

Market Report

4 August 2020

	Cı	ırrent	Δf	ron	n YD	Δf	m 7D vg
Nat Gas Prompt	\$	2.15	<u> </u>	\$	0.05	_	\$ 0.29

	C	urrent	Δ from YD	Δ froi	m 7D vg
WTI Prompt	\$	40.30	\$ (0.71)	~ \$	(0.3)

	Cu	irrent	Δ from YD		m 7D va
Brent Prompt	\$	43.40	\$ (0.75)	▼ \$	(0.0)

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00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	2.0	1.4	1.7	5.1
24 Hr Chg	1.3	1.1	0.2	2.5
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day 2.5	6-10 Day 1.1	11-15 Day 3.0	Total 6.5

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	84.6	▼ -1.24	▼ -1.21

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.9	▼ -0.05	▼ -0.06

	Current	Δf	rom YD	Δf	Δ from 7D Avg		
Net LNG Exports	4.0		0.04	_	0.41		

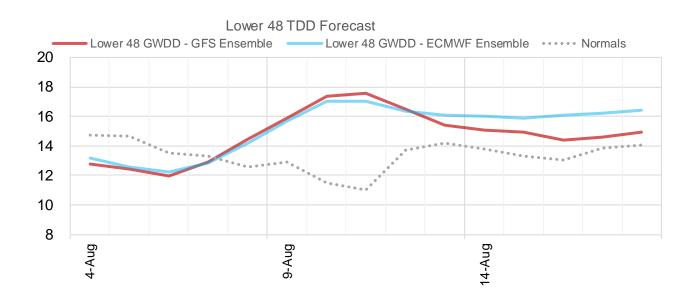
	Current	Δ from YD	Δ from 7D Avg
US Power Burns	40.2	▼ -2.64	▼ -4.06

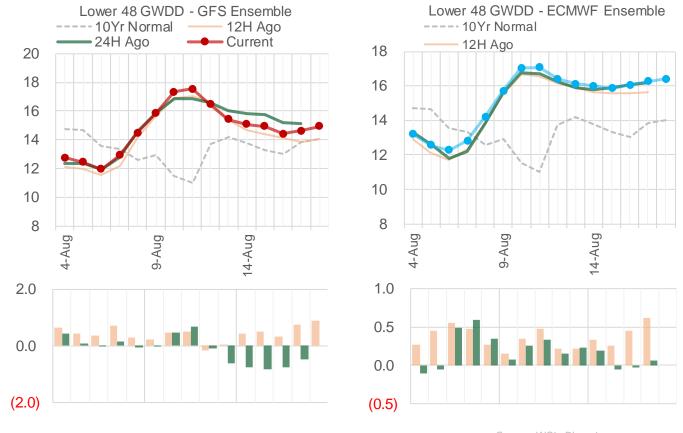
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.8	0.02	a 0.02

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.2	▼ -0.29	▼ -0.02



Short-term Weather Model Outlooks (00z)





Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug	DoD	vs.7D
Lower 48 Dry Production	85.5	86.0	85.9	85.9	86.1	85.8	84.6	▼ -1.2	▼ -1.3
Canadian Imports	4.8	4.9	4.6	4.6	4.6	4.8	4.8	△ 0.0	△ 0.1
L48 Power	46.6	46.2	44.4	40.7	40.4	42.8	40.2	▼ -2.6	▼ -3.4
L48 Residential & Commercial	8.4	8.3	7.9	7.4	7.5	8.0	7.9	▼ 0.0	a 0.0
L48 Industrial	17.1	17.2	17.2	17.3	17.5	17.7	17.8	△ 0.1	a 0.5
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	4.7	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.5	2.5	2.4	2.2	2.2	2.3	2.2	▼ -0.1	▼ -0.1
L48 Regional Gas Consumption	79.3	79.1	76.7	72.5	72.4	75.6	72.9	▽ -2.8	▼ -3.1
Net LNG Exports	3.2	3.3	3.3	4.1	3.9	3.9	4.0	▲ 0.0	△ 0.3
Total Mexican Exports	6.1	6.3	6.5	6.0	5.8	6.5	6.2	▽ -0.3	▼ 0.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	1.6	2.3	4.1	7.9	8.5	4.6	6.4		

EIA Storage Week Balances

	26-Jun	3-Jul	10-Jul	17-Jul	24-Jul	31-Jul	WoW	vs. 4W
Lower 48 Dry Production	84.7	84.9	85.3	85.2	85.9	85.9	▽ 0.0	△ 0.6
Canadian Imports	4.2	4.1	4.3	4.5	4.4	4.5	△ 0.1	△ 0.2
L48 Power	37.1	38.5	41.8	42.9	45.5	45.6	0.1	▲ 3.4
L48 Residential & Commercial	8.3	8.2	7.9	7.9	8.1	8.1	△ 0.1	△ 0.1
L48 Industrial	18.0	18.7	17.9	17.5	16.8	16.9	a 0.0	▼ -0.9
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▼ 0.0	0.0
L48 Pipeline Distribution	2.2	2.2	2.3	2.3	2.4	2.4	a 0.0	0.1
L48 Regional Gas Consumption	70.4	72.3	74.6	75.4	77.6	77.8	△ 0.2	2.8
Net LNG Exports	4.0	4.0	3.0	3.3	3.6	3.1	▽ -0.5	▼ -0.4
Total Mexican Exports	5.9	5.8	5.9	6.2	6.4	6.2	▽ -0.2	△ 0.1
Implied Daily Storage Activity	8.5	6.9	6.0	4.8	2.7	3.3	0.6	
EIA Reported Daily Storage Activity	9.3	8.0	6.4	5.3	3.7			
Daily Model Error	-0.8	-1.1	-0.4	-0.5	-1.0			

Monthly Balances

2Yr Ago	LY					MTD		
Aug-18	Aug-19	Apr-20	May-20	Jun-20	Jul-20	Aug-20	MoM	vs. LY
83.3	92.4	91.7	86.0	84.8	85.6	85.6	▲ 0.0	▼ -6.8
5.0	4.4	3.9	3.9	4.0	4.4	4.7	0.3	△ 0.3
38.2	41.0	25.5	26.9	34.4	43.7	41.0	▼ -2.7	△ 0.0
7.8	7.8	20.4	13.0	8.6	8.0	7.7	▼ -0.3	▼ -0.1
20.3	21.9	20.7	18.7	18.2	17.4	17.6	△ 0.2	▼ -4.3
4.7	5.1	5.1	4.8	4.8	4.8	4.8	▼ 0.0	▼ -0.4
2.1	2.3	2.1	1.9	2.1	2.3	2.3	▼ -0.1	▼ 0.0
73.1	78.1	73.8	65.4	68.1	76.2	73.4	▽ -2.8	▼ -4.8
3.3	5.2	8.2	6.7	4.0	3.3	4.0	△ 0.7	▼ -1.2
5.0	5.4	4.9	4.9	5.7	6.1	6.1	▽ 0.0	△ 0.7
6.9	8.1	8.7	12.9	11.0	4.4	6.8		
	Aug-18 83.3 5.0 38.2 7.8 20.3 4.7 2.1 73.1 3.3 5.0	Aug-18 Aug-19 83.3 92.4 5.0 4.4 38.2 41.0 7.8 7.8 20.3 21.9 4.7 5.1 2.1 2.3 73.1 78.1 3.3 5.2 5.0 5.4	Aug-18 Aug-19 Apr-20 83.3 92.4 91.7 5.0 4.4 3.9 38.2 41.0 25.5 7.8 7.8 20.4 20.3 21.9 20.7 4.7 5.1 5.1 2.1 2.3 2.1 73.1 78.1 73.8 3.3 5.2 8.2 5.0 5.4 4.9	Aug-18 Aug-19 Apr-20 May-20 83.3 92.4 91.7 86.0 5.0 4.4 3.9 3.9 38.2 41.0 25.5 26.9 7.8 7.8 20.4 13.0 20.3 21.9 20.7 18.7 4.7 5.1 5.1 4.8 2.1 2.3 2.1 1.9 73.1 78.1 73.8 65.4 3.3 5.2 8.2 6.7 5.0 5.4 4.9 4.9	Aug-18 Aug-19 Apr-20 May-20 Jun-20 83.3 92.4 91.7 86.0 84.8 5.0 4.4 3.9 3.9 4.0 38.2 41.0 25.5 26.9 34.4 7.8 7.8 20.4 13.0 8.6 20.3 21.9 20.7 18.7 18.2 4.7 5.1 5.1 4.8 4.8 2.1 2.3 2.1 1.9 2.1 73.1 78.1 73.8 65.4 68.1 3.3 5.2 8.2 6.7 4.0 5.0 5.4 4.9 4.9 5.7	Aug-18 Aug-19 Apr-20 May-20 Jun-20 Jul-20 83.3 92.4 91.7 86.0 84.8 85.6 5.0 4.4 3.9 3.9 4.0 4.4 38.2 41.0 25.5 26.9 34.4 43.7 7.8 7.8 20.4 13.0 8.6 8.0 20.3 21.9 20.7 18.7 18.2 17.4 4.7 5.1 5.1 4.8 4.8 4.8 2.1 2.3 2.1 1.9 2.1 2.3 73.1 78.1 73.8 65.4 68.1 76.2 3.3 5.2 8.2 6.7 4.0 3.3 5.0 5.4 4.9 4.9 5.7 6.1	Aug-18 Aug-19 Apr-20 May-20 Jun-20 Jul-20 Aug-20 83.3 92.4 91.7 86.0 84.8 85.6 85.6 5.0 4.4 3.9 3.9 4.0 4.4 4.7 38.2 41.0 25.5 26.9 34.4 43.7 41.0 7.8 7.8 20.4 13.0 8.6 8.0 7.7 20.3 21.9 20.7 18.7 18.2 17.4 17.6 4.7 5.1 5.1 4.8 4.8 4.8 4.8 2.1 2.3 2.1 1.9 2.1 2.3 2.3 73.1 78.1 73.8 65.4 68.1 76.2 73.4 3.3 5.2 8.2 6.7 4.0 3.3 4.0 5.0 5.4 4.9 4.9 5.7 6.1 6.1	Aug-18 Aug-19 Apr-20 May-20 Jun-20 Jul-20 Aug-20 MoM 83.3 92.4 91.7 86.0 84.8 85.6 85.6 △ 0.0 5.0 4.4 3.9 3.9 4.0 4.4 4.7 △ 0.3 38.2 41.0 25.5 26.9 34.4 43.7 41.0 ▽ -2.7 7.8 7.8 20.4 13.0 8.6 8.0 7.7 ▽ -0.3 20.3 21.9 20.7 18.7 18.2 17.4 17.6 △ 0.2 4.7 5.1 5.1 4.8 4.8 4.8 4.8 ♥ -0.1 2.1 2.3 2.1 1.9 2.1 2.3 2.3 ▽ -0.1 73.1 78.1 73.8 65.4 68.1 76.2 73.4 ▽ -2.8 3.3 5.2 8.2 6.7 4.0 3.3 4.0 △ 0.7 5.0 5.4 4.9 4.9

Source: Bloomberg, analytix.ai



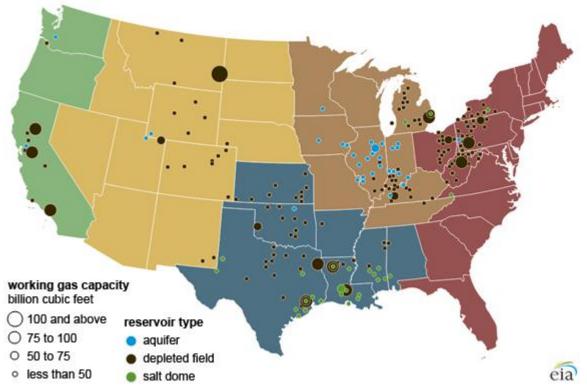
Regional S/D Models Storage Projection

Week Ending 31-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.0	1.1	4.1	29
East	-1.2	2.4	1.2	8
Midwest	2.4	-0.5	1.8	13
Mountain	3.0	-2.3	0.7	5
South Central	-1.8	1.9	0.2	1
Pacific	0.6	-0.5	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 Storage									
Week Ending	Projection									
7-Aug	68									
14-Aug	46									
21-Aug	59									

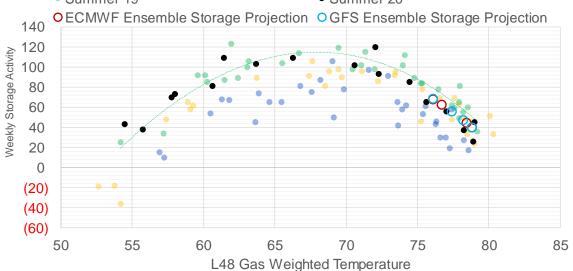
Weather Storage Model - Next 4 Week Forecast

Summer 17

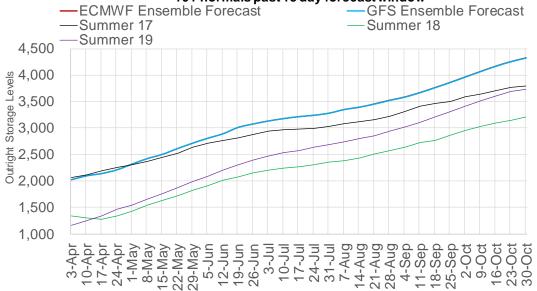
Summer 18

Summer 19

• Summer 20



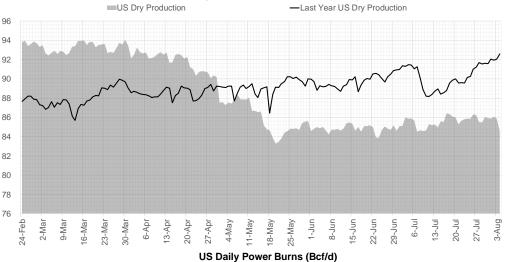
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window



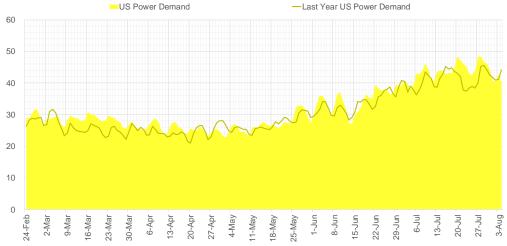


Supply - Demand Trends

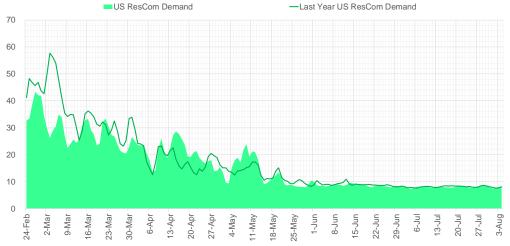
US Dry Natural Gas Production (Bcf/d)



Last Year US Power Demand



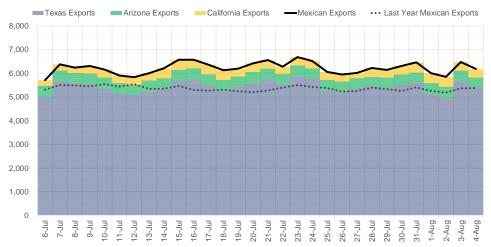
US Daily ResCom Consumption(Bcf/d)



Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d) Sabine Pass Exports Cove Point Exports Elba Exports Cameron Exports Everett Exports Freeport Exports Golden Pass Exports Lake Charles Exports Neptune Exports Northeast Exports Chorpus Christie Import LNG Exports 7.000 6.000 5,000 4,000 3,000 2,000 1,000 n (1,000)

Source: Bloomberg



Market Report

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

			<u>'</u>		<u> </u>				
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
10	2020	Р	1.50	11954	10	2020	С	2.75	50335
9	2020	P	1.80	10299	10	2020	Р	1.50	48859
9	2020	P	1.75	8692	10	2020	С	2.50	44677
10	2020	Р	1.75	7698	3	2021	Р	2.00	35530
10	2020	C	2.50	7122	10	2020	Р	1.60	34734
9	2020	P	1.50	6641	10	2020	С	3.00	32243
9	2020	Ċ	2.25	5892	9	2020	P	1.50	31418
9	2020	P	2.00	4580	9	2020	С	2.50	31300
9	2020	Р	1.70	4420	10	2020	P	2.00	30671
9	2020	Ċ	2.50	4309	10	2020	Р	1.25	28854
9	2020	Č	2.00	4071	9	2020	Р	1.75	25918
10	2020	C	3.00	3929	3	2021	С	6.00	25504
10	2020	P	1.25	3676	10	2020	P	1.75	25081
10	2020	P	1.70	3628	10	2020	Р	1.00	25015
9	2020	C	2.05	3387	9	2020	С	3.00	24614
12	2020	C			9	2020	P	1.00	24078
			3.25	3336	9	2020	С	2.00	23105
10	2020 2020	C C	2.75 2.75	3175 3153	9	2020	Р	1.20	22709
11		P			10	2020	С	2.10	22681
9	2020		1.65	3031	3	2021	C	3.00	22579
9	2020	С	2.40	2771	12	2020	P	1.50	20053
11	2020	С	3.00	2622	9	2020	Р	1.25	19990
9	2020	P	1.90	2516	9	2020	Р	1.30	19460
10	2020	P	1.90	2426	10	2020	Р	1.30	19127
9	2020	С	2.75	2361	3	2021	С	3.50	19045
9	2020	P	1.60	2275	9	2020	С	2.75	18773
9	2020	P	1.85	2251	10	2020	С	2.00	18577
9	2020	P	1.95	2228	1	2021	С	3.50	18459
9	2020	С	2.30	2147	10	2020	Р	2.10	18284
12	2020	С	3.00	2102	10	2020	С	3.25	18198
10	2020	C	2.25	2057	10	2020	С	2.25	17776
10	2020	Р	1.00	2036	1	2021	С	3.00	17410
9	2020	C	2.10	1905	9	2020	С	2.25	17219
10	2020	C	2.30	1864	12	2020	Р	2.00	16942
10	2020	P	2.10	1846	10	2020	С	2.40	16443
9	2020	C	1.90	1828	11	2020	Р	1.75	15834
10	2020	P	1.80	1822	4	2021	С	3.00	15512
9	2020	С	2.20	1595	9	2020	Р	2.00	14176
10	2020	Р	0.50	1512	11	2020	С	3.50	14004
10	2020	Р	2.00	1490	1	2021	С	3.75	13710
10	2020	Р	1.60	1471	1	2021	С	4.50	13157
9	2020	Р	1.40	1388	10	2020	С	2.20	13135
9	2020	C	2.60	1368	10	2020	Р	1.40	13062
10	2020	С	2.60	1319	9	2020	С	3.25	12912
11	2020	Р	1.80	1306	10	2020	С	3.50	12827
9	2020	С	2.15	1290	4	2021	Р	2.00	12724
9	2020	С	3.00	1290	1	2021	Р	2.50	12559
11	2020	С	3.25	1252	10	2021	С	3.00	12550
9	2020	Р	1.25	1193	5	2021	С	3.00	12411
9	2020	Р	2.05	1133	10	2020	Р	1.2	12393

Source: CME, Nasdaq, ICE



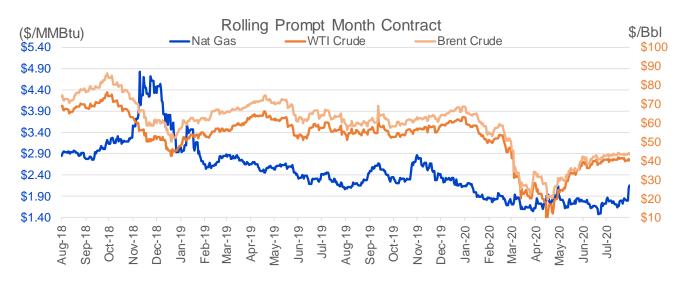


Nat Gas Futures Open Interest

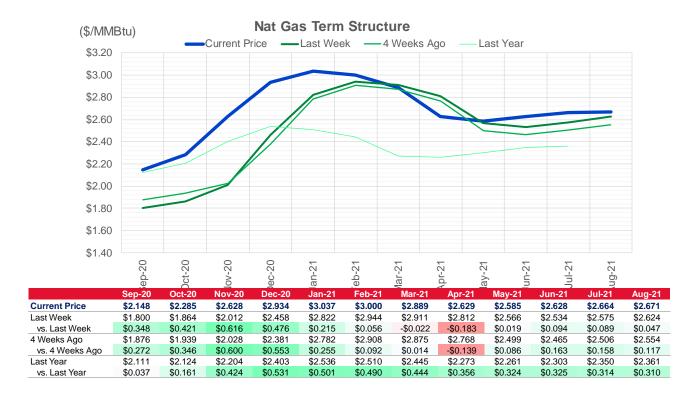
CME.	and	ICE	Com	hined
CIVIL.	anu		COIII	DILLEG

CME Henry I	Hub Futures (1		u)		Futures Co	ntract Equiva	lent (10,000 MM
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
SEP 20	348842	347143	1699	SEP 20	74622	79603	-4981
OCT 20	146444	149951	-3507	OCT 20	87452	81825	5627.5
NOV 20	106317	107781	-1464	NOV 20	66341	66468	-126.75
DEC 20	85200	86322	-1122	DEC 20	64636	64742	-106.5
JAN 21	130937	132336	-1399	JAN 21	86231	85375	856.25
FEB 21	40506	41486	-980	FEB 21	52175	51218	957
MAR 21	80541	79721	820	MAR 21	69171	68945	225.5
APR 21	78873	79082	-209	APR 21	57868	56758	1110.5
MAY 21	37665	37978	-313	MAY 21	48017	47748	268.5
JUN 21	22392	21461	931	JUN 21	46789	46830	-41.5
JUL 21	18440	18570	-130	JUL 21	48215	47477	738
AUG 21	15461	15524	-63	AUG 21	48434	47688	746
SEP 21	17734	17539	195	SEP 21	45571	45349	221.75
OCT 21	45970	44360	1610	OCT 21	67489	67069	419.75
NOV 21	23727	23585	142	NOV 21	39365	39066	299
DEC 21	16186	16050	136	DEC 21	40909	40506	403.25
JAN 22	17701	17286	415	JAN 22	33467	33302	165
FEB 22	9426	9474	-48	FEB 22	28983	28856	127
MAR 22	14245	13997	248	MAR 22	31260	31103	157.25
APR 22	14136	13902	234	APR 22	29519	29451	68.75
MAY 22	5419	5430	-11	MAY 22	23251	23221	30
JUN 22	2706	2707	-1	JUN 22	23110	23012	98.75
JUL 22	2050	2168	-118	JUL 22	22936	22845	91.5
AUG 22	1659	1660	-1	AUG 22	22861	22759	102
SEP 22	2199	2202	-3	SEP 22	22358	22260	98.75
OCT 22	2455	2485	-30	OCT 22	24189	24102	86.75
NOV 22	1927	1909	18	NOV 22	21459	21346	113.75
DEC 22	1861	1871	-10	DEC 22	22115	21998	117.5
JAN 23	2648	2643	5	JAN 23	11891	11823	68.75
FEB 23	656	651	5	FEB 23	10813	10757	56

Source: CME, ICE







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	1.72	1.60	-0.12
TETCO M3	\$/MMBtu	1.55	1.72	0.17
FGT Zone 3	\$/MMBtu	1.63	1.89	0.26
Zone 6 NY	\$/MMBtu	1.63	1.66	0.03
Chicago Citygate	\$/MMBtu	1.78	1.71	-0.07
Michcon	\$/MMBtu	1.81	1.66	-0.15
Columbia TCO Pool	\$/MMBtu	1.62	1.57	-0.05
Ventura	\$/MMBtu	1.64	1.67	0.03
Rockies/Opal	\$/MMBtu	1.77	1.61	-0.16
El Paso Permian Basin	\$/MMBtu	1.46	1.43	-0.03
Socal Citygate	\$/MMBtu	2.20	1.86	-0.34
Malin	\$/MMBtu	1.78	1.72	-0.07
Houston Ship Channel	\$/MMBtu	1.92	1.79	-0.14
Henry Hub Cash	\$/MMBtu	1.80	1.70	-0.10
AECO Cash	C\$/GJ	1.63	1.48	-0.16
Station2 Cash	C\$/GJ	1.56	1.68	0.12
Dawn Cash	C\$/GJ	1.72	1.70	-0.02

Source: CME, Bloomberg



					VS	s. 4 Weeks		
	Units	Current Price	VS.	Last Week		Ago	VS	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.41	$\overline{}$	-0.030	_	0.001	$\overline{}$	-0.035
NatGas Mar/Apr	\$/MMBtu	-0.260	$\overline{}$	-0.014	$\overline{}$	-0.529	$\overline{}$	-0.504
NatGas Oct/Nov	\$/MMBtu	0.34	$\overline{}$	-0.103	$\overline{}$	-0.010		0.274
NatGas Oct/Jan	\$/MMBtu	0.75	$\overline{}$	-0.180	$\overline{}$	-0.128		0.399
WTI Crude	\$/Bbl	40.30	$\overline{}$	-0.740	$\overline{}$	-0.320	$\overline{}$	-13.330
Brent Crude	\$/BbI	43.40	A	0.180	_	0.320	$\overline{}$	-15.540
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	A	0.000	_	0.000		0.000
Heating Oil	cents/Gallon	122.50	$\overline{}$	-1.710	$\overline{}$	-1.830	$\overline{}$	-59.900
Propane, Mt. Bel	cents/Gallon	0.50	A	0.010	_	0.015		0.092
Ethane, Mt. Bel	cents/Gallon	0.22	A	0.004		0.011		0.076
Coal, PRB	\$/MTon	12.30		0.000		0.000		0.000
Coal, ILB	\$/MTon	31.05	_	0.000	_	0.000	$\overline{}$	-7.500