

2 July 2021



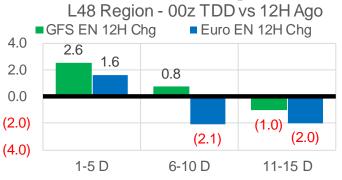
	С	urrent	Δ from YD	Δ from Av	
WTI Prompt	\$	74.79	\$ (0.44)	\$	1.0

	_	urront	Δ from YD	∆ fro	m 7D
	C	urreni	םו וווטוו ב	A	vg
Brent Prompt	\$	75.46	\$ (0.38)	~ \$	(0.1)

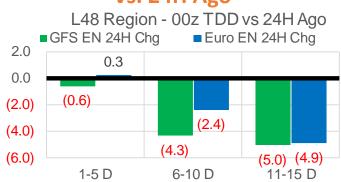
Page Menu

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



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	87.5	▼ -1.25	▼ -4.23

			A from 7D
	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.8	▼ -0.42	▼ -0.53

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.8	▼ -0.41	▼ -0.41

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	34.9	▼ -3.75	▼ -5.05

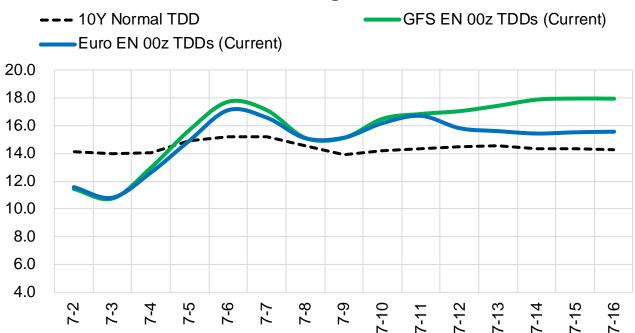
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.6	- 0.39	▼ -0.52

	Current		Δ from 7D Avg		
Mexican Exports	7.2	▲ 0.03	▼ -0.02		

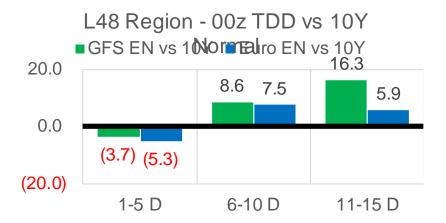


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	DoD	vs.7D
Lower 48 Dry Production	93.0	92.8	92.7	92.0	89.9	88.7	87.5	▼-1.3	▼ -4.1
Canadian Imports	4.7	4.9	5.3	6.0	5.6	5.0	4.6	▼-0.4	▼ -0.6
L48 Power	36.8	39.2	43.3	44.4	42.5	38.6	34.9	▼-3.7	▼ -5.9
L48 Residential & Commercial	7.7	8.1	8.9	8.9	8.7	8.2	7.8	▼-0.4	▼ -0.6
L48 Industrial	20.2	20.5	20.7	20.7	20.0	19.1	18.5	▼-0.6	▼ -1.7
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.0	4.9	4.8	▼ -0.1	▼ -0.2
L48 Pipeline Distribution	2.2	2.3	2.6	2.6	2.5	2.2	2.0	▼-0.2	- 0.4
L48 Regional Gas Consumption	72.0	75.2	80.6	81.7	78.7	73.1	68.1	▼ -5.0	▼ -8.8
Net LNG Delivered	11.28	11.28	11.30	10.78	11.10	11.17	10.76	▼ -0.4	▼ -0.4
Total Mexican Exports	6.8	7.0	7.2	7.6	7.4	7.2	7.2	▲ 0.0	▼ 0.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	7.6	4.2	-1.1	-2.0	-1.6	2.3	6.1		

EIA Storage Week Balances

	28-May	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	WoW	vs. 4W
Lower 48 Dry Production	92.1	92.0	92.3	91.7	92.7	91.7	▼-1.0	▼-0.5
Canadian Imports	4.5	3.9	4.8	5.1	4.7	5.2	0.5	0.5
L48 Power	29.5	27.8	34.4	34.8	34.6	39.9	5.4	~ 7.0
L48 Residential & Commercial	9.7	12.0	8.5	8.2	8.4	8.3	▼ 0.0	▼-0.9
L48 Industrial	19.5	17.6	21.1	21.8	19.0	20.1	1.1	0.3
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▼ -0.1	▼ 0.0
L48 Pipeline Distribution	2.0	2.0	2.1	2.1	2.1	2.4	0.2	0.3
L48 Regional Gas Consumption	65.8	64.4	71.2	72.1	69.2	75.8	6.6	6.6
Net LNG Exports	10.5	11.0	9.4	9.6	10.3	11.2	0.9	1.1
Total Mexican Exports	6.7	7.2	7.3	7.5	7.6	7.2	▼ -0.4	▼-0.2
Implied Daily Storage Activity	13.6	13.3	9.1	7.7	10.3	2.7	-7.6	
EIA Reported Daily Storage Activity	14.0	14.0	2.3	7.9	10.9			
Daily Model Error	-0.4	-0.7	6.9	-0.2	-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	91.7	92.2	88.1	▼ -4.1	▼-1.0
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	4.8	▼ 0.0	0.4
L48 Power	40.8	43.6	24.3	25.1	27.0	35.4	36.7	1.4	▼ -6.9
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.3	8.4	8.0	▼ -0.4	0.1
L48 Industrial	21.6	20.4	19.4	21.1	18.7	20.3	18.8	▼ -1.4	▼ -1.6
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.0	5.1	4.9	▼-0.2	▼ -0.1
L48 Pipeline Distribution	2.3	2.4	2.5	2.3	2.1	2.2	2.1	▼ 0.0	▼-0.3
L48 Regional Gas Consumption	77.8	79.4	80.6	73.3	66.2	71.3	70.6	▼ -0.7	▼-8.8
Net LNG Exports	6.0	3.3	11.1	11.5	10.8	10.2	11.0	8.0	7.7
Total Mexican Exports	5.3	5.9	6.5	6.7	6.8	7.4	7.2	▼ -0.2	1.3
Implied Daily Storage Activity	7.9	5.0	-2.0	5.5	12.4	8.2	4.2		
EIA Reported Daily Storage Activity Daily Model Error									



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	88.6	88.3	89.5	89.5	89.5	89.0	89.0	0.0	0.0
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	16.3	16.6	15.4	15.4	15.3	15.8	15.8	0.0	0.0
NRC % Nuclear Cap Utilization	90.1	89.8	91.0	91.0	91.0	90.5	90.5	0.0	0.0

Wind Generation Daily Average - MWh (Genscape)

	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	16048	6453	6832	6682	5992	6115	4835	-1280	-3185
Genscape US Wind	43189	22389	15462	12297	14239	14239	14239	0	-6064

Generation Daily Average - MWh (Genscape)

	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	DoD	vs. 7D
Genscape US Wind	43189	22389	15462	12297	14239	14239	14239	0	-6064
Genscape US Solar	23019	22784	24053	25964	29774	29774	29774	0	3879
Genscape US Other	4449	4463	4850	4913	4930	4930	4930	0	174
Genscape US Coal	120372	127857	136460	142044	142922	142922	142922	0	7492
Genscape US Nuke	92726	92393	93576	93584	93638	93638	93638	0	378
Genscape US Hydro	24359	23913	24310	24411	24274	24274	24274	0	17
Genscape US Gas	212112	229982	262381	266938	246389	246389	246389	0	2357

See National Wind and Nuclear daily charts



Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	28-May	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	86.7	89.2	88.6	86.7	89.9	89.1	-0.8	0.1
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	18.1	15.7	16.3	18.1	15.0	15.7	8.0	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (Genscape)

	28-May	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	WoW	WoW Bcf/d Impact
CAISO Wind	4045	4012	4607	3723	3254	4655	1401	-0.2
ERCOT	18210	9217	17072	10749	16549	10225	-6324	1.1
Genscape US Wind	54606	29242	43337	32707	50972	24492	-26481	4.4

Generation Weekly Average - MWh (Genscape)

	28- M ay	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	WoW	WoW Bcf/d Impact
Genscape US Wind	54606	29242	43337	32707	50972	24492	-26481	4.4
Genscape US Solar	13553	15426	15643	7817	12070	25099	13030	-2.2
Genscape US Other	5615	5443	5942	5201	4746	4790	44	0.0
Genscape US Coal	101192	91844	118938	120230	118888	133606	14718	-2.5
Genscape US Nuke	90607	93111	92667	90822	93987	93300	-687	0.1
Genscape US Hydro	27300	28202	32469	29459	30022	24285	-5737	1.0
Genscape US Gas	176363	167948	212241	210769	202074	238043	35970	

See National Wind and Nuclear daily charts



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC) 2Yr Ago LY MTD											
	2Yr Ago	2Yr Ago LY									
	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	92.9	90.6	75.9	81.8	88.7	89.0	88.7	0.3	-1.9		
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	12.0	14.3	29.0	23.1	16.2	15.8	16.2	-0.3	1.9		
NRC % Nuclear Cap Utilization	94.4	92.1	77.1	83.2	90.2	90.5	90.1	0.3	-1.9		

Wind Generation Monthly Average - MWh (Genscape)

	2Yr Ago			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	3410	3354	4009	3984	3994	4583	4073	589	719
ERCOT	10422	13907	13820	15379	12995	5475	13092	-7520	-815
Genscape US Wind	31608	42601	50942	46211	36758	14239	36731	-22520	-5870

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
Genscape US Wind	31608	42601	50942	46211	36758	14239	36731	22492.9	▼ -5870
Genscape US Solar	20775	19330	11261	15499	14357	29774	15408	▼-14366	▼ -3922
Genscape US Other	5185	5274	4512	5256	5178	4930	5165	235	▼ -108
Genscape US Coal	110754	97160	73683	87336	119945	142922	122900	▼-20022	25740
Genscape US Nuke	95490	92965	79842	85659	92805	93638	92786	▼ -852	▼ -180
Genscape US Hydro	34641	33905	27386	27514	29334	24274	28987	4713	▼ -4918
Genscape US Gas	194651	205335	152976	160888	211961	246389	215925	5041	10590
Genscape US Total	493103	496570	400602	428362	510338	556165	517902	▼-12411	21332



See National Wind and Nuclear daily charts



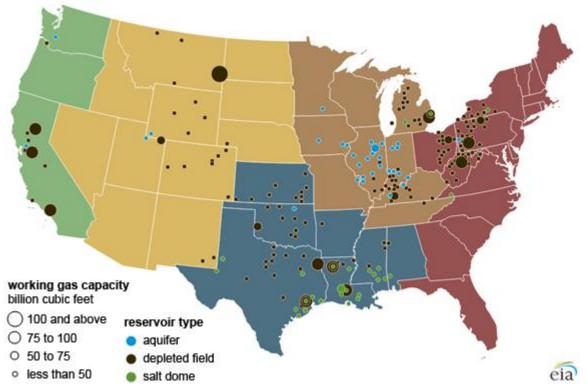
Regional S/D Models Storage Projection

Week Ending 2-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	2.3	0.8	3.1	22
East	0.2	1.0	1.2	8
Midwest	2.9	-0.4	2.5	17
Mountain	4.1	-4.2	-0.1	-1
South Central	-5.2	4.3	-0.9	-7
Pacific	0.4	0.1	0.5	3

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

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



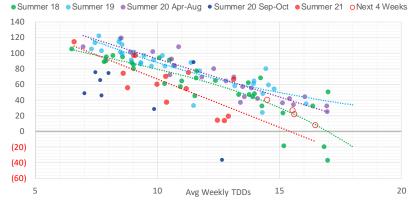


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
02-Jul	15.6	22
09-Jul	14.5	40
16-Jul	16.5	8
23-Jul	15.6	27

Weather Storage Model - Next 4 Week Forecast



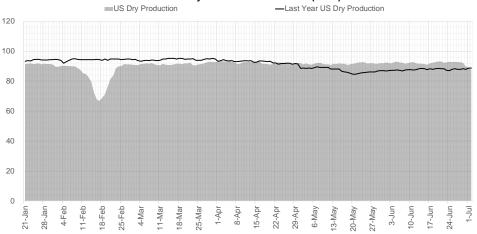
Go to larger image



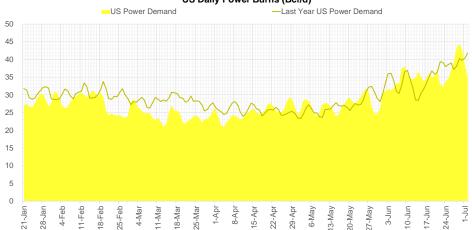


Supply - Demand Trends

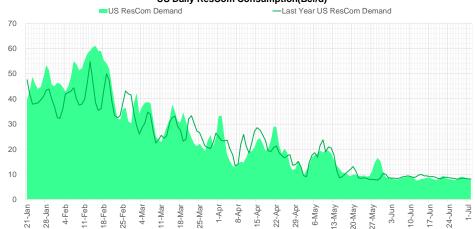
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



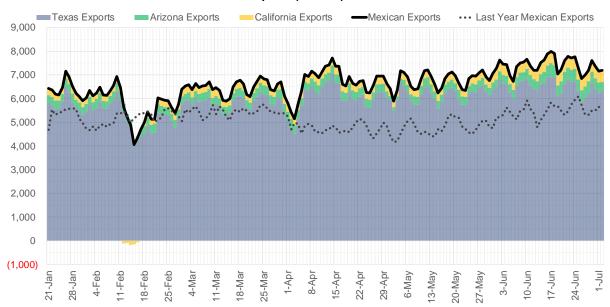
US Daily ResCom Consumption(Bcf/d)



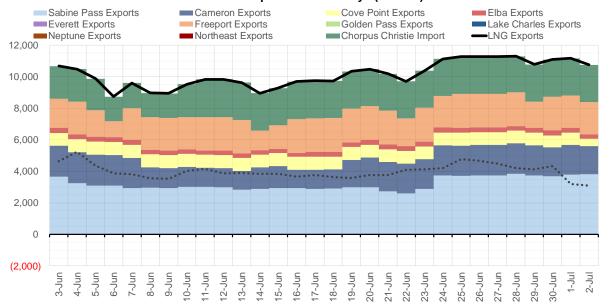
Source: Bloomberg



Mexican Exports (MMcf/d)



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



Source: Bloomberg





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

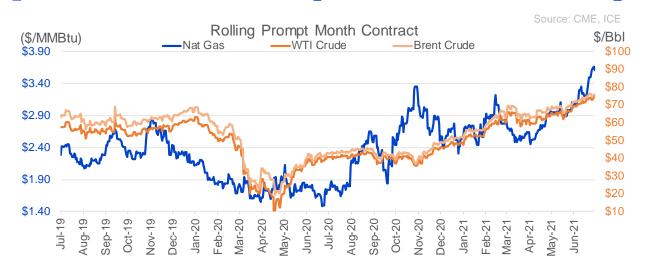
	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	CONTRA		PUT/CALL	STRIKE	CUMULATIVE OI
MONTH	YEAR			VOL	MONTH	H YEAR			
8	2021	С	4.00	9335	8	2021	С	4.00	46301
8	2021	Р	3.00	7892	10	2021	С	4.00	45065
8	2021	Р	3.25	7707	8	2021	С	3.50	41200
5	2022	Р	2.75	5200	9	2021	С	4.00	36988
8	2021	С	4.50	4081	10	2021	С	3.50	33499
9	2021	С	4.50	3996	10	2021	С	5.00	32986
8	2021	С	4.25	3985	10	2021	Р	2.50	30769
8	2021	Р	3.50	3946	8	2021	Р	2.50	29351
10	2021	С	4.00	2359	10	2021	С	3.25	28365
8	2021	С	3.75	2202	8	2021	P	3.00	27741
10	2021	С	4.50	2141	8	2021	С	3.75	26830
8	2021	С	4.35	2107	10	2021	Р	2.75	26498
8	2021	Р	3.15	2065	10	2021	P	2.00	24786
8	2021	С	5.00	2063	11	2021	С	4.00	24533
9	2021	С	4.00	1973	9	2021	С	3.50	24248
9	2021	Р	3.00	1937	8	2021	С	3.25	24101
9	2021	Р	3.25	1914	9	2021	P	2.50	23776
3	2022	С	8.00	1739	8	2021	P	2.90	21723
9	2021	С	5.00	1701	10	2021	P C	3.00	21275
10	2021	С	5.00	1666	10	2021		4.50	21073
8	2021	С	4.10	1553	12 8	2021 2021	C P	4.00 3.25	20958 20827
8	2021	Р	3.20	1518	9	2021	P P	3.25 2.00	20423
8	2021	Р	3.10	1266	8	2021	P	2.00	19664
9	2021	Р	3.50	1257	4	2021	C	3.00	19485
3	2022	С	10.00	1254	8	2022	P	2.25	19478
9	2021	С	4.25	1230	9	2021	C	3.25	19141
9	2021	С	4.10	1077	10	2021	P	2.25	18854
10	2021	Р	3.50	1051	8	2021	P	2.75	18548
9	2021	Р	2.80	1049	10	2021	C	3.00	18500
1	2022	С	4.00	1000	10	2021	Č	6.00	16817
1	2022	Р	2.20	1000	8	2021	Č	4.50	16057
1	2022	Р	3.75	1000	10	2021	Č	3.75	16007
2	2022	Р	2.20	1000	8	2021	Č	3.00	15830
3	2022	Р	2.20	1000	8	2021	C	3.30	15334
4	2022	Р	2.20	1000	3	2022	C	4.00	15016
5	2022	Р	2.20	1000	9	2021	P	3.00	14940
6	2022	Р	2.20	1000	11	2021	С	3.75	14596
7	2022	Р	2.20	1000	. 1	2022	С	4.00	14533
8	2022	Р	2.20	1000	3	2022	С	3.00	14448
9	2022	Р	2.20	1000	11	2021	Р	2.50	14092
10	2022	Р	2.20	1000	2	2022	С	4.00	14030
11	2022	Р	2.20	1000	3	2022	С	5.00	14003
12	2022	Р	2.20	1000	12	2021	Р	2.00	13884
8	2021	Р	3.40	843	9	2021	Р	1.90	13832
8	2021	Р	3.30	824	9	2021	Р	2.75	13714
10	2021	С	3.75	800	8	2021	Р	3.50	13706
3	2022	Р	2.50	750	5	2022	С	3.00	13400
9	2021	С	3.75	730	12	2021	С	5.00	13254
8	2021	Р	3.35	691	6	2022	C Source	e: CME, ICE	13105



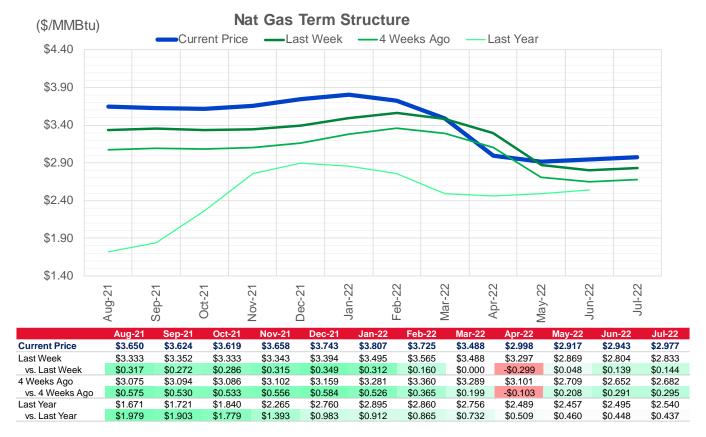
Nat Gas Futures Open Interest

CME, and ICE Combined

OME Harry light Fatures (40,000 MMPts)								
CME Henry Hub Futures (10,000 MMBtu)			ICE Henry Hub Futures Contract Equivalent (10,000 MI					
	Current	Prior	Daily Change		Current	Prior	Daily Change	
AUG 21	216305	214627	1678	AUG 21	98616	97827	789	
SEP 21	226703	223091	3612	SEP 21	87150	86920	229	
OCT 21	168352	166071	2281	OCT 21	101524	101481	43	
NOV 21	99692	98751	941	NOV 21	71658	71829	-172	
DEC 21	68527	68484	43	DEC 21	69816	69642	174	
JAN 22	114459	112231	2228	JAN 22	80700	81521	-821	
FEB 22	43220	41894	1326	FEB 22	65638	65582	56	
MAR 22	90976	88690	2286	MAR 22	68167	68627	-459	
APR 22	86273	85781	492	APR 22	63898	61893	2005	
MAY 22	73182	70235	2947	MAY 22	62613	61823	791	
JUN 22	27125	27545	-420	JUN 22	53964	53598	367	
JUL 22	21832	21781	51	JUL 22	52764	52470	294	
AUG 22	20386	20294	92	AUG 22	53644	53242	403	
SEP 22	19940	19506	434	SEP 22	53337	52986	351	
OCT 22	57403	55556	1847	OCT 22	57810	57605	205	
NOV 22	24042	23802	240	NOV 22	46563	46119	444	
DEC 22	18369	17750	619	DEC 22	49436	49009	427	
JAN 23	11537	11584	-47	JAN 23	28104	27916	188	
FEB 23	4282	4026	256	FEB 23	24858	24683	175	
MAR 23	7546	7556	-10	MAR 23	27638	27504	135	
APR 23	8409	8337	72	APR 23	22207	21989	218	
MAY 23	4722	4694	28	MAY 23	22356	22310	46	
JUN 23	1747	1588	159	JUN 23	20868	20822	46	
JUL 23	2260	2271	-11	JUL 23	20761	20716	45	
AUG 23	1299	1299	0	AUG 23	20723	20685	38	
SEP 23	1734	1740	-6	SEP 23	20376	20333	43	
OCT 23	2285	2282	3	OCT 23	21715	21669	46	
NOV 23	1076	1076	0	NOV 23	19862	19847	15	
DEC 23	1134	1134	0	DEC 23	20250	20234	16	
JAN 24	793	792	1	JAN 24	12514	12527	-14	







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	4.25	3.05	-1.20
TETCO M3	\$/MMBtu	2.58	2.95	0.37
FGT Zone 3	\$/MMBtu	2.65	3.49	0.84
Zone 6 NY	\$/MMBtu	2.65	2.92	0.27
Chicago Citygate	\$/MMBtu	3.17	3.31	0.14
Michcon	\$/MMBtu	3.14	3.26	0.12
Columbia TCO Pool	\$/MMBtu	2.75	2.86	0.11
Ventura	\$/MMBtu	3.58	3.23	-0.35
Rockies/Opal	\$/MMBtu	3.38	3.28	-0.10
El Paso Permian Basin	\$/MMBtu	3.01	3.35	0.34
Socal Citygate	\$/MMBtu	4.25	4.93	0.68
Malin	\$/MMBtu	3.46	3.79	0.33
Houston Ship Channel	\$/MMBtu	3.26	3.47	0.21
Henry Hub Cash	\$/MMBtu	3.30	3.26	-0.04
AECO Cash	C\$/GJ	2.72	2.76	0.04
Station2 Cash	C\$/GJ	2.66	3.77	1.11
Dawn Cash	C\$/GJ	3.15 3.26		0.11

Source: CME, Bloomberg





					VS	. 4 Weeks		
	Units	Current Price	vs. La	ast Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.006	^ 0	0.002		-0.024	•	-0.016
NatGas Oct21/Nov21	\$/MMBtu	0.042	- (0.005	•	-0.020	•	-0.006
NatGas Oct21/Jan22	\$/MMBtu	0.191	- (0.025	~	-0.078	•	-0.087
NatGas Apr22/Oct22	\$/MMBtu	-0.008	- (0.023		-0.043	•	-0.057
WTI Crude	\$/Bbl	75.23	1	.930		6.420		34.580
Brent Crude	\$/BbI	75.84	<u> </u>).280		4.530		32.700
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	^ 0	0.000		0.000		0.000
Heating Oil	cents/Gallon	215.62	- (0.610		5.450		92.510
Propane, Mt. Bel	cents/Gallon	1.10	^ 0).134		0.194		0.635
Ethane, Mt. Bel	cents/Gallon	0.30	<u> </u>	0.026		0.034		0.101
Coal, PRB	\$/MTon	12.30	<u> </u>	0.000		0.000		0.000
Coal, PRB	\$/MMBtu	0.70						
Coal, ILB	\$/MTon	31.05	<u> </u>	0.000		0.000		0.000
Coal, ILB	\$/MMBtu	1.32						



Weather Storage Model - Next 4 Week Forecast

