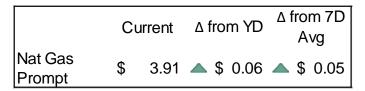


Market Report

23 August 2021



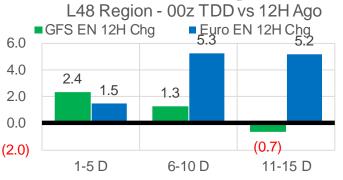
	С	urrent	Δf	ro	m YD	Δ from 7D Avg		
WTI Prompt	\$	64.12		\$	1.80	- \$	(0.2)	

	Current	Δ from YD	Δ fron Αν	
Brent Prompt	\$ 67.28	\$ 2.10	\$	0.3

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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 5.2 4.2 5.0 1.5 1.3 0.0 (1.2)(5.0)(3.0)1-5 D 6-10 D 11-15 D

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	92.0	▼ -0.82	▼ -0.68

n /D g		Current	Δ from YD	Δ from 7D Avg
.68	US Power Burns	40.8	1 .92	0.77

	Current	Δ from YD	Δ from 7D Avg		
US ResComm	7.6	a 0.30	- 0.03		

	Current	Δ from YD	Δ from 7D Avg		
Canadian Imports	5.0	a 0.07	▼ -0.13		

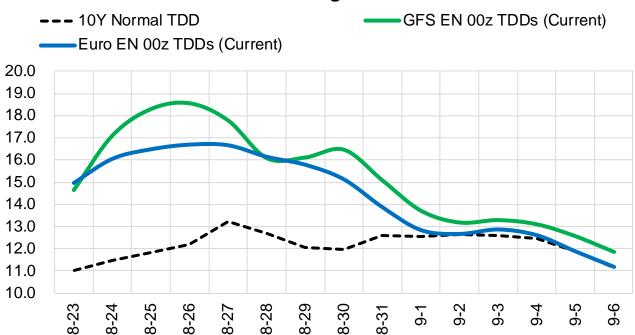
	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.5	▼ -0.25	▼ -0.34

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.6	a 0.29	▼ -0.33

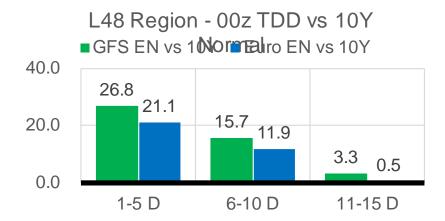


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	DoD	vs. 7D
Lower 48 Dry Production	92.5	92.5	93.2	92.8	92.8	92.8	92.0	▼-0.8	▼-0.8
Canadian Imports	5.0	5.3	5.3	5.3	5.1	4.9	5.0	0.1	▼ -0.2
L48 Power	39.4	41.5	42.1	40.8	39.0	38.9	40.8	1.9	0.5
L48 Residential & Commercial	7.7	7.9	8.1	7.7	7.4	7.3	7.6	0.3	▼ -0.1
L48 Industrial	20.0	20.1	20.3	20.2	20.2	20.3	20.2	▼-0.1	0.0
L48 Lease and Plant Fuel	5.1	5.1	5.2	5.1	5.1	5.1	5.1	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.3	2.4	2.4	2.4	2.2	2.2	2.3	0.1	0.0
L48 Regional Gas Consumption	74.5	77.0	78.1	76.3	73.9	73.8	76.1	2.2	0.4
Net LNG Delivered	11.02	10.72	10.55	10.81	10.85	10.72	10.47	▼-0.3	▼ -0.3
Total Mexican Exports	7.4	7.2	7.2	7.0	6.6	6.3	6.6	0.3	▼ -0.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	4.5	2.8	2.7	4.0	6.5	6.8	3.8		

EIA Storage Week Balances

	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	WoW	vs. 4W
Lower 48 Dry Production	92.5	92.6	92.6	92.0	92.4	92.4	▼ 0.0	▲ 0.0
Canadian Imports	5.2	4.9	5.5	5.1	5.2	5.0	▼-0.1	▼-0.1
L48 Power	38.7	39.7	42.1	38.4	41.1	39.6	▼ -1.5	▼-0.7
L48 Residential & Commercial	8.4	8.4	8.3	7.8	7.7	7.6	▼ -0.1	▼-0.5
L48 Industrial	19.6	19.7	20.7	20.3	20.0	20.0	0.0	▼ -0.2
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.3	2.4	2.2	2.4	2.3	▼ -0.1	▼ 0.0
L48 Regional Gas Consumption	74.1	75.2	78.7	73.8	76.2	74.6	▼-1.6	▼-1.4
Net LNG Exports	10.8	10.5	10.8	10.6	9.9	10.9	0.9	0.4
Total Mexican Exports	7.1	7.1	7.0	6.9	6.8	6.9	▲ 0.0	▼-0.1
Implied Daily Storage Activity	5.6	4.6	1.7	5.7	4.6	5.1	0.5	
EIA Reported Daily Storage Activity	7.0	5.1	1.9	7.0	6.6			
Daily Model Error	-1.4	-0.5	-0.2	-1.3	-2.0			

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	▼ -0.1	0.0
L48 Power	38.1	38.1	24.9	26.6	35.3	39.4	39.7	0.3	1.6
L48 Residential & Commercial	7.8	7.8	19.5	13.2	8.8	8.3	7.6	▼ -0.7	▼ -0.1
L48 Industrial	21.6	21.6	21.2	20.3	20.8	19.9	20.1	0.1	▼ -1.5
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	0.0	0.1
L48 Regional Gas Consumption	74.4	74.4	73.0	67.2	72.3	75.0	74.8	▼ -0.2	0.5
Net LNG Exports	3.3	3.3	11.5	10.8	10.2	10.8	10.5	▼-0.4	▲ 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 Daily Model Error	7.4	7.4	5.7	12.4	8.0	4.6	5.2		



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	DoD	vs. 7D
NRC Nuclear Daily Output	92.3	92.3	92.6	92.8	91.5	91.4	91.4	0.0	-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	12.6	12.6	12.3	12.0	13.4	13.4	13.4	0.0	0.7
NRC % Nuclear Cap Utilization	93.9	93.9	94.2	94.4	93.0	93.0	93.0	0.0	-0.7

Wind Generation Daily Average - MWh (EIA)

	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	DoD	vs. 7D
CALI Wind	2623	3042	3553	3565	2675	1414	2441	1026	-371
TEXAS Wind	2507	5411	5691	9772	14683	15088	13159	-1929	4300
US Wind	27068	31339	31829	31824	32643	48112	40796	-7316	6994

Generation Daily Average - MWh (EIA)

	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	DoD	vs. 7D
US Wind	27068	31339	31829	31824	32643	48112	40796	-7316	6994
US Solar	12031	11810	12041	13109	13229	13057	13406	349	860
US Petroleum	3268	3873	4700	4855	5400	4719	4035	-685	-434
US Other	8966	9168	10040	10604	10430	9671	9282	-389	-531
US Coal	128424	133603	136336	136612	137970	131327	125307	-6021	-8739
US Nuke	94943	95017	95330	95548	95254	94039	94014	-25	-1008
US Hydro	24823	27865	28238	31305	32151	32434	30021	-2413	552
US Gas	184076	208222	210007	218896	222791	214169	193094	-21075	-16600

See National Wind and Nuclear daily charts



Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	13-Aug	20-Aug	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	91.5	92.4	0.8	-0.1
NRC Nuclear Max Capacity	104.9	104.9	0.0	
NRC Nuclear Outage	13.3	12.5	-0.8	
NRC % Nuclear Cap Utilization	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (EIA)

	13-Aug	20-Aug	WoW	WoW Bcf/d Impact
CALI Wind	2507	3210	703	-0.1
TEXAS Wind	16319	7171	-9147	1.5
US Wind	49585	29141	-20443	3.4

Generation Weekly Average - MWh (EIA)

	13-Aug	20-Aug	WoW	WoW Bcf/d Impact
US Wind	49585	29141	-20443	3.4
US Solar	14385	12580	-1804	0.3
US Petroleum	4709	4466	-243	0.0
US Other	10066	9924	-142	0.0
US Coal	140522	138048	-2474	0.4
US Nuke	94283	95157	874	-0.1
US Hydro	27022	28982	1960	-0.3
US Gas	208196	211875	3679	

See National Wind and Nuclear daily charts



Monthly Average Generation Data

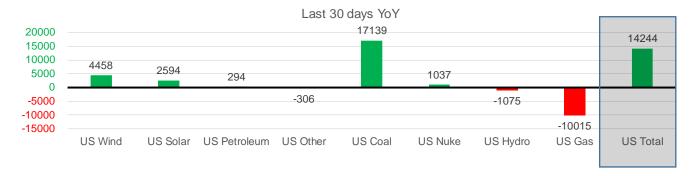
Nuclear Generation Monthly	Nuclear Generation Monthly Average - GWh (NRC)												
	2Yr Ago	LY				MTD							
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY				
NRC Nuclear Daily Output	94.4	90.7	81.8	88.7	90.0	91.6	91.2	1.6	0.5				
NRC Nuclear 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	14.2	23.1	16.2	14.9	13.3	13.7	-1.6	-0.5				
NRC % Nuclear Cap Utilization	96.0	92.2	83.2	90.2	91.5	93.2	92.7	1.6	0.5				

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	2286	3402	2913	2338	2647	2446	308	161
TEXAS Wind	8058	8661	12259	9675	7217	10586	9436	3369	775
US Wind	25753	29103	46083	37299	29105	35924	33561	6819	4458

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
US Wind	25753	29103	46083	37299	29105	35924	33561	▼-2363.2	4458
US Solar	9251	11096	14489	14564	14195	13585	13690	105.4	2594
US Petroleum	5162	4172	3012	4150	4233	4401	4466	6 4	294
US Other	9346	9891	7439	8161	9324	9682	9585	▼ -97	▼ -306
US Coal	127112	121256	86419	121357	137228	135511	138395	2884	17139
US Nuke	100660	92919	85517	92175	92897	94348	93956	▼ -392	1037
US Hydro	32564	29576	30681	32578	29939	28368	28500	133	▼ -1075
US Gas	221510	220982	139478	188815	207785	205857	210967	334	▼-10015
US Total	532668	518835	413549	499469	524889	527710	533080	3032	14244



See National Wind and Nuclear daily charts



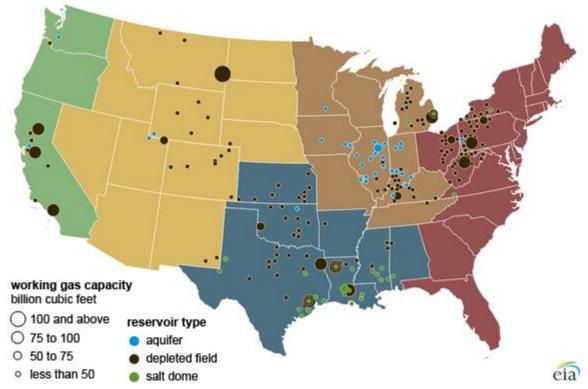
Regional S/D Models Storage Projection

Week Ending 20-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	4.8	1.7	6.5	46
East	2.0	1.2	3.2	22
Midwest	3.8	-0.2	3.6	25
Mountain	4.0	-4.0	0.0	0
South Central	-5.4	4.9	-0.5	-3
Pacific	0.4	-0.2	0.2	1

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

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



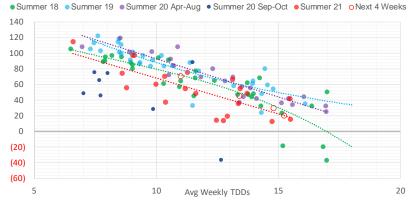


Weather Model Storage Projection

Next report and beyond

Week Ending	GWDDs	Week Storage Projection
20-Aug	13.4	46
27-Aug	15.3	20
03-Sep	14.8	30
10-Sep	11.0	70

Weather Storage Model - Next 4 Week Forecast



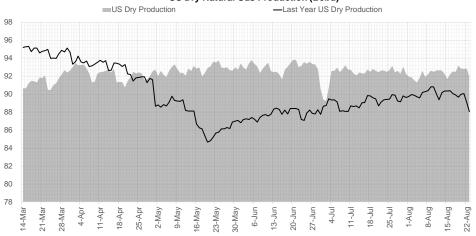
Go to larger image



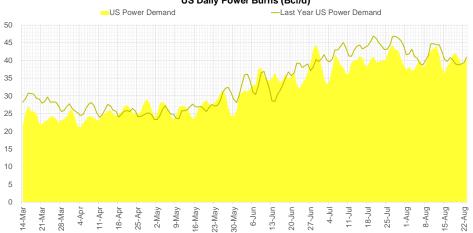


Supply - Demand Trends

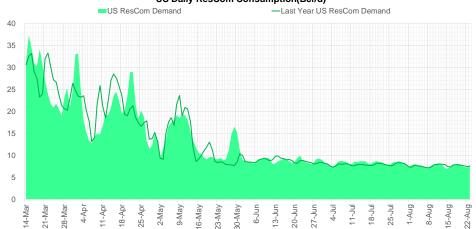
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



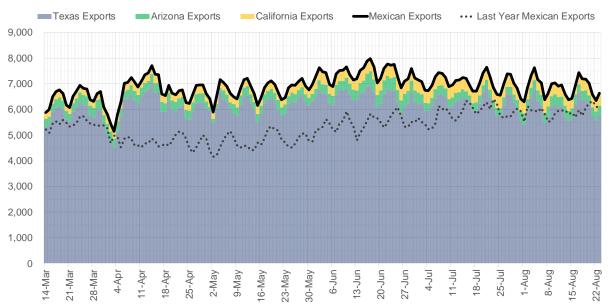
US Daily ResCom Consumption(Bcf/d)



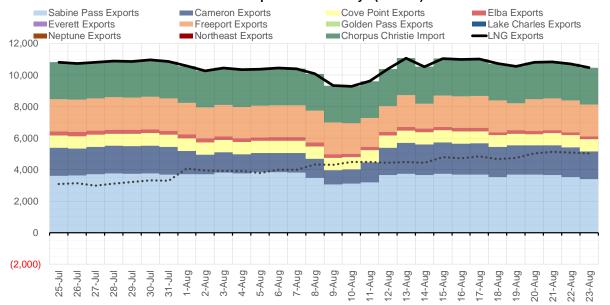
Source: Bloomberg



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

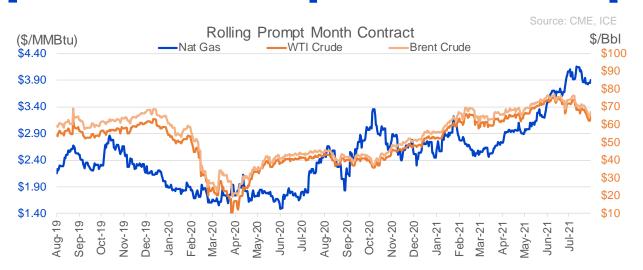
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL		CONTRACT MONTH		BIT/CALL	DIT/CALL STDIZE
10	2021	С	4.50	11233		10	10 2021	10 2021 C	10 2021 C 5.00
10	2021	C	4.00	9122		12			
10	2021	P	3.50	8452		10	10 2021	10 2021 C	10 2021 C 4.00
9	2021	P	3.75	7700		10	10 2021	10 2021 P	10 2021 P 3.50
10	2021	C	4.40	6837		12			
9	2021	Č	3.90	5840		10			
9	2021	P	3.70	5813		10			
9 10	2021	C	4.25	4845		10			
9	2021	C	4.25	4645 4796		9			
10		P				10			
	2021		3.75	3958		10			
9	2021	С	4.05	3890		10			
9	2021	Р	3.80	3617		9			
11	2021	С	5.00	2995		10			
11	2021	С	4.50	2713					
10	2021	С	3.90	2630		10			
9	2021	Р	3.90	2629	9 10		2021		
9	2021	Р	3.65	2450			2021		
11	2021	С	6.00	2277	12		2021		
4	2023	С	5.00	2200	9		2021		
5	2023	С	5.00	2200	11		2021		
6	2023	С	5.00	2200	11		2021		
7	2023	C	5.00	2200	9		2021		
8	2023	Ċ	5.00	2200	9		2021		
9	2023	Ċ	5.00	2200	12		2021		
10	2023	Č	5.00	2200	9		2021		
9	2021	Č	4.15	2185	9		2021		
10	2022	Č	4.00	2100	9		2021		
9	2022	C	4.00	2089	9		2021		
9		C			10		2021		
	2021		3.80	2059	4		2022		
10	2021	С	5.00	1959	9		2021	2021 C	2021 C 3.25
3	2022	P	3.00	1940	10		2021	2021 C	2021 C 3.00
3	2022	С	5.25	1830	9		2021	2021 C	2021 C 3.90
9	2021	C	4.20	1818	11		2021	2021 C	2021 C 5.00
1	2022	P	3.50	1605	9		2021	2021 C	2021 C 4.50
11	2021	Р	3.50	1600	10		2021	2021 C	2021 C 3.75
9	2021	С	4.25	1564	10		2021		
1	2022	Р	3.25	1550	1		2022		
11	2021	С	4.00	1402	11		021		
1	2022	Р	3.00	1375	9	202			
3	2022	Р	3.50	1370	9	2021		P	
1	2022	Р	4.15	1355	3	2021		C	
1	2023	C	4.00	1350	3	2022		P	
2	2023	Č	4.00	1350	2	2022		C	
3	2023	Č	4.00	1350	2 11	2022		C	
3	2022	P	3.75	1250	11 2				
ა 11		C	4.00			2022		С	
	2022	C		1250	11	2021		С	
12	2022		4.00	1250	3	2022		С	
10 11	2021 2021	C C	4.75 5.50	1149 1106	11 3	2021		P C	
						2022			



Nat Gas Futures Open Interest

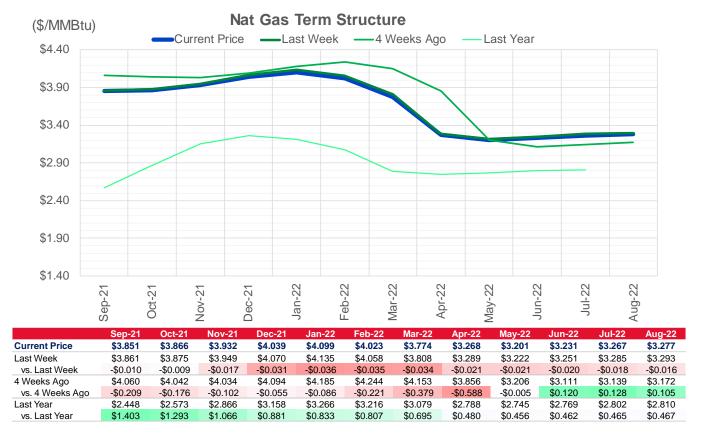
CME, and ICE Combined

CME Henry	Hub Futures (1)	0,000 MMBt	J)	ICE Henry H	Hub Futures Con	tract Equiva	lent (10,000 MM
	Current	Prior	Daily Change		Current	Prior	Daily Change
SEP 21	53902	70897	-16995	SEP 21	85072	84957	115
OCT 21	231580	228219	3361	OCT 21	107682	107367	315
NOV 21	194653	194629	24	NOV 21	70780	70040	740
DEC 21	86462	84416	2046	DEC 21	75713	75711	3
JAN 22	140645	140182	463	JAN 22	78155	79210	-1055
FEB 22	55714	55204	510	FEB 22	68285	68410	-125
MAR 22	105003	104066	937	MAR 22	73014	73015	-1
APR 22	110293	111455	-1162	APR 22	68435	68363	72
MAY 22	100970	100925	45	MAY 22	66778	66978	-201
JUN 22	31496	31464	32	JUN 22	51821	52004	-183
JUL 22	26861	26885	-24	JUL 22	53429	53457	-29
AUG 22	25354	25241	113	AUG 22	53038	53197	-160
SEP 22	26955	26851	104	SEP 22	52951	53164	-213
OCT 22	70064	68885	1179	OCT 22	60790	60688	103
NOV 22	28050	28022	28	NOV 22	46481	46898	-417
DEC 22	24612	24935	-323	DEC 22	50347	50344	3
JAN 23	18037	18398	-361	JAN 23	33492	33430	62
FEB 23	6420	6436	-16	FEB 23	28232	28196	35
MAR 23	8799	9027	-228	MAR 23	30187	30016	171
APR 23	11223	11015	208	APR 23	25021	24921	101
MAY 23	6365	6366	-1	MAY 23	26066	25962	104
JUN 23	5133	5128	5	JUN 23	24272	24171	101
JUL 23	3898	3904	-6	JUL 23	24292	24189	103
AUG 23	3163	3162	1	AUG 23	24165	24061	104
SEP 23	4097	4096	1	SEP 23	23606	23505	101
OCT 23	4711	4710	1	OCT 23	25398	25286	112
NOV 23	1722	1722	0	NOV 23	25642	25564	78
DEC 23	1808	1766	42	DEC 23	23955	23874	81
JAN 24	994	989	5	JAN 24	13560	13239	321
FEB 24	874	879	-5	FEB 24	11249	11242	7





Market Report



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.85	3.17	-0.68
TETCO M3	\$/MMBtu	3.69	2.91	-0.78
FGT Zone 3	\$/MMBtu	3.73	3.92	0.19
Zone 6 NY	\$/MMBtu	3.73	2.87	-0.87
Chicago Citygate	\$/MMBtu	3.76	3.70	-0.06
Michcon	\$/MMBtu	3.76	3.68	-0.08
Columbia TCO Pool	\$/MMBtu	3.64	3.06	-0.58
Ventura	\$/MMBtu	3.67	3.63	-0.04
Rockies/Opal	\$/MMBtu	3.52	3.55	0.03
El Paso Permian Basin	\$/MMBtu	3.49	3.61	0.12
Socal Citygate	\$/MMBtu	4.15	4.48	0.33
Malin	\$/MMBtu	3.94	3.83	-0.11
Houston Ship Channel	\$/MMBtu	3.89	3.81	-0.08
Henry Hub Cash	\$/MMBtu	3.94	3.61	-0.33
AECO Cash	C\$/GJ	1.59	2.58	0.99
Station2 Cash	C\$/GJ	1.49	3.71	2.22
Dawn Cash	C\$/GJ	3.78	3.66	-0.12

Source: CME, Bloomberg



		vs. 4 Weeks			
	Units	Current Price	vs. Last Week	Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.249	-0.009	- 0.168	0.234
NatGas Oct21/Nov21	\$/MMBtu	0.066	-0.008	0.006	a 0.018
NatGas Oct21/Jan22	\$/MMBtu	0.233	- 0.027	0.023	- 0.038
NatGas Apr22/Oct22	\$/MMBtu	0.019	0.007	0.049	- 0.018
WTI Crude	\$/Bbl	62.32	▼ -6.120	- 9.750	1 9.980
Brent Crude	\$/Bbl	65.18	- 5.410	▼ -8.920	2 0.830
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	0.000	0.000	0.000
Heating Oil	cents/Gallon	190.82	- 16.970	-22.570	~ 70.020
Propane, Mt. Bel	cents/Gallon	1.10	- 0.026	0.006	0.594
Ethane, Mt. Bel	cents/Gallon	0.34	-0.001	0.024	0.092
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			





