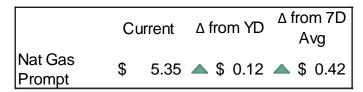


# **Market Report**

# 14 September 2021



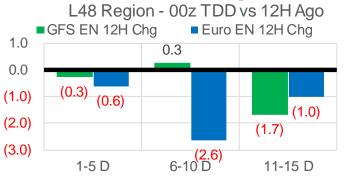
	С	urrent	Δfr	om YD	Δ fron Αν	
WTI Prompt	\$	70.79	<u></u>	\$ 0.34	<b>\$</b>	1.4

	_	urrant	Λ fro	m VD	∆ fro	m 7D	
	Current		Δ 110	טו וווי	Avg		
Brent Prompt	\$	73.91	<b>\$</b>	0.40	<b>\$</b>	1.3	

### Page Menu

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 1.0 0.1 0.0 (1.0)(8.0)(1.2)(2.0)(2.1)(3.0)(2.8)(3.1)(4.0)1-5 D 6-10 D 11-15 D

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	89.8	<b>▼</b> -1.65	<b>▼</b> -1.43

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.2	<b>-</b> 0.09	<b>0.12</b>

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.4	<b>a</b> 0.25	<b>a</b> 0.32

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	36.1	<b>-</b> 0.67	<b>1.41</b>

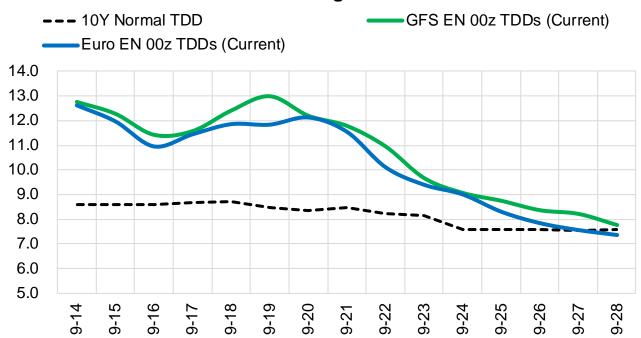
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.2	<b>-</b> 0.05	<b>0.09</b>

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.8	<b>a</b> 0.20	<b>0.17</b>

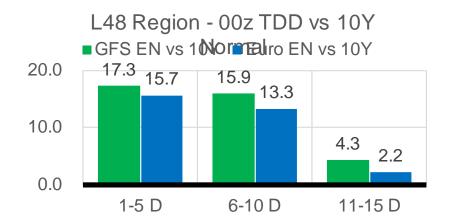


### Short-term Weather Model Outlooks (00z)

### L48 Region



### Vs. 10Y Normal



Source: WSI, Bloomberg



# **Market Report**

# Lower 48 Component Models

### **Daily Balances**

	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	DoD	vs.7D
Lower 48 Dry Production	91.2	90.3	90.8	91.2	91.6	91.4	89.8	▼-1.7	▼-1.4
Canadian Imports	5.0	5.2	5.1	5.1	5.3	5.2	5.2	▼ 0.0	▲ 0.0
L48 Power	36.3	34.5	33.1	32.4	34.5	36.7	36.1	▼-0.7	<b>1.5</b>
L48 Residential & Commercial	7.5	7.4	7.1	6.6	6.8	7.3	7.2	▼ -0.1	<b>0.1</b>
L48 Industrial	19.8	19.9	19.9	20.0	20.1	20.5	20.5	<b>0.0</b>	<b>0.4</b>
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.0	4.9	<b>▼</b> -0.1	<b>▼</b> -0.1
L48 Pipeline Distribution	2.2	2.1	2.0	2.0	2.1	2.2	2.2	▼ 0.0	<b>0.1</b>
L48 Regional Gas Consumption	70.8	68.8	67.1	66.0	68.6	71.8	70.9	▼ -0.9	<b>2.1</b>
Net LNG Delivered	10.96	10.66	11.07	10.88	11.31	11.11	11.36	<b>0.3</b>	<b>0.4</b>
Total Mexican Exports	6.9	6.6	6.7	6.4	6.3	6.6	6.8	<b>0.2</b>	<b>▲</b> 0.2
Implied Daily Storage Activity	7.6	9.4	11.1	13.0	10.7	7.1	5.8		
EIA Reported Daily Storage Activity Daily Model Error									

### **EIA Storage Week Balances**

	6-Aug	13-Aug	20-Aug	27-Aug	3-Sep	10-Sep	WoW	vs. 4W
Lower 48 Dry Production	91.9	92.4	92.4	93.0	90.9	91.2	<b>0.3</b>	▼-1.0
Canadian Imports	5.0	5.2	5.0	5.3	5.0	4.8	▼-0.2	▼-0.3
L48 Power	38.3	41.1	39.7	41.9	38.0	33.6	<b>▼</b> -4.3	▼-6.5
L48 Residential & Commercial	8.0	7.8	7.6	7.8	7.5	7.0	<b>V</b> -0.4	▼-0.6
L48 Industrial	20.2	19.2	20.9	20.9	18.6	19.4	<b>8.0</b>	▼ -0.5
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.0	5.0	<b>0.0</b>	<b>▼</b> -0.1
L48 Pipeline Distribution	2.2	2.4	2.3	2.4	2.2	2.1	▼-0.2	▼ -0.3
L48 Regional Gas Consumption	73.8	75.6	75.6	78.2	71.3	67.2	▼ -4.1	▼-8.0
Net LNG Exports	10.6	9.9	10.9	10.6	10.5	11.0	<b>0.5</b>	<b>0.5</b>
Total Mexican Exports	6.9	6.8	6.8	6.8	7.0	6.7	▼ -0.3	▼-0.2
Implied Daily Storage Activity	5.7	5.2	4.2	2.8	7.1	11.2	4.0	
EIA Reported Daily Storage Activity	7.0	6.6	4.1	2.9	7.4			
Daily Model Error	-1.3	-1.4	0.1	-0.1	-0.3			

Monthly Balances									
•	2Yr Ago	LY					MTD		
	Sep-18	Sep-18	May-21	Jun-21	Jul-21	Aug-21	Sep-21	MoM	vs. LY
Lower 48 Dry Production	86.6	86.6	93.1	93.4	92.4	92.2	91.1	▼-1.1	<b>4.5</b>
Canadian Imports	4.5	4.5	4.5	4.8	5.2	5.1	4.9	▼-0.2	<b>0.4</b>
L48 Power	34.3	34.3	26.8	35.9	39.6	40.2	34.0	▼-6.2	▼-0.3
L48 Residential & Commercial	8.5	8.5	12.8	8.9	8.6	7.7	7.1	▼ -0.6	<b>▼</b> -1.4
L48 Industrial	22.6	22.6	20.8	20.6	19.6	20.1	19.5	▼ -0.5	<b>▼</b> -3.1
L48 Lease and Plant Fuel	4.8	4.8	5.1	5.1	5.1	5.1	5.0	▼ -0.1	<b>0.2</b>
L48 Pipeline Distribution	2.1	2.1	2.1	2.2	2.3	2.3	2.1	▼ -0.2	<b>0.0</b>
L48 Regional Gas Consumption	72.3	72.3	67.6	72.7	75.1	75.4	67.7	▼ -7.7	▼-4.6
Net LNG Exports	3.1	3.1	10.8	10.2	10.8	10.5	10.9	<b>0.4</b>	<b>7.8</b>
Total Mexican Exports	5.0	5.0	6.8	7.4	7.0	6.9	6.7	▼-0.2	<b>1.7</b>
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	10.7	10.7	12.4	8.0	4.6	4.6	10.7		



# **Daily** Average Generation Data

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

	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	DoD	vs. 7D
NRC Nuclear Daily Output	90.1	90.4	90.2	90.7	90.4	87.6	85.7	-1.9	-4.2
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	14.8	14.5	14.7	14.2	14.4	17.3	19.2	1.9	4.2
NRC % Nuclear Cap Utilization	91.6	91.9	91.7	92.2	92.0	89.1	87.2	-1.9	-4.3

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

	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	DoD	vs. 7D
CALI Wind	917	1916	1499	1489	1933	1582	1639	57	83
TEXAS Wind	4445	6387	6438	6940	13204	12093	10433	-1661	2181
US Wind	29088	44321	35146	25275	41396	51240	45323	-5917	7578

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

	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	DoD	vs. 7D
US Wind	29088	44321	35146	25275	41396	51240	45323	-5917	7578
US Solar	13961	14119	12961	12184	13809	13934	14232	297	737
US Petroleum	2272	2068	2067	2705	2206	2189	2594	405	343
US Other	8613	9178	8953	8591	8259	8547	9059	512	369
US Coal	113656	112319	119951	119792	110954	102157	108214	6057	-4924
US Nuke	93181	92903	92842	93366	93090	90305	88978	-1327	-3637
US Hydro	25833	27671	27913	27947	25973	23680	22701	-980	-3802
US Gas	177495	194259	201605	194771	171141	155930	170340	14410	-12193

See National Wind and Nuclear daily charts



# **Storage Week** Average Generation Data

<b>Nuclear Generation Weekly Average</b>	١	V	l	u	C	:	е	aı	• (	G	er	١e	r	a	ti	C	n	١	٨	le	Эе	k	h	V	A	۷	er	a	qe	•	_	G	V	V	h	(	N	IR	C	:)	
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	6-Aug	13-Aug	20-Aug	27-Aug	3-Sep	10-Sep	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	90.6	91.5	92.4	91.9	90.2	90.3	0.1	0.0
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	14.3	13.3	12.5	12.9	14.7	14.6	-0.1	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

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

	6-Aug	13-Aug	20-Aug	27-Aug	3-Sep	10-Sep	WoW	WoW Bcf/d Impact
CALI Wind	2237	2507	3210	2052	2247	1236	-1010	0.2
TEXAS Wind	5180	16319	7171	12600	7534	7327	-206	0.0
US Wind	22379	49586	29141	41810	35348	30632	-4716	8.0
					-6462.0			
					-15%			

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

	6-Aug	13-Aug	20-Aug	27-Aug	3-Sep	10-Sep	WoW	WoW Bcf/d Impact
US Wind	22379	49586	29141	41810	35348	30632	-4716	0.8
US Solar	14131	14383	12828	14536	13423	14092	669	-0.1
US Petroleum	4074	4712	4466	5323	3135	2072	-1063	0.2
US Other	9070	10070	10104	10131	9767	8782	-985	0.2
US Coal	134740	140524	138052	136168	136296	116912	-19384	3.5
US Nuke	93328	94302	95157	94358	92365	93162	797	-0.1
US Hydro	27752	27035	28988	30618	28159	26936	-1223	0.2
US Gas	204634	208281	212106	215990	205501	180664	-24836	4.5

See National Wind and Nuclear daily charts



# **Monthly** Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)													
	2Yr Ago	LY				MTD							
	Same 30 days	Same 30 days	Jun-21	Jul-21	Aug-21	Sep-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY				
NRC Nuclear Daily Output	93.0	90.1	88.7	90.1	91.5	89.1	90.4	-2.4	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	11.8	14.7	16.2	14.8	13.4	15.8	14.5	2.4	-0.2				
NRC % Nuclear Cap Utilization	94.6	91.7	90.2	91.6	93.0	90.6	91.9	-2.5	0.2				

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

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Jun-21	Jul-21	Aug-21	Sep-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	2286	1599	2881	2338	2442	1688	2000	-754	401
TEXAS Wind	7908	7189	9509	7217	9901	9342	9479	-559	2290
US Wind	29511	29397	36826	29106	35740	37927	37025	2187	7629

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

•	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Jun-21	Jul-21	Aug-21	Sep-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	29511	29397	36826	29106	35740	37927	37025	▼ -901.7	<b>^</b> 7629
US Solar	8609	9681	14578	14195	13849	14028	13880	<b>▼</b> -147.7	<b>4200</b>
US Petroleum	4433	3538	4155	4233	4484	2237	3490	<b>1254</b>	<b>▼</b> -48
US Other	8577	9161	8208	9327	9929	8819	9532	<b>~</b> 713	<b>371</b>
US Coal	117081	118600	122034	137228	137649	114699	126931	<b>12232</b>	<b>8331</b>
US Nuke	99602	92596	92180	92911	94062	91996	93022	<b>1</b> 027	<b>427</b>
US Hydro	29289	28542	32565	29941	28528	25966	27911	<b>1945</b>	<b>▼</b> -630
US Gas	204779	202692	189395	207814	210806	175871	197143	<b>16121</b>	<b>▼ -5549</b>
US Total	503737	494128	500271	524889	534991	471650	508927	<b>33144</b>	<b>14799</b>



See National Wind and Nuclear daily charts



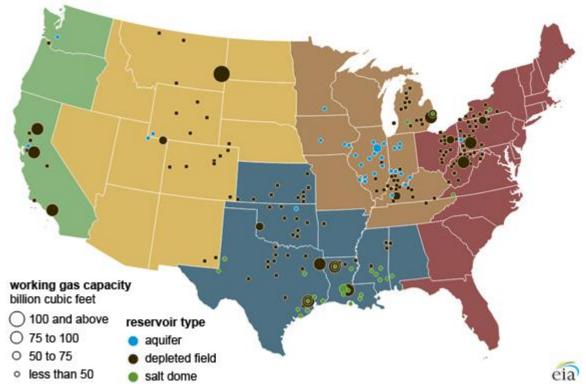
# Regional S/D Models Storage Projection

Week Ending 10-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	10.9	0.5	11.4	80
East	3.1	1.0	4.1	29
Midwest	5.6	-0.2	5.5	38
Mountain	4.0	-3.3	0.7	5
South Central	-2.2	3.4	1.2	8
Pacific	0.4	-0.4	-0.1	0

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

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



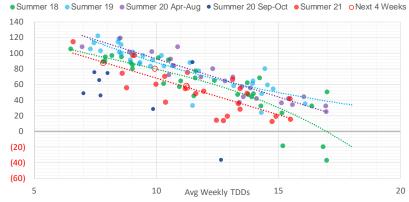


# Weather Model Storage Projection

# Next report and beyond

Week Ending	GWDDs	Week Storage Projection
10-Sep	9.9	80
17-Sep	11.3	56
24-Sep	11.2	58
01-Oct	7.8	87

### Weather Storage Model - Next 4 Week Forecast



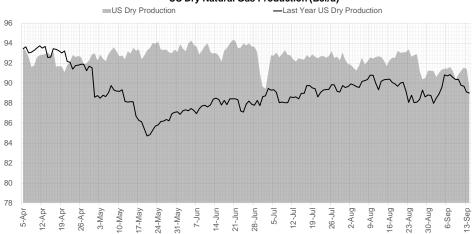
Go to larger image



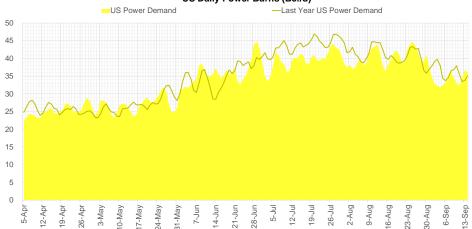


### Supply - Demand Trends

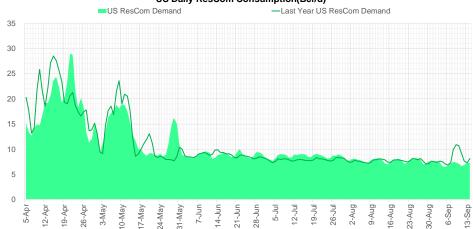
#### US Dry Natural Gas Production (Bcf/d)



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



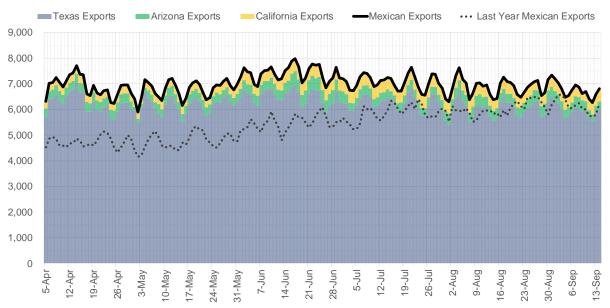
#### US Daily ResCom Consumption(Bcf/d)



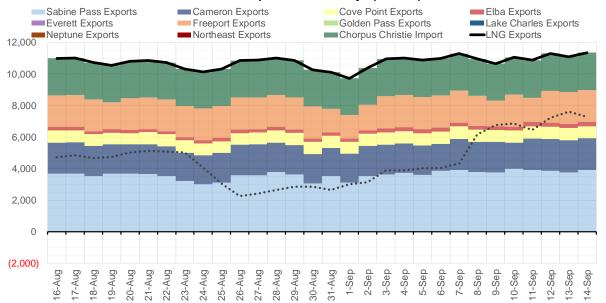
Source: Bloomberg



#### Mexican Exports (MMcf/d)







Source: Bloomberg



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

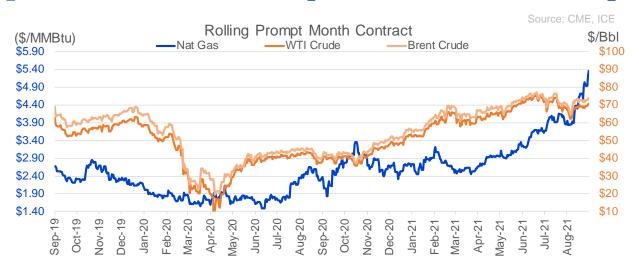
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
		0	0.00		10	2024	6	F 00	50420
10	2021	С	6.00	15163	10	2021 2021	C C	5.00 4.00	58438 42329
10	2021	С	5.50	10968	12	2021	P	2.75	42059
11	2021	С	7.00	8193	10	2021	P	3.50	41987
10	2021	С	5.25	6933	10	2021	C	4.50	41142
12	2022	С	5.25	6260	10	2021	C	6.00	39305
12	2022	C P	6.25	6260	12	2021	P	2.50	38542
10 11	2021 2021	P P	5.00	5074	10	2021	Ċ	3.50	32999
		P P	3.50	5029	10	2021	Č	4.25	32432
11 10	2021 2021	C	4.00	4908 4859	10	2021	P	3.00	31758
10		P	5.00	4840	10	2021	Р	4.00	31230
	2021		4.75		11	2021	Р	3.00	30721
11	2021	C C	6.00	4495	10	2021	Р	2.50	29994
10	2021		5.75	3629	10	2021	Р	2.00	28650
12	2021	C P	6.00	3404	10	2021	C	3.25	28193
2	2022	P P	3.50	3401	10	2021	P	2.75	26887
10	2021		4.50	3242	12	2021	Р	3.00	25878
12	2021	С	7.00	3049	11	2021	Р	4.00	23643
3	2022	P	3.50	2917	11	2021	C	4.00	23312
10	2021	P	4.25	2810	12	2021	Č	4.00	22648
12	2022	С	4.60	2800	10	2021	P	3.75	22580
12	2022	С	5.10	2800	3	2022	C	10.00	22270
1	2022	Р	4.00	2443	12	2021	P	4.00	21505
11	2021	С	5.25	2437	11	2021	Р	3.50	20694
1	2022	Р	3.50	2403	10	2021	Ċ	5.50	20679
11	2021	Р	4.50	2383	10	2021	P	2.25	19784
3	2022	Р	4.00	2247	4	2022	C	3.00	19760
10	2021	С	5.20	2174	3	2022	P	3.50	19105
2	2022	Р	4.00	2125	3	2022	C	5.00	19075
11	2021	С	5.50	2012	11	2021	Ċ	7.00	18756
3	2022	С	1.00	2000	10	2021	P	4.25	18745
3	2022	Р	1.00	2000	10	2021	C	3.00	18494
10	2021	Р	4.40	1922	3	2022	Ċ	8.00	18228
10	2021	Р	4.90	1890	10	2021	P	3.25	17940
11	2021	С	5.00	1757	10	2021	Р	4.50	17532
10	2021	С	7.00	1617	1	2022	С	5.00	17186
3	2022	С	7.00	1603	3	2022	P	2.50	16805
10	2021	С	4.75	1580	10	2021	C	3.75	16780
10	2021	Р	4.80	1577	11	2021	C	5.00	16612
3	2022	С	5.00	1576	2	2022	C	5.00	16590
3	2022	С	5.50	1522	3	2022	C	4.00	16024
11	2021	С	9.00	1520	11	2021	C	6.00	15905
10	2021	Р	4.70	1516	2	2022	P	3.50	15838
11	2021	С	5.20	1310	2	2022	С	4.00	15821
10	2021	С	6.50	1309	11	2021	Ċ	4.50	15220
11	2021	Р	4.25	1296	1	2022	P	3.50	14835
11	2021	С	6.50	1291	12	2021	C	6.00	14516
11	2021	Р	3.25	1290	1	2022	Ċ	4.00	14503
10	2021	Р	4.85	1224	11	2021	P	2.50	14486
12	2021	С	9.00	1160	11	2021	C	3.75	14481
							Source	e: CME, ICE	



# Nat Gas Futures Open Interest

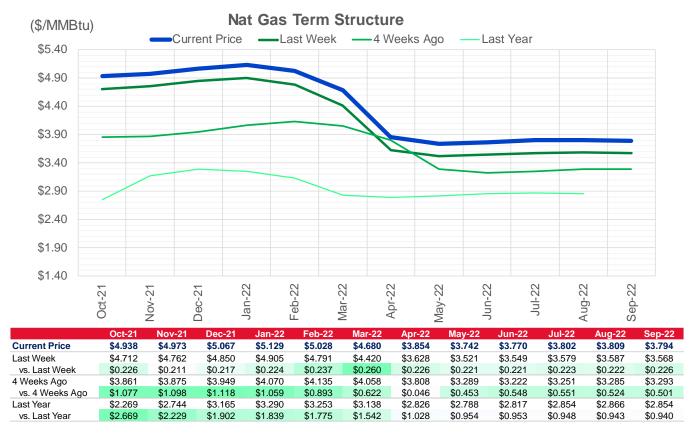
CME, and ICE Combined

CIVIE, AND TOE 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	
OCT		_	-13771	OCT 21	105896	105697	200	
NOV		223531	11083	NOV 21	79724	75286	4438	
DEC	21 88905	88524	381	DEC 21	76373	77043	-670	
JAN 2		155850	3828	JAN 22	89901	89189	712	
FEB:	22 60013	60043	-30	FEB 22	68604	68474	131	
MAR	22 115375	117008	-1633	MAR 22	73552	72191	1361	
APR	22 116438	117668	-1230	APR 22	68814	68461	352	
MAY	22 115851	115663	188	MAY 22	69233	68854	380	
JUN 2	22 40891	40490	401	JUN 22	52276	52150	127	
JUL 2	22 30242	30468	-226	JUL 22	53661	53383	278	
AUG	22 32784	32759	25	AUG 22	54016	53754	263	
SEP	22 35674	34997	677	SEP 22	54249	53980	269	
OCT	22 87361	86489	872	OCT 22	60652	60996	-344	
NOV		32193	419	NOV 22	47442	47321	121	
DEC	22 25605	25262	343	DEC 22	50377	50339	39	
JAN 2	23 21994	22072	-78	JAN 23	37172	37076	97	
FEB :	23 8498	8252	246	FEB 23	30431	30323	108	
MAR	23 11505	11414	91	MAR 23	32543	32615	-73	
APR	-	11709	-152	APR 23	29080	28831	249	
MAY	23 7265	7296	-31	MAY 23	29479	29350	129	
JUN 2	23 5507	5451	56	JUN 23	27443	27284	159	
JUL 2	23 4062	4055	7	JUL 23	27556	27383	173	
AUG	23 3219	3221	-2	AUG 23	27412	27227	185	
SEP		4150	8	SEP 23	26707	26585	122	
OCT	23 6086	6009	77	OCT 23	28617	28452	165	
NOV		1979	-114	NOV 23	27941	27894	47	
DEC		1865	89	DEC 23	26592	26554	39	
JAN 2	24 1202	1142	60	JAN 24	14696	14632	64	
FEB:		890	0	FEB 24	12237	12153	84	
MAR	24 3219	3222	-3	MAR 24	16488	16329	159	





# **Market Report**



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	5.05	4.35	-0.70
TETCO M3	\$/MMBtu	4.90	3.44	-1.46
FGT Zone 3	\$/MMBtu	4.94	4.79	-0.15
Zone 6 NY	\$/MMBtu	4.94	3.31	-1.63
Chicago Citygate	\$/MMBtu	5.08	4.58	-0.50
Michcon	\$/MMBtu	5.01	4.50	-0.51
Columbia TCO Pool	\$/MMBtu	4.86	3.63	-1.23
Ventura	\$/MMBtu	4.68	4.55	-0.13
Rockies/Opal	\$/MMBtu	5.04	4.48	-0.57
El Paso Permian Basin	\$/MMBtu	5.13	4.41	-0.72
Socal Citygate	\$/MMBtu	7.81	5.33	-2.48
Malin	\$/MMBtu	5.61	4.87	-0.74
Houston Ship Channel	\$/MMBtu	5.15	4.81	-0.34
Henry Hub Cash	\$/MMBtu	5.17	4.52	-0.65
AECO Cash	C\$/GJ	3.69 2.76		-0.93
Station2 Cash	C\$/GJ	3.25	3.25 4.98	
Dawn Cash	C\$/GJ	5.03	4.48	-0.55

Source: CME, Bloomberg



					146	s. 4 Weeks		
	Units	Current Price	VS.	Last Week		Ago	VS	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	1.614		0.519		1.271		1.590
NatGas Oct21/Nov21	\$/MMBtu	0.042		-0.008	•	-0.031		-0.009
NatGas Oct21/Jan22	\$/MMBtu	0.199		0.006	•	-0.051		-0.084
NatGas Apr22/Oct22	\$/MMBtu	-0.048		-0.015	•	-0.053		-0.072
WTI Crude	\$/Bbl	70.45		1.160		3.160		33.190
Brent Crude	\$/Bbl	73.51		1.290		4.000		33.900
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	215.83		-0.110		11.000		106.490
Propane, Mt. Bel	cents/Gallon	1.22		0.028		0.097		0.738
Ethane, Mt. Bel	cents/Gallon	0.38		0.018		0.041		0.172
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

