	15.6	15.6	14.0	13.1	13.1	13.1	0.0	-1.4
NRC % Nuclear Cap Utilization	90.8	90.8	90.8	92.4	93.3	93.3	93.3	0.0	1.4

Wind Generation Daily Average - MWh (Genscape)

	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	11473	13533	6601	10291	17483	19158	15138	-4020	2048
Genscape US Wind	36716	37831	33303	21281	34970	34970	34970	0	1792

Generation Daily Average - MWh (Genscape)

	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	DoD	vs. 7D
Genscape US Wind	36716	37831	33303	21281	34970	34970	34970	0	1792
Genscape US Solar	20447	19737	22172	22066	17888	17888	17888	0	-2145
Genscape US Other	5006	4846	5321	5101	4734	4734	4734	0	-223
Genscape US Coal	124219	117914	118248	129278	127561	127561	127561	0	3431
Genscape US Nuke	93210	92877	94143	94773	95651	95651	95651	0	1267
Genscape US Hydro	22914	22377	22571	23103	23321	23321	23321	0	387
Genscape US Gas	224794	209884	211024	236485	224120	224120	224120	0	2382

See National Wind and Nuclear daily charts



Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	89.2	88.6	86.7	89.9	89.1	89.5	0.3	-0.1
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	15.7	16.3	18.1	15.0	15.7	15.4	-0.3	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (Genscape)

	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	WoW	WoW Bcf/d Impact
CAISO Wind	4012	4607	3723	3254	4655	4583	-72	0.0
ERCOT	9217	17072	10749	16549	10225	6583	-3641	0.6
Genscape US Wind	29242	43337	32707	50972	25398	24364	-1034	0.2

Generation Weekly Average - MWh (Genscape)

	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	WoW	WoW Bcf/d Impact
Genscape US Wind	29242	43337	32707	50972	25398	24364	-1034	0.2
Genscape US Solar	15426	15643	7817	12070	24039	15619	-8420	1.4
Genscape US Other	5443	5942	5201	4746	4728	4754	26	0.0
Genscape US Coal	91844	118938	120230	118888	132762	121436	-11326	1.9
Genscape US Nuke	93111	92667	90822	93987	93205	93419	214	0.0
Genscape US Hydro	28202	32469	29459	30022	24181	23145	-1036	0.2
Genscape US Gas	167948	212241	210769	202074	238370	218250	-20120	

See National Wind and Nuclear daily charts



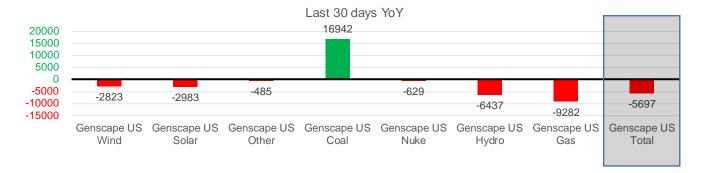
Monthly Average Generation Data

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	91.9	75.9	81.8	88.7	89.9	89.6	1.2	-2.3		
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	10.2	13.0	29.0	23.1	16.2	14.9	15.3	-1.2	2.3		
NRC % Nuclear Cap Utilization	96.3	93.4	77.1	83.2	90.2	91.5	91.1	1.3	-2.3		

Wind Generation Monthly Average - MWh (Genscape)

	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	
CAISO Wind	3704	3338	4009	3984	3994	4583	4196	589	858	
ERCOT	10160	14744	13820	15379	12995	9725	11532	-3270	-3212	
Genscape US Wind	28294	36654	50942	46211	36758	28345	33831	-8414	-2823	

Generation Monthly Average - MWN (Genscape) 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	
Genscape US Wind	28294	36654	50942	46211	36758	28345	33831	5486.0	▼ -2823	
Genscape US Solar	20711	20191	11261	15499	14357	17985	17208	▼ -777	▼ -2983	
Genscape US Other	5112	5276	4512	5256	5178	4817	4791	▼ -26	▼ -485	
Genscape US Coal	130176	107188	73683	87336	119945	123961	124129	169	16942	
Genscape US Nuke	96958	94272	79842	85659	92805	93924	93643	-281	▼ -629	
Genscape US Hydro	32714	31810	27386	27514	29334	23100	25373	2274	▼ -6437	
Genscape US Gas	217318	228793	152976	160888	212447	221091	219511	13829	▼ -9282	
Genscape US Total	531283	524184	400602	428362	510825	513222	518486	22171	▼ -5697	



See National Wind and Nuclear daily charts



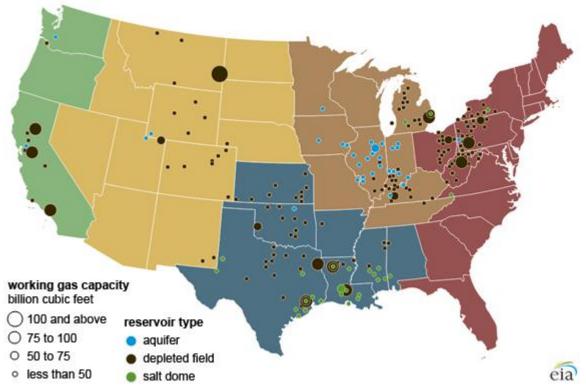
Regional S/D Models Storage Projection

Week Ending 9-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	6.3	0.8	7.1	50
East	1.2	1.1	2.3	16
Midwest	3.6	-0.4	3.2	23
Mountain	4.7	-3.9	8.0	6
South Central	-3.7	3.8	0.2	1
Pacific	0.5	0.1	0.6	4

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

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



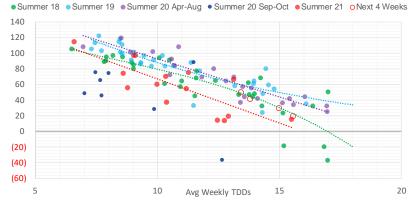


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
09-Jul	13.4	50
16-Jul	13.8	41
23-Jul	15.0	30
30-Jul	15.6	19

Weather Storage Model - Next 4 Week Forecast



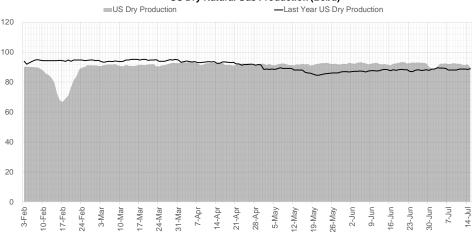
Go to larger image



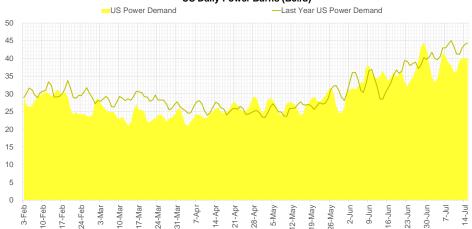


Supply - Demand Trends

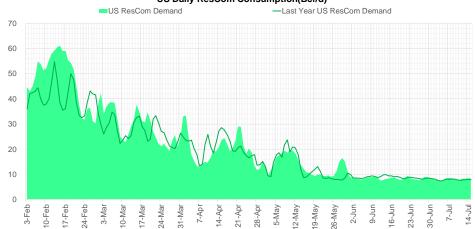
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



US Daily ResCom Consumption(Bcf/d)

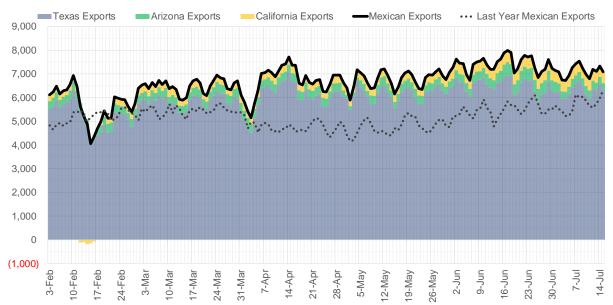


Source: Bloomberg



(2,000)

Mexican Exports (MMcf/d)



Sabine Pass Exports Cameron Exports Cove Point Exports Elba Exports Golden Pass Exports Everett Exports Freeport Exports Lake Charles Exports Northeast Exports Chorpus Christie Import LNG Exports Neptune Exports 12,000 10.000 8,000 6,000 4,000 2,000 0

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

Source: Bloomberg



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

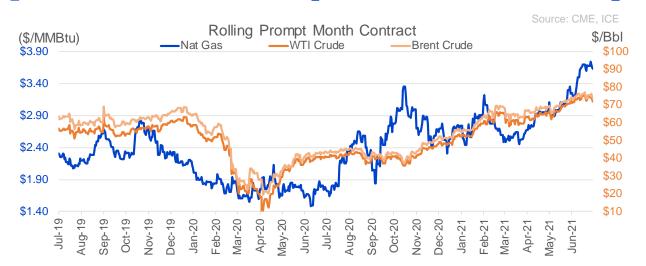
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
8	2021	С	4.00	5614	8	2021	С	4.00	49033
8	2021	Р	3.40	3997	10	2021	С	4.00	43887
8	2021	С	4.50	3157	8	2021	С	3.50	41006
8	2021	Р	3.50	2638	9	2021	С	4.00	36203
10	2021	Р	2.00	2500	10	2021	С	3.50	34096
9	2021	С	4.00	2471	10	2021	С	5.00	32531
8	2021	Р	2.90	2451	10	2021	P	2.50	32368
8	2021	С	3.75	2078	8	2021	P	2.50	29351
11	2021	С	4.50	2010	10	2021	С	3.25	28364
8	2021	С	4.35	1851	8	2021	P	3.00	27625
9	2021	С	4.50	1647	8	2021	С	3.75	26913
5	2022	С	3.75	1600	10	2021	P	2.75	26117
5	2022	Р	2.25	1600	10	2021	P	2.00	24789
5	2022	Р	2.50	1600	8	2021	P	3.25	24698
1	2022	С	4.00	1505	10	2021	C	4.50	24695
11	2021	С	4.75	1488	8	2021	С	4.50	24616
8	2021	С	4.25	1375	8	2021	С	3.25	23628
8	2021	Р	3.30	1328	11	2021	С	4.00	23622
11	2021	Р	3.00	1254	9	2021	C	3.50	23573
8	2021	С	3.90	1181	9	2021	P	2.50	23471
9	2021	C	5.00	1102	12	2021	С	4.00	21935
8	2021	C	4.10	1019	10	2021	Р	3.00	21929
10	2021	P	3.50	954	8	2021	Р	2.90	21353
8	2021	C	3.80	926	9	2021	Р	3.00	20605
9	2021	P	3.50	864	9	2021	P	2.00	20427
2	2022	C	5.50	856	4	2022	С	3.00	19685
8	2021	Ċ	3.70	827	8	2021	Р	2.00	19668
2	2022	Ċ	5.00	815	10	2021	P	2.25	19613
8	2021	Č	3.65	779	8	2021	P	2.25	19478
8	2021	Č	4.15	693	9	2021	С	3.25	19002
9	2021	P	3.25	633	8	2021	P	3.50	18803
10	2021	C	6.00	619	10	2021	С	3.00	18500
10	2021	P	3.00	612	8	2021	P	2.75	18483
8	2021	P	3.60	576	10	2021	C	6.00	16673
10	2021	C	5.00	550	10	2021	С	3.75	16629
3	2021	C	6.00	549	8	2021	С	3.00	15826
8	2022	P	3.25	537	9	2021	P	2.75	15773
9	2021	C	5.25 6.75	500	8	2021	С	3.30	15351
10	2021	C	7.00		11	2021	C	3.75	15322
10		C		500	9	2021	С	4.50	15105
3	2021 2022	C	3.50 4.00	500	9	2021	С	5.00	15011
				500	10	2021	P	3.50	14714
1	2022	С	5.25	475	1	2022	С	4.00	14593
1	2022	С	6.00	451 450	3	2022	С	5.00	14586
2	2022	С	6.00	450	11	2021	P	3.00	14488
9	2021	С	3.80	428	3	2022	С	3.00	14448
8	2021	С	3.50	426	9	2021	С	4.25	14150
1	2022	С	10.00	425	12	2021	P	2.00	13884
8	2021	P	3.55	415	9	2021	P	2.60	13814
10	2021	Р	2.50	390	9	2021	P Source	: CME, ICE	13773



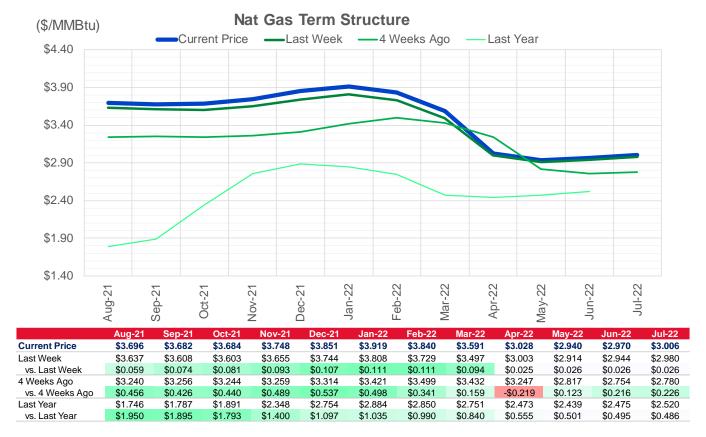
Nat Gas Futures Open Interest

CME, and ICE Combined

ONE, and TOE Committee								
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	125482	146034	-20552	AUG 21	94452	96143	-1691	
SEP 21	297229	279386	17843	SEP 21	86184	85619	565	
OCT 21	156238	155883	355	OCT 21	101116	102021	-905	
NOV 21	106956	106200	756	NOV 21	72892	72100	793	
DEC 21	69392	68931	461	DEC 21	70267	70159	108	
JAN 22	121368	119153	2215	JAN 22	78444	78769	-324	
FEB 22	47212	47738	-526	FEB 22	66608	66446	162	
MAR 22	95490	93904	1586	MAR 22	67935	68115	-180	
APR 22	97184	95055	2129	APR 22	64646	64645	1	
MAY 22	84332	83111	1221	MAY 22	67184	66002	1182	
JUN 22	27399	27535	-136	JUN 22	55458	55244	214	
JUL 22	21930	22130	-200	JUL 22	54308	54120	188	
AUG 22	23003	22999	4	AUG 22	55523	55256	268	
SEP 22	22957	22770	187	SEP 22	55232	54974	258	
OCT 22	60357	60073	284	OCT 22	59670	58744	925	
NOV 22	24789	24032	757	NOV 22	47600	47380	220	
DEC 22	20370	20572	-202	DEC 22	50204	49973	231	
JAN 23	13391	12993	398	JAN 23	29164	29059	105	
FEB 23	4564	4498	66	FEB 23	25117	25026	91	
MAR 23	7829	7990	-161	MAR 23	27512	27431	81	
APR 23	8714	8896	-182	APR 23	21978	21936	43	
MAY 23	5464	5469	-5	MAY 23	22367	22346	21	
JUN 23	2267	2182	85	JUN 23	20851	20831	20	
JUL 23	2265	2265	0	JUL 23	20929	20901	28	
AUG 23	1400	1400	0	AUG 23	20831	20809	22	
SEP 23	1763	1763	0	SEP 23	20485	20450	35	
OCT 23	2401	2401	0	OCT 23	21802	21758	44	
NOV 23	1109	1109	0	NOV 23	19781	19749	32	
DEC 23	1758	1758	0	DEC 23	21349	21293	56	
JAN 24	793	793	0	JAN 24	12478	12481	-3	







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.60	3.23	-0.37
TETCO M3	\$/MMBtu	3.46	3.10	-0.36
FGT Zone 3	\$/MMBtu	3.58	3.67	0.09
Zone 6 NY	\$/MMBtu	3.58	3.09	-0.49
Chicago Citygate	\$/MMBtu	3.56	3.41	-0.15
Michcon	\$/MMBtu	3.54	3.36	-0.18
Columbia TCO Pool	\$/MMBtu	3.23	2.90	-0.33
Ventura	\$/MMBtu	3.47	3.35	-0.12
Rockies/Opal	\$/MMBtu	3.40	3.32	-0.08
El Paso Permian Basin	\$/MMBtu	3.40	3.43	0.03
Socal Citygate	\$/MMBtu	6.48	4.90	-1.58
Malin	\$/MMBtu	3.43	3.93	0.50
Houston Ship Channel	\$/MMBtu	3.54	3.56	0.02
Henry Hub Cash	\$/MMBtu	3.76	3.76 3.34	
AECO Cash	C\$/GJ	3.13	2.69	-0.44
Station2 Cash	C\$/GJ	2.73	3.74	1.01
Dawn Cash	C\$/GJ	3.54 3.40		-0.15

Source: CME, Bloomberg



						4.307		
					vs	. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	VS	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.038		0.079		0.012		0.019
NatGas Oct21/Nov21	\$/MMBtu	0.066		0.009		0.012		0.020
NatGas Oct21/Jan22	\$/MMBtu	0.244		0.026		0.007	•	-0.034
NatGas Apr22/Oct22	\$/MMBtu	-0.005		0.005	~	-0.023	\blacksquare	-0.070
WTI Crude	\$/Bbl	73.13		0.930		0.980		31.930
Brent Crude	\$/Bbl	74.76		1.330		0.370		30.970
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	214.35		5.440		4.010		89.870
Propane, Mt. Bel	cents/Gallon	1.10		0.019		0.151		0.612
Ethane, Mt. Bel	cents/Gallon	0.31		0.006		0.029		0.085
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





