

7 July 2021

	Cı	ırrent	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$	3.66	\$ 0.02	\$ (0.02)

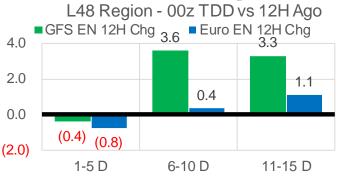
	С	urrent	Δfrc	m YD	Δ fror Α\	
WTI Prompt	\$	74.72	\$	1.35	\$	0.0

	_	urront	۸ fro	m VD	∆ fro	m 7D
	Current	Δ 110	טו ווו	Avg		
Brent Prompt	\$	75.85	\$	1.32	- \$	(0.0)

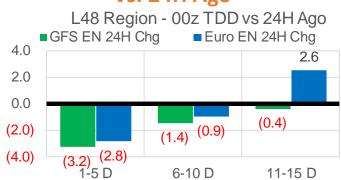
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Price Summary

Vs. 12H Ago



Vs. 24H Ago



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	90.7	▼ -1.34	a 0.30

Curre		Δ from YD	Δ from 7D Avg
US ResComm	8.4	0.10	0.55

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.0	▼ -0.19	▼ -0.08

	Power	Δ from YD	Δ from 7D Avg
US Power Burns	39.4	▼ -1.93	1.86

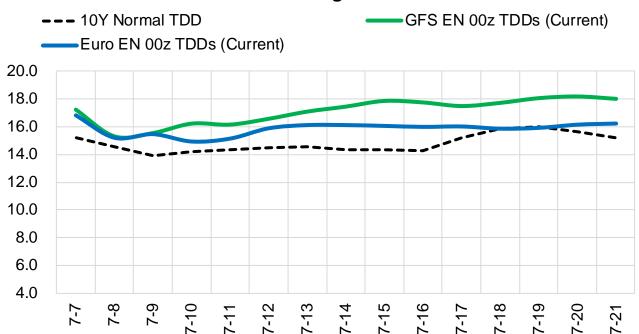
	Current	Δ fro	m YD	om 7D Avg
Canadian Imports	5.5	^ (0.44	0.42

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.2	0.03	a 0.14

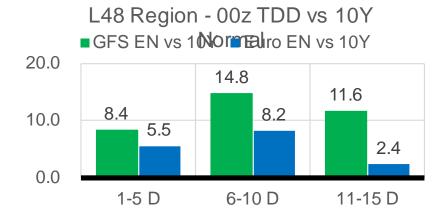


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	DoD	vs.7D
Lower 48 Dry Production	88.8	88.5	90.0	91.8	91.7	92.0	90.7	▼-1.3	▲ 0.2
Canadian Imports	5.2	4.9	4.9	4.9	4.9	5.0	5.5	0.4	0.5
L48 Power	38.5	34.7	33.4	34.4	37.7	41.3	39.4	▼-1.9	2.7
L48 Residential & Commercial	8.1	7.7	7.5	7.2	7.7	8.3	8.4	0.1	0.7
L48 Industrial	19.3	18.9	18.6	18.5	18.6	18.8	19.0	0.2	0.2
L48 Lease and Plant Fuel	4.9	4.9	5.0	5.1	5.1	5.1	5.0	▼-0.1	0.0
L48 Pipeline Distribution	2.2	2.0	1.9	2.0	2.1	2.4	2.3	▼-0.1	a 0.2
L48 Regional Gas Consumption	73.1	68.2	66.5	67.0	71.2	75.9	74.1	▼-1.7	3.8
Net LNG Delivered	11.17	10.67	11.09	11.08	11.05	11.15	10.96	▼-0.2	▼ -0.1
Total Mexican Exports	7.1	7.3	6.9	6.7	7.0	7.2	7.2	0.0	▲ 0.2
Implied Daily Storage Activity	2.6	7.1	10.5	11.8	7.3	2.9	3.9		
EIA Reported Daily Storage Activity Daily Model Error									

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	40.0	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	a 0.3
L48 Regional Gas Consumption	65.8	64.4	71.2	72.1	69.2	75.8	6.6	6.5
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	-0.5			

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	90.5	▼-1.7	1.4
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.0	0.2	0.6
L48 Power	40.8	43.6	24.3	25.1	27.0	35.4	37.1	1.7	▼-6.6
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.3	8.4	7.9	▼ -0.5	▼ -0.1
L48 Industrial	21.6	20.4	19.4	21.1	18.7	20.2	18.8	▼ -1.4	▼ -1.6
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	70.9	▼ -0.4	▼-8.5
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	7.1	▼-0.4	1.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	7.9	5.0	-2.0	5.5	12.4	8.2	6.6		



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	89.0	89.6	89.4	89.4	89.3	89.3	89.3	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	15.8	15.3	15.4	15.5	15.5	15.6	15.6	0.0	0.0
NRC % Nuclear Cap Utilization	90.5	91.1	90.9	90.9	90.8	90.8	90.8	0.0	0.0

Wind Generation Daily Average - MWh (Genscape)

	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	6115	5172	5916	10341	5805	3160	1088	-2072	-4997
Genscape US Wind	20580	19601	24034	35419	28631	28631	28631	0	2481

Generation Daily Average - MWh (Genscape)

	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	DoD	vs. 7D
Genscape US Wind	20580	19601	24034	35419	28631	28631	28631	0	2481
Genscape US Solar	22353	19527	6381	6369	11859	11859	11859	0	-1199
Genscape US Other	4495	4208	4349	4256	4591	4591	4591	0	176
Genscape US Coal	137016	124344	111143	105589	115946	115946	115946	0	-2385
Genscape US Nuke	92973	93503	93411	93342	93260	93260	93260	0	-32
Genscape US Hydro	23546	23647	23279	22957	22633	22633	22633	0	-483
Genscape US Gas	234069	206463	186599	187432	204472	204472	204472	0	554

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- 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	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

	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	93.7	91.3	75.9	81.8	88.7	89.3	88.7	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	11.2	13.6	29.0	23.1	16.2	15.5	16.2	-0.6	2.6
NRC % Nuclear Cap Utilization	95.3	92.8	77.1	83.2	90.2	90.8	90.2	0.6	-2.6

	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	3554	3384	4009	3984	3994	4583	4065	589	681
ERCOT	10881	13732	13820	15379	12995	5371	11698	-7624	-2034
Genscape US Wind	31864	39667	50942	46211	36758	26504	34871	-10255	-4796

Generation Monthly Average	- wwn (G	enscape	•)						
	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	31864	39667	50942	46211	36758	26504	34871	8367.3	▼ -4796
Genscape US Solar	20813	20138	11261	15499	14357	12887	14170	1283	▼ -5968
Genscape US Other	5156	5229	4512	5256	5178	4440	4891	450	▼ -338
Genscape US Coal	115876	99442	73683	87336	119945	117990	122597	4607	23155
Genscape US Nuke	96190	93667	79842	85659	92805	93287	92743	-544	▼ -924
Genscape US Hydro	33327	32976	27386	27514	29334	23047	27286	4240	▼ -5690
Genscape US Gas	198742	211968	152976	160888	212447	203997	214412	32294	2443
Genscape US Total	501969	503087	400602	428362	510825	482151	510970	56220	7883



See National Wind and Nuclear daily charts



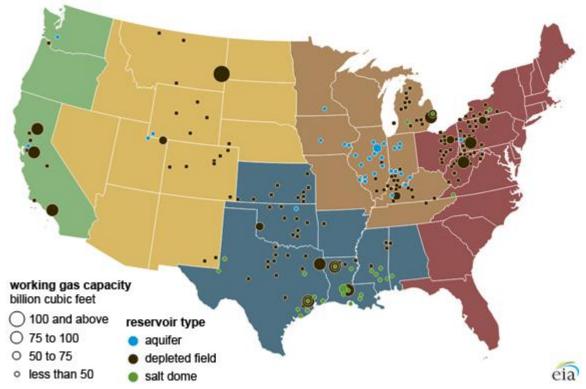
Regional S/D Models Storage Projection

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	4

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

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



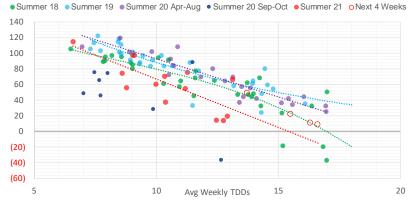


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
02-Jul	15.5	22
09-Jul	13.7	49
16-Jul	16.3	11
23-Jul	16.6	9

Weather Storage Model - Next 4 Week Forecast



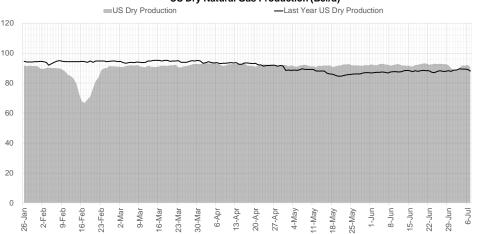
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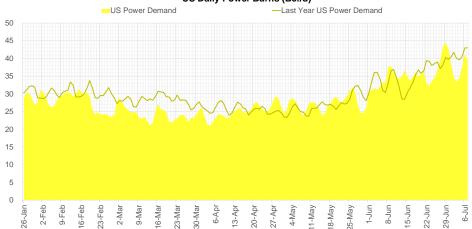


Supply - Demand Trends

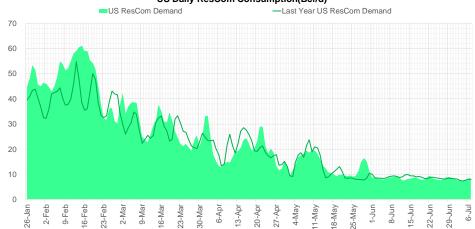
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



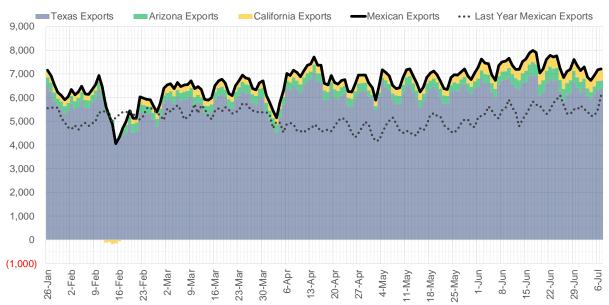
US Daily ResCom Consumption(Bcf/d)



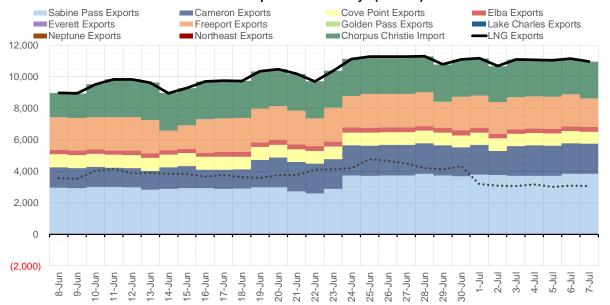
Source: Bloomberg



Mexican Exports (MMcf/d)



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



Source: Bloomberg



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

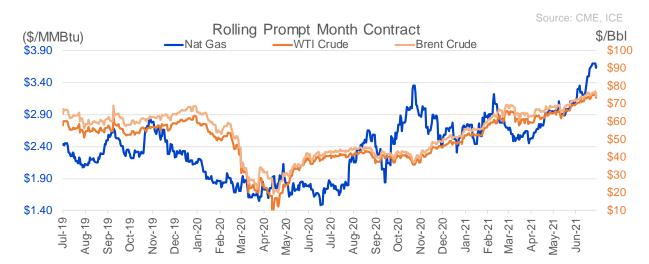
CONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	CONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE
MONTH	YEAR	1 0 1/OALL	OTIVILL	VOL	MONTH	YEAR	1 01/CALL	STRIKE	COMOLATIVE
8	2021	Р	3.25	6546	8	2021	С	4.00	46139
8	2021	С	4.50	6332	10	2021	С	4.00	45748
8	2021	С	4.25	5811	8	2021	С	3.50	40904
8	2021	Č	3.75	4429	9	2021	С	4.00	38049
11	2021	P	3.00	4404	10	2021	С	3.50	33965
8	2021	C	4.00	4362	10	2021	С	5.00	32265
8	2021	P	3.50	3884	10	2021	P	2.50	31760
8	2021	Ċ	5.00	3225	8	2021	Р	3.00	29391
9	2021	Č	4.25	3118	8	2021	Р	2.50	29351
9	2021	C	4.23		10	2021	C	3.25	28365
9				2585	10	2021	P	2.75	26927
	2021	С	4.50	2473	8	2021	C	3.75	26783
8	2021	С	4.10	2431	10	2021	P	2.00	24786
9	2021	P	3.25	2050	11	2021	C	4.00	24367
10	2021	Р	3.25	1747	8	2021	P	3.25	24213
9	2021	Р	3.00	1662	9	2021	C	3.50	24202
10	2021	С	3.75	1491	9	2021	P	2.50	23794
10	2021	С	4.00	1152	8		C		
12	2021	Р	2.60	1151		2021		3.25	23616
1	2022	С	4.50	1150	10	2021	С	4.50	22129
8	2021	С	3.50	1142	12	2021	С	4.00	21886
10	2021	С	5.00	1122	8	2021	P	2.90	21715
10	2021	Р	2.75	1120	10	2021	P	3.00	21602
8	2021	Р	3.30	1110	9	2021	P	2.00	20423
8	2021	Р	3.00	1098	4	2022	C	3.00	19835
10	2021	P	3.50	1050	8	2021	P -	2.00	19664
11	2021	P	2.60	1001	8	2021	Р	2.25	19478
1	2022	Р	2.60	1000	9	2021	С	3.25	19139
2	2022	r P	2.60	1000	8	2021	С	4.50	19019
3	2022	P	2.60	1000	10	2021	Р	2.25	18849
12	2022	C	3.50	1000	8	2021	Р	2.75	18539
		C			10	2021	С	3.00	18500
2	2022		5.50	950	10	2021	С	6.00	18239
9	2021	P	3.10	941	10	2021	С	3.75	15917
10	2021	P	3.00	829	8	2021	С	3.00	15830
9	2021	P	3.15	826	9	2021	Р	3.00	15822
8	2021	P	3.40	809	8	2021	Р	3.50	15613
9	2021	Р	3.50	800	8	2021	С	3.30	15335
9	2021	Р	3.40	767	3	2022	С	4.00	14616
8	2021	Р	3.20	761	11	2021	С	3.75	14578
10	2021	Р	2.50	753	3	2022	С	3.00	14448
8	2021	С	5.15	700	1	2022	С	4.00	14308
1	2022	С	5.00	650	10	2021	P	3.50	14291
9	2021	С	3.75	606	11	2021	P	2.50	14092
3	2022	C	8.00	594	2	2022	C	4.00	14030
3	2022	C	10.00	594	12	2021	P	2.00	13884
10	2021	Č	4.50	539	9	2021	P	1.90	13832
9	2021	Č	3.50	514	9	2021	P	2.75	13704
2	2022	C	4.50	500	3	2021	C	2.75 5.00	13704
3	2022	C	4.50	500	5 5	2022	C	3.00	13400
3 12	2022	C	3.00	500	6				
12	2022	C	3.00	500	ь	2022	C Source	: CME, ICE	13105



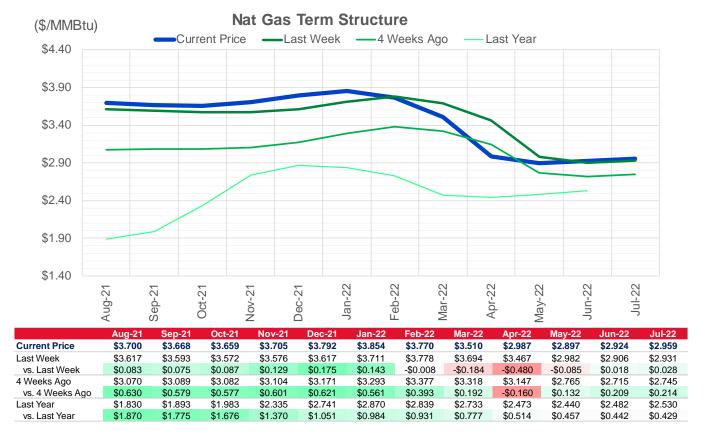
Nat Gas Futures Open Interest

CME, and ICE Combined

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	205966	217153	-11187	AUG 21	99865	98240	1626
SEP 21	231943	229457	2486	SEP 21	87203	87227	-24
OCT 21	164155	167813	-3658	OCT 21	102704	101569	1135
NOV 21	101859	98859	3000	NOV 21	71300	71393	-93
DEC 21	68648	67771	877	DEC 21	69917	69432	485
JAN 22	114013	114922	-909	JAN 22	80588	80320	268
FEB 22	45905	43801	2104	FEB 22	66094	66103	-10
MAR 22	90889	91011	-122	MAR 22	68332	67866	466
APR 22	90576	88456	2120	APR 22	64405	64634	-229
MAY 22	77136	75315	1821	MAY 22	63040	63141	-101
JUN 22	26454	27017	-563	JUN 22	54632	54317	315
JUL 22	21782	21904	-122	JUL 22	53326	53090	236
AUG 22	21103	20534	569	AUG 22	54316	54078	237
SEP 22	20474	20414	60	SEP 22	54065	53765	300
OCT 22	59495	58555	940	OCT 22	57904	57671	233
NOV 22	24668	24471	197	NOV 22	46942	46792	150
DEC 22	19328	18969	359	DEC 22	49810	49670	140
JAN 23	11464	11828	-364	JAN 23	28399	28337	62
FEB 23	4315	4318	-3	FEB 23	25083	25034	49
MAR 23	8151	7615	536	MAR 23	27856	27794	62
APR 23	8892	8411	481	APR 23	22408	22437	-30
MAY 23	5304	4718	586	MAY 23	22575	22559	16
JUN 23	2172	1749	423	JUN 23	21079	21064	15
JUL 23	2260	2260	0	JUL 23	21073	20964	109
AUG 23	1300	1299	1	AUG 23	21035	20926	109
SEP 23	1737	1737	0	SEP 23	20678	20573	105
OCT 23	2306	2305	1	OCT 23	21972	21956	16
NOV 23	1076	1076	0	NOV 23	19994	19987	8
DEC 23	1134	1134	0	DEC 23	20387	20379	8
JAN 24	793	793	0	JAN 24	12621	12606	16







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	2.92	3.33	0.41
TETCO M3	\$/MMBtu	2.58	3.12	0.54
FGT Zone 3	\$/MMBtu	3.10	3.75	0.65
Zone 6 NY	\$/MMBtu	3.10	3.07	-0.03
Chicago Citygate	\$/MMBtu	3.41	3.56	0.15
Michcon	\$/MMBtu	3.42	3.49	0.07
Columbia TCO Pool	\$/MMBtu	3.02	2.93	-0.09
Ventura	\$/MMBtu	3.58	3.51	-0.07
Rockies/Opal	\$/MMBtu	3.27	3.50	0.23
El Paso Permian Basin	\$/MMBtu	3.32	3.60	0.28
Socal Citygate	\$/MMBtu	4.25	5.67	1.42
Malin	\$/MMBtu	3.24	4.26	1.02
Houston Ship Channel	\$/MMBtu	3.56	3.69	0.13
Henry Hub Cash	\$/MMBtu	3.30	3.51	0.21
AECO Cash	C\$/GJ	3.00	2.83	-0.17
Station2 Cash	C\$/GJ	2.78	4.16	1.38
Dawn Cash	C\$/GJ	3.43	3.50	0.07

Source: CME, Bloomberg





				va 4 Washa	
				vs. 4 Weeks	
	Units	Current Price	vs. Last Week	Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	-0.014	-0.003	- 0.039	▼ -0.032
NatGas Oct21/Nov21	\$/MMBtu	0.052	0.011	- 0.011	a 0.006
NatGas Oct21/Jan22	\$/MMBtu	0.205	0.010	- 0.056	- 0.066
NatGas Apr22/Oct22	\$/MMBtu	-0.009	-0.008	- 0.031	- 0.058
WTI Crude	\$/Bbl	73.37	0.390	3.320	32.750
Brent Crude	\$/Bbl	74.53	- 0.230	2.310	31.450
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	0.000	0.000	0.000
Heating Oil	cents/Gallon	210.49	▼ -1.700	▼ -3.010	86.160
Propane, Mt. Bel	cents/Gallon	1.12	0.147	0.184	a 0.628
Ethane, Mt. Bel	cents/Gallon	0.30	0.026	0.032	0.094
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

