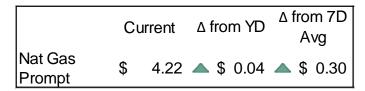


Market Report

27 August 2021



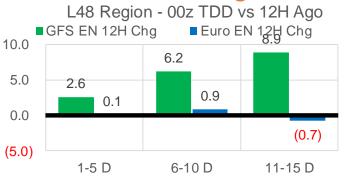
	С	urrent	Δ fro	m YD	Δ from 7D Avg		
WTI Prompt	\$	68.50	\$	1.08	\$	3.4	

	C	urrent	Λ fro	om YD	Δ fro	Δ from 7D			
	·	dironic			A ⁻	vg			
Brent	\$	72.09	• •	1 02	2	37			
Prompt	Ψ	12.03	_ +	1.02	— •	5.7			

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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

L48 Region - 00z TDD vs 24H Ago GFS EN 24H Chg ■Euro EN 24H Chg 10.0 6.6 5.0 8.0 0.0 (1.0)(1.4)(5.0)(2.6)(5.3)(10.0)1-5 D 6-10 D 11-15 D

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	91.0	▼ -1.67	▼ -1.87

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.8	▼ -0.36	a 0.10

	Current	Δ from YD	Δ from 7D Avg		
Net LNG Exports	10.9	- 0.07	0.31		

	Current	Δ from YD	Δ from 7D Avg		
US Power Burns	40.7	▼ -2.65	▼ -1.01		

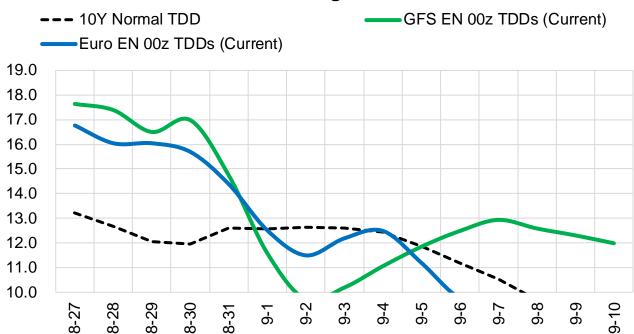
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.0	- 0.39	▼ -0.33

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.9	a 0.05	0.18

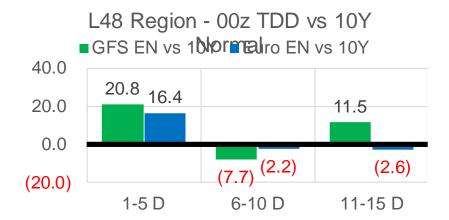


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	DoD	vs. 7D
Lower 48 Dry Production	93.0	93.0	93.3	92.4	92.5	92.6	91.0	-1.7	-1.9
Canadian Imports	5.1	5.0	5.2	5.3	5.8	5.3	5.0	-0.4	-0.3
L48 Power	39.0	38.6	42.2	43.7	44.2	43.4	40.7	-2.7	-1.1
L48 Residential & Commercial	7.1	7.2	7.8	7.9	8.1	8.2	7.8	-0.4	0.1
L48 Industrial	20.5	20.5	20.7	21.0	21.2	21.4	21.4	0.0	0.6
L48 Lease and Plant Fuel	5.1	5.1	5.2	5.1	5.1	5.1	5.0	-0.1	-0.1
L48 Pipeline Distribution	2.2	2.2	2.4	2.5	2.5	2.5	2.4	-0.1	0.0
L48 Regional Gas Consumption	74.0	73.7	78.2	80.1	81.1	80.5	77.3	-3.2	-0.6
Net LNG Delivered	10.85	10.72	10.33	10.13	10.32	10.97	10.90	-0.1	0.3
Total Mexican Exports	6.6	6.3	6.5	7.0	7.0	6.9	6.9	0.0	0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	6.6	7.3	3.4	0.5	-0.1	-0.4	0.7		

EIA Storage Week Balances

	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	27-Aug	WoW	vs. 4W
Lower 48 Dry Production	92.6	92.6	91.9	92.4	92.4	92.8	0.5	0.5
Canadian Imports	4.9	5.5	5.1	5.2	5.0	5.3	0.2	▲ 0.1
L48 Power	39.7	42.1	38.4	41.1	39.7	41.7	2.1	1.4
L48 Residential & Commercial	8.4	8.3	7.8	7.7	7.6	7.7	0.1	▼ -0.1
L48 Industrial	19.6	20.7	20.2	19.2	21.0	20.9	▼ -0.1	a 0.6
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▲ 0.0	0.0
L48 Pipeline Distribution	2.3	2.4	2.2	2.4	2.3	2.4	0.1	0.1
L48 Regional Gas Consumption	75.2	78.6	73.8	75.6	75.6	77.8	2.2	1.9
Net LNG Exports	10.5	10.8	10.6	9.9	10.9	10.6	▼ -0.3	▲ 0.1
Total Mexican Exports	7.1	7.0	6.9	6.8	6.8	6.8	▼ -0.1	▼-0.1
Implied Daily Storage Activity	4.6	1.7	5.7	5.2	4.1	2.9	-1.2	
EIA Reported Daily Storage Activity	5.1	1.9	7.0	6.6	4.1			
Daily Model Error	-0.5	-0.1	-1.3	-1.4	-0.1			

Monthly Balances									
•	2Yr Ago	LY					MTD		
	Aug-18	Aug-18	Apr-21	May-21	Jun-21	Jul-21	Aug-21	MoM	vs. LY
Lower 48 Dry Production	85.0	85.0	92.3	92.7	93.0	92.3	92.3	▼ 0.0	7.3
Canadian Imports	5.0	5.0	4.6	4.5	4.8	5.2	5.1	▼ 0.0	0.1
L48 Power	38.1	38.1	24.9	26.6	35.3	39.4	40.3	0.9	2.2
L48 Residential & Commercial	7.8	7.8	19.5	13.2	8.8	8.3	7.7	▼ -0.6	▼-0.1
L48 Industrial	21.6	21.6	21.2	20.3	20.8	19.9	20.4	0.4	▼ -1.2
L48 Lease and Plant Fuel	4.7	4.7	5.1	5.1	5.1	5.1	5.1	▼ 0.0	0.4
L48 Pipeline Distribution	2.2	2.2	2.3	2.1	2.2	2.3	2.3	0.1	0.2
L48 Regional Gas Consumption	74.4	74.4	73.0	67.2	72.2	75.0	75.8	0.7	1.4
Net LNG Exports	3.3	3.3	11.5	10.8	10.2	10.8	10.5	▼ -0.3	▲ 7.1
Total Mexican Exports	4.9	4.9	6.7	6.8	7.4	7.0	6.9	▼ -0.2	1.9
Implied Daily Storage Activity EIA Reported Daily Storage Activity	7.4	7.4	5.7	12.4	8.0	4.6	4.3		
Daily Model Error									

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	DoD	vs. 7D
NRC Nuclear Daily Output	91.5	91.4	91.4	91.4	92.7	92.2	91.8	-0.4	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	13.4	13.4	13.4	13.4	12.2	12.7	13.0	0.4	-0.1
NRC % Nuclear Cap Utilization	93.0	93.0	93.0	93.0	94.2	93.8	93.4	-0.4	0.1

Wind Generation Daily Average - MWh (EIA)

	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	DoD	vs. 7D
CALI Wind	2675	1414	2441	1663	1941	2099	2323	224	284
TEXAS Wind	14683	15088	13159	14159	14954	13842	10429	-3413	-3885
US Wind	32643	48112	39081	45029	42859	45607	35082	-10525	-7140

Generation Daily Average - MWh (EIA)

	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	DoD	vs. 7D
US Wind	32643	48112	39081	45029	42859	45607	35082	-10525	-7140
US Solar	13229	13057	13512	14177	14616	14680	14284	-396	406
US Petroleum	5400	4718	4041	3399	5891	6248	6542	293	1592
US Other	10440	9672	9281	9654	9672	10222	10423	201	599
US Coal	137970	131258	129087	124219	139900	138380	145976	7597	12507
US Nuke	95254	94039	94041	94325	95123	94426	93650	-776	-884
US Hydro	32151	32434	30263	27190	31053	30149	31582	1433	1042
US Gas	222806	214063	197196	183431	215351	223096	236665	13569	27341

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Storage Week Average Generation Data

Nuclear Generation W	eekly Average -	GWh (NRC)
----------------------	-----------------	-----------

	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	27-Aug	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	90.7	89.3	90.6	91.5	92.4	91.9	-0.5	0.1
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	14.2	15.6	14.3	13.3	12.5	13.0	0.5	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (EIA)

	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	27-Aug	WoW	WoW Bcf/d Impact
CALI Wind	2064	1905	2237	2507	3210	2029	-1181	0.2
TEXAS Wind	7162	7913	5180	16319	7171	13152	5980	-1.0
US Wind	26446	29738	22379	49585	29141	41550	12409	-2.1
					-20443.5			
					-41%			

Generation Weekly Average - MWh (EIA)

	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	27-Aug	WoW	WoW Bcf/d Impact
US Wind	26446	29738	22379	49585	29141	41550	12409	-2.1
US Solar	14023	13978	14130	14385	12759	14087	1328	-0.2
US Petroleum	3892	4729	4074	4709	4466	5340	874	-0.1
US Other	9336	9289	9070	10066	10067	9907	-160	0.0
US Coal	137623	146407	134740	140522	138047	136400	-1647	0.3
US Nuke	93488	92266	93328	94283	95157	94179	-978	0.2
US Hydro	30196	29216	27752	27022	28982	30608	1626	-0.3
US Gas	210463	224459	204634	208196	212035	215210	3174	

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

93.3



NRC % Nuclear Cap Utilization

Market Report

92.3

96.0

Monthly Average Generation Data

Nuclear Generation Montl	hly Average - 2Yr Ago	GWh (N	RC)			MTD			
	· ·	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	94.4	90.8	81.8	88.7	90.0	91.7	91.5	1.7	0.7
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	10.5	14 1	23.1	16.2	14 9	13.2	13.3	-1 7	-0.7

90.2

91.5

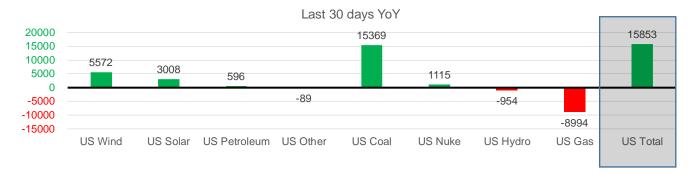
83.2

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	2231	2278	3402	2913	2338	2543	2482	205	204
TEXAS Wind	8024	8502	12259	9675	7217	10793	10206	3576	1704
US Wind	25373	29813	46083	37299	29106	36360	35385	7253	5572

Generation Monthly Average - MWh (EIA)

Conclusion Monthly Average	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	25373	29813	46083	37299	29106	36360	35385	▼ -974.4	5572
US Solar	9072	10879	14489	14564	14195	13827	13887	60.3	3008
US Petroleum	5104	4122	3012	4150	4233	4753	4718	▼ -35	596
US Other	9377	9865	7439	8161	9327	9851	9776	▼ -75	▼ -89
US Coal	125040	122865	86419	121357	137228	137417	138234	817	15369
US Nuke	100684	93044	85517	92175	92911	94337	94159	▼ -178	1115
US Hydro	32033	29684	30681	32577	29941	28736	28730	▼ -6	▼ -954
US Gas	219657	220858	139479	188815	207814	210595	211864	▼ -391	▼ -8994
US Total	527739	520895	413549	499468	524888	535934	536748	192	15853



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

0.7



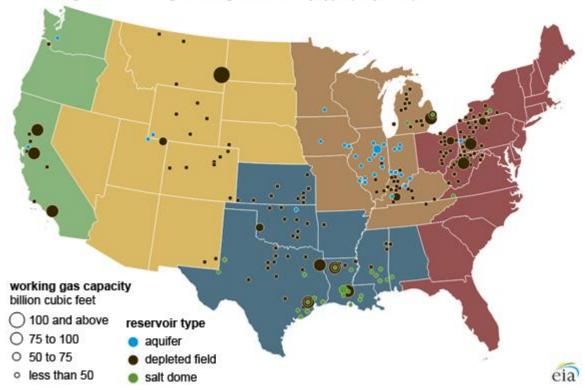
Regional S/D Models Storage Projection

Week Ending 27-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	2.6	0.8	3.4	24
East	1.2	0.8	2.0	14
Midwest	3.6	-0.1	3.6	25
Mountain	3.6	-4.0	-0.4	-3
South Central	-6.4	4.3	-2.1	-15
Pacific	0.5	-0.2	0.3	2

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

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



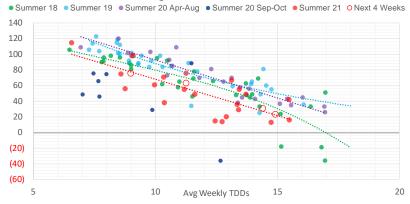


Weather Model Storage Projection

Next report and beyond

Week Ending	GWDDs	Week Storage Projection
27-Aug	14.9	24
03-Sep	14.4	31
10-Sep	11.3	64
17-Sep	9.0	76

Weather Storage Model - Next 4 Week Forecast



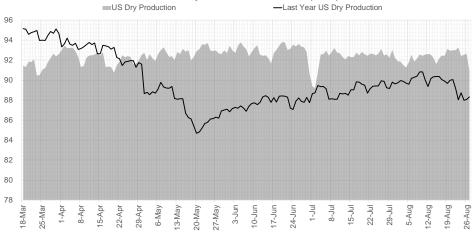
Go to larger image



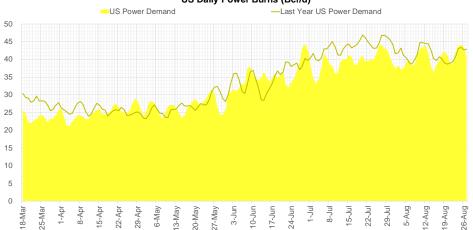


Supply - Demand Trends

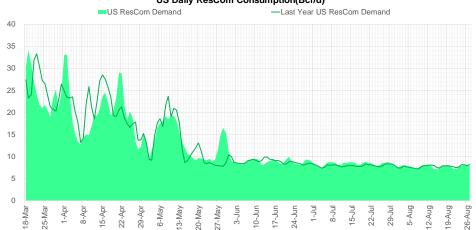
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



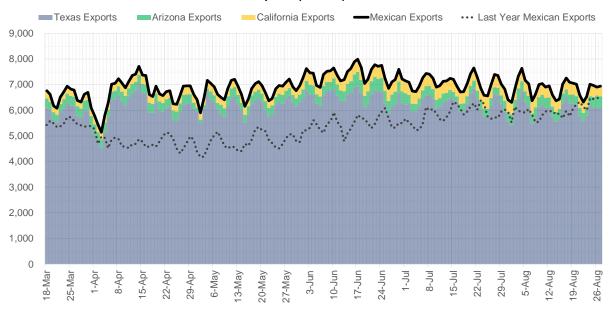
US Daily ResCom Consumption(Bcf/d)



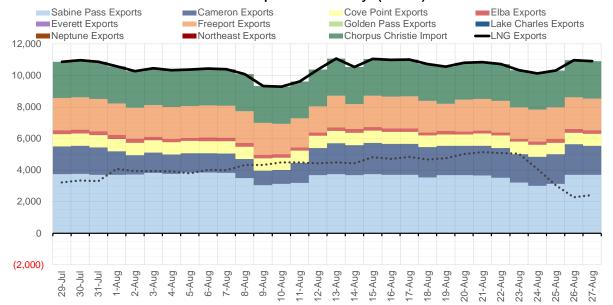
Source: Bloomberg



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

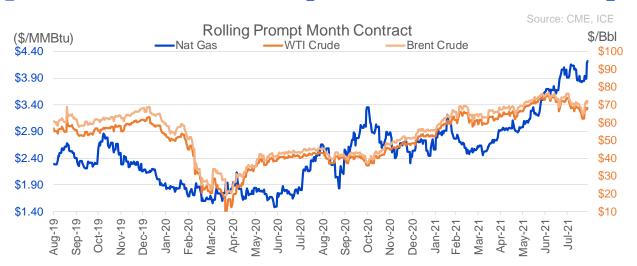
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL		CONTRACT MONTH			
10	2021	С	4.50	16504		10	10 2021	10 2021 C	10 2021 C 5.00
10	2021	Ċ	5.00	15823		10			
10	2021	P	3.50	14468		10	10 2021		
10	2021	Р	3.75	12332		10	10 2021	10 2021 C	10 2021 C 4.00
10	2021	Р	4.00	9861		12			
10	2021	C	4.25	9144		12			
9	2021	C	4.10	7171		10			
10	2021	P	3.60	6689		10			
12	2021	C	6.00	6530		10			
						9			
9	2021	С	4.15	6324		10			
12	2022	С	5.00	6155		10			
9	2021	С	4.20	6097					
10	2021	С	5.50	5865		10			
11	2021	Р	3.00	4920		9			
11	2021	С	4.25	4901		10			
10	2021	С	4.75	4872	9		2021		
10	2021	С	4.20	3587	10		2021		
11	2021	C	4.75	3572	11		2021		
11	2021	Č	4.50	3438	12		2021		
9	2021	Ċ	4.05	3419	9		2021		
11	2021	C	5.00	3160	11		2021	2021 C	2021 C 4.00
9	2021	Č	4.25	3120	12		2021	2021 C	2021 C 4.00
9 12		P	4.25		9		2021	2021 C	2021 C 3.50
	2021			2870	9		2021	2021 P	2021 P 3.00
9	2021	С	4.00	2537	9		2021		
9	2021	P	4.00	2527	9		2021		
10	2021	Р	3.90	2526	9		2021		
2	2022	С	4.00	2214	9		2021		
10	2021	Р	3.25	2118	10		2021		
4	2022	Р	2.50	2075	4		2021		
9	2021	Р	4.10	1988	9				
9	2021	Р	3.90	1949			2021		
12	2021	Р	3.50	1825	11		2021		
2	2022	C	5.00	1825	10		2021		
10	2021	P	3.70	1798	10		2021		
9	2021	C	3.70	1743	9		2021		
10	2021	C	3.90 4.40	1614	11		2021		
					10		2021		
10	2021	Р	3.65	1603	3		2022		
10	2021	P	4.10	1586	1		2022		
2	2022	C	6.00	1543	3		2022	2022 P	2022 P 2.50
10	2021	С	4.00	1502	10		2021	2021 P	2021 P 3.75
10	2021	Р	3.80	1497	9		2021	2021 P	2021 P 2.75
10	2021	С	4.60	1471	2		2022		
12	2021	Р	3.25	1461	9		2021		
12	2021	С	7.00	1383	3		2022		
9	2021	Č	4.30	1380	2		2022		
9	2021	P	3.95	1363	2 11		2022		
11	2021	P	3.75	1358					
					9		2021		
10	2021 2021	P C	3.30 4.10	1345 1242	3 11		2022 2021		
10									



Nat Gas Futures Open Interest

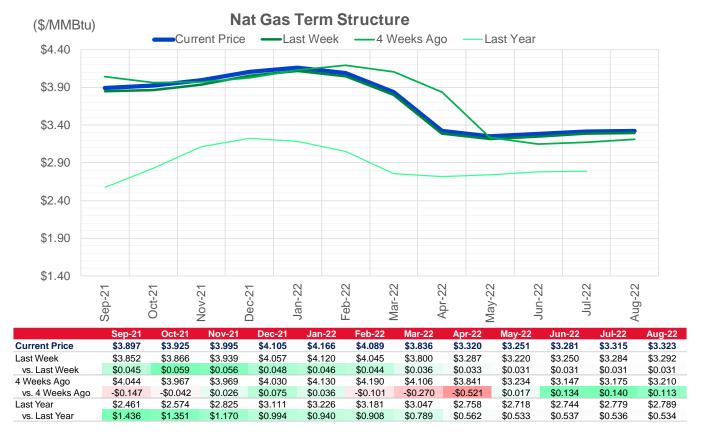
CME, and ICE Combined

CME Hanny Hub Futures (40,000 MMPtv)								
CIVIE Henry I	CME Henry Hub Futures (10,000 MMBtu)			ICE Henry Hub Futures Contract Equivalent (10,000 M				
055.01	Current	Prior	Daily Change	055.01	Current	Prior	Daily Change	
SEP 21	3208	13580	-10372	SEP 21	87967	86452	1515	
OCT 21	256451	244268	12183	OCT 21	114065	109241	4825	
NOV 21	199416	197239	2177	NOV 21	72493	71511	983	
DEC 21	87912	87035	877	DEC 21	76682	75931	752	
JAN 22	142485	145240	-2755	JAN 22	79026	78678	348	
FEB 22	56178	55558	620	FEB 22	67433	67288	145	
MAR 22	110105	107511	2594	MAR 22	71682	71951	-268	
APR 22	114569	111005	3564	APR 22	67527	67299	229	
MAY 22	105364	101697	3667	MAY 22	66969	66190	779	
JUN 22	32468	32343	125	JUN 22	51672	51067	605	
JUL 22	27495	27061	434	JUL 22	52122	51987	135	
AUG 22	27693	26100	1593	AUG 22	52732	52110	622	
SEP 22	29020	28027	993	SEP 22	52780	52145	635	
OCT 22	78402	72347	6055	OCT 22	59800	59480	319	
NOV 22	29778	29218	560	NOV 22	45904	45377	527	
DEC 22	24457	24216	241	DEC 22	49519	49124	395	
JAN 23	18792	18365	427	JAN 23	34271	34000	271	
FEB 23	6980	6570	410	FEB 23	28880	28710	170	
MAR 23	8974	8821	153	MAR 23	30678	30456	223	
APR 23	10807	10587	220	APR 23	26128	25739	389	
MAY 23	6529	6394	135	MAY 23	26973	26606	367	
JUN 23	5174	5162	12	JUN 23	25094	24786	308	
JUL 23	3937	3927	10	JUL 23	25077	24821	256	
AUG 23	3205	3187	18	AUG 23	24978	24722	256	
SEP 23	4139	4127	12	SEP 23	24294	24099	196	
OCT 23	4727	4708	19	OCT 23	26224	25932	293	
NOV 23	1730	1726	4	NOV 23	26001	25890	111	
DEC 23	1729	1709	20	DEC 23	24347	24225	122	
JAN 24	993	994	-1	JAN 24	13678	13599	79	
FEB 24	879	879	0	FEB 24	11476	11387	89	





Market Report



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	4.14	3.40	-0.74
TETCO M3	\$/MMBtu	3.90	3.06	-0.84
FGT Zone 3	\$/MMBtu	3.99	3.94	-0.05
Zone 6 NY	\$/MMBtu	3.99	2.99	-1.00
Chicago Citygate	\$/MMBtu	4.02	3.71	-0.31
Michcon	\$/MMBtu	3.94	3.67	-0.27
Columbia TCO Pool	\$/MMBtu	3.89	3.15	-0.74
Ventura	\$/MMBtu	3.91	3.64	-0.27
Rockies/Opal	\$/MMBtu	4.17	3.56	-0.61
El Paso Permian Basin	\$/MMBtu	3.86	3.59	-0.28
Socal Citygate	\$/MMBtu	7.10	5.05	-2.05
Malin	\$/MMBtu	4.28	3.91	-0.38
Houston Ship Channel	\$/MMBtu	4.09	3.83	-0.26
Henry Hub Cash	\$/MMBtu	4.06	3.63	-0.43
AECO Cash	C\$/GJ	3.31	2.89	-0.42
Station2 Cash	C\$/GJ	3.27	3.72	0.45
Dawn Cash	C\$/GJ	3.93	3.68	-0.25

Source: CME, Bloomberg



					W	s. 4 Weeks		
	Units	Current Price	VC	Last Week			Ve	s. Last Year
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NatGas Jul21/Oct21	\$/MMBtu	0.594		0.367		0.151		0.573
NatGas Oct21/Nov21	\$/MMBtu	0.050		-0.015	•	-0.009		0.002
NatGas Oct21/Jan22	\$/MMBtu	0.208		-0.029	•	-0.008		-0.070
NatGas Apr22/Oct22	\$/MMBtu	0.001		-0.016		0.019		-0.030
WTI Crude	\$/Bbl	67.42		3.730	•	-6.200		24.380
Brent Crude	\$/Bbl	71.07		4.620	\blacksquare	-4.980		25.980
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	208.32		11.420	\blacksquare	-10.620		87.250
Propane, Mt. Bel	cents/Gallon	1.11		-0.002		0.016		0.605
Ethane, Mt. Bel	cents/Gallon	0.33		-0.002		0.020		0.093
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						



