

Natural gas prices were wild, to say the least, this week, and adding to the volatility was the reported wild storage injection of +89 Bcf for the week ending September 11th. The fear of storage hit capacity sent Oct prices drastically lower, while the winter strip stayed somewhat intact. The VF spread closed the week at 1.24 - not in the normal range but makes sense with summer and winter fundamentals on completely different paths.

LNG is one of the key factors the markets relying on to keep the market from breaching storage limits, especially in a period where late-season storage ratchets limit daily injections.

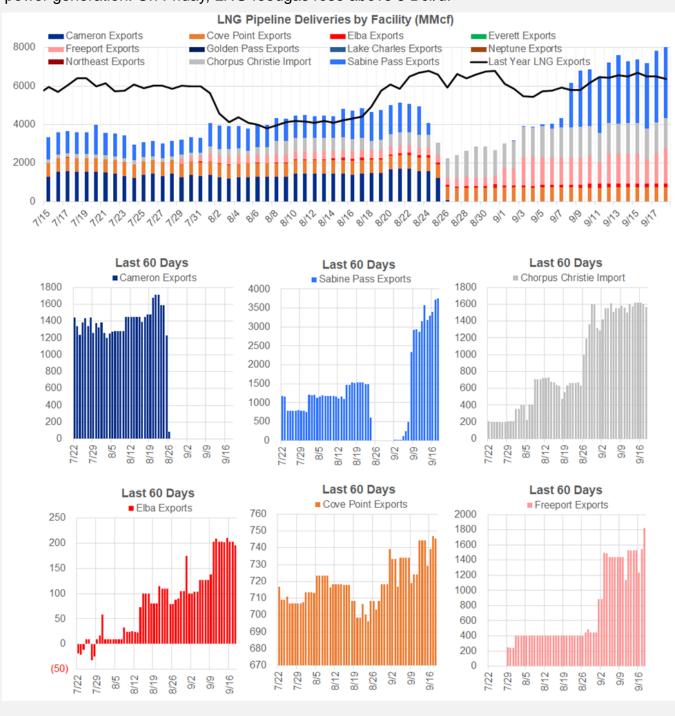
Cameron LNG is located on the northwestern edge of Calcasieu Lake. It is just south of Lake Charles, one of the hardest-hit areas from Hurricane Laura. The facility did not sustain any damage, but the start-up has been delayed due to the lack of waterway access to the facility using the Calcasieu channel and power supply issues.



Map Link



We have seen LNG feedgas volumes rise this month despite Sempra's Cameron facility not being available since its shut-down before Hurricane Laura. Freeport and Corpus Christie have picked up some of the slack, and Sabine Pass back online by Sept 8th with their onsite power generation. On Friday, LNG feedgas rose above 8 Bcf/d.





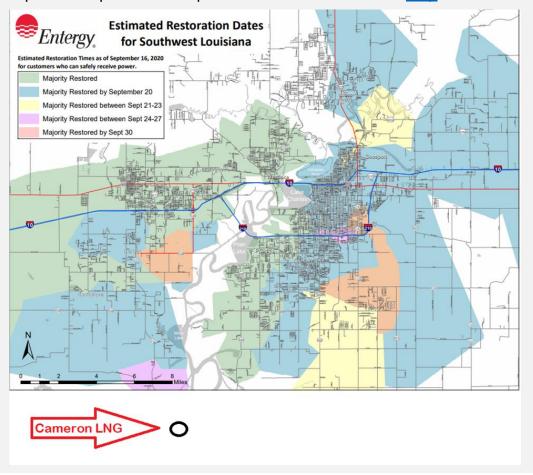
The start-up of Cameron is on most traders' minds, especially with storage level expected to jump well above 4 Tcf. Should Cameron LNG be offline for all of October, 1.0-1.4 Bcf/d of expected feedgas demand would be taken out of balances in October. This would be a bearish sign as storage within the region is elevated. There is no concrete timeline, but we expect to have Cameron on in the first week of October.

According to a note from ClipperData on Wednesday, "Five ballasting LNG vessels are still projected to load from Sempra's Cameron LNG terminal... Four out of five vessels are currently in the Gulf of Mexico while one is bound for the region".

1) Power Issues

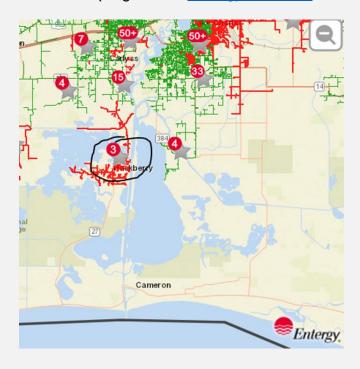
Cameron is powered up by Entergy's transmission and distribution system. The system had massive transmission line damage from a direct hit from Hurricane Laura.

Entergy anticipates that most customers in southwest Louisiana will receive service by Sept. 23 and the remaining customers who can safely accept power will be back on by Sept. 30. Although Cameron LNG is south of the region shown in this map, it indicates that Cameron should be powered up between Sept 24-27. Here is a link to the map.





You can also see a live shot of the progress on **Entergy's website**.



2) Waterways

Waterway access is currently limited to Cameron with debris and storm-related wreckages. To ensure the channels can handle large laden tankers, the recovery effort includes removal of debris and dredging are underway. Dredging is the removal of sediments and debris from the bottom of the water ways to ensure water depth can support marine traffic.

Here is the latest on the waterways from Moran Shipping.

The Calcasieu Waterway is open with restrictions as follows:

- 1) Vessels of less than 36-foot draft may transit the Calcasieu River from the "CC" buoy to Lake Charles
- 2) Monkey Island Loop surveys indicate significant debris. Vessels desiring to enter this waterway are advised to do so at their own discretion and to exercise due caution.

Dredging Plans for the Calcasieu:

Late Sept/Early October - Estimate complete dredging. Currently, Dredge Wheeler is working on the Outer Bar Channel

The typical laden LNG tanker draft is 40-feet. So there is the potential of a partially full tanker heading out of Cameron once power resumes.

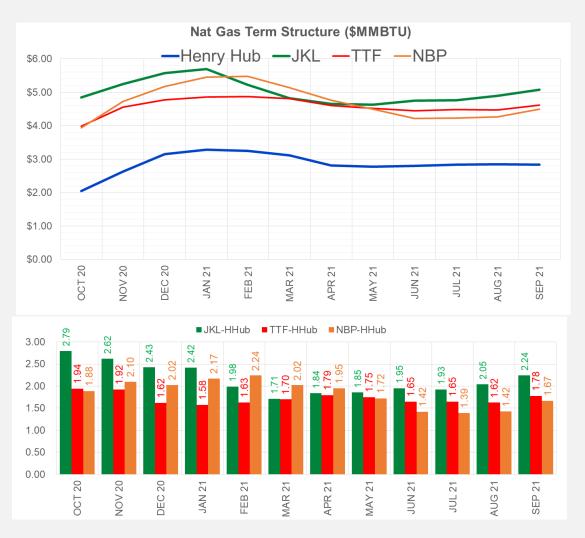


3) CEO comments at DOE broadcast. This is probably the most bearish.

"We expect to have it in operation in the next six weeks," Martin said during an energy summit sponsored by the US Department of Energy that was broadcast on the Internet.

Here is a link to the article.

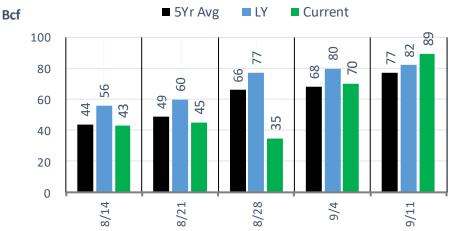
Lastly, here are the Global LNG Spreads. With Thursday's drop, spread have opened significantly to move US LNG to major destinations.



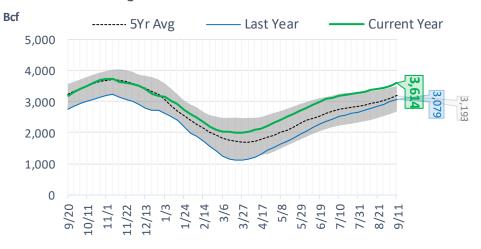


EIA Storage Report

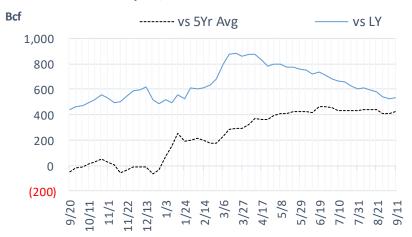
Total Lower 48 YoY Weekly Change



Total Lower 48 Storage Levels



Total Lower 48 LY Surplus/Deficit



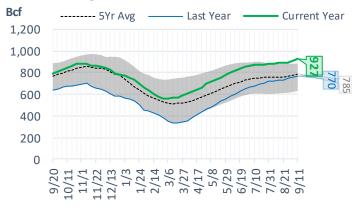


Natural Gas Storage Stats - Last 5 Weeks

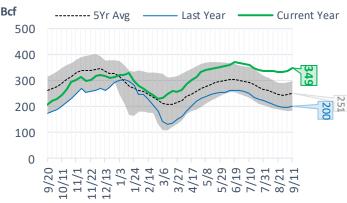
	Current	Week - 1	Week - 2	Week - 3	Week - 4	Week - 5
Week Ending	11-Sep	4-Sep	28-Aug	21-Aug	14-Aug	7-Aug
Total Lower 48 Storage Level	3614	3525	3455	3420	3375	3332
Weekly Change	+89	+70	+35	+45	+43	+58
vs LY	+535	+528	+538	+580	+595	+608
vs 5Yr Avg	+421	+409	+407	+438	+442	+443
S. Central Salt Storage Level	349	335	331	334	335	337
Weekly Change	+14	+4	-3	-1	-2	+1
vs LY	+149	+137	+133	+133	+127	+121
vs 5Yr Avg	+98	+89	+87	+87	+82	+76
S. Central NonSalt Storage Level	927	908	895	889	888	883
Weekly Change	+19	+13	+6	+1	+5	+5
vs LY	+157	+152	+150	+155	+159	+160
vs 5Yr Avg	+142	+134	+127	+127	+130	+126
Midwest Storage Level	983	953	924	904	880	856
Weekly Change	+30	+29	+20	+24	+24	+26
vs LY	+95	+100	+108	+123	+129	+135
vs 5Yr Avg	+101	+104	+107	+121	+123	+124
East Storage Level	825	805	789	775	750	738
Weekly Change	+20	+16	+14	+25	+12	+20
vs LY	+69	+73	+84	+99	+97	+110
vs 5Yr Avg	+46	+49	+55	+66	+62	+72
Mountain Storage Level	221	216	212	212	209	206
Weekly Change	+5	+4	0	+3	+3	+4
vs LY	+34	+35	+36	+40	+42	+43
vs 5Yr Avg	+24	+22	+22	+25	+25	+25
Pacific Storage Level	310	308	304	306	313	314
Weekly Change	+2	+4	-2	-7	-1	+3
vs LY	+32	+33	+27	+29	+40	+42



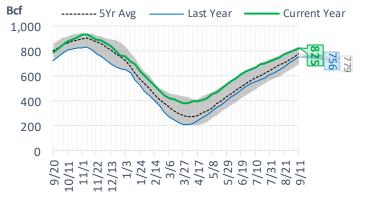
NonSalt Storage Levels



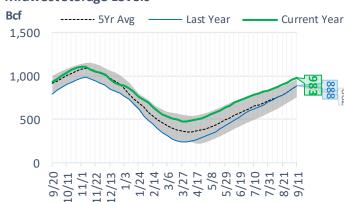
Salt Storage Levels



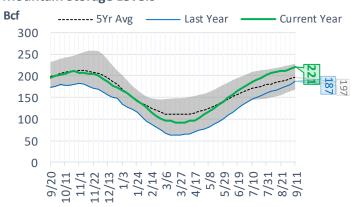
East Storage Levels



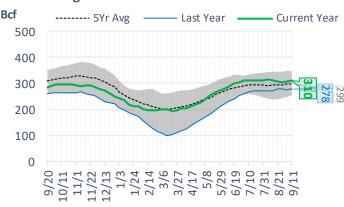
Midwest Storage Levels



Mountain Storage Levels

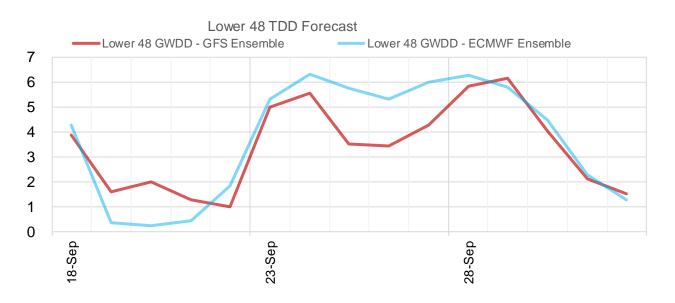


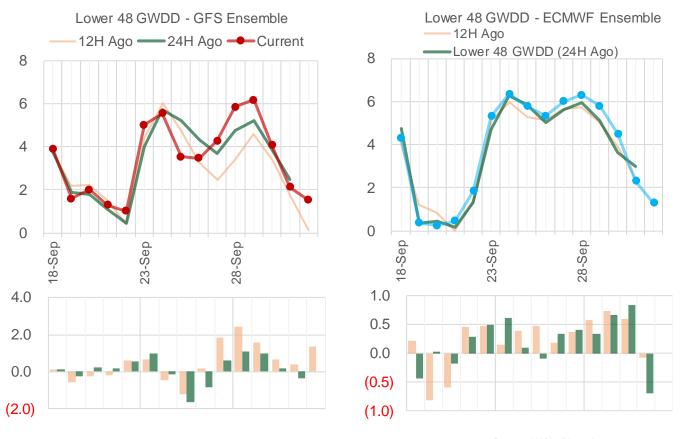
Pacific Storage Levels





Current Short-term Weather Model Outlooks (00z)





Source: WSI, Bloomberg



EIA Storage Week Balances

	14-Aug	21-Aug	28-Aug	4-Sep	11-Sep	18-Sep	WoW	vs. 4W
Lower 48 Dry Production	87.4	87.2	86.0	86.3	88.3	87.1	▽ -1.2	△ 0.1
Canadian Imports	5.0	4.7	5.2	4.4	3.8	3.8	▼ 0.0	▼ -0.7
L48 Power	42.8	40.0	41.6	37.3	35.2	33.3	▼ -1.9	▼ -5.3
L48 Residential & Commercial	8.1	8.2	8.3	7.8	8.8	8.5	▼ -0.3	0.2
L48 Industrial	19.1	20.4	19.6	19.6	18.7	18.9	△ 0.2	▼ -0.6
L48 Lease and Plant Fuel	4.9	4.8	4.8	4.8	4.9	4.9	▼ -0.1	0.0
L48 Pipeline Distribution	2.3	2.2	2.3	2.1	2.1	2.0	▼ -0.1	▼ -0.2
L48 Regional Gas Consumption	77.2	75.7	76.6	71.5	69.7	67.5	▼ -2.2	▼ -5.9
Net LNG Exports	4.4	4.7	3.9	3.0	5.2	7.3	2.1	▲ 3.1
Total Mexican Exports	6.0	6.2	6.6	6.5	6.4	6.2	▽ -0.2	▽ -0.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	4.8 6.1 -1.3	5.3 6.4 -1.2	4.1 5.0 -0.9	9.6 10.0 -0.4	10.9 12.7 -1.8	9.9	-0.9	

Monthly Balances									
-	2Yr Ago	LY					MTD		
	Sep-18	Sep-19	May-20	Jun-20	Jul-20	Aug-20	Sep-20	MoM	vs. LY
Lower 48 Dry Production	85.2	93.5	85.8	85.1	86.6	86.8	87.4	0.6	▽ -6.0
Canadian Imports	4.5	4.7	3.9	4.0	4.4	4.9	3.8	▼ -1.0	▽ -0.9
L48 Power	34.3	36.4	26.9	34.8	43.9	40.6	34.2	▼ -6.4	▼ -2.2
L48 Residential & Commercial	8.5	8.3	12.9	9.0	8.6	8.1	9.0	0.9	0.7
L48 Industrial	21.6	22.2	18.9	18.4	17.8	19.5	19.0	▼ -0.6	▼ -3.3
L48 Lease and Plant Fuel	4.8	5.2	4.8	4.9	4.9	4.8	4.9	△ 0.0	▼ -0.3
L48 Pipeline Distribution	2.0	2.1	1.9	2.0	2.4	2.2	2.0	▼ -0.2	▼ -0.1
L48 Regional Gas Consumption	71.2	74.3	65.5	69.1	77.5	75.3	69.1	▼ -6.2	▼ -5.2
Net LNG Exports	3.1	6.2	6.7	4.0	3.3	4.0	5.9	1.9	▽ -0.2
Total Mexican Exports	5.1	5.4	4.9	5.7	6.1	6.3	6.4	△ 0.1	1.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	10.3	12.4	12.6	10.2	4.1	6.1	9.9		

Source: Bloomberg, analytix.ai

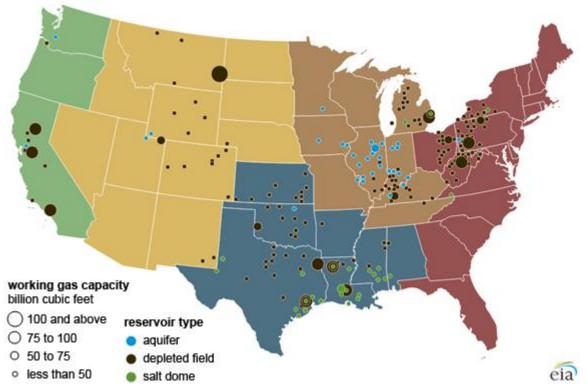
Regional S/D Models Storage Projection

Week Ending 18-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	9.7	1.6	11.3	79
East	2.1	1.5	3.6	25
Midwest	3.6	0.3	4.0	28
Mountain	3.7	-2.8	1.0	7
South Central	-0.7	3.0	2.3	16
Pacific	1.0	-0.5	0.4	3

^{*}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						
25-Sep	104						
2-Oct 103							
9-Oct	103						

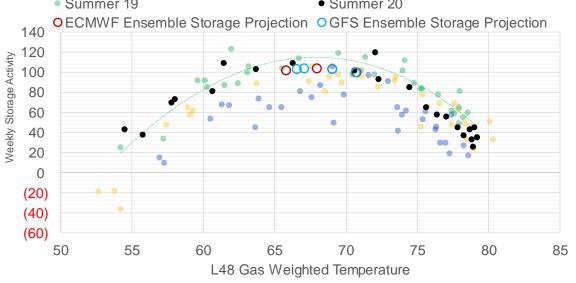
Weather Storage Model - Next 4 Week Forecast



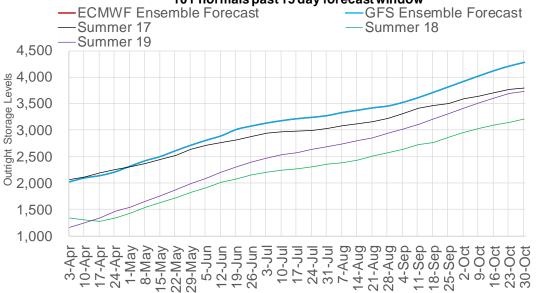
Summer 18

Summer 19

Summer 20



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





Weather Model Storage Projection to End of Season

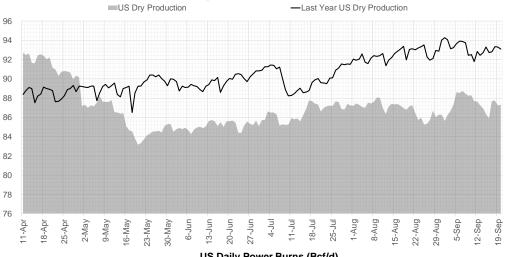
L48 Storage Trajectory from Weather Model					Forecast Storage Levels				
	Report vs 5Yr Reported E					5Yr Avg			
	Storage Level	vs. LY	Avg	Chg	Chg *	LY Chg	vs. LY	Chg	vs. 5Yr
3-Apr-20	2024	876	324	38		25	13	6	32
10-Apr-20	2097	876	370	73		73	0	27	46
17-Apr-20	2140	827	364	43		92	(49)	49	(6)
24-Apr-20	2210	783	360	70		114	(44)	74	(4)
1-May-20	2319	796	395	109		96	13	74	35
8-May-20	2422	799	413	103		100	3	85	18
15-May-20	2503	779	407	81		101	(20)	87	(6)
22-May-20	2612	778	423	109		110	(1)	93	16
29-May-20	2714	762	422	102		118	(16)	103	(1)
5-Jun-20	2807	748	421	93		107	(14)	94	(1)
12-Jun-20	2892	722	419	85		111	(26)	87	(2)
19-Jun-20	3012	739	466	120		103	17	73	47
26-Jun-20	3077	712	466	65		92	(27)	65	0
3-Jul-20	3133	685	454	56		83	(27)	68	(12)
10-Jul-20	3178	663	436	45		67	(22)	63	(18)
17-Jul-20	3215	656	436	37		44	(7)	37	0
24-Jul-20	3241	626	429	26		56	(30)	33	(7)
31-Jul-20	3274	601	429	33		58	(25)	33	0
7-Aug-20	3332	608	443	58		51	7	44	14
14-Aug-20	3375	595	442	43		56	(13)	44	(1)
21-Aug-20	3420	580	438	45		60	(15)	49	(4)
28-Aug-20	3455	538	407	35		77	(42)	66	(31)
4-Sep-20	3525	528	409	70		80	(10)	68	2
11-Sep-20	3614	535	421	89		82	7	77	12
18-Sep-20					100	97	3	80	20
25-Sep-20					104	109	(5)	78	26
2-Oct-20					103	102	1	86	17
9-Oct-20					103	102	1	87	16
16-Oct-20					99	92	7	75	24
23-Oct-20					86	89	(3)	67	19
30-Oct-20					71	49	22	52	19
			2294	2596	(302)	2024	270		

^{*} first 15D change is an average of the GFS Ensemble and ECMWF Ensemble

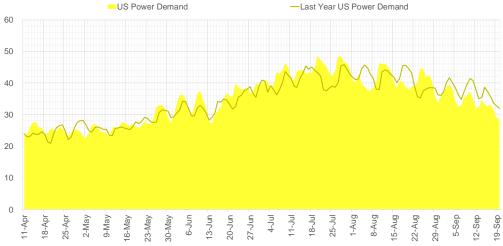


Supply - Demand Trends

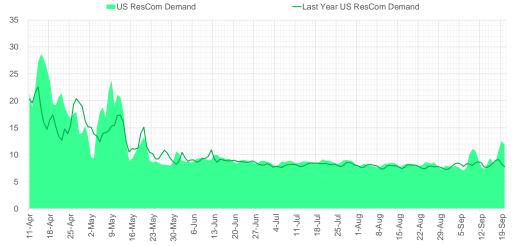
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



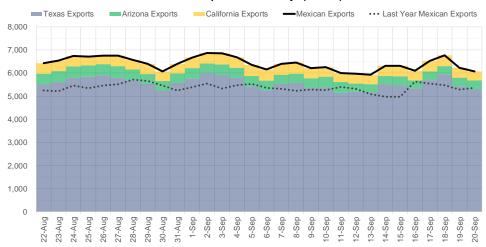
US Daily ResCom Consumption(Bcf/d)

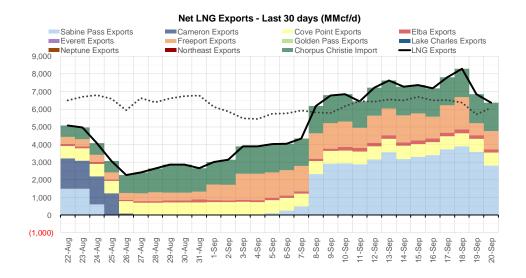


Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)





Source: Bloomberg



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

									<u> </u>
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTR MON				
10	2020	Р	2.00	25883	10		2020	2020 C	2020 C 2.75
10	2020	P	1.90	17729	10		2020		
10	2020	P	1.75	16467	10		2020		
10	2020	P	1.75	14162	10	20			
10	2020	P	1.80	9823	10	2020		Р	
11	2020	Ċ	5.00	8504	10	2020		Р	
10	2020	C	2.25	6798	10	2020		C	
10	2020	P	2.25	6559	10	2020		P	
					3	2021		P	
10	2020	С	2.40	6552	4	2021		C	
10	2020	P	2.10	6243	10	2020		P	
10	2020	P	2.05	5995	11	2020		Ċ	
11	2020	Р	2.00	5736	11	2020		C	
11	2020	С	3.50	5696	11	2020		P	
10	2020	С	2.20	5610					
10	2020	Р	1.50	5346	3	2021		С	
10	2020	С	2.45	5154	3	2021		С	
10	2020	Р	1.60	5143	10	2020		P	
11	2020	Р	2.25	5082	10	2020		P	
10	2020	Р	1.95	4986	10	2020		Р	
10	2020	P	1.70	4819	10	2020		Р	
10	2020	P	2.15	4668	1	2021		С	
11	2020	C	3.25	4133	10	2020		С	
10	2020	P	2.20	3939	12	2020		Р	
10	2020	C	2.20	3928	1	2021		С	C 4.50
					10	2020		С	C 2.10
11	2020	С	3.00	3722	3	2021		С	C 3.00
1	2021	C	3.75	3656	11	2020		Р	P 2.25
10	2020	С	2.35	3456	10	2020		Р	
10	2020	Р	1.40	2750	3	2021		C	
11	2020	Р	2.50	2649	1	2021		Č	
1	2021	С	4.00	2390	11	2020		P	
10	2020	С	2.10	2102	10	2020		P	
10	2020	Р	2.30	2093	10	2020		C	
10	2020	С	2.15	2029				P	
10	2020	Č	2.30	1920	12 10	2020		C	
1	2021	Č	3.50	1726		2020			
11	2020	P	1.75	1725	10	2020		С	C 2.00
10	2020	P	1.65	1621	3	2021		С	
11	2020	P	2.35	1616	10	2020		C	
					11	2020		С	
7	2021	С	3.50	1500	11	2020		С	
10	2020	P	1.45	1382	10	2020		С	
10	2020	С	2.75	1303	2	2021		С	
11	2020	С	2.75	1303	1	2021		С	
10	2020	Р	2.35	1258	1	2021		С	
11	2020	С	2.55	1229	10	2020		С	C 2.25
11	2020	Р	2.75	1191	10	2020		Р	P 1.85
10	2020	Р	2.40	1114	10	2020		Р	
11	2020	С	4.00	1105	10	2020		Р	
6	2021	C	3.00	1030	12	2020		C	
11	2020	P	2.40	1002	10	2020		P	

Source: CME, Nasdaq, ICE



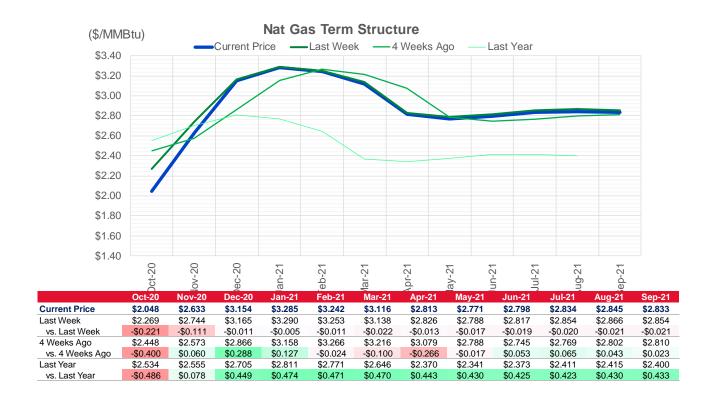
Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry H	lub Futures (1	0,000 MMBti	٦)	ICE Henry Hub	Futures Co	ontract Equiva	lent (10,000 MM
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
OCT 20	87663	101856	-14193	OCT 20	78269	80312	-2042.25
NOV 20	275308	264318	10990	NOV 20	82964	84698	-1734.75
DEC 20	125879	119379	6500	DEC 20	77401	75327	2074.25
JAN 21	145175	141132	4043	JAN 21	87716	87555	160.5
FEB 21	56579	56200	379	FEB 21	58990	59051	-60.5
MAR 21	117995	115941	2054	MAR 21	78839	78495	344.25
APR 21	80082	78868	1214	APR 21	64990	65107	-117
MAY 21	42996	45635	-2639	MAY 21	55675	55359	315.75
JUN 21	27924	28598	-674	JUN 21	51817	51457	359.75
JUL 21	20437	20734	-297	JUL 21	54493	53904	588.75
AUG 21	22133	22275	-142	AUG 21	53913	53676	236.75
SEP 21	28324	28109	215	SEP 21	50944	50492	452.5
OCT 21	70814	70139	675	OCT 21	75891	75077	814.5
NOV 21	27284	27137	147	NOV 21	43359	43111	247.75
DEC 21	23856	24141	-285	DEC 21	43425	43185	239.75
JAN 22	24833	24144	689	JAN 22	37207	37037	170
FEB 22	13380	12983	397	FEB 22	32346	32237	109
MAR 22	18171	18267	-96	MAR 22	34460	34250	210.25
APR 22	21808	22506	-698	APR 22	34562	34627	-64.75
MAY 22	6735	6374	361	MAY 22	25203	25124	79.25
JUN 22	3625	3623	2	JUN 22	23910	23985	-75
JUL 22	2990	2987	3	JUL 22	25379	25308	71.5
AUG 22	2136	2170	-34	AUG 22	24454	24532	-77.5
SEP 22	2179	2177	2	SEP 22	23502	23577	-75
OCT 22	3354	3309	45	OCT 22	25092	25051	40.5
NOV 22	2509	2513	-4	NOV 22	22742	22700	42
DEC 22	2500	2491	9	DEC 22	24806	24763	43.25
JAN 23	2832	2832	0	JAN 23	12639	12528	111
FEB 23	855	855	0	FEB 23	12049	12004	45.5
MAR 23	911	901	10	MAR 23	12043	11953	89.5

Source: CME, ICE







					VS	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	V	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.47	$\overline{}$	-0.008		0.006	$\overline{}$	-0.037
NatGas Mar/Apr	\$/MMBtu	-0.303	A	0.009	$\overline{}$	-0.594	$\overline{}$	-0.569
NatGas Oct/Nov	\$/MMBtu	0.59	_	0.110	_	0.292		0.529
NatGas Oct/Jan	\$/MMBtu	1.24	A	0.216		0.544		0.899
WTI Crude	\$/Bbl	41.11	A	3.780	$\overline{}$	-1.230	$\overline{}$	-16.980
Brent Crude	\$/Bbl	43.15		3.320	$\overline{}$	-1.200	$\overline{}$	-21.130
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	A	0.000	A	0.000		0.000
Heating Oil	cents/Gallon	115.90		6.940	$\overline{}$	-4.900	$\overline{}$	-82.730
Propane, Mt. Bel	cents/Gallon	0.50	_	0.022	$\overline{}$	-0.008		0.049
Ethane, Mt. Bel	cents/Gallon	0.20	$\overline{}$	-0.012	$\overline{}$	-0.047	$\overline{}$	-0.017
Coal, PRB	\$/MTon	12.30	_	0.000		0.000		0.150
Coal, ILB	\$/MTon	31.05		0.000		0.000		-4.500

Source: CME, Bloomberg



Baker Hughes Rig Counts

Oil and Natural Gas rigs decreased by 1 each this week, while natural gas rigs increased by 2. The weekly changes for the major basins are listed below.

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	Rotary Rig	Count		_	~
	Baker	Hughes 🤰			
U.S. Breakout Information	This Week	This Week +/- Last Week		+/-	Year Ago
Oil	179	-1	180	-540	719
Gas	73	2	71	-75	148
Miscellaneous	3	0	3	2	1
Directional	23	2	21	-38	61
Horizontal	215	1	214	-541	756
Vertical	17	-2	19	-34	750 51
Vertical	17	-2	19	-34	31
Canada Breakout	This Week	+/-	Last Week	+/-	Year Ago
Oil	30	11	19	-52	82
Gas	34	1	33	-3	37
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago
Ardmore Woodford	0	0	0	-2	2
Arkoma Woodford	1	0	1	-2	2 3
Barnett	0	0	0	-4	4
Cana Woodford	6	0	6	-30	36
DJ-Niobrara	4	0	4	-19	23
Eagle Ford	9	0	9	-54	63
Granite Wash	1	0	1	-2	3
Haynesville	36	1	35	-14	50
Marcellus	25	1	24	-25	50
Mississippian	0	0	0	-2	2
Permian	123	-1	124	-294	417
Utica	5	0	5	-7	12
Williston	10	1	9	-43	53