

8 July 2021

	Cı	urrent	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$	3.59	\$ (0.01)	\$ (0.09)

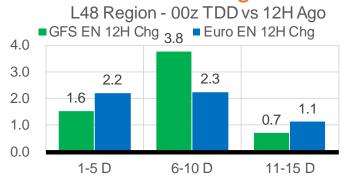
	Cu	ırrent	Δ from YD		m 7D vg
WTI Prompt	\$	71.73	\$ (0.47)	~ \$	(2.8)

	C	Current Δ from YD Δ from				
	Current		Avg			
Brent	Ф	73.07	\$ (0.36)	— ¢	(2.6)	
Prompt	φ	13.01	Ψ ψ (0.30)	• φ	(2.0)	

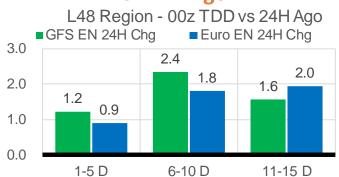
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Price Summary

Vs. 12H Ago



Vs. 24H Ago



Current		Δ from YD	Δ from 7D Avg		
US Dry Production	90.7	- 0.89	0.03		

	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.4	▼ -0.23	▲ 0.49

	Current	Δ from YD	Δ from 7D Avg		
Net LNG Exports	11.1	a 0.06	a 0.06		

	Current	Δ from YD	Δ from 7D Avg		
US Power Burns	37.8	▼ -2.63	a 0.56		

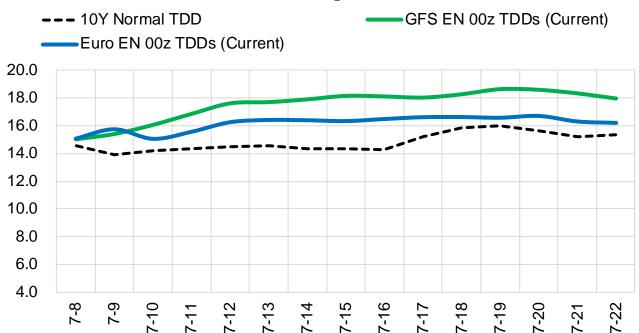
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.0	- 0.64	▼ -0.12

	Current	Δ fro	m YD	om 7D Avg
Mexican Exports	7.6	^ (0.07	0.51

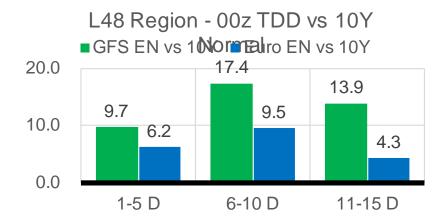


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	DoD	vs. 7D
Lower 48 Dry Production	88.5	90.1	91.9	91.7	92.1	91.6	90.7	▼ -0.9	▼ -0.3
Canadian Imports	4.9	4.9	4.9	4.9	5.5	5.6	5.0	▼ -0.6	▼ -0.1
L48 Power	34.7	33.3	34.4	37.8	41.6	40.4	37.8	▼-2.6	▲ 0.8
L48 Residential & Commercial	7.7	7.5	7.3	7.7	8.3	8.6	8.4	▼-0.2	0.5
L48 Industrial	19.0	18.7	18.6	18.7	18.9	19.1	19.5	0.4	0.7
L48 Lease and Plant Fuel	4.9	5.0	5.1	5.1	5.1	5.1	5.0	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.0	1.9	2.0	2.2	2.4	2.3	2.2	▼ -0.1	0.1
L48 Regional Gas Consumption	68.3	66.3	67.3	71.4	76.3	75.6	72.9	▼ -2.7	2.0
Net LNG Delivered	10.67	11.09	11.08	11.05	11.15	11.03	11.09	0.1	△ 0.1
Total Mexican Exports	7.3	6.9	6.7	7.0	7.2	7.5	7.6	0.1	0.5
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	7.1	10.8	11.7	7.2	3.0	3.1	4.1		

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	11.9	8.5	8.3	8.4	8.3	▼ -0.1	▼ -1.0
L48 Industrial	19.5	17.6	21.1	21.8	19.0	20.1	1.1	0.2
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 Daily Model Error	14.0 -0.4	14.0 -0.7	2.3 6.9	7.9 -0.2	10.9 -0.5			

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	90.7	▼ -1.5	1.6
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.1	0.3	0.7
L48 Power	40.8	43.6	24.3	25.1	27.0	35.4	37.3	2.0	▼ -6.3
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.3	8.4	8.0	▼ -0.4	0.0
L48 Industrial	21.6	20.4	19.4	21.1	18.7	20.3	19.0	▼ -1.3	▼ -1.5
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.0	5.1	5.0	▼ -0.1	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	71.4	▲ 0.1	▼-8.0
Net LNG Exports	6.0	3.3	11.1	11.5	10.8	10.2	11.0	▲ 0.9	7.8
Total Mexican Exports	5.3	5.9	6.5	6.7	6.8	7.4	7.2	▼ -0.3	1.3
Implied Daily Storage Activity	7.9	5.0	-2.0	5.5	12.4	8.2	6.2		
EIA Reported Daily Storage Activity Daily Model Error									



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	89.6	89.4	89.4	89.3	89.3	89.4	89.4	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	15.3	15.4	15.5	15.5	15.6	15.5	15.5	0.0	0.0
NRC % Nuclear Cap Utilization	91.1	90.9	90.9	90.8	90.8	90.9	90.9	0.0	0.0

Wind Generation Daily Average - MWh (Genscape)

	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	5172	5916	10341	5805	3160	3207	2802	-405	-2798
Genscape US Wind	19601	24034	35419	28631	22481	22481	22481	0	-2960

Generation Daily Average - MWh (Genscape)

	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	DoD	vs. 7D
Genscape US Wind	19601	24034	35419	28631	22481	22481	22481	0	-2960
Genscape US Solar	19527	6381	6369	11859	20779	20779	20779	0	6497
Genscape US Other	4208	4349	4256	4591	5455	5455	5455	0	736
Genscape US Coal	124344	111143	105589	115946	129390	129390	129390	0	10089
Genscape US Nuke	93503	93411	93342	93260	93237	93237	93237	0	-95
Genscape US Hydro	23647	23279	22957	22633	23343	23343	23343	0	143
Genscape US Gas	206463	186858	187429	215551	236758	236758	236758	0	25122

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	25398	-25575	4.3

Generation Weekly Average - MWh (Genscape)

	28-May	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	WoW	WoW Bcf/d Impact
Genscape US Wind	54606	29242	43337	32707	50972	25398	-25575	4.3
Genscape US Solar	13553	15426	15643	7817	12070	24039	11969	-2.0
Genscape US Other	5615	5443	5942	5201	4746	4728	-18	0.0
Genscape US Coal	101192	91844	118938	120230	118888	132762	13874	-2.3
Genscape US Nuke	90607	93111	92667	90822	93987	93205	-782	0.1
Genscape US Hydro	27300	28202	32469	29459	30022	24181	-5841	1.0
Genscape US Gas	176363	167948	212241	210769	202074	238370	36296	

See National Wind and Nuclear daily charts



Monthly Average Generation Data

Nuclear Generation Monthly A	verage -	GWh (Ni	RC)						
	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	93.9	91.4	75.9	81.8	88.7	89.4	88.8	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	11.0	13.5	29.0	23.1	16.2	15.5	16.1	-0.6	2.6
NRC % Nuclear Cap Utilization	95.4	92.9	77.1	83.2	90.2	90.9	90.2	0.7	-2.7

	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	3630	3434	4009	3984	3994	4583	4090	589	657
ERCOT	10765	13950	13820	15379	12995	5315	11211	-7680	-2739
Genscape US Wind	31427	39307	50942	46211	36758	24464	33945	-12295	-5361

Generation Monthly Average - MWh (Genscape)

Conclusion monthly Average	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	31427	39307	50942	46211	36758	24464	33945	4 9481.7	▼ -5361
Genscape US Solar	20803	20312	11261	15499	14357	16103	14796	▼ -1307	▼ -5517
Genscape US Other	5149	5227	4512	5256	5178	4783	4932	1 49	▼ -295
Genscape US Coal	117762	100337	73683	87336	119945	122776	123566	~ 790	23229
Genscape US Nuke	96297	93809	79842	85659	92805	93275	92802	▼ -473	▼ -1008
Genscape US Hydro	33289	32830	27386	27514	29334	23261	27040	3778	▼ -5790
Genscape US Gas	200760	213880	152976	160888	212447	217580	217169	24371	3289
Genscape US Total	505487	505702	400602	428362	510825	502242	514249	39260	8547



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	2.4	0.8	3.2	22
East	0.1	1.0	1.1	8
Midwest	2.9	-0.4	2.5	18
Mountain	4.1	-4.2	-0.1	-1
South Central	-5.2	4.3	-0.9	-6
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)



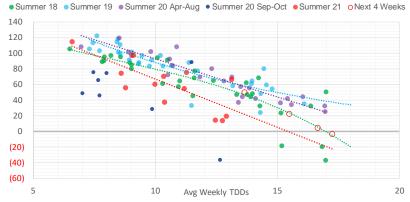


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
02-Jul	15.5	22
09-Jul	13.7	50
16-Jul	16.7	4
23-Jul	17.3	-4

Weather Storage Model - Next 4 Week Forecast



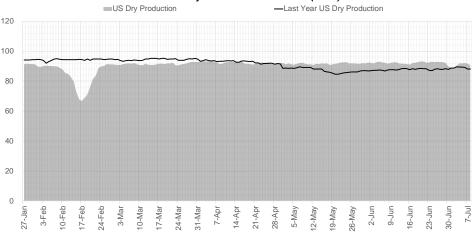
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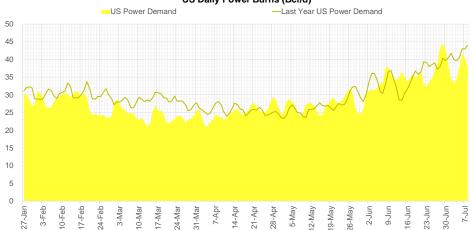


Supply - Demand Trends

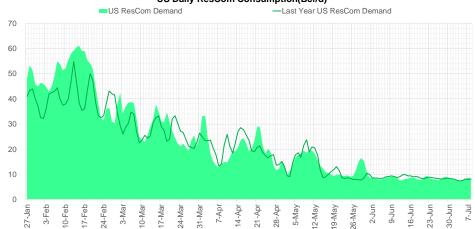
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



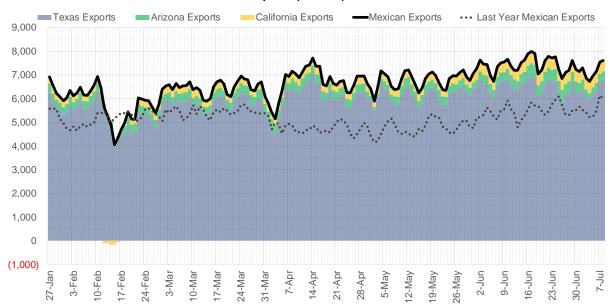
US Daily ResCom Consumption(Bcf/d)



Source: Bloomberg



Mexican Exports (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d) Sabine Pass Exports Cameron Exports Cove Point Exports Elba Exports Golden Pass Exports Everett Exports Freeport Exports ■Lake Charles Exports Chorpus Christie Import LNG Exports ■Neptune Exports Northeast Exports 12,000 10.000 8,000 6,000 4,000 2,000 0 (2,000)

Source: Bloomberg



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

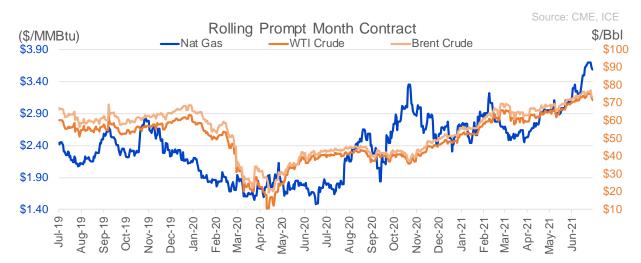
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
		P	2.25	9750	10	2021	С	4.00	45407
8	2021		3.25		8	2021	C	4.00	45407 44717
8	2021	С	4.00	7334	8	2021	C	3.50	40661
8	2021	P	3.50	6622	9			4.00	36637
8	2021	С	4.25	5645		2021	С		
8	2021	С	4.50	5220	10	2021	С	3.50	34135
9	2021	С	4.50	5124	10 10	2021 2021	C P	5.00 2.50	32723 32510
9	2021	С	4.25	4890	8	2021	P P	3.00	32510
9	2021	С	4.00	4874	8	2021	P P	2.50	29351
8	2021	Р	3.30	4378	8 10	2021	C	2.50 3.25	28365
8	2021	Р	3.00	4043	10	2021	P	3.25 2.75	26927
9	2021	Р	3.00	3319	8	2021	C	3.75	25712
8	2021	Р	3.40	3208	8	2021	P		
8	2021	С	5.00	2895	8 10	2021	P P	3.25 2.00	25072 24786
8	2021	Р	3.10	2544					
9	2021	Р	2.75	1968	9 11	2021 2021	C C	3.50 4.00	24284 24269
10	2021	С	4.00	1903	9		P		
10	2021	Р	2.50	1900		2021		2.50	23794
9	2021	Р	2.50	1885	8	2021	C C	3.25	23608
8	2021	С	4.10	1664	10	2021	C	4.50	22350
10	2021	С	7.00	1603	12	2021		4.00	21886
9	2021	С	3.75	1566	10	2021	P	3.00	21732
8	2021	С	3.75	1518	8	2021	P	2.90	21615
9	2021	Р	2.90	1406	9	2021	P	2.00	20423
8	2021	Р	3.20	1391	4	2022	C P	3.00	19785
8	2021	Р	3.35	1364	8 8	2021 2021	C	2.00 4.50	19664 19546
8	2021	С	4.75	1350			P		
11	2021	Р	2.50	1325	8	2021	C	2.25	19478
8	2021	С	3.70	1289	9 10	2021 2021	P	3.25 2.25	18998 18844
9	2021	Р	2.60	1273	8	2021	P		
9	2021	Р	3.25	1171	8 10	2021	C	2.75 3.00	18539 18500
9	2021	С	4.75	1104					
10	2021	C	4.25	1051	10 9	2021 2021	C P	6.00	18239
9	2021	C	3.50	1043	9 10	2021	C	3.00 3.75	16151 15954
11	2021	P	2.25	1000	8	2021	C	3.75	15830
9	2021	P	2.25	995	8	2021	C		
10	2021	C	4.50	943		2021		3.30	15335
8	2021	C	4.20	884	3 8	2022	C P	4.00 3.50	14616 14610
8	2021	P	3.45	876	o 11		C		
8	2021	C	4.70	850		2021	P	3.75	14578
10	2021	P	1.75	804	10 3	2021	C	3.50	14491
10	2021	C	5.00	755		2022		3.00	14448
10	2021	P	2.75	738	1 11	2022 2021	C P	4.00 2.50	14308 14092
2	2022	P	3.50	700			C		
11	2022	P	3.00	650	2 12	2022	P	4.00	14055
1	2022	P	2.00	650		2021		2.00	13884
10	2022	P	3.00		9	2021	P	1.90	13832
9	2021	C	5.00	609 568	9 3	2021	P C	2.75	13704
8		P		563		2022		5.00	13686
8 9	2021 2021	P P	3.60 3.50	533	9 5	2021	С	4.25	13385
Э	2021	۲	3.50	533	5	2022	C Source	: CME, ICE	13350



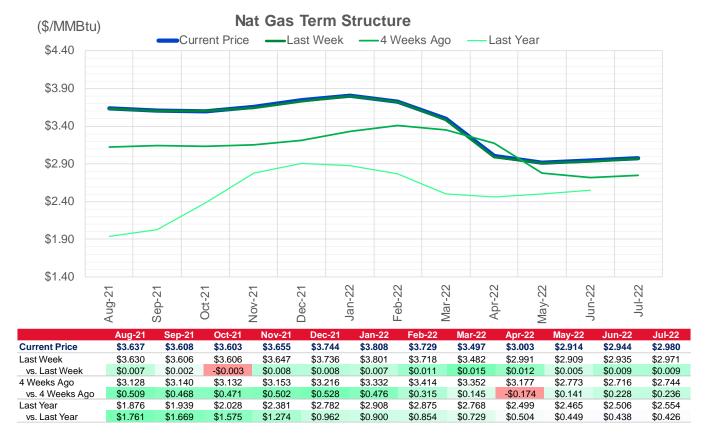
Nat Gas Futures Open Interest

CME, and ICE Combined

CME Henry	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	201628	205939	-4311	AUG 21	99676	99865	-189
SEP 21	235621	231943	3678	SEP 21	87122	87203	-81
OCT 21	158809	164156	-5347	OCT 21	102329	102704	-375
NOV 21	101440	101859	-419	NOV 21	70875	71300	-425
DEC 21	68787	68648	139	DEC 21	70176	69917	260
JAN 22	113931	114013	-82	JAN 22	80155	80588	-433
FEB 22	46122	45905	217	FEB 22	65844	66094	-250
MAR 22	91008	90889	119	MAR 22	68373	68332	41
APR 22	93387	90576	2811	APR 22	63699	64405	-707
MAY 22	78241	77136	1105	MAY 22	62601	63040	-439
JUN 22	26707	26454	253	JUN 22	54422	54632	-209
JUL 22	22049	21782	267	JUL 22	53194	53326	-132
AUG 22	21184	21103	81	AUG 22	54199	54316	-116
SEP 22	20655	20474	181	SEP 22	53938	54065	-127
OCT 22	59510	59495	15	OCT 22	58035	57904	132
NOV 22	24476	24668	-192	NOV 22	46523	46942	-419
DEC 22	19543	19328	215	DEC 22	49422	49810	-388
JAN 23	12240	11464	776	JAN 23	28025	28399	-374
FEB 23	4305	4315	-10	FEB 23	24716	25083	-367
MAR 23	8182	8151	31	MAR 23	27498	27856	-359
APR 23	9092	8892	200	APR 23	21951	22408	-456
MAY 23	5321	5304	17	MAY 23	22148	22575	-426
JUN 23	2180	2172	8	JUN 23	20653	21079	-426
JUL 23	2260	2260	0	JUL 23	20731	21073	-342
AUG 23	1300	1300	0	AUG 23	20639	21035	-395
SEP 23	1747	1737	10	SEP 23	20281	20678	-397
OCT 23	2356	2306	50	OCT 23	21569	21972	-403
NOV 23	1076	1076	0	NOV 23	19540	19994	-454
DEC 23	1134	1134	0	DEC 23	19925	20387	-462
JAN 24	793	793	0	JAN 24	12317	12621	-304







		Cash Prompt		Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.78	3.43	-0.35
TETCO M3	\$/MMBtu	3.25	3.22	-0.03
FGT Zone 3	\$/MMBtu	3.25	3.83	0.58
Zone 6 NY	\$/MMBtu	3.25	3.18	-0.08
Chicago Citygate	\$/MMBtu	3.40	3.64	0.24
Michcon	\$/MMBtu	3.46	3.57	0.11
Columbia TCO Pool	\$/MMBtu	3.00	3.01	0.01
Ventura	\$/MMBtu	3.26	3.59	0.33
Rockies/Opal	\$/MMBtu	3.51	3.59	0.08
El Paso Permian Basin	\$/MMBtu	3.40	3.68	0.28
Socal Citygate	\$/MMBtu	5.25	5.76	0.51
Malin	\$/MMBtu	3.57	4.34	0.77
Houston Ship Channel	\$/MMBtu	3.53	3.77	0.24
Henry Hub Cash	\$/MMBtu	3.59	3.59	0.00
AECO Cash	C\$/GJ	2.93	2.92	-0.01
Station2 Cash	C\$/GJ	2.93	4.24	1.31
Dawn Cash	C\$/GJ	3.36	3.59	0.23

Source: CME, Bloomberg



					VS	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	-0.041	~	-0.043	•	-0.069		-0.059
NatGas Oct21/Nov21	\$/MMBtu	0.057		0.018	•	-0.009		0.009
NatGas Oct21/Jan22	\$/MMBtu	0.218		0.030	_	-0.044		-0.060
NatGas Apr22/Oct22	\$/MMBtu	-0.010		-0.006	•	-0.028		-0.065
WTI Crude	\$/Bbl	72.20		-1.270		2.240		31.300
Brent Crude	\$/Bbl	73.43	\blacksquare	-1.700		1.210		30.140
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	208.91		-3.960	•	-4.040		85.470
Propane, Mt. Bel	cents/Gallon	1.08		0.109		0.144		0.592
Ethane, Mt. Bel	cents/Gallon	0.30		0.023		0.029		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

