

## **Market Report**

## 6 August 2021



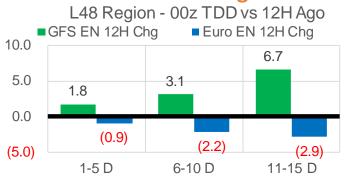
	Cı	urrent	Δ fro	m YD		m 7D vg
WTI Prompt	\$	69.82	<b>\$</b>	0.73	<b>-</b> \$	(1.7)

	_	urront	Λ fro	m VD	∆ fro	m 7D	
	Current	urreni	ΔΙΙ	טו וווע	Α	Avg	
Brent Prompt	\$	72.09	<b>•</b> •	. 0 80	<b>*</b> \$	(1.6)	
Prompt	Ψ	12.03	_ ·	0.00	ΨΨ	(1.0)	

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Price Summary

### Vs. 12H Ago



## Vs. 24H Ago

L48 Region - 00z TDD vs 24H Ago

GFS EN 24H Chg

Euro EN 24H Chg

2.0

0.0

(1.1) (0.8)

(1.6)

(2.4)

1-5 D 6-10 D 11-15 D

Current		Δ from YD	Δ from 7D Avg
US Dry Production	91.7	<b>0.05</b>	▼ -0.18

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	39.4	<b>a</b> 0.55	<b>a</b> 0.94

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.6	▼ -0.21	<b>▼</b> -0.23

	Current	Δ from YD	Δ from 7D Avg		
Canadian Imports	4.7	<b>a</b> 0.06	<b>-</b> 0.38		

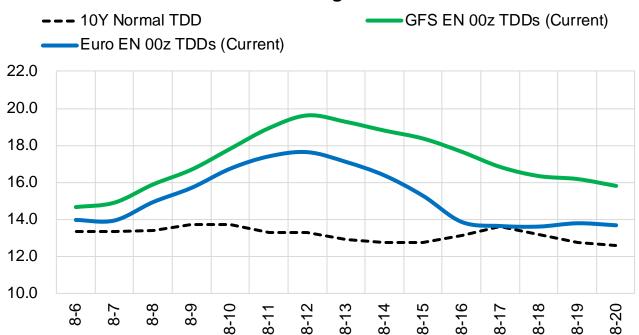
	Current		Δ from 7D Avg		
Net LNG Exports	10.5	<b>0.13</b>	<b>▼</b> -0.02		

	Current	Δ fron	n YD	om 7D Avg
Mexican Exports	7.4	<b>a</b> 0.	11	0.46

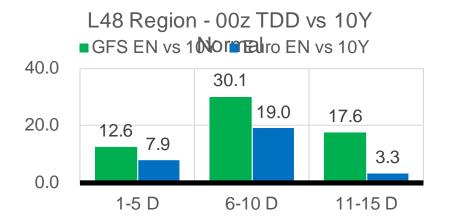


### Short-term Weather Model Outlooks (00z)

### L48 Region



### Vs. 10Y Normal



Source: WSI, Bloomberg



## **Market Report**

## Lower 48 Component Models

### **Daily Balances**

	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	DoD	vs. 7D
Lower 48 Dry Production	92.2	91.9	91.9	91.5	91.2	91.7	91.7	▲ 0.0	▼ 0.0
Canadian Imports	5.2	5.0	5.1	5.2	5.0	4.6	4.7	<b>▲ 0.1</b>	▼ -0.4
L48 Power	38.7	37.5	38.4	37.2	37.6	38.8	39.4	<b>0.5</b>	<b>1.3</b>
L48 Residential & Commercial	7.7	7.6	8.0	8.0	7.8	7.8	7.6	▼-0.2	<b>▼</b> -0.2
L48 Industrial	20.1	19.8	19.9	20.1	20.4	20.8	21.3	<b>0.5</b>	<b>1.1</b>
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.0	5.1	5.1	<b>0.0</b>	▼ 0.0
L48 Pipeline Distribution	2.2	2.2	2.2	2.2	2.2	2.3	2.3	<b>0.0</b>	<b>0.1</b>
L48 Regional Gas Consumption	73.8	72.1	73.6	72.4	73.1	74.9	75.7	8.0	<b>2.4</b>
Net LNG Delivered	10.86	10.58	10.28	10.46	10.34	10.40	10.53	<b>▲ 0.1</b>	▲ 0.0
Total Mexican Exports	6.6	6.3	6.8	7.1	7.6	7.3	7.4	<b>▲ 0.1</b>	<b>0.5</b>
Implied Daily Storage Activity EIA Reported Daily Storage Activity	6.1	7.9	6.3	6.6	5.3	3.7	2.8		
Daily Model Error									

### **EIA Storage Week Balances**

	2-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	WoW	vs. 4W
Lower 48 Dry Production	92.2	91.8	92.4	92.4	92.5	91.9	▼ -0.6	▼-0.3
Canadian Imports	5.1	5.1	5.2	4.9	5.5	5.1	▼ -0.5	▼-0.1
L48 Power	39.8	37.2	38.7	39.7	42.2	38.4	▼-3.7	<b>▼</b> -1.0
L48 Residential & Commercial	8.6	8.2	8.4	8.4	8.3	7.9	▼ -0.5	▼-0.5
L48 Industrial	21.1	19.4	19.5	19.5	20.8	20.2	▼ -0.5	<b>0.4</b>
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.4	2.1	2.2	2.3	2.4	2.2	▼ -0.2	▼ 0.0
L48 Regional Gas Consumption	76.9	71.9	74.0	75.1	78.8	73.8	▼ -4.9	▼-1.1
Net LNG Exports	11.2	11.0	10.8	10.5	10.8	10.6	▼ -0.2	▼-0.2
Total Mexican Exports	7.2	7.1	7.1	7.1	7.0	7.0	▲ 0.0	▼-0.1
Implied Daily Storage Activity	2.0	6.8	5.6	4.6	1.5	5.6	4.1	
EIA Reported Daily Storage Activity	2.3	7.9	7.0	5.1	1.9			
Daily Model Error	-0.2	-1.1	-1.4	-0.5	-0.4			

Monthly Balances									
•	2Yr Ago	LY					MTD		
	Aug-19	Aug-20	Apr-21	May-21	Jun-21	Jul-21	Aug-21	MoM	vs. LY
Lower 48 Dry Production	94.7	89.6	92.3	92.7	92.8	92.2	91.7	▼ -0.5	<b>2.1</b>
Canadian Imports	4.4	4.9	4.6	4.5	4.8	5.2	4.9	▼ -0.2	<b>0.1</b>
L48 Power	41.0	40.9	24.9	26.7	35.3	39.4	38.1	<b>▼</b> -1.3	<b>▼</b> -2.7
L48 Residential & Commercial	7.8	7.7	19.5	13.2	8.8	8.3	7.8	▼ -0.5	<b>0.2</b>
L48 Industrial	23.5	21.9	21.2	20.3	20.8	19.8	20.4	<b>0.5</b>	<b>▼</b> -1.5
L48 Lease and Plant Fuel	5.2	5.0	5.1	5.1	5.1	5.1	5.1	▼ 0.0	<b>0.1</b>
L48 Pipeline Distribution	2.4	2.4	2.3	2.1	2.2	2.3	2.2	▼ 0.0	<b>▼</b> -0.1
L48 Regional Gas Consumption	79.9	77.7	73.0	67.2	72.1	74.9	73.6	▼ -1.3	▼ -4.1
Net LNG Exports	5.2	4.0	11.5	10.8	10.2	10.8	10.4	▼-0.4	<b>6.4</b>
Total Mexican Exports	5.3	6.0	6.7	6.8	7.4	7.1	7.1	▲ 0.0	<b>1.1</b>
Implied Daily Storage Activity EIA Reported Daily Storage Activity	8.8	6.7	5.7	12.4	8.0	4.5	5.4		
Daily Model Error									



## **Daily** Average Generation Data

### **Nuclear Generation Daily Average - GWh (NRC)**

	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	DoD	vs. 7D
NRC Nuclear Daily Output	90.3	90.3	90.3	90.8	91.6	90.8	90.9	0.1	0.2
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	14.5	14.5	14.5	14.1	13.3	14.1	14.0	-0.1	-0.2
NRC % Nuclear Cap Utilization	91.8	91.8	91.8	92.3	93.1	92.3	92.4	0.1	0.2

### Wind Generation Daily Average - MWh (EIA)

	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	DoD	vs. 7D
CALI Wind	1644	1891	2316	1884	2143	2569	2569	0	495
TEXAS Wind	4585	7192	8517	5495	2238	2665	2665	0	-2450
US Wind	24098	27864	29397	15275	15174	21354	21354	0	-839

#### **Generation Daily Average - MWh (EIA)**

	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	DoD	vs. 7D
US Wind	24098	27864	29397	15275	15174	21354	21354	0	-839
US Solar	13226	14242	12790	14303	13518	13548	13548	0	-57
US Petroleum	4466	3866	3643	4152	4162	3955	3955	0	-86
US Other	9092	8523	8672	8983	8821	8754	8754	0	-53
US Coal	147147	136525	129783	135093	131981	130539	130539	0	-4639
US Nuke	92459	92588	92789	93791	93691	93572	93572	0	424
US Hydro	29734	26512	25283	28163	28371	26505	26505	0	-923
US Gas	233302	196496	184049	201891	203047	200754	200754	0	-2503

See National Wind and Nuclear daily charts



## **Storage Week** Average Generation Data

### **Nuclear Generation Weekly Average - GWh (NRC)**

	2-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	89.1	89.5	90.7	90.7	89.3	90.7	1.4	-0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	15.7	15.4	14.2	14.2	15.6	14.2	-1.4	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

### Wind Generation Weekly Average - MWh (EIA)

	2-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	WoW	WoW Bcf/d Impact
CALI Wind	2588	2604	3004	2064	1905	2145	240	0.0
TEXAS Wind	8326	3739	10817	7162	7913	4765	-3148	0.5
US Wind	27215	25696	36364	26445	29733	22074	-7660	1.3

### **Generation Weekly Average - MWh (EIA)**

	2-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	WoW	WoW Bcf/d Impact
US Wind	27215	25696	36364	26445	29733	22074	-7660	1.3
US Solar	14055	14165	14489	14036	13896	13596	-300	0.1
US Petroleum	5142	4035	4282	3892	4729	4028	-700	0.1
US Other	8886	9159	9554	9336	9245	8800	-445	0.1
US Coal	136486	131306	131524	137617	146414	134515	-11899	2.0
US Nuke	92257	92359	93735	93488	92226	93209	983	-0.2
US Hydro	33030	30129	30421	30193	29206	27296	-1910	0.3
US Gas	208730	194610	199730	210468	224291	202899	-21392	

See National Wind and Nuclear daily charts

-0.9



NRC % Nuclear Cap Utilization

## **Market Report**

92.7

## **Monthly** Average Generation Data

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	94.2	91.2	81.8	88.7	90.0	90.9	90.3	0.9	-0.9		
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	10.7	13.7	23.1	16.2	14.9	14.0	14.5	-0.9	0.9		

90.2

91.5

83.2

#### Wind Generation Monthly Average - MWh (Genscape)

95.8

	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	2279	2684	3402	2913	2338	2342	2281	3	-403
TEXAS Wind	7643	9257	12259	9675	7217	4041	7382	-3176	-1875
US Wind	26649	31198	46081	37299	29104	20651	28201	-8453	-2996

### **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	26649	31198	46081	37299	29104	20651	28201	<b>~</b> 7549.8	<b>▼</b> -2996
US Solar	9331	12253	14488	14564	14148	13542	13982	<b>439.6</b>	<b>1729</b>
US Petroleum	5500	4774	3012	4149	4233	3970	4215	<b>244</b>	<b>▼</b> -559
US Other	9151	9906	7439	8162	9298	8790	9223	<b>434</b>	▼ -683
US Coal	131619	121050	86422	121351	137228	131412	137351	<b>5939</b>	<b>16302</b>
US Nuke	100808	93408	85517	92175	92897	93498	93156	▼ -342	<b>▼</b> -252
US Hydro	34435	31600	30677	32578	29937	26889	29227	<b>2338</b>	<b>▼</b> -2373
US Gas	219843	227748	139477	188815	207734	198541	209222	<b>16602</b>	▼-18526
US Total	538756	531647	413562	499435	524764	498456	524957	<b>25655</b>	<b>▼</b> -6690



See National Wind and Nuclear daily charts



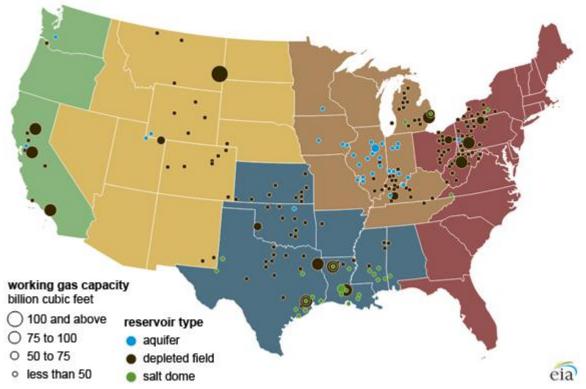
## Regional S/D Models Storage Projection

Week Ending 6-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	5.3	1.0	6.3	44
East	2.2	1.5	3.7	26
Midwest	3.3	-0.3	3.0	21
Mountain	4.3	-4.3	0.0	0
South Central	-4.4	4.2	-0.2	-1
Pacific	-0.1	-0.1	-0.2	-1

<sup>\*</sup>Adjustment Factor is calcuated based on historical regional deltas

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



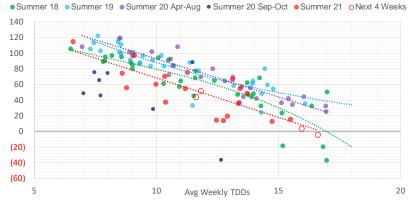


### Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
06-Aug	11.6	44
13-Aug	16.6	-5
20-Aug	16.0	3
27-Aug	11.8	51

#### Weather Storage Model - Next 4 Week Forecast



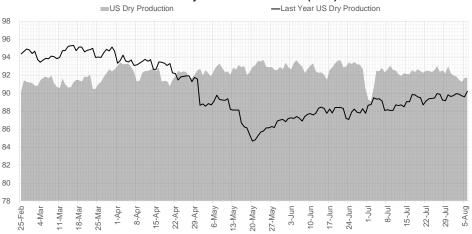
Go to larger image



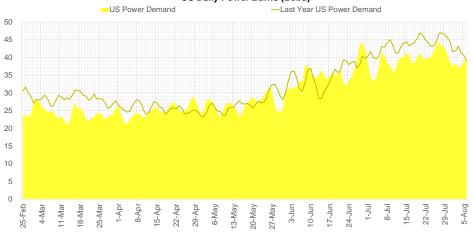


### Supply - Demand Trends

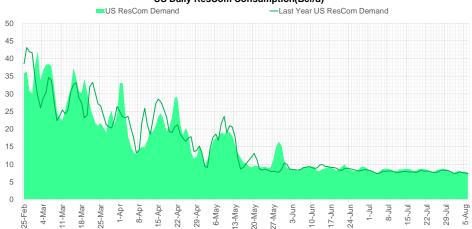
#### US Dry Natural Gas Production (Bcf/d)



#### US Daily Power Burns (Bcf/d)



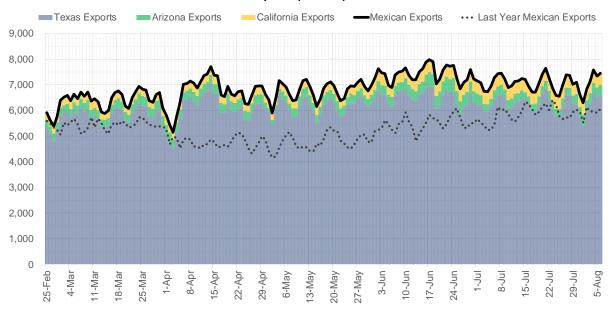
#### US Daily ResCom Consumption(Bcf/d)

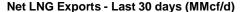


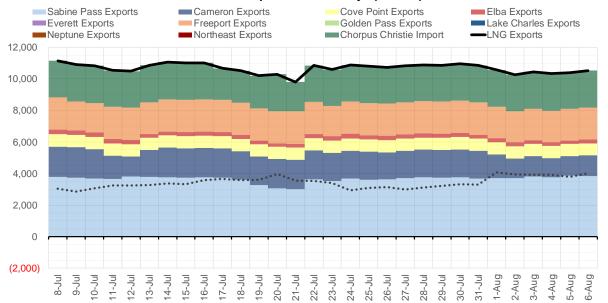
Source: Bloomberg



#### Mexican Exports (MMcf/d)







Source: Bloomberg





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

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTR/ MONT		PUT/CALL	STRIKE	CUMULATIVE OI
							_		
9	2021	С	4.75	13501	10	2021	C	4.50	42492
9	2021	С	4.50	9195	12	2021	Р	2.75	41895
9	2021	С	5.00	8238	10	2021	С	4.00	40800
9	2021	С	4.25	6377	10	2021	С	5.00	34669
11	2021	Р	3.00	5348	10	2021	С	3.50	33004
9	2021	Р	3.85	5128	10	2021	P	2.50	30039
9	2021	Р	3.75	4675	12	2021	P	2.50	29530
9	2021	Р	4.00	3744	9	2021	С	4.00	28928
11	2021	Р	3.25	3451	10	2021	С	3.25	28230
10	2021	С	4.50	3278	10	2021	P P	2.00	26497
2	2022	Р	3.25	2700	10	2021		2.75	25912
3	2022	Р	3.50	2700	12	2021	P	3.00	25549
9	2021	Р	3.40	2264	10	2021	P	3.50	25471
3	2022	Р	4.00	2251	10	2021	P	3.00	25315
9	2021	Р	3.50	1730	9	2021	С	5.00	23581
9	2021	Р	3.60	1730	9	2021	P	2.50	23385
9	2021	Р	3.90	1613	9	2021	С	3.50	22694
9	2021	С	4.40	1610	9	2021	P	3.00	22432
10	2021	Р	3.75	1305	11	2021	C	4.00	22244
10	2021	Р	4.10	1210	12	2021	С	4.00	22193
10	2021	С	4.30	1181	9	2021	С	4.50	21027
9	2021	P	3.65	1130	10	2021	С	6.00	20755
9	2021	P	3.80	1122	9	2021	Р	2.00	20427
10	2021	P	3.50	1090	10	2021	Р	2.25	19900
10	2021	P	3.90	1069	9	2021	P	3.50	19765
10	2021	C	5.00	1032	4	2022	С	3.00	19610
10	2021	P	3.60	1025	11	2021	P	3.00	19129
1	2022	C	5.25	1000	9	2021	C	3.25	18994
2	2022	P	4.25	1000	9	2021	P	3.25	18844
9	2021	Р	3.70	990	10	2021	С	3.00	18501
9	2021	C	4.70	943	9	2021	С	4.75	18458
2	2022	P	3.50	850	9	2021	С	4.25	18347
9	2022	P	3.25	813	11	2021	C	5.00	17327
10	2021	C	4.75	763	10	2021	С	3.75	16815
11	2021	C	5.00	750	3	2022	С	5.00	16748
12	2021	C	5.00	750 750	9	2021	P	2.75	15816
		P			1	2022	C	5.00	15105
12 1	2021	P P	2.75	750 750	11	2021	С	3.75	15089
	2022	P P	3.50	750 734	2	2022	С	5.00	14793
11	2021	P P	3.75	734	. 1	2022	С	4.00	14707
12	2021		3.50	724	3	2022	С	3.00	14448
1	2022	С	4.75	711	12	2021	Р	2.00	13889
9	2021	P	4.10	681	9	2021	Р	2.60	13814
10	2021	P	4.00	652	9	2021	Р	1.90	13773
9	2021	С	4.60	638	3	2022	Р	2.50	13769
10	2021	С	5.25	600	. 11	2021	Р	2.50	13647
4	2022	С	4.00	600	2	2022	С	4.00	13564
12	2022	Р	3.25	600	3	2022	С	4.00	13509
1	2022	С	6.00	591	5	2022	С	3.00	13050
1	2022	С	5.00	571	9	2021	P Source	2.25 : CMF, ICF	12773

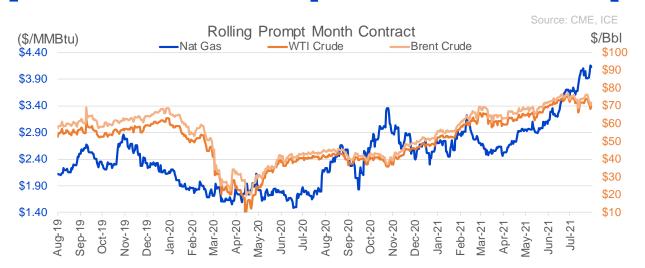
Source: CME, ICE



## Nat Gas Futures Open Interest

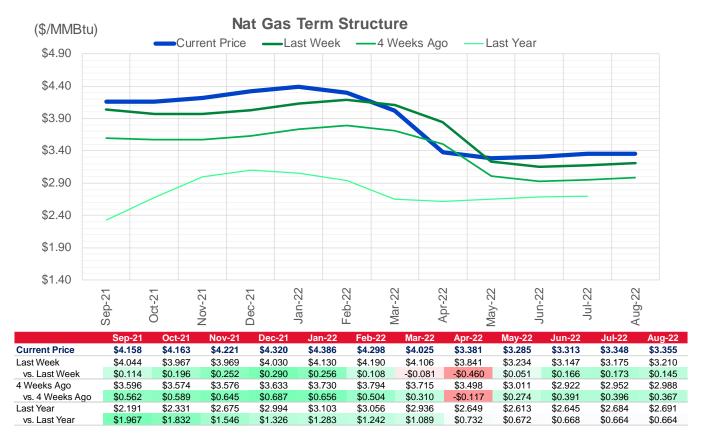
CME, and ICE Combined

CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 MM							
	Current	Prior	Daily Change		Current	Prior	Daily Change
SEP 21	306592	316440	-9848	SEP 21	92698	92735	-38
OCT 21	169316	170371	-1055	OCT 21	105463	105655	-193
NOV 21	130354	129845	509	NOV 21	70098	70996	-899
DEC 21	73080	72885	195	DEC 21	75289	74808	481
JAN 22	128856	126518	2338	JAN 22	78344	77966	378
FEB 22	54419	53871	548	FEB 22	70610	69603	1007
MAR 22	107737	106544	1193	MAR 22	70798	70489	309
APR 22	106859	107304	-445	APR 22	69047	68915	133
MAY 22	85859	88250	-2391	MAY 22	66564	67514	-951
JUN 22	28708	29883	-1175	JUN 22	55121	57018	-1898
JUL 22	25827	25755	72	JUL 22	55339	56281	-942
AUG 22	25162	25643	-481	AUG 22	55911	57687	-1777
SEP 22	25026	25417	-391	SEP 22	55695	57472	-1777
OCT 22	62578	62079	499	OCT 22	62629	62827	-199
NOV 22	25421	25697	-276	NOV 22	49540	49300	240
DEC 22	23466	23535	-69	DEC 22	52133	51439	694
JAN 23	16537	16395	142	JAN 23	32488	31648	840
FEB 23	6042	6029	13	FEB 23	27515	27195	320
MAR 23	8202	7889	313	MAR 23	29269	28938	330
APR 23	9880	9885	-5	APR 23	23792	23672	120
MAY 23	5608	5580	28	MAY 23	24852	24788	64
JUN 23	3780	2471	1309	JUN 23	23178	22995	183
JUL 23	3168	2756	412	JUL 23	23268	23102	166
AUG 23	2540	1849	691	AUG 23	23086	22921	165
SEP 23	2908	2120	788	SEP 23	22628	22467	161
OCT 23	4120	2817	1303	OCT 23	24229	24331	-102
NOV 23	1304	1274	30	NOV 23	24377	24314	63
DEC 23	1778	1778	0	DEC 23	22129	22041	88
JAN 24	992	992	0	JAN 24	12971	12884	87
FEB 24	870	870	0	FEB 24	11406	11326	80





## **Market Report**



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	4.13	3.17	-0.97
TETCO M3	\$/MMBtu	3.97	2.66	-1.31
FGT Zone 3	\$/MMBtu	3.95	4.14	0.19
Zone 6 NY	\$/MMBtu	3.95	2.65	-1.30
Chicago Citygate	\$/MMBtu	4.05	3.87	-0.19
Michcon	\$/MMBtu	4.02	3.82	-0.20
Columbia TCO Pool	\$/MMBtu	3.80	3.00	-0.80
Ventura	\$/MMBtu	3.95	3.81	-0.14
Rockies/Opal	\$/MMBtu	3.92	3.73	-0.20
El Paso Permian Basin	\$/MMBtu	3.90	3.84	-0.06
Socal Citygate	\$/MMBtu	7.78	5.15	-2.64
Malin	\$/MMBtu	4.10	4.21	0.11
Houston Ship Channel	\$/MMBtu	4.16	4.05	-0.11
Henry Hub Cash	\$/MMBtu	4.18	3.82	-0.36
AECO Cash	C\$/GJ	2.85	3.07	0.22
Station2 Cash	C\$/GJ	2.77	4.09	1.32
Dawn Cash	C\$/GJ	4.00	3.84	-0.16

Source: CME, Bloomberg



					VS	. 4 Weeks		
	Units	<b>Current Price</b>	vs.	<b>Last Week</b>		Ago	VS	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.531		0.088		0.480		0.517
NatGas Oct21/Nov21	\$/MMBtu	0.062		0.003		0.008		0.019
NatGas Oct21/Jan22	\$/MMBtu	0.235		0.019		0.028		-0.033
NatGas Apr22/Oct22	\$/MMBtu	-0.021		-0.003	•	-0.007		-0.075
WTI Crude	\$/Bbl	69.09		-4.530		-3.850		27.140
Brent Crude	\$/BbI	71.29		-4.760	▼	-2.830		26.200
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	210.60		-8.340		-1.440		85.610
Propane, Mt. Bel	cents/Gallon	1.09		-0.004		0.000		0.584
Ethane, Mt. Bel	cents/Gallon	0.34		0.028		0.039		0.113
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

