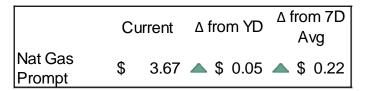


29 June 2021



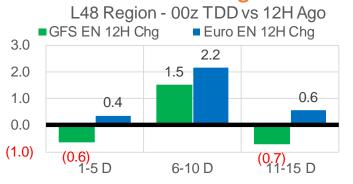
	С	urrent	Δ from YD	_	m 7D vg
WTI Prompt	\$	72.90	\$ (0.01)	~ \$	(0.6)

	_	Current		m VD	Δ from 7D			
Current	Δπο	טו וווי	Avg					
Brent Prompt	\$	74.74	\$	0.06	- \$	(8.0)		

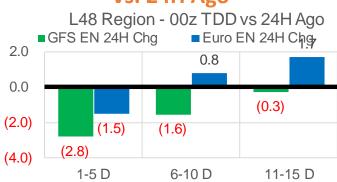
Page Menu

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	91.4	▼ -1.13	▼ -1.23

_							1
		Current	Δfı	om YD	Δf	rom 7D Avg	
	US ResComm	8.8		0.00		0.52	

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.1	▼ -0.13	▲ 0.24

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	42.0	- 0.58	6.00

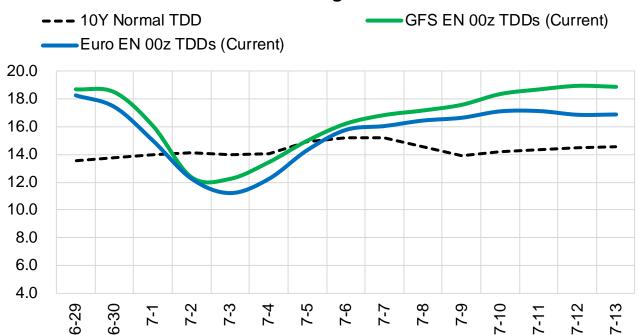
	Current	Δ from YD	Δ from 7D Avg		
Canadian Imports	5.4	a 0.53	a 0.81		

	Current	Δ from YD	Δ from 7D Avg		
Mexican Exports	7.2	▲ 0.02	▼ -0.18		

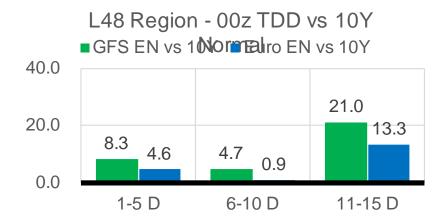


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	DoD	vs.7D
Lower 48 Dry Production	92.5	93.0	92.8	92.8	92.6	92.6	91.4	▼-1.1	▼-1.3
Canadian Imports	4.4	4.2	4.4	4.7	4.9	4.9	5.4	0.5	▲ 0.8
L48 Power	32.2	33.6	34.7	36.8	39.0	42.5	42.0	▼-0.6	5.5
L48 Residential & Commercial	8.3	8.0	7.8	7.6	8.0	8.8	8.8	0.0	0.7
L48 Industrial	19.1	19.3	19.6	19.6	19.7	19.7	19.5	▼ -0.1	0.0
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.1	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.0	2.0	2.1	2.2	2.3	2.5	2.5	▼ 0.0	0.3
L48 Regional Gas Consumption	66.8	68.1	69.2	71.2	74.1	78.6	77.8	▼-0.8	6.5
Net LNG Delivered	10.37	11.13	11.27	11.28	11.28	11.27	11.14	▼-0.1	▲ 0.0
Total Mexican Exports	7.7	7.9	7.3	6.8	7.0	7.2	7.2	▲ 0.0	▼ -0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	12.0	10.0	9.4	8.1	5.1	0.3	0.6		

EIA Storage Week Balances

	21-May	28-May	4-Jun	11-Jun	18-Jun	25-Jun	WoW	vs. 4W
Lower 48 Dry Production	91.7	92.4	92.2	92.6	91.9	92.8	0.9	0.5
Canadian Imports	4.6	4.5	3.9	4.8	5.1	4.7	▼ -0.5	▲ 0.1
L48 Power	26.5	29.5	27.8	34.4	34.8	34.6	▼-0.3	2.9
L48 Residential & Commercial	10.5	9.4	11.8	8.4	8.2	8.3	0.1	▼-1.1
L48 Industrial	20.0	20.1	18.0	21.4	22.8	19.7	▼ -3.1	▼ -0.9
L48 Lease and Plant Fuel	5.0	5.1	5.1	5.1	5.1	5.1	0.0	0.0
L48 Pipeline Distribution	1.9	2.0	2.0	2.1	2.1	2.1	▼ 0.0	0.1
L48 Regional Gas Consumption	63.9	66.0	64.7	71.5	73.0	69.8	▼ -3.2	1.0
Net LNG Exports	10.4	10.5	11.0	9.4	9.6	10.3	0.7	0.1
Total Mexican Exports	6.8	6.7	7.2	7.3	7.5	7.6	▲ 0.1	0.4
Implied Daily Storage Activity	15.2	13.6	13.2	9.1	6.9	9.7	2.8	
EIA Reported Daily Storage Activity	16.4	14.0	14.0	2.3	7.9			
Daily Model Error	-1.2	-0.4	-0.8	6.8	-0.9			

Monthly Balances									
	2Yr Ago	LY					MTD		
	Jun-19	Jun-20	Feb-21	Mar-21	Apr-21	May-21	Jun-21	MoM	vs. LY
Lower 48 Dry Production	91.5	87.7	85.2	91.8	91.7	91.9	92.4	0.5	4.7
Canadian Imports	4.7	4.0	6.3	4.8	4.7	4.5	4.8	0.3	8.0 🛋
L48 Power	33.1	35.0	27.8	24.2	25.1	27.0	35.0	8.0	0.0
L48 Residential & Commercial	9.0	8.8	47.1	29.3	20.0	13.1	8.3	▼ -4.8	- 0.6
L48 Industrial	22.5	19.9	21.3	19.7	20.5	19.2	20.7	1.5	0.9
L48 Lease and Plant Fuel	5.0	4.8	4.7	5.0	5.0	5.0	5.1	0.1	0.3
L48 Pipeline Distribution	2.1	2.2	3.3	2.5	2.2	2.1	2.1	0.1	▼ 0.0
L48 Regional Gas Consumption	71.7	70.7	104.1	80.9	72.8	66.4	71.2	4.8	0.5
Net LNG Exports	5.5	4.0	8.6	11.1	11.5	10.8	10.1	▼ -0.7	▲ 6.1
Total Mexican Exports	5.2	5.5	5.8	6.5	6.7	6.8	7.4	▲ 0.6	1.9
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	13.8	11.5	-27.0	-2.0	5.4	12.4	8.4		



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	DoD	vs. 7D
NRC Nuclear Daily Output	89.7	89.4	89.4	88.6	88.3	89.5	89.5	0.0	0.3
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	15.2	15.4	15.4	16.3	16.6	15.4	15.4	0.0	-0.3
NRC % Nuclear Cap Utilization	91.2	91.0	90.9	90.1	89.8	91.0	91.0	0.0	0.3

Wind Generation Daily Average - MWh (Genscape)

	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	DoD	vs. 7D
CAISO Wind	2573	3721	5085	4583	4583	4583	4583	0	395
ERCOT	19543	18763	23451	16048	6453	6832	1553	-5279	-13629
Genscape US Wind	65646	62814	49628	49628	22389	22389	22389	0	-23027

Generation Daily Average - MWh (Genscape)

	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	DoD	vs. 7D
Genscape US Wind	65646	62814	49628	49628	22389	22389	22389	0	-23027
Genscape US Solar	8433	13873	20328	20328	22784	22784	22784	0	4696
Genscape US Other	4392	4512	4996	4996	4463	4463	4463	0	-174
Genscape US Coal	111873	117294	122665	122665	127857	127857	127857	0	6155
Genscape US Nuke	93813	93556	93542	93542	92393	92393	92393	0	-814
Genscape US Hydro	30871	27093	24454	24454	23913	23913	23913	0	-1870
Genscape US Gas	181916	189742	201684	201684	216889	216889	216889	0	15422

See National Wind and Nuclear daily charts



Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	21 - May	28-May	4-Jun	11-Jun	18-Jun	25-Jun	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	81.7	86.7	89.2	88.6	86.7	89.9	3.2	-0.5
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	23.2	18.1	15.7	16.3	18.1	15.0	-3.2	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (Genscape)

	21-May	28-May	4-Jun	11-Jun	18-Jun	25-Jun	WoW	WoW Bcf/d Impact
CAISO Wind	4429	4045	4012	4607	3723	3254	-470	0.1
ERCOT	15638	18210	9217	17072	10749	16549	5800	-1.0
Genscape US Wind	44217	54606	29242	43337	32707	50972	18265	-3.1

Generation Weekly Average - MWh (Genscape)

	21-May	28-May	4-Jun	11-Jun	18-Jun	25-Jun	WoW	WoW Bcf/d Impact
Genscape US Wind	44217	54606	29242	43337	32707	50972	18265	-3.1
Genscape US Solar	12784	13553	15426	15643	7817	12070	4253	-0.7
Genscape US Other	5356	5615	5443	5942	5201	4746	-455	0.1
Genscape US Coal	87761	101192	91844	118938	120230	118888	-1342	0.2
Genscape US Nuke	85515	90607	93111	92667	90822	93987	3164	-0.5
Genscape US Hydro	28694	27300	28202	32469	29459	30022	562	-0.1
Genscape US Gas	155670	176363	167948	212241	210769	202074	-8695	1.5

See National Wind and Nuclear daily charts



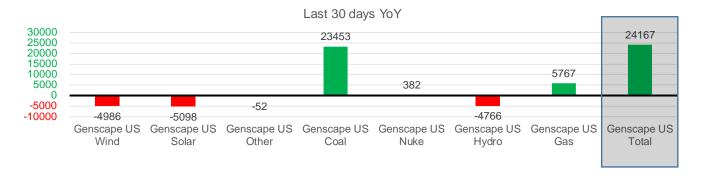
Monthly Average Generation Data

Nuclear Generation Monthly	Average -	GWh (NI	RC)						
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Mar-21	Apr-21	May-21	Jun-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	92.2	89.9	81.7	75.8	81.8	88.7	88.7	6.9	-1.2
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	12.6	15.0	23.2	29.0	23.1	16.2	16.2	-6.9	1.2
NRC % Nuclear Cap Utilization	93.8	91.4	83.1	77.1	83.2	90.2	90.2	7.0	-1.2

Wind Generation Monthly Average - MWh (Genscape)

	2Yr Ago	LY				MID			
	Same 30 days	Same 30 days	Mar-21	Apr-21	May-21	Jun-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CAISO Wind	3317	3364	2727	3973	3984	3974	3921	-10	557
ERCOT Genscape US Wind	9990 31157	13200 42910	15759 51455	14043 50826	15379 46211	13059 38344	12850 37924	-2320 -7867	-350 -4986
·									

Generation Monthly Average -	•	enscape LY	()			MTD			
	2Yr Ago	Lī				WIID			
	Same 30 days	Same 30 days	Mar-21	Apr-21	May-21	Jun-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
Genscape US Wind	31157	42910	51455	50826	46211	38344	37924	▼ -419.4	▼ -4986
Genscape US Solar	20335	18781	7925	11423	15499	13579	13683	104	▼ -5098
Genscape US Other	5283	5230	4163	4515	5256	5177	5178	1	▼ -52
Genscape US Coal	106433	93899	80386	73809	87336	118446	117352	▼ -1093	23453
Genscape US Nuke	94999	92361	85633	79828	85659	92722	92742	2 0	382
Genscape US Hydro	35415	34176	27693	27391	27514	29481	29410	▼ -71	▼ -4766
Genscape US Gas	188888	199164	144642	153342	160888	206653	204931	▼ -1845	5767
Genscape US Total	482511	486521	401897	401133	428362	504402	510687	▼ -3271	24167



See National Wind and Nuclear daily charts



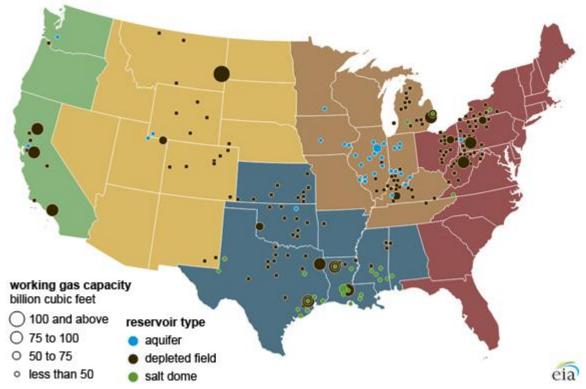
Regional S/D Models Storage Projection

Week Ending 25-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	9.4	1.1	10.5	73
East	2.9	0.7	3.6	25
Midwest	4.4	-0.4	4.1	28
Mountain	4.8	-3.8	1.0	7
South Central	-3.4	4.7	1.3	9
Pacific	0.7	-0.2	0.6	4

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

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



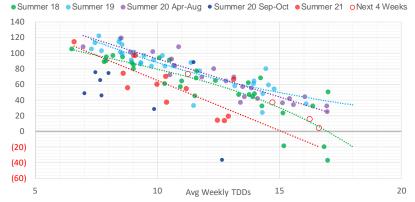


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
25-Jun	11.3	73
02-Jul	16.3	16
09-Jul	14.7	37
16-Jul	16.6	4

Weather Storage Model - Next 4 Week Forecast



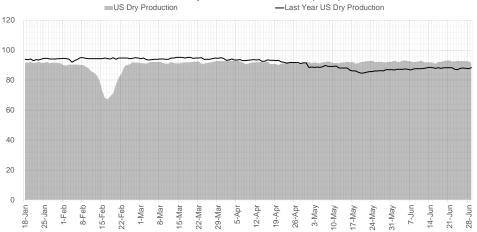
Go to larger image



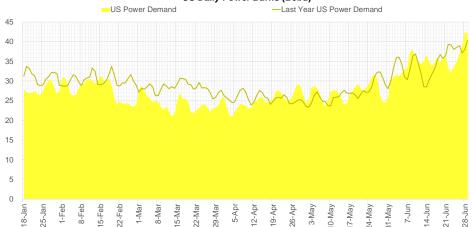


Supply - Demand Trends

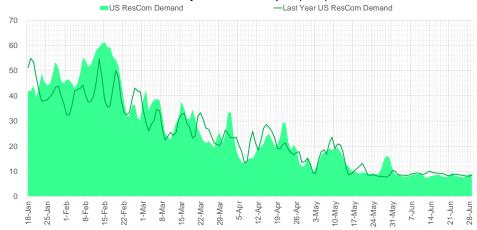
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



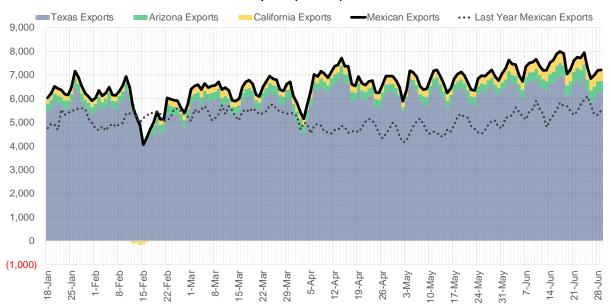
US Daily ResCom Consumption(Bcf/d)



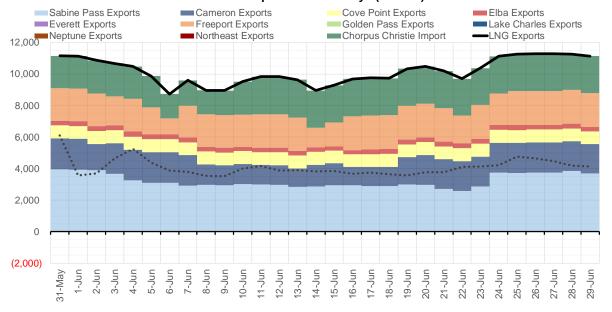
Source: Bloomberg



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

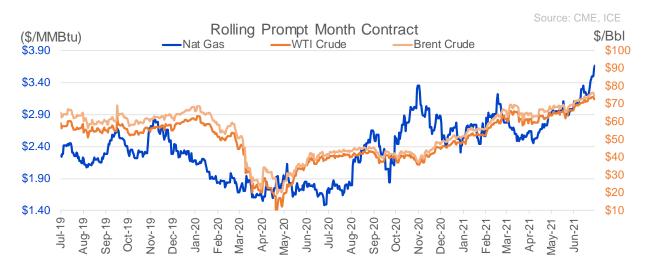
CONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	CONTRACT		NTRACT	
MONTH	YEAR	1 01/OALL	OTTURL	VOL	MONTH	YEAR	t .	1 01/CALL
8	2021	Р	3.50	9256	10	2021		С
8	2021	C	4.25	9071	8	2021		C
8	2021	P	3.00	7579	8	2021		С
8	2021	C	3.75	7577	9	2021		C
8	2021	P	3.25	7023	10	2021		C
8	2021	Ċ	4.00	7006	10	2021		P
10	2021	Č	5.00	6273	8	2021		C
9	2021	C	4.25		8	2021		P
		P		6267	8	2021		Р
10	2021		2.50	5854	10	2021		C
10	2021	С	4.00	5367	10	2021		Č
11	2021	Р	3.00	5051	9	2021		Č
10	2021	Р	3.00	5012	10	2021		P
9	2021	С	4.00	4800	8	2021		C
10	2021	Р	3.50	4141				P
10	2021	Р	2.75	3934	10	2021		P P
11	2021	С	5.00	3755	9	2021		
9	2021	С	4.50	3604	12	2021		С
8	2021	С	4.50	3406	8	2021		P
8	2021	Р	3.20	3401	9	2021		P
9	2021	Р	3.00	3131	11	2021		С
12	2021	С	4.50	3090	9	2021		С
9	2021	P	3.25	2923	10	2021		Р
8	2021	C	4.20	2787	8	2021		Р
12	2021	Č	3.75	2667	4	2022		С
8	2021	P	3.30	2492	8	2021		Р
8	2021	C	3.80	2386	8	2021		Р
					10	2021		С
8	2021	P	3.40	2378	10	2021		С
9	2021	P	3.15	2315	10	2021		С
10	2021	С	3.50	2239	8	2021		С
8	2021	С	3.50	2085	8	2021		C
8	2021	Р	3.10	2059	11	2021		P
9	2021	С	4.20	2011	3	2022		C
10	2021	С	4.20	2000	1	2022		Č
12	2021	Р	2.00	2000	3	2022		Č
3	2022	С	4.00	2000	10	2021		Č
9	2021	С	3.75	1927	3	2022		C
10	2021	P	3.25	1885	3 11	2022		C
9	2021	C	5.00	1857				
10	2021	Č	4.50	1842	2	2022		С
11		C		1803	12	2021		P
	2021		4.50		9	2021		Р
8	2021	P	3.45	1801	12	2021		С
10	2021	С	4.25	1725	8	2021		Р
8	2021	С	3.60	1666	5	2022		С
11	2021	С	3.75	1611	9	2021		Р
8	2021	Р	3.35	1588	6	2022		С
10	2021	Р	3.15	1551	9	2021		Р
11	2021	Р	3.50	1550	10	2022		C
11	2021	C	4.00	1509	7	2022		Ċ
10	2021	Č	5.50	1470	8	2022		
		ŭ	0.00			2022		C Source



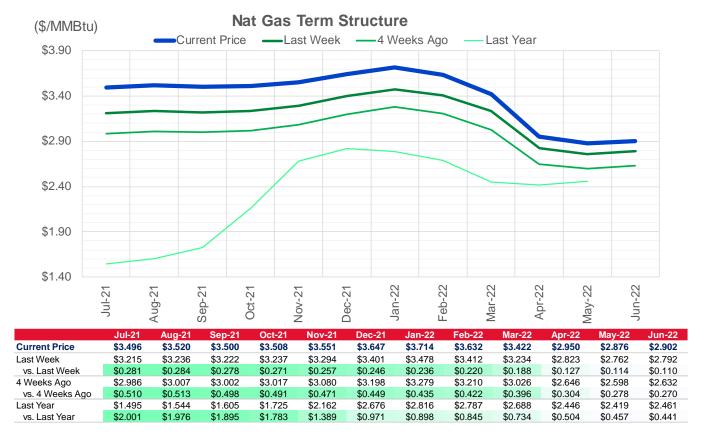
Nat Gas Futures Open Interest

CME, and ICE Combined

CME Harmy Link Fight rea (40,000 MMPts)								
CME Henry Hub Futures (10,000 MMBtu)			ICE Henry Hub Futures Contract Equivalent (10,000 M					
	Current	Prior	Daily Change		Current	Prior	Daily Change	
AUG 21	310	3907	-3597	AUG 21	83189	83028	161	
SEP 21	222930	215913	7017	SEP 21	98428	90143	8285	
OCT 21	211098	207003	4095	OCT 21	86259	84833	1427	
NOV 21	158240	152016	6224	NOV 21	99070	99232	-162	
DEC 21	97081	94631	2450	DEC 21	72309	72199	110	
JAN 22	66526	65997	529	JAN 22	68744	68493	251	
FEB 22	100750	99779	971	FEB 22	82881	83296	-415	
MAR 22	40825	40244	581	MAR 22	66055	65537	519	
APR 22	87579	84833	2746	APR 22	65740	65472	268	
MAY 22	80384	77641	2743	MAY 22	61175	60470	705	
JUN 22	60128	58746	1382	JUN 22	60186	59417	769	
JUL 22	26103	25666	437	JUL 22	52812	52218	594	
AUG 22	19989	18888	1101	AUG 22	51375	50835	540	
SEP 22	18628	18464	164	SEP 22	51984	51329	655	
OCT 22	17887	16760	1127	OCT 22	52029	51399	630	
NOV 22	51182	50152	1030	NOV 22	56547	55667	880	
DEC 22	22604	21025	1579	DEC 22	45233	44710	523	
JAN 23	16332	15502	830	JAN 23	48029	47401	629	
FEB 23	11342	10683	659	FEB 23	27591	27075	516	
MAR 23	3603	3539	64	MAR 23	24779	24652	127	
APR 23	7534	7637	-103	APR 23	27387	27768	-381	
MAY 23	8726	8676	50	MAY 23	21834	22045	-211	
JUN 23	4760	4654	106	JUN 23	22266	22231	36	
JUL 23	1251	1172	79	JUL 23	20802	20769	33	
AUG 23	1939	1884	55	AUG 23	20666	20630	36	
SEP 23	966	969	-3	SEP 23	20628	20585	43	
OCT 23	1490	1364	126	OCT 23	20270	20236	33	
NOV 23	2260	2309	-49	NOV 23	21615	21268	347	
DEC 23	916	916	0	DEC 23	19786	19732	54	
JAN 24	1137	1133	4	JAN 24	20168	20108	60	







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	4.84	2.87	-1.97
TETCO M3	\$/MMBtu	3.77	2.77	-1.00
FGT Zone 3	\$/MMBtu	3.92	3.28	-0.64
Zone 6 NY	\$/MMBtu	3.92	2.72	-1.20
Chicago Citygate	\$/MMBtu	3.61	3.11	-0.50
Michcon	\$/MMBtu	3.49	3.04	-0.45
Columbia TCO Pool	\$/MMBtu	3.14	2.71	-0.43
Ventura	\$/MMBtu	3.54	3.04	-0.51
Rockies/Opal	\$/MMBtu	3.82	3.04	-0.78
El Paso Permian Basin	\$/MMBtu	3.47	3.20	-0.27
Socal Citygate	\$/MMBtu	6.58	4.52	-2.06
Malin	\$/MMBtu	3.46	3.48	0.02
Houston Ship Channel	\$/MMBtu	3.59	3.27	-0.32
Henry Hub Cash	\$/MMBtu	3.59	3.07	-0.52
AECO Cash	C\$/GJ	3.22	2.56	-0.66
Station2 Cash	C\$/GJ	3.18	3.36	0.18
Dawn Cash	C\$/GJ	3.50	3.05	-0.46

Source: CME, Bloomberg

					W	s. 4 Weeks		
	Units	Current Price	vs.	Last Week	V	Ago	VS	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	-0.041	_	-0.067	•	-0.072	_	-0.060
NatGas Oct21/Nov21	\$/MMBtu	0.041	•	-0.019	•	-0.022		-0.004
NatGas Oct21/Jan22	\$/MMBtu	0.202		-0.044	•	-0.060		-0.074
NatGas Apr22/Oct22	\$/MMBtu	0.006		-0.027	•	-0.029		-0.043
WTI Crude	\$/Bbl	72.91		-0.750		6.590		33.210
Brent Crude	\$/Bbl	74.68		-0.220		5.360		32.970
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	211.82		-0.860		7.370		95.280
Propane, Mt. Bel	cents/Gallon	0.97		0.012		0.143		0.470
Ethane, Mt. Bel	cents/Gallon	0.28		0.002		0.017		0.058
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

