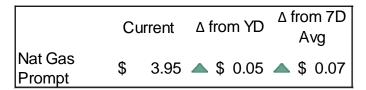


# 26 August 2021



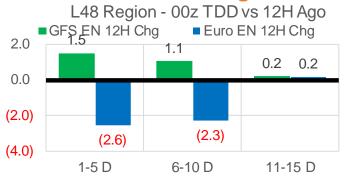
	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 67.66	\$ (0.70)	<b>\$</b> 3.1

	_		Δ from YD	Δ from 7D				
Current	ם ווטוו זם	Αv	g					
Brent	Ф	71 61	<b>*</b> \$ (0.64)	Φ Φ	2.0			
Prompt	φ	7 1.01	<b>Φ</b> (0.04)	Φ Φ	3.9			

### Page Menu

Short-term Weather Model Outlooks
Lower 48 Component Models
Regional S/D Models Storage Projection
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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 2.0 0.2 0.0 (2.0)(1.7)(4.0)(2.8)(3.5)(4.3)(6.0)(5.9)(8.0)1-5 D 6-10 D 11-15 D

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	91.4	<b>▼</b> -1.19	<b>▼</b> -1.52

Production				
	Current	Δ from YD	Δ from 7D Avg	
US	8.0	<b>-</b> 0.11	<b>a</b> 0.29	Ca

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.9	<b>0.57</b>	<b>0.39</b>

ResComm

Current		Δ from YD	Δ from 7D Avg		
US Power Burns	43.2	<b>▼</b> -1.32	<b>1.58</b>		

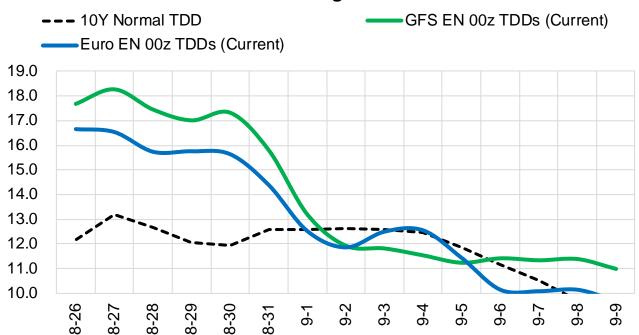
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.1	<b>-</b> 0.30	<b>▼</b> -0.13

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.7	<b>▼</b> -0.27	<b>▼</b> -0.14

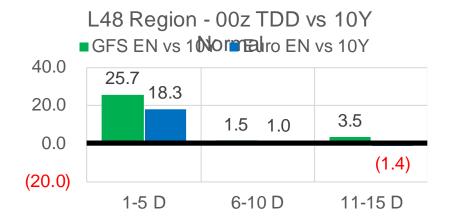


### Short-term Weather Model Outlooks (00z)

### L48 Region



### Vs. 10Y Normal



Source: WSI, Bloomberg



# Lower 48 Component Models

### **Daily Balances**

	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	DoD	vs.7D
Lower 48 Dry Production	93.0	93.0	93.0	93.1	92.4	92.5	91.4	▼-1.2	▼ -1.5
Canadian Imports	5.3	5.1	5.0	5.2	5.3	5.4	5.1	▼-0.3	▼ -0.1
L48 Power	41.1	39.0	38.7	42.0	43.6	44.5	43.2	<b>▼</b> -1.3	<b>1.7</b>
L48 Residential & Commercial	7.7	7.1	7.2	7.8	7.9	8.1	8.0	▼-0.1	<b>0.3</b>
L48 Industrial	20.2	20.1	20.3	20.4	20.6	20.5	20.6	<b>0.1</b>	<b>0.2</b>
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.2	5.1	5.1	5.1	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.2	2.2	2.4	2.5	2.5	2.5	▼ -0.1	<b>0.1</b>
L48 Regional Gas Consumption	76.6	73.6	73.5	77.9	79.7	80.8	79.3	<b>▼</b> -1.5	<b>2.3</b>
Net LNG Delivered	10.81	10.85	10.72	10.33	10.13	10.36	10.93	<b>0.6</b>	<b>0.4</b>
Total Mexican Exports	7.0	6.6	6.3	6.5	7.0	6.9	6.7	▼-0.3	▼ -0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	3.8	7.0	7.5	3.6	0.9	-0.1	-0.4		

### **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	91.9	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	39.7	<b>▼</b> -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	19.9	20.1	<b>0.2</b>	<b>▼</b> -0.1
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	74.7	▼ -1.5	▼-1.2
Net LNG Exports	10.8	10.5	10.8	10.6	9.9	10.9	<b>0.9</b>	<b>0.4</b>
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	5.0	0.4	
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	<b>7.3</b>
Canadian Imports	5.0	5.0	4.6	4.5	4.8	5.2	5.1	▼ -0.1	<b>▲ 0.1</b>
L48 Power	38.1	38.1	24.9	26.6	35.3	39.4	40.3	<b>8.0</b>	<b>2.2</b>
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	20.1	<b>0.2</b>	<b>▼</b> -1.5
L48 Lease and Plant Fuel	4.7	4.7	5.1	5.1	5.1	5.1	5.1	▼ 0.0	<b>0.4</b>
L48 Pipeline Distribution	2.2	2.2	2.3	2.1	2.2	2.3	2.3	<b>0.1</b>	<b>0.2</b>
L48 Regional Gas Consumption	74.4	74.4	73.0	67.2	72.3	75.0	75.5	<b>0.5</b>	<b>1.2</b>
Net LNG Exports	3.3	3.3	11.5	10.8	10.2	10.8	10.4	▼-0.4	<b>▲</b> 7.1
Total Mexican Exports	4.9	4.9	6.7	6.8	7.4	7.0	6.9	▼ -0.2	<b>1.9</b>
Implied Daily Storage Activity	7.4	7.4	5.7	12.4	8.0	4.6	4.6		
EIA Reported Daily Storage Activity Daily Model Error									



# **Daily** Average Generation Data

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

	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	DoD	vs. 7D
NRC Nuclear Daily Output	92.8	91.5	91.4	91.4	91.4	92.7	92.2	-0.5	0.3
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	12.0	13.4	13.4	13.4	13.4	12.2	12.7	0.5	-0.3
NRC % Nuclear Cap Utilization	94.4	93.0	93.0	93.0	93.0	94.2	93.8	-0.5	0.4

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

	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	DoD	vs. 7D
CALI Wind	3565	2675	1414	2441	1663	1941	2099	157	-184
TEXAS Wind	9772	14683	15088	13159	14159	14954	13842	-1112	206
US Wind	31824	32643	48112	39081	45029	42859	45607	2748	5682

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

	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	DoD	vs. 7D
US Wind	31824	32643	48112	39081	45029	42859	45607	2748	5682
US Solar	13109	13229	13057	13512	14177	14616	14665	49	1048
US Petroleum	4855	5400	4718	4041	3399	5891	6248	358	1531
US Other	10613	10430	9672	9281	9654	9672	10226	554	339
US Coal	136612	137970	131258	129087	124219	139900	138380	-1521	5205
US Nuke	95548	95254	94039	94041	94325	95123	94426	-698	-296
US Hydro	31305	32151	32434	30263	27190	31053	30149	-904	-583
US Gas	218913	222791	214063	197196	183431	215351	223096	7745	14472

See National Wind and Nuclear daily charts



# **Storage Week** Average Generation Data

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

	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	90.7	90.7	89.3	90.6	91.5	92.4	0.8	-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	14.2	15.6	14.3	13.3	12.5	-0.8	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

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

	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	WoW	WoW Bcf/d Impact
CALI Wind	3004	2064	1905	2237	2507	3210	703	-0.1
TEXAS Wind	10817	7162	7913	5180	16319	7171	-9147	1.5
US Wind	36364	26446	29738	22379	49585	29141	-20443	3.4

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

	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	20-Aug	WoW	WoW Bcf/d Impact
US Wind	36364	26446	29738	22379	49585	29141	-20443	3.4
US Solar	14486	14023	13978	14130	14385	12689	-1696	0.3
US Petroleum	4282	3892	4729	4074	4709	4466	-243	0.0
US Other	9555	9336	9289	9070	10066	10033	-33	0.0
US Coal	131514	137623	146407	134740	140522	138047	-2475	0.4
US Nuke	93735	93488	92266	93328	94283	95157	874	-0.1
US Hydro	30422	30196	29216	27752	27022	28981	1960	-0.3
US Gas	199737	210463	224459	204634	208196	211962	3766	

See National Wind and Nuclear daily charts



# **Monthly** Average Generation Data

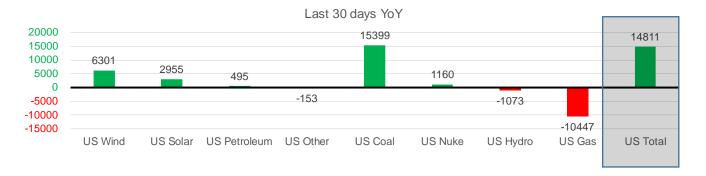
Nuclear Generation Monthl	y Average -	GWh (N	RC)						
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	94.4	90.8	81.8	88.7	90.0	91.7	91.5	1.7	0.7
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	10.5	14.1	23.1	16.2	14.9	13.2	13.4	-1.7	-0.7
NRC % Nuclear Cap Utilization	96.0	92.3	83.2	90.2	91.5	93.3	93.0	1.7	0.7

### 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	2257	2279	3402	2913	2338	2535	2448	196	169
TEXAS Wind	8151	8479	12259	9675	7217	11069	10272	3852	1793
US Wind	25564	29583	46083	37299	29106	37218	35883	8112	6301

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

Generation Monthly Average -	INIAALI (EI	A)							
	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	25564	29583	46083	37299	29106	37218	35883	▼-1335.0	<b>6301</b>
US Solar	9109	10908	14489	14564	14195	13819	13863	<b>44.4</b>	<b>2955</b>
US Petroleum	5129	4153	3012	4150	4233	4662	4648	<b>▼</b> -14	<b>495</b>
US Other	9366	9876	7439	8161	9327	9805	9723	<b>▼</b> -83	<b>▼</b> -153
US Coal	125655	122571	86419	121357	137228	136504	137970	<b>1466</b>	<b>15399</b>
US Nuke	100678	93008	85517	92175	92911	94423	94167	<b>-256</b>	<b>1160</b>
US Hydro	32113	29654	30681	32577	29941	28516	28581	<b>65</b>	<b>▼</b> -1073
US Gas	220430	221471	139479	188815	207814	208528	211024	<b>▼</b> -111	<b>▼</b> -10447
US Total	529404	520974	413549	499468	524888	533523	535785	<b>1113</b>	<b>14811</b>



See National Wind and Nuclear daily charts



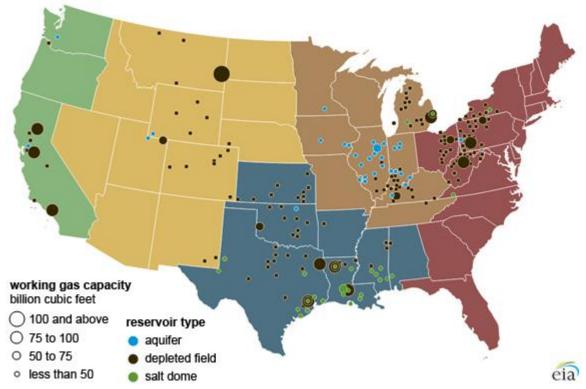
# Regional S/D Models Storage Projection

Week Ending 20-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	4.7	1.7	6.4	45
East	2.0	1.2	3.2	22
Midwest	3.7	-0.2	3.5	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

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

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



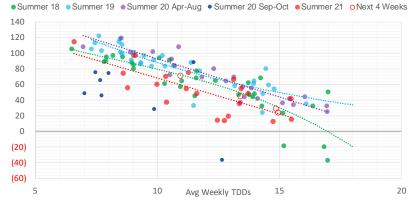


### Weather Model Storage Projection

Next report	
and beyond	

Week Ending	GWDDs	Week Storage Projection
20-Aug	13.4	45
27-Aug	15.0	24
03-Sep	14.9	29
10-Sep	11.0	71

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



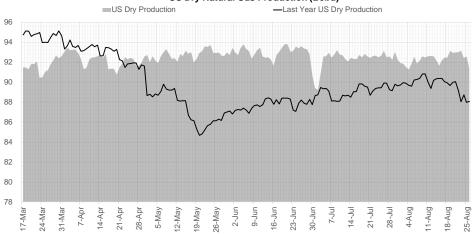
Go to larger image



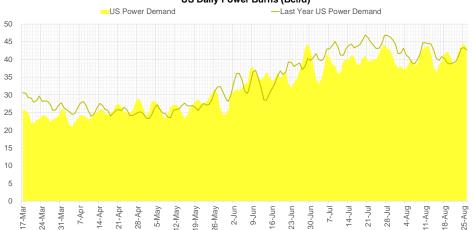


### Supply - Demand Trends

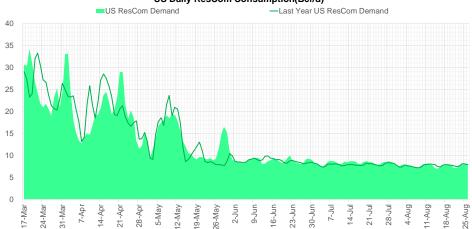
#### US Dry Natural Gas Production (Bcf/d)



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



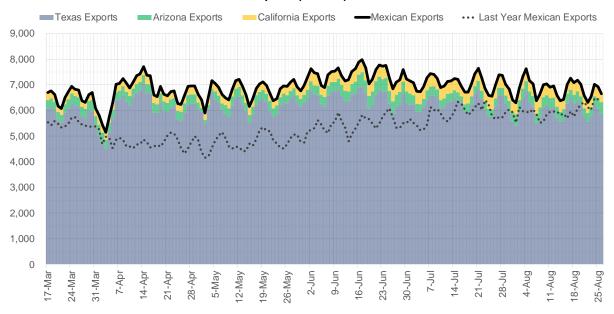
#### US Daily ResCom Consumption(Bcf/d)



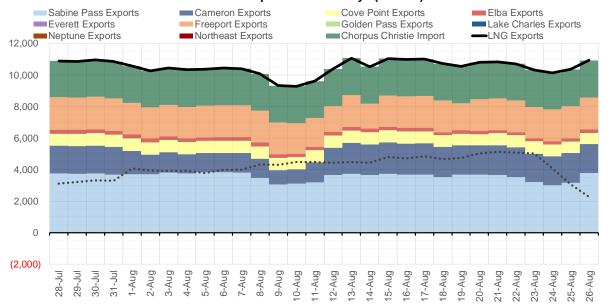
Source: Bloomberg



#### 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

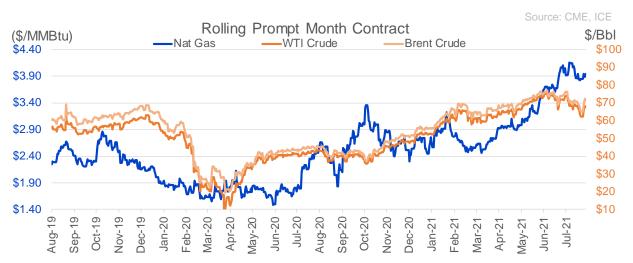
CONTRACT MONTH         CONTRACT YEAR         PUT/CALL         STRIKE         CUMULATIVE VOL           10         2021         P         3.50         22622           10         2021         C         4.50         10420           9         2021         C         4.00         9227           10         2021         C         5.00         7427           9         2021         P         3.90         5932	CONTRACT CONTRACT MONTH YEAR  10 2021	
10     2021     P     3.50     22622       10     2021     C     4.50     10420       9     2021     C     4.00     9227       10     2021     C     5.00     7427		
10     2021     C     4.50     10420     10       9     2021     C     4.00     9227     10       10     2021     C     5.00     7427     12	2021	
9 2021 C 4.00 9227 10 10 2021 C 5.00 7427 12		
10 2021 C 5.00 7427 12	2021	
10 2021	2021	
9 2021 P 3.90 5932 12 2021		2021
0 202		2021
9 2021 P 3.75 5433 10 2021		
9 2021 P 3.85 5060 10 2021		
10 2021 P 3.75 5003 10 2021		
10 2021 P 3.25 4894 10 2021		
9 2021 P 3.80 4795 9 2021		
10 2021 C 4.25 4367 10 2021		
9 2021 C 4.10 3840 10 2021		
9 2021 C 3.90 3761 10 2021		
10 2021 C 4.00 3298 9 2021		
10 2021 P 3.65 3146 10 2021		
12 2021 C 5.00 2879 9 2021		
10 2021 P 3.60 2558 10 2021		
12 2021 C 4.25 2550 12 2021		
9 2021 C 3.95 2492 9 2021		
2 2022 C 6.00 2360 11 2021		
2 2022 C 8.00 2350 11 2021		
10 2021 B 3.80 2221 9 2021		
9 2021 P 3.95 2208 9 2021		
11 2021 P 3.50 1879 12 2021		
11 2021 C 500 1964 9 2021		2021
11 2021 C 4.75 1915 9 2021		2021
12 2021 P 3.50 1800 9 2021		2021
		2021
3 2022 C 4.00 1610 10 2021		2021
9 2021 C 4.05 1578 4 2022		2022
9 2021 C 3.85 1574 9 2021		2021
3 2022 C 4.25 1500 10 2021		2021
10 2021 P 3.35 1426 11 2021		2021
9 2021 P 3.70 1349 10 2021		2021
3 2022 C 5.00 1159 9 2021		2021
10 2021 P 3.40 1128 11 2021		2021
11 2021 P 3.00 1109 <sub>10</sub> 2021		
10 2021 C 5.50 1007 3 2022		
11 2021 C 4.00 1001 3 2022		
9 2021 C 4.25 996 1 2022		
2 2022 C 5.00 967 9 2021		
3 2022 C 3.75 950 9 2021		
9 2021 P 3.87 919 2 2022		
10 2021 P 3.70 908 9 2021		
10 2021 P 3.20 784 11 2021		
12 2021 P 4.00 752 2 2022		
3 2022 C 4.75 700 3 2022		
12 2021 C 4.00 675 11 2021		
9 2021 P 4.00 635 10 2021		
		2021
10 2021 C 5.10 603 1 2022		2022



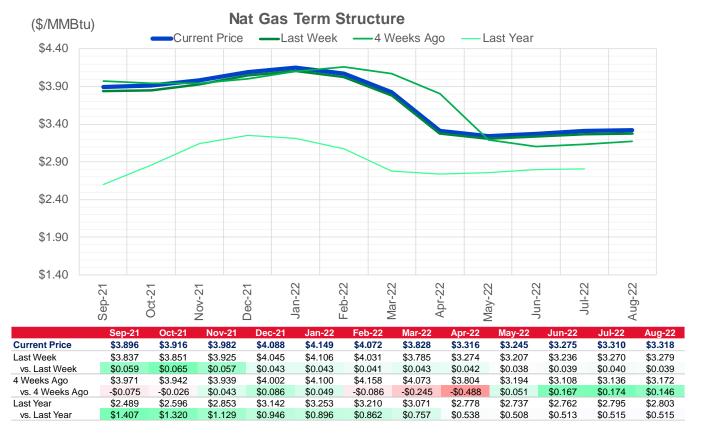
# Nat Gas Futures Open Interest

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	13580	17675	-4095	SEP 21	86452	86698	-246
OCT 21	244273	242256	2017	OCT 21	109241	110665	-1425
NOV 21	197239	197084	155	NOV 21	71511	70614	897
DEC 21	87035	87253	-218	DEC 21	75931	75803	128
JAN 22	145240	144599	641	JAN 22	78678	78891	-213
FEB 22	55558	55264	294	FEB 22	67288	68217	-928
MAR 22	107511	107195	316	MAR 22	71951	72783	-832
APR 22	111005	110942	63	APR 22	67299	68247	-948
MAY 22	101697	101553	144	MAY 22	66190	66825	-635
JUN 22	32343	31615	728	JUN 22	51067	51789	-722
JUL 22	27060	27048	12	JUL 22	51987	53057	-1070
AUG 22	26100	26087	13	AUG 22	52110	52901	-791
SEP 22	28027	27664	363	SEP 22	52145	52927	-782
OCT 22	72347	71836	511	OCT 22	59480	60337	-856
NOV 22	29218	29654	-436	NOV 22	45377	46264	-887
DEC 22	24216	24233	-17	DEC 22	49124	50032	-908
JAN 23	18365	18412	-47	JAN 23	34000	33676	324
FEB 23	6570	6474	96	FEB 23	28710	28553	157
MAR 23	8821	8699	122	MAR 23	30456	30309	147
APR 23	10587	10642	-55	APR 23	25739	25593	146
MAY 23	6394	6395	-1	MAY 23	26606	26427	179
JUN 23	5162	5161	1	JUN 23	24786	24599	187
JUL 23	3927	3898	29	JUL 23	24821	24630	191
AUG 23	3187	3166	21	AUG 23	24722	24525	197
SEP 23	4127	4102	25	SEP 23	24099	23910	189
OCT 23	4708	4708	0	OCT 23	25932	25735	196
NOV 23	1726	1726	0	NOV 23	25890	25770	120
DEC 23	1709	1805	-96	DEC 23	24225	24085	140
JAN 24	994	994	0	JAN 24	13599	13607	-8
FEB 24	879	879	0	FEB 24	11387	11394	-7







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	4.35	3.23	-1.12
TETCO M3	\$/MMBtu	3.93	3.00	-0.93
FGT Zone 3	\$/MMBtu	4.00	4.00 3.90	
Zone 6 NY	\$/MMBtu	4.00	2.95	-1.05
Chicago Citygate	\$/MMBtu	3.94	3.67	-0.27
Michcon	\$/MMBtu	3.88	3.64	-0.24
Columbia TCO Pool	\$/MMBtu	3.78	3.12	-0.66
Ventura	\$/MMBtu	3.91	3.59	-0.32
Rockies/Opal	\$/MMBtu	3.95	3.55	-0.40
El Paso Permian Basin	\$/MMBtu	3.66	3.54	-0.12
Socal Citygate	\$/MMBtu	6.78	5.27	-1.51
Malin	\$/MMBtu	4.45	3.85	-0.60
Houston Ship Channel	\$/MMBtu	3.90	3.79	-0.10
Henry Hub Cash	\$/MMBtu	3.93	3.58	-0.35
AECO Cash	C\$/GJ	3.27	2.76	-0.51
Station2 Cash	C\$/GJ	3.27	3.71	0.44
Dawn Cash	C\$/GJ	3.87 3.65		-0.22

Source: CME, Bloomberg



					\ / C	4 Wooks		
					VS	s. 4 Weeks		
	Units	Current Price	VS.	Last Week		Ago	VS	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.308		0.059	•	-0.044		0.288
NatGas Oct21/Nov21	\$/MMBtu	0.070		-0.003		0.009		0.019
NatGas Oct21/Jan22	\$/MMBtu	0.241		-0.013		0.020		-0.044
NatGas Apr22/Oct22	\$/MMBtu	0.014		-0.002		0.028		-0.016
WTI Crude	\$/Bbl	68.36		2.900	•	-4.030		24.970
Brent Crude	\$/Bbl	72.25		4.020	$\blacksquare$	-2.490		26.610
Fuel Oil, NY Harbour 1%	\$/BbI	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	211.82		9.700	$\blacksquare$	-3.780		87.350
Propane, Mt. Bel	cents/Gallon	1.11		-0.016		0.017		0.602
Ethane, Mt. Bel	cents/Gallon	0.33		-0.004		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						



