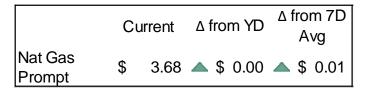


12 July 2021



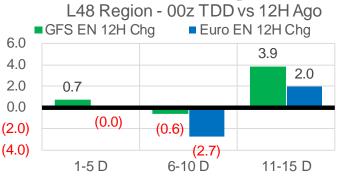
	С	urrent	Δ from YD	Δ from 7D Avg		
WTI Prompt	\$	73.60	\$ (0.96)	▼\$	(0.3)	

	_	urront	Δ from YD	Δ from 7D			
		urreni		A	vg		
Brent	Φ	74.63	\$ (0.92)	— ¢	(0.5)		
Prompt	Ψ	74.03	Ψ ψ (0.92)	ΨΨ	(0.5)		

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Short-term Weather Model Outlooks
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Price Summary

Vs. 12H Ago



Vs. 24H Ago

L48 Region - 00z TDD vs 24H Ago
GFS EN 24H Chg

5.0

0.0

(5.0)

(2.7) (2.4)

(1.3)

(10.0)

1-5 D

6-10 D

11-15 D

Δ from YD

0.08

Current

4.9

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	90.6	▼ -1.34	▼ -1.44

	Current	Δ from YD	Δ from 7D Avg		Current	Δ from YD
US Dry Production	90.6	▼ -1.34	▼ -1.44	US Power Burns	37.8	1.56

0.06

Canadian

Imports

	Current	Δ from YD	Δ from 7D Avg		
Net LNG Exports	10.2	- 0.40	▼ -0.74		

0.21

8.3

US

ResComm

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.2	0.22	- 0.01

Δ from 7D

Avg

-0.73

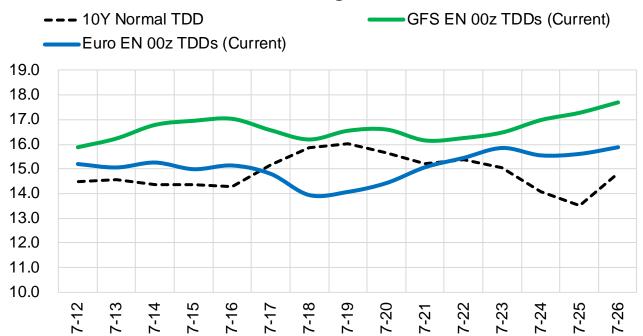
Δ from 7D Ava

-0.23

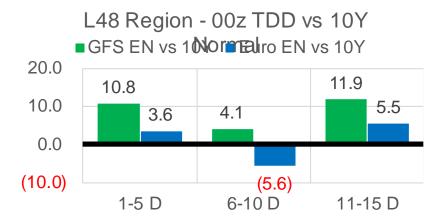


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	DoD	vs. 7D
Lower 48 Dry Production	92.3	91.8	92.1	92.3	91.8	91.9	90.6	▼-1.3	▼ -1.5
Canadian Imports	5.5	5.6	5.2	5.1	4.8	4.8	4.9	0.1	▼ -0.3
L48 Power	41.8	40.6	38.9	38.2	36.2	36.3	37.8	1.6	▼-0.8
L48 Residential & Commercial	8.4	8.6	8.6	8.3	7.9	8.1	8.3	0.2	▼ 0.0
L48 Industrial	19.0	19.3	19.8	20.0	20.0	20.0	19.9	▼-0.2	0.2
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	2.4	2.3	2.2	2.2	2.1	2.1	2.2	0.1	▼ 0.0
L48 Regional Gas Consumption	76.6	75.9	74.6	73.7	71.4	71.5	73.2	1.6	▼-0.8
Net LNG Delivered	11.15	11.03	11.16	10.92	10.84	10.64	10.23	▼ -0.4	▼ -0.7
Total Mexican Exports	7.2	7.5	7.5	7.2	7.0	7.0	7.2	0.2	▼ 0.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	2.9	3.0	4.0	5.5	7.4	7.6	4.9		

EIA Storage Week Balances

	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	WoW	vs. 4W
Lower 48 Dry Production	92.0	92.3	91.7	92.7	91.7	91.3	▼ -0.4	▼-0.8
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	37.4	▼ -2.6	1.4
L48 Residential & Commercial	11.9	8.5	8.3	8.4	8.3	8.0	-0.4	V -0.4
L48 Industrial	17.5	21.1	21.9	19.4	21.1	19.2	▼ -2.0	▼ -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	64.4	71.2	72.1	69.5	76.9	71.7	▼ -5.2	▼-0.7
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	1.6	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	91.7	92.2	91.2	▼ -1.0	2.1
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.1	0.2	0.7
L48 Power	40.8	43.6	24.3	25.1	27.0	35.4	37.4	2.0	▼ -6.3
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	20.6	19.5	▼ -1.1	▼-0.9
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.0	5.1	5.0	▼ 0.0	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	71.6	72.1	0.5	▼-7.2
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	7.9	5.0	-2.0	5.5	12.4	7.9	6.1		
EIA Reported Daily Storage Activity Daily Model Error									





Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	89.3	89.4	89.8	89.3	89.3	89.3	89.3	0.0	-0.1
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	15.5	15.1	15.6	15.6	15.6	15.6	0.0	0.1
NRC % Nuclear Cap Utilization	90.8	90.9	91.3	90.8	90.8	90.8	90.8	0.0	-0.1

Wind Generation Daily Average - MWh (Genscape)

	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	3160	3207	12482	11473	13533	6601	3970	-2631	-4439
Genscape US Wind	22481	19400	20980	36716	36716	36716	36716	0	7881

Generation Daily Average - MWh (Genscape)

	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	DoD	vs. 7D
Genscape US Wind	22481	19400	20980	36716	36716	36716	36716	0	7881
Genscape US Solar	20779	24351	20071	20447	20447	20447	20447	0	-643
Genscape US Other	5455	5460	4960	5006	5006	5006	5006	0	-143
Genscape US Coal	129390	132928	130713	124219	124219	124219	124219	0	-3396
Genscape US Nuke	93237	93378	93803	93210	93210	93210	93210	0	-131
Genscape US Hydro	23343	22868	23292	22914	22914	22914	22914	0	-127
Genscape US Gas	249718	246862	233450	224201	224201	224201	224201	0	-9571

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	218182	-20187	

See National Wind and Nuclear daily charts



Monthly Average Generation Data

	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	94.3	91.7	75.9	81.8	88.7	89.4	89.0	0.6	-2.6
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	10.6	13.2	29.0	23.1	16.2	15.5	15.8	-0.6	2.6
NRC % Nuclear Cap Utilization	95.9	93.2	77.1	83.2	90.2	90.9	90.5	0.7	-2.7

Wind Generation Monthly Average - MWh (Genscape)

	2Yr Ago	LY			MID				
	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	3771	3429	4009	3984	3994	4583	4098	589	668
ERCOT	10521	14371	13820	15379	12995	7315	10384	-5680	-3987
Genscape US Wind	29853	38092	50942	46211	36758	28166	33406	-8593	-4686

Generation Monthly Average - MWh (Genscape)

Concidence monary free age	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	29853	38092	50942	46211	36758	28166	33406	▲ 5240.1	▼ -4686
Genscape US Solar	20801	20601	11261	15499	14357	17790	16408	▼ -1382	▼ -4193
Genscape US Other	5123	5227	4512	5256	5178	4816	4850	3 4	▼ -377
Genscape US Coal	124000	103199	73683	87336	119945	123662	123915	253	20716
Genscape US Nuke	96629	94146	79842	85659	92805	93312	93089	▼ -224	▼ -1058
Genscape US Hydro	32867	32246	27386	27514	29334	23102	25919	2817	▼ -6327
Genscape US Gas	209585	219312	152976	160888	212447	221512	219245	13415	▼ -66
Genscape US Total	518857	512822	400602	428362	510825	512360	516832	21589	4009



See National Wind and Nuclear daily charts



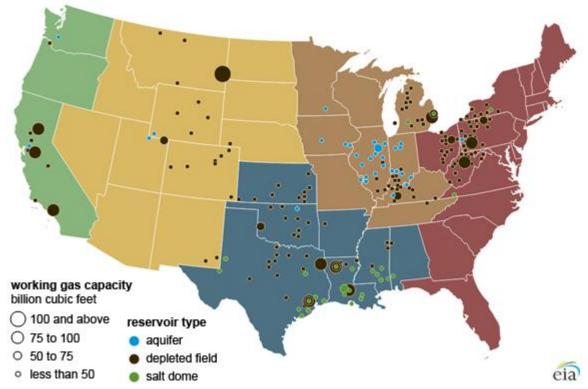
Regional S/D Models Storage Projection

Week Ending 9-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	6.3	0.9	7.1	50
East	1.2	1.1	2.3	16
Midwest	3.7	-0.4	3.2	23
Mountain	4.7	-3.9	8.0	6
South Central	-3.8	4.0	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)



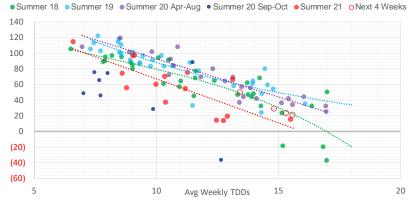


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
09-Jul	13.4	50
16-Jul	14.8	29
23-Jul	15.6	21
30-Jul	15.3	23

Weather Storage Model - Next 4 Week Forecast



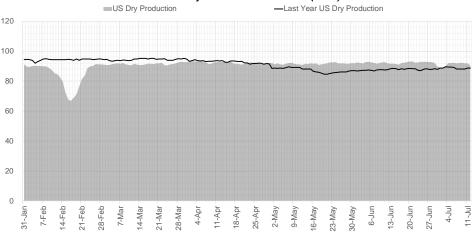
Go to larger image



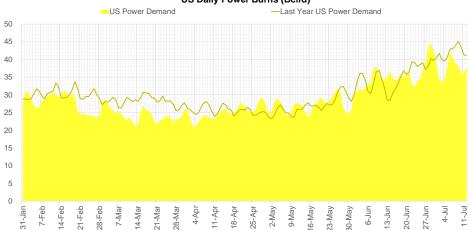


Supply - Demand Trends

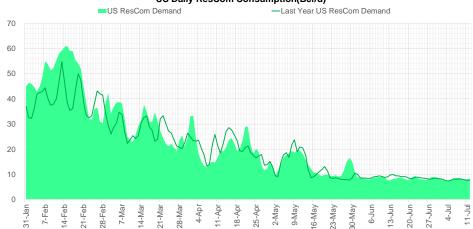
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



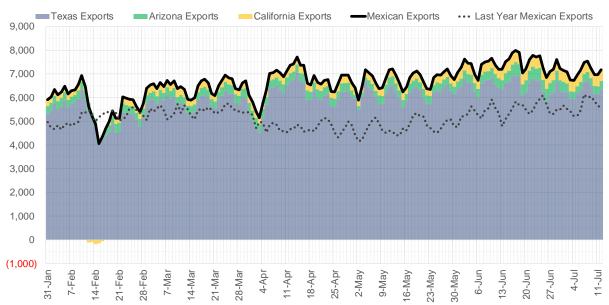
US Daily ResCom Consumption(Bcf/d)



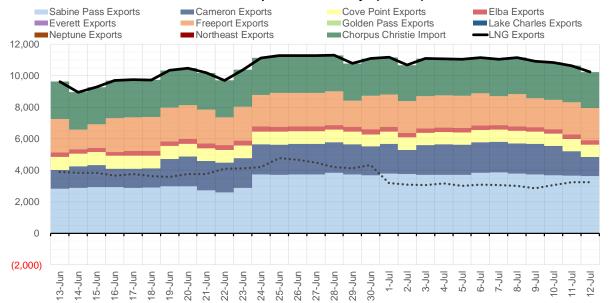
Source: Bloomberg



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

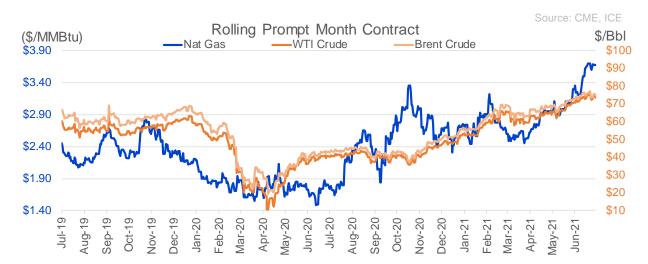
	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	C	CONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE OI
MONTH	YEAR			VOL		MONTH	YEAR			
8	2021	С	4.00	9882		10	2021	С	4.00	45147
8	2021	С	4.25	9669		8	2021	С	4.00	43311
8	2021	С	4.50	4515		8	2021	С	3.50	40690
8	2021	Р	3.30	4076		9	2021	С	4.00	36880
8	2021	Р	3.50	3392		10	2021	С	3.50	34096
10	2021	С	6.00	3154		10	2021	С	5.00	32522
8	2021	Р	3.00	2910		10	2021	Р	2.50	32510
9	2021	Р	3.20	2619		8	2021	Р	2.50	29351
8	2021	Р	3.25	2296		8	2021	Р	3.00	28490
9	2021	С	5.00	2232		10	2021	С	3.25	28365
8	2021	С	3.75	2001		10	2021	Р	2.75	26446
5	2022	С	4.00	1925		8	2021	С	3.75	25639
8	2021	С	4.05	1326		10	2021	Р	2.00	24785
9	2021	С	4.00	1282		9	2021	С	3.50	24248
9	2021	С	4.50	1250		8	2021	Р	3.25	23978
10	2021	C	4.00	1227		8	2021	С	3.25	23781
11	2021	C	5.00	1200		11	2021	С	4.00	23767
9	2021	P	3.40	1188		10	2021	С	4.50	23752
4	2022	C	4.00	1175		9	2021	Р	2.50	23469
11	2021	Č	4.50	1066		8	2021	Р	2.90	22603
8	2021	Č	3.80	990		8	2021	С	4.50	22231
9	2021	P	3.00	918		10	2021	Р	3.00	21962
10	2021	C	5.00	903		12	2021	С	4.00	21886
9	2021	P	3.60	878		9	2021	Р	2.00	20423
9	2021	P	2.75	803		4	2022	С	3.00	19785
1	2021	C	4.50	800		8	2021	Р	2.00	19664
2						8	2021	Р	2.25	19478
	2022	C C	4.50	800		10	2021	Р	2.25	19196
3	2022		4.50	800		9	2021	С	3.25	19003
10	2021	С	3.75	780		9	2021	Р	3.00	18820
10	2021	С	4.25	748		10	2021	С	3.00	18500
8	2021	С	5.00	709		8	2021	Р	2.75	18483
2	2022	С	4.00	700		10	2021	С	6.00	17690
1	2022	P	3.50	650		8	2021	Р	3.50	16753
2	2022	P	3.50	650		10	2021	С	3.75	16054
3	2022	C	4.00	650		8	2021	С	3.00	15829
3	2022	Р	3.50	650		11	2021	С	3.75	15424
8	2021	Р	3.40	642		8	2021	С	3.30	15332
8	2021	С	4.20	603		9	2021	С	4.50	14800
2	2022	С	3.75	600		9	2021	Р	2.75	14713
9	2021	С	3.75	593		3	2022	С	4.00	14516
10	2021	С	4.50	566		1	2022	С	4.00	14493
8	2021	С	4.75	562		3	2022	С	3.00	14448
8	2021	С	4.70	532		10	2021	Р	3.50	14311
9	2021	С	4.25	509		9	2021	С	4.25	14290
10	2021	Р	3.10	501		3	2022	С	5.00	14086
11	2021	Р	2.30	500		11	2021	Р	3.00	13886
9	2021	С	3.80	486		12	2021	Р	2.00	13884
9	2021	Р	3.25	473		2	2022	С	4.00	13855
8	2021	Р	3.70	466		9	2021	Р	2.6	13814
								Source	: CME, ICE	



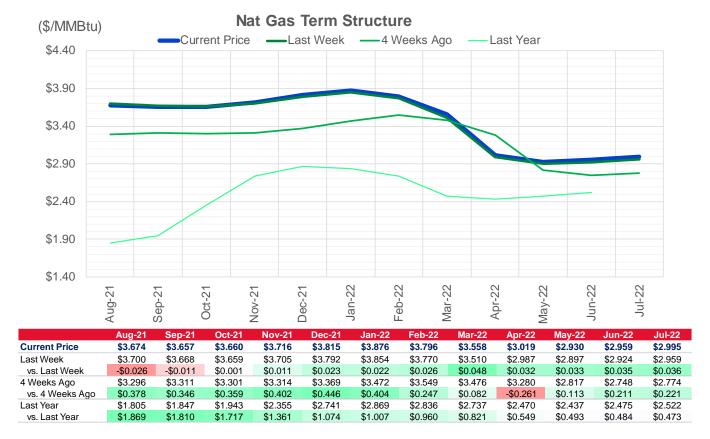
Nat Gas Futures Open Interest

CME, and ICE Combined

01.45	CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 MM								
CME Heni				ICE Henry I					
	Current	Prior	Daily Change		Current	Prior	Daily Change		
AUG 21	176046	189614	-13568	AUG 21	99680	100048	-368		
SEP 21	254910	243593	11317	SEP 21	86900	87338	-438		
OCT 21	155932	155624	308	OCT 21	102589	101453	1136		
NOV 21	102704	100959	1745	NOV 21	71771	71270	501		
DEC 21	69398	69430	-32	DEC 21	69785	70017	-232		
JAN 22	116217	115369	848	JAN 22	80242	80172	70		
FEB 22	46625	46544	81	FEB 22	66368	65831	537		
MAR 22	91534	90859	675	MAR 22	67814	67996	-182		
APR 22	95192	94454	738	APR 22	64378	63676	703		
MAY 22	81404	79660	1744	MAY 22	64122	63605	517		
JUN 22	26625	26595	30	JUN 22	55037	54895	143		
JUL 22	22484	22331	153	JUL 22	53606	53604	2		
AUG 22	22308	22256	52	AUG 22	54795	54632	163		
SEP 22	21454	21285	169	SEP 22	54413	54241	173		
OCT 22	59599	58864	735	OCT 22	57962	57591	371		
NOV 22	24016	23639	377	NOV 22	46815	46703	113		
DEC 22	20511	20375	136	DEC 22	49908	49776	132		
JAN 23	12521	12476	45	JAN 23	28653	28140	513		
FEB 23	4450	4405	45	FEB 23	24919	24792	127		
MAR 23	8180	8190	-10	MAR 23	27298	27582	-284		
APR 23	9061	9172	-111	APR 23	22177	22068	110		
MAY 23	5426	5426	0	MAY 23	22287	22222	65		
JUN 23	2180	2180	0	JUN 23	20780	20717	63		
JUL 23	2260	2260	0	JUL 23	20860	20795	65		
AUG 23	1400	1400	0	AUG 23	20769	20704	65		
SEP 23	1785	1839	-54	SEP 23	20407	20345	63		
OCT 23	2392	2361	31	OCT 23	21715	21635	81		
NOV 23	1109	1081	28	NOV 23	19649	19550	99		
DEC 23	1214	1154	60	DEC 23	21259	21178	82		
JAN 24	793	793	0	JAN 24	12385	12323	62		







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.10	3.40	0.30
TETCO M3	\$/MMBtu	3.22	3.23	0.01
FGT Zone 3	\$/MMBtu	3.17	3.79	0.62
Zone 6 NY	\$/MMBtu	3.17	3.19	0.02
Chicago Citygate	\$/MMBtu	3.48	3.54	0.06
Michcon	\$/MMBtu	3.45	3.48	0.03
Columbia TCO Pool	\$/MMBtu	3.06	3.02	-0.04
Ventura	\$/MMBtu	3.26	3.49	0.23
Rockies/Opal	\$/MMBtu	3.72	3.53	-0.20
El Paso Permian Basin	\$/MMBtu	3.47	3.58	0.11
Socal Citygate	\$/MMBtu	6.61	5.29	-1.32
Malin	\$/MMBtu	3.95	4.11	0.16
Houston Ship Channel	\$/MMBtu	3.56	3.70	0.14
Henry Hub Cash	\$/MMBtu	3.71	3.48	-0.23
AECO Cash	C\$/GJ	3.07	2.89	-0.19
Station2 Cash	C\$/GJ	2.97	3.87	0.90
Dawn Cash	C\$/GJ	3.47	3.53	0.06

Source: CME, Bloomberg



				vs. 4 Weeks				
	Units	Current Price	vs.	Last Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.043		0.001		0.025		0.025
NatGas Oct21/Nov21	\$/MMBtu	0.056		0.010		0.001		0.008
NatGas Oct21/Jan22	\$/MMBtu	0.216		0.021		-0.019		-0.063
NatGas Apr22/Oct22	\$/MMBtu	-0.009		0.000		-0.021		-0.073
WTI Crude	\$/Bbl	74.56	•	-0.600		3.650		34.010
Brent Crude	\$/Bbl	75.55		-0.620		2.860		32.310
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	215.52		-2.390		3.450		91.400
Propane, Mt. Bel	cents/Gallon	1.11		-0.005		0.164		0.625
Ethane, Mt. Bel	cents/Gallon	0.31		0.001		0.028		0.086
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

