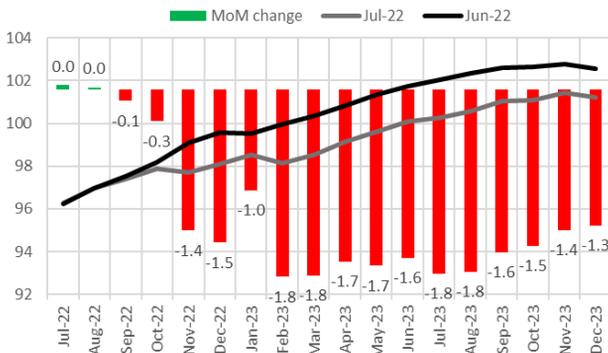


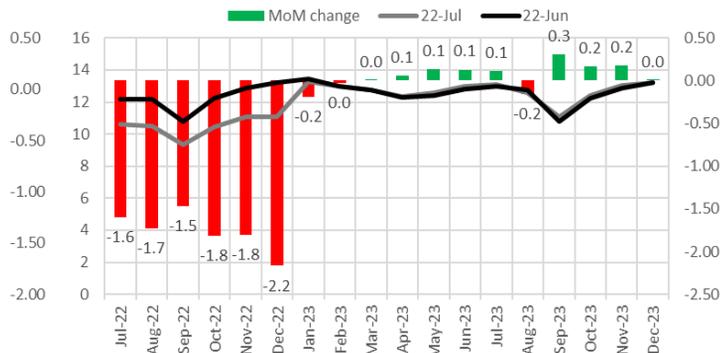
Let's start with a glance at the STEO. Although the EIA STEO is not entirely important, it's always good to see what the rest of the market has in front of them. As with most forward-looking balances, the STEO made big adjustments from July through December due to the Freeport outage. Here is a quick summary for H2 2022:

- Avg price \$6.20 (-2.72)
- Dry Gas Prod 97.39 (-0.54) [Cal 23 is lower by 1.59 Bcf/d due to the price response]
- LNG export 10.49 (-1.76)
- Res/Comm 17.60 (+0.02)
- Ind 22.78 (+0.77)
- PB 33.93 (+0.19)
- End of Summer 3,468 (+129)

EIA STEO Dry Gas Production

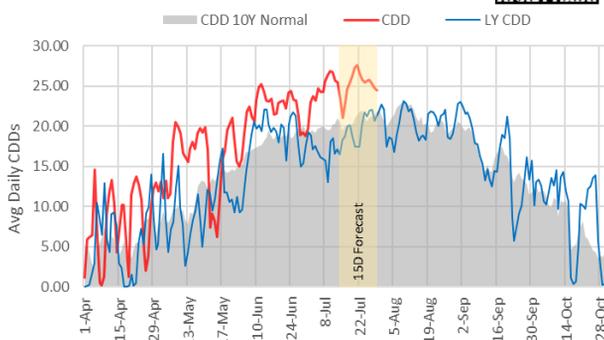


EIA STEO LNG Gross Exports

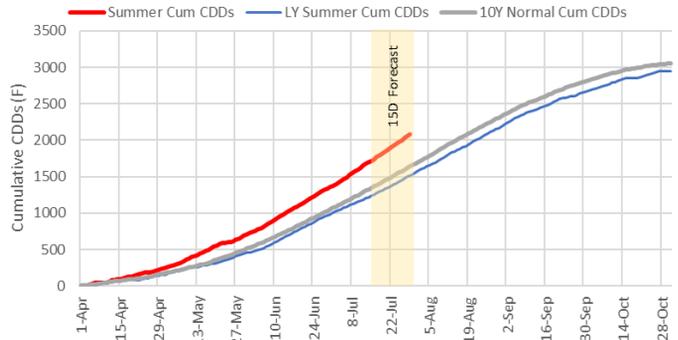


Let's move on to the big heat complex that once again hit the south part of the country. July 8 through 13 were record-setting temps, where temperatures were above 100 degrees Fahrenheit in key cities across Texas. During all those days, except July 13, the ERCOT grid was stretched but operational. Below you can see how hot Texas temp looked relative to last year and normals. The cumulative CDDs this summer have outpaced the 10Y normal by 27%, and LY by 37%.

ERCOT Summer CDDs



ERCOT Cumulative Summer CDDs

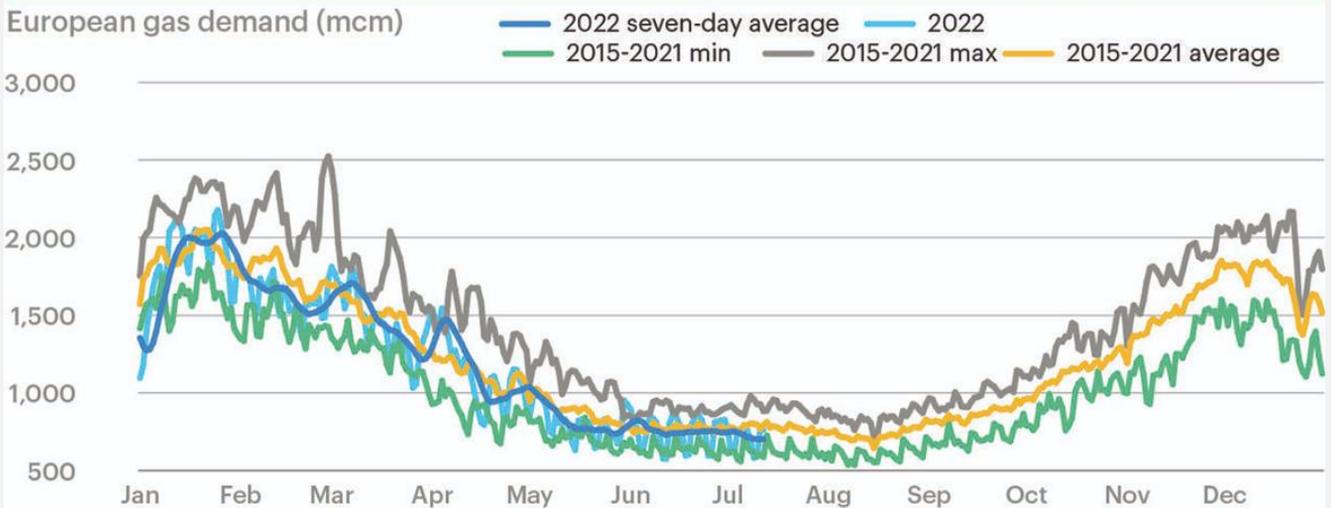


For July 13th, ERCOT took emergency measures as supply did not look adequate to keep up with soaring electricity demand. ERCOT blamed forced outages at coal and natural gas plants, cloud cover over West TX resulting in lower solar output, and low wind power generation – a perfect storm. ERCOT urged residents to cut power use during the hottest hours of the day to avoid rolling blackouts. It was the third time this year that ERCOT has called on residents to cut power usage and the second time it has warned of the potential for rolling blackouts. At the time of emergency notice to residents, ERCOT began paying suppliers almost \$5,000/MWh to keep generators running. That price is the highest the grid operator pays.

We likely have another episode like this in the coming weeks. The current forecast for the region shows extreme levels of heat continuing over the 15-day forecast window; hence we are likely to hear more about record-breaking power demand.

Across the pond, European customers are being asked to reduce their energy consumption as well. Not total due to soaring temperatures though, but more related to soaring prices. Data clearly shows that European natgas consumption has been lower this summer, with the latest July data coming in much lower than average. Summer-to-date (April up to now) demand is down 3.7% on average and down 15.3% on 2021. Here is a great chart from ICIS:

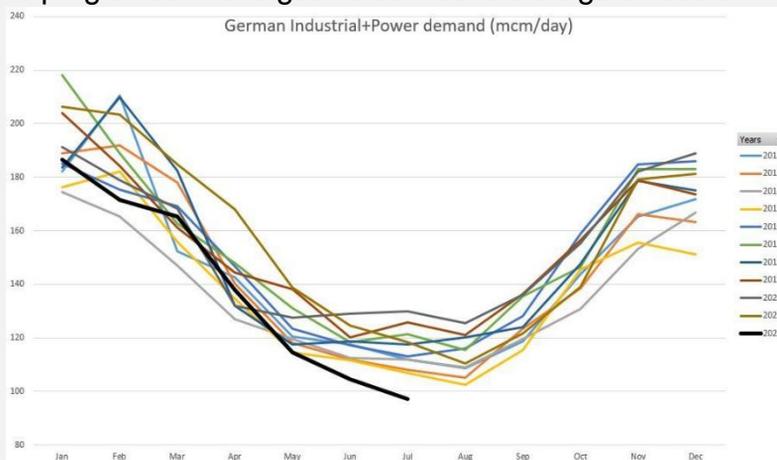
Consumption dips further below seasonal average



Source: ICIS

Germany is particularly in a tough spot and is racing to save gas after Russia cut supplies on Nord Stream pipeline (NS1) by more than half in late-June ahead of the typical July maintenance period. The pipeline is now down for its maintenance and Gazprom issued a statement claiming it will not have the proper documents to receive the equipment from the maintenance provider Siemens Canada. This conflicts with statements from the Canadian govt that they have made an exception in releasing the equipment despite the ongoing sanctions. Seems like Russia is using all excuses to stall.

Germany has encouraged industry and energy providers to save natural gas by offering incentives ahead of winter. German industrial+power output finally falling outside its normal range which is helping direct more gas to domestic storage ahead of winter.

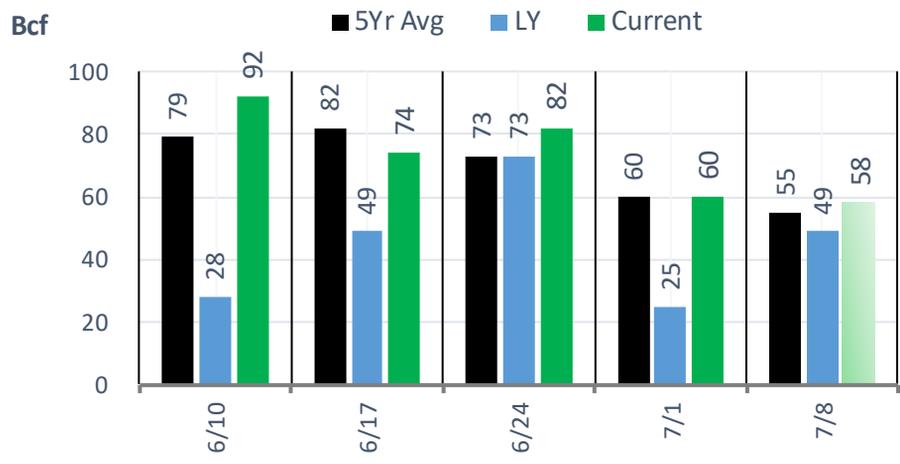


Germany would like to have storage sites 90% full by November from about 65% now, but this might be difficult with no clear timeline on the return of NS1.

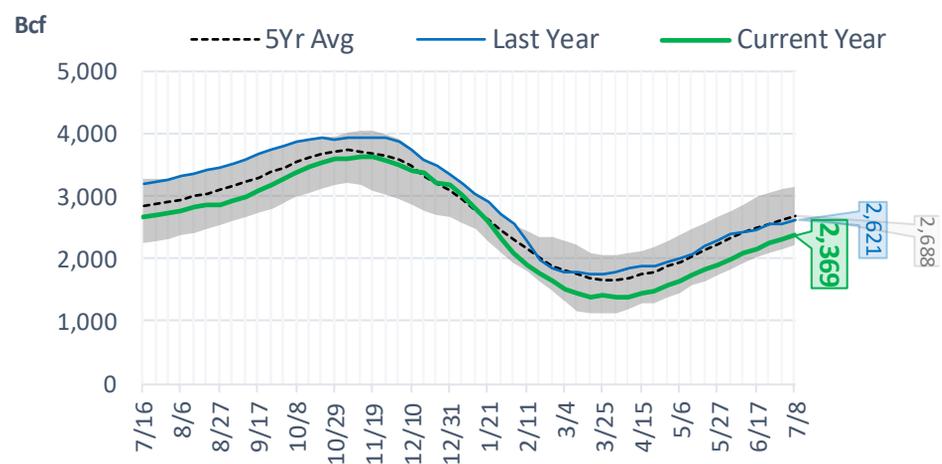
European Natural Gas Storage Levels					
Country	Level (TWh) 07/13/2022	Capacity (TWh) 07/13/2022	% Utilization 07/13/2022	YoY	vs. 5Yr Avg
Europe	699.2	1110.9	63%	11%	-1%
Germany	156.7	242.9	65%	19%	-1%
Italy	127.3	193.4	66%	-3%	-9%
Netherlands Gas Storage (T	82.4	141.5	58%	25%	-2%
France	91.0	131.6	69%	13%	7%
Austria	46.6	95.5	49%	17%	-10%
Hungary	30.4	67.7	45%	-23%	-17%
Slovakia	23.4	36.0	65%	10%	3%
Czech Republic Gas Storage	32.2	43.8	74%	23%	5%
Poland	35.5	36.4	98%	27%	26%
Spain	26.0	35.3	74%	5%	3%
Romania	16.0	32.8	49%	9%	-2%
Latvia	10.5	21.8	48%	48%	48%
United Kingdom Gas Storage	9.5	9.7	98%	76%	50%
Denmark	7.5	9.2	82%	36%	20%
Belgium	5.6	8.7	65%	17%	5%
Bulgaria	2.3	5.8	39%	3%	-18%
Croatia	1.9	4.8	40%	-16%	-21%
Portugal	3.8	3.6	100%	27%	28%
Ireland	1.6	1.8	87%	87%	87%
Sweden	0.1	0.1	80%	73%	47%

EIA Storage Report

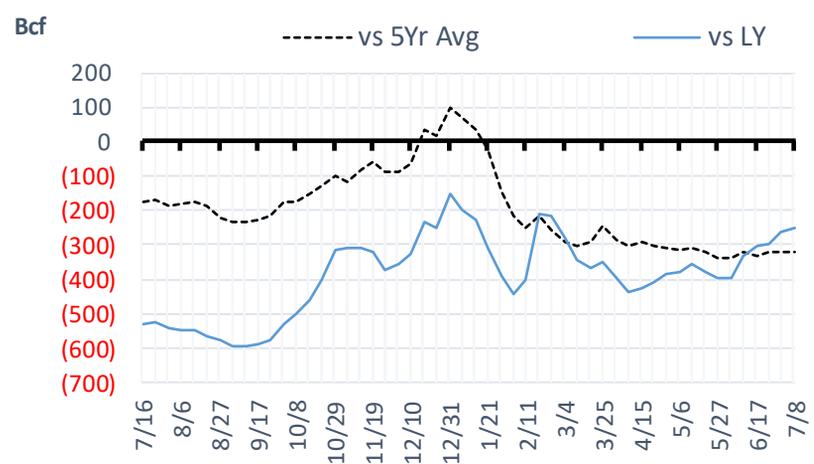
Total Lower 48 YoY Weekly Change



Total Lower 48 Storage Levels



Total Lower 48 LY Surplus/Deficit

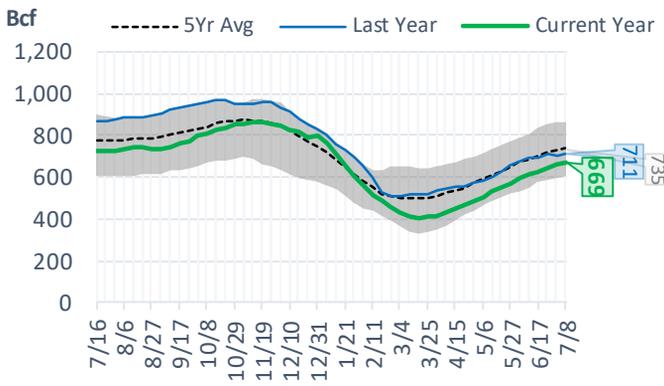


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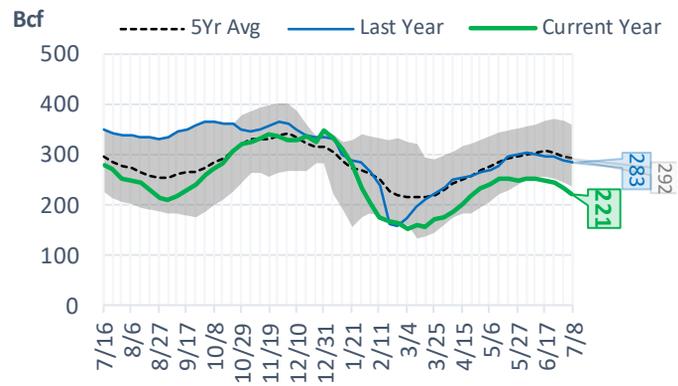
Natural Gas Storage Stats - Last 5 Weeks

Week Ending	Current 8-Jul	Week - 1 1-Jul	Week - 2 24-Jun	Week - 3 17-Jun	Week - 4 10-Jun	Week - 5 3-Jun
Total Lower 48 Storage Level	2369	2311	2251	2169	2095	2003
Weekly Change	+58	+60	+82	+74	+92	+102
vs LY	-252	-261	-296	-305	-330	-394
vs 5Yr Avg	-319	-322	-322	-331	-323	-336
S. Central Salt Storage Level	221	233	242	248	251	251
Weekly Change	-12	-9	-6	-3	0	+3
vs LY	-62	-54	-54	-48	-48	-51
vs 5Yr Avg	-71	-64	-61	-57	-53	-50
S. Central NonSalt Storage Level	669	657	644	628	612	593
Weekly Change	+12	+13	+16	+16	+19	+24
vs LY	-42	-49	-63	-69	-82	-85
vs 5Yr Avg	-66	-69	-72	-76	-76	-77
Midwest Storage Level	586	562	535	506	482	454
Weekly Change	+24	+27	+29	+24	+28	+28
vs LY	-73	-74	-84	-85	-85	-89
vs 5Yr Avg	-64	-65	-68	-71	-68	-69
East Storage Level	501	482	461	430	407	376
Weekly Change	+19	+21	+31	+23	+31	+31
vs LY	-39	-38	-48	-54	-52	-64
vs 5Yr Avg	-67	-66	-65	-71	-67	-72
Mountain Storage Level	143	138	134	128	122	118
Weekly Change	+5	+4	+6	+6	+4	+5
vs LY	-37	-38	-38	-40	-42	-41
vs 5Yr Avg	-26	-26	-24	-25	-25	-23
Pacific Storage Level	249	240	235	231	221	211
Weekly Change	+9	+5	+4	+10	+10	+11
vs LY	0	-6	-8	-8	-21	-64
vs 5Yr Avg	-27	-32	-31	-29	-34	-44

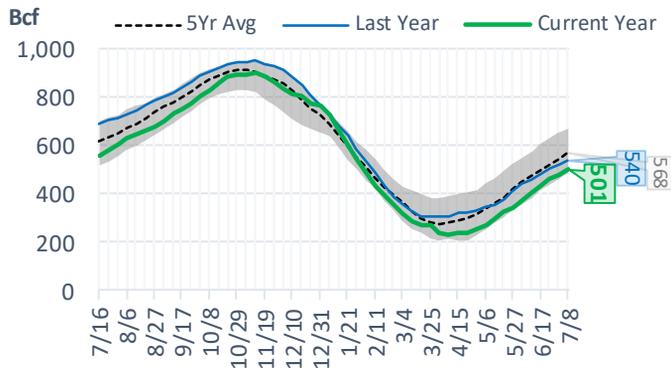
NonSalt Storage Levels



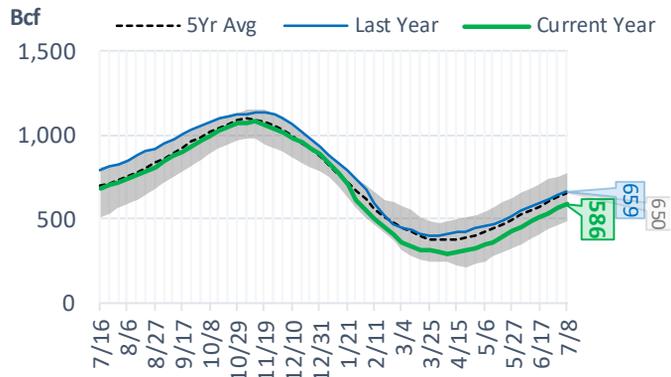
Salt Storage Levels



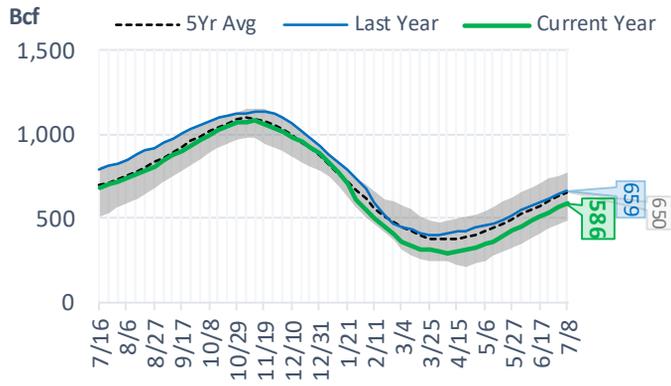
East Storage Levels



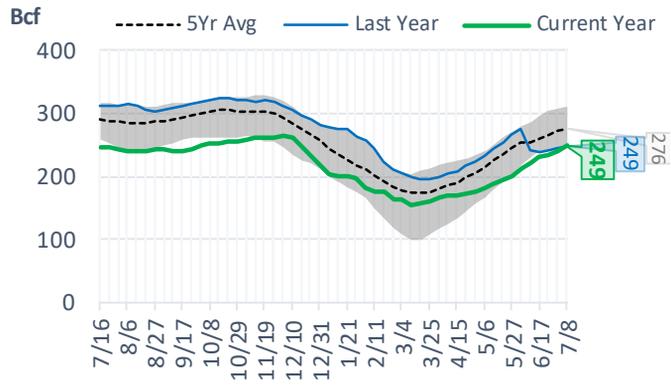
Midwest Storage Levels



Midwest Storage Levels



Pacific Storage Levels



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EIA Storage Week Balances

	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	WoW	vs. 4W
Lower 48 Dry Production	96.9	96.7	96.7	97.0	96.9	96.3	▼ -0.7	▼ -0.6
Canadian Imports	5.5	6.1	5.6	5.7	5.6	6.0	▲ 0.4	▲ 0.3
L48 Power	32.3	37.8	37.7	40.2	41.3	42.7	▲ 1.5	▲ 3.5
L48 Residential & Commercial	8.6	8.3	8.7	8.2	8.3	8.4	▲ 0.1	▲ 0.0
L48 Industrial	21.3	21.5	20.1	20.0	21.0	20.0	▼ -1.0	▼ -0.7
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.3	5.3	5.2	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.5	2.5	2.6	2.6	2.7	▲ 0.1	▲ 0.1
L48 Regional Gas Consumption	69.7	75.3	74.2	76.3	78.5	79.0	▲ 0.6	▲ 3.0
Net LNG Exports	12.3	10.7	10.6	10.6	11.2	11.1	▼ -0.1	▲ 0.3
Total Mexican Exports	7.1	7.2	7.0	7.0	6.8	7.0	▲ 0.2	▲ 0.0
Implied Daily Storage Activity	13.2	9.6	10.5	8.8	6.2	5.1	-1.0	
EIA Reported Daily Storage Activity	13.1	10.6	11.7	8.6	8.3			
Daily Model Error	0.1	-1.0	-1.2	0.2	-2.1			

Monthly Balances

	2Yr Ago	LY	MTD					MoM	vs. LY
	Jul-20	Jul-21	Mar-22	Apr-22	May-22	Jun-22	Jul-22		
Lower 48 Dry Production	89.0	93.5	93.4	95.2	96.2	96.8	96.6	▼ -0.2	▲ 3.1
Canadian Imports	4.4	5.2	5.2	5.8	5.1	5.7	5.8	▲ 0.2	▲ 0.7
L48 Power	43.8	39.7	25.4	24.7	28.8	36.8	42.0	▲ 5.2	▲ 2.3
L48 Residential & Commercial	7.9	8.1	31.5	22.5	12.3	8.5	8.3	▼ -0.2	▲ 0.2
L48 Industrial	20.1	20.8	19.7	21.5	21.1	20.8	20.0	▼ -0.8	▼ -0.8
L48 Lease and Plant Fuel	4.9	5.1	5.2	5.2	5.2	5.2	5.2	▲ 0.0	▲ 0.2
L48 Pipeline Distribution	2.6	2.5	2.9	2.6	2.3	2.5	2.7	▲ 0.2	▲ 0.1
L48 Regional Gas Consumption	79.3	76.2	84.7	76.6	69.8	73.8	78.2	▲ 4.5	▲ 2.1
Net LNG Exports	3.3	10.8	12.9	12.3	12.5	11.2	11.2	▼ 0.0	▲ 0.4
Total Mexican Exports	5.9	7.1	6.5	6.7	7.0	7.1	6.9	▼ -0.2	▼ -0.2
Implied Daily Storage Activity	4.9	4.6	-5.4	5.4	12.0	10.5	6.1		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

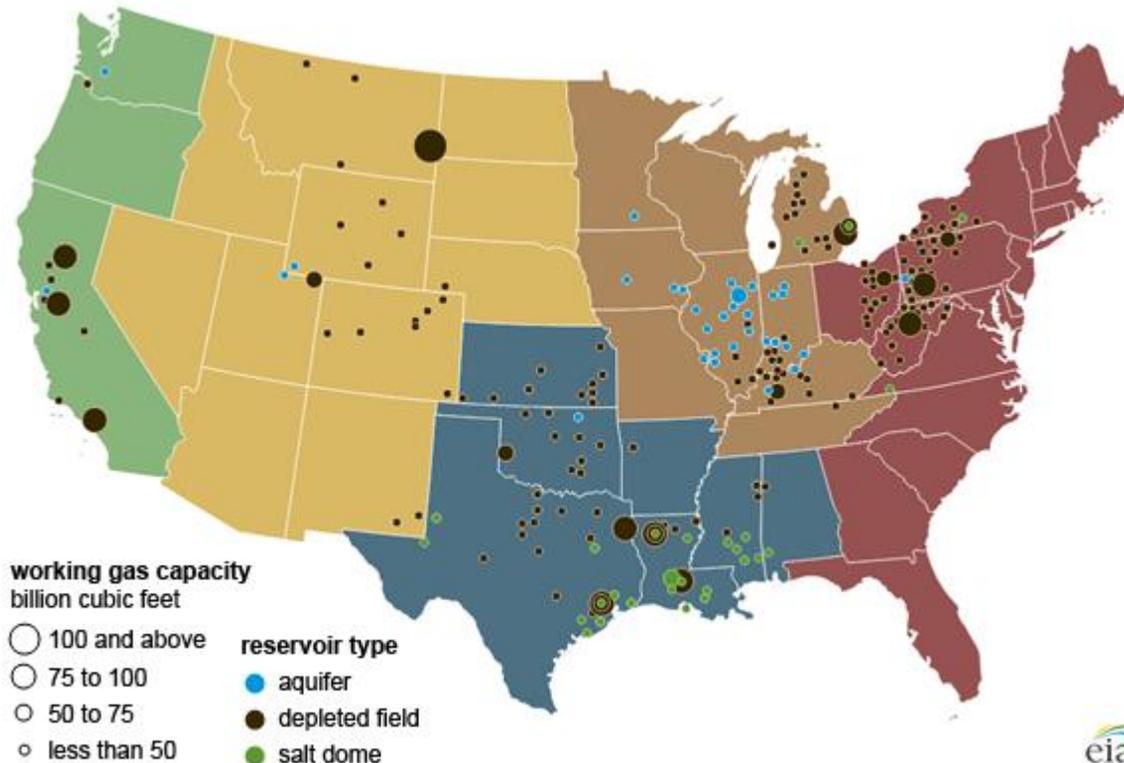
Regional S/D Models Storage Projection

Week Ending 15-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	6.3	-0.2	6.1	42
East	1.0	1.9	2.9	21
Midwest	3.8	-0.7	3.1	22
Mountain	4.4	-4.0	0.4	3
South Central	-4.3	3.4	-0.9	-6
Pacific	1.4	-0.9	0.5	3

*Adjustment Factor is calculated based on historical regional deltas

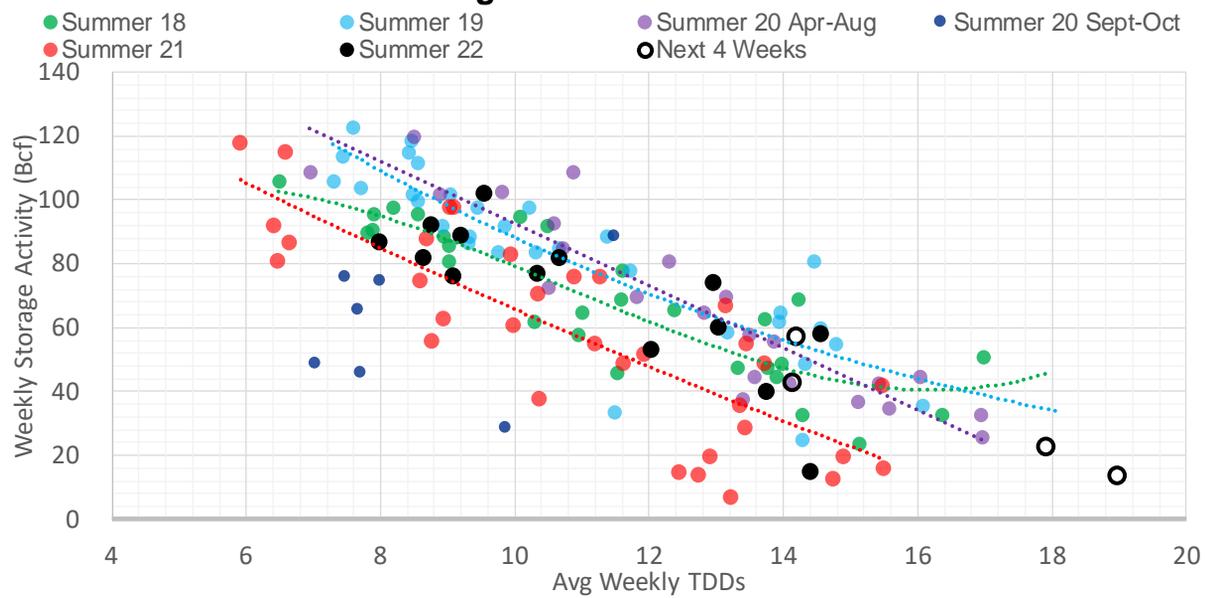
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
15-Jul	14.1	42
22-Jul	17.9	23
29-Jul	19.0	14
05-Aug	14.2	57

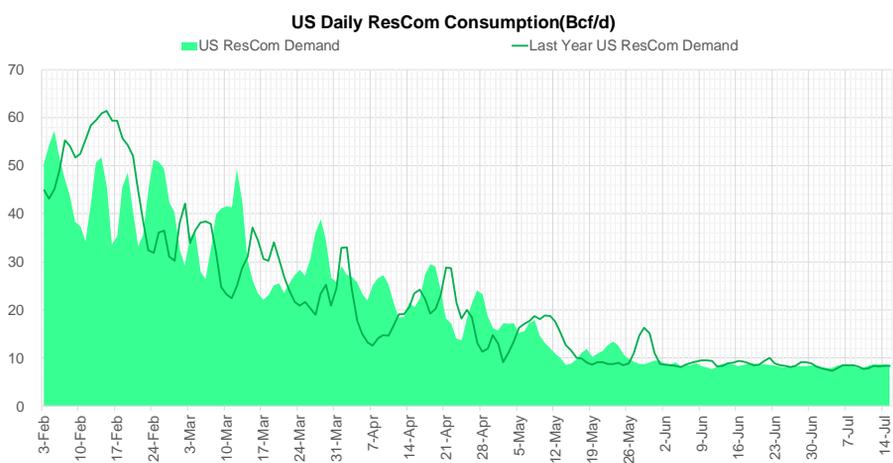
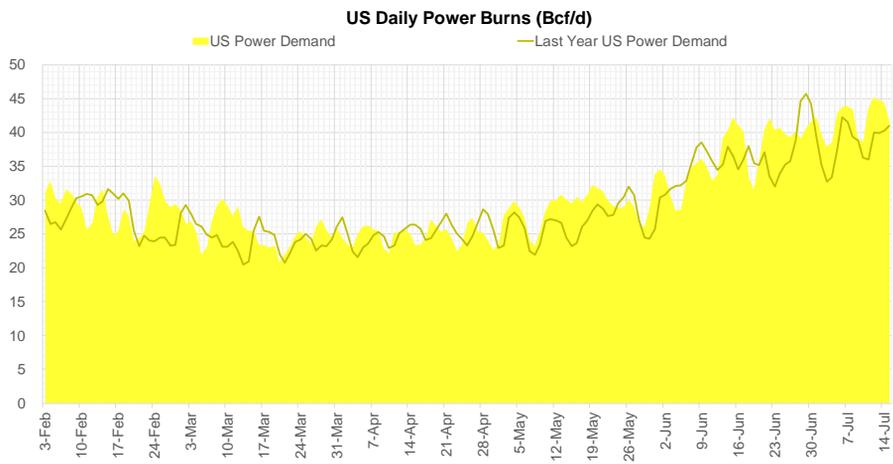
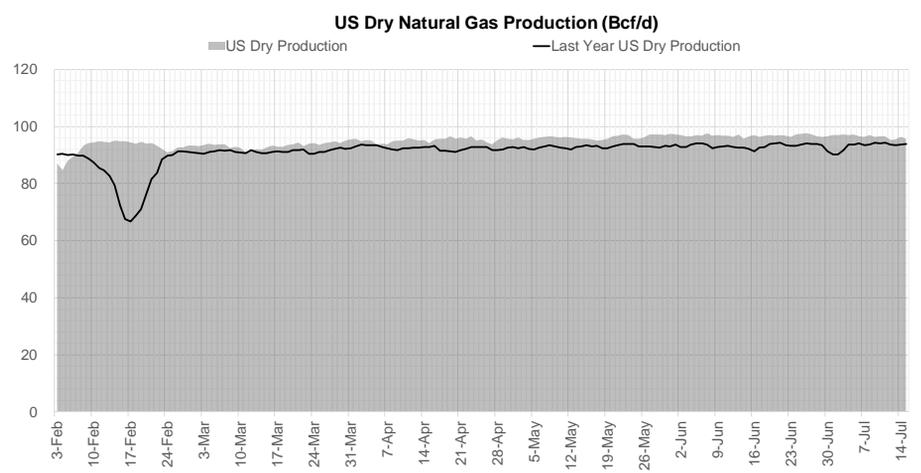
Weather Storage Model - Next 4 Week Forecast



Note: this is not our official end of season forecast. This chart signifies where storage levels end with 10-year normal weather and current market tightness relative to last year

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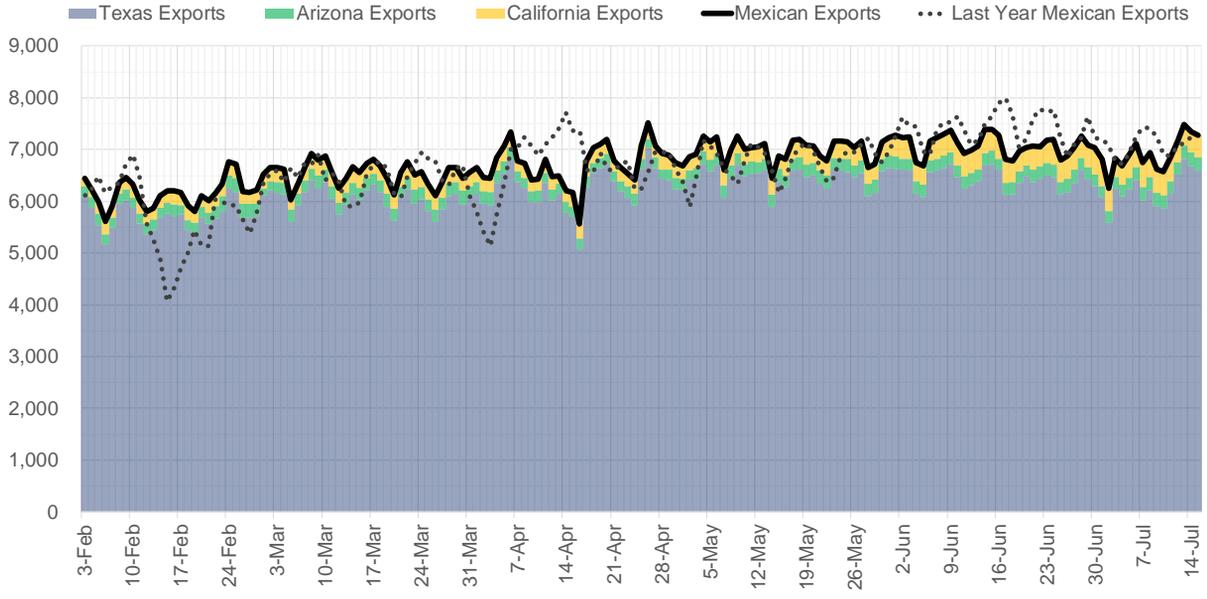
Supply – Demand Trends



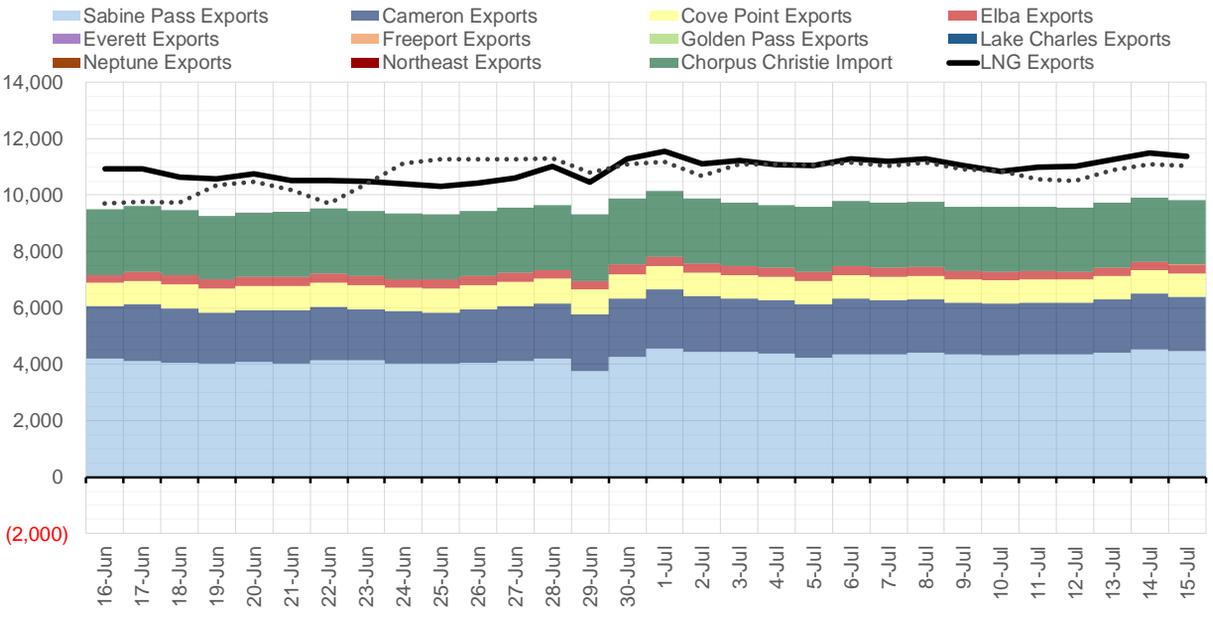
Source: Bloomberg

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Mexican Exports (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d)



Source: Bloomberg

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Nat Gas Options Volume and Open Interest CME and ICE data combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
8	2022	C	7.50	9906	8	2022	C	10.00	41711
8	2022	C	9.00	9641	8	2022	C	12.00	37935
8	2022	C	8.00	7028	10	2022	C	6.00	35979
8	2022	C	7.00	6873	10	2022	P	3.00	32035
8	2022	C	8.90	6000	8	2022	C	10.50	31608
9	2022	P	5.00	4669	8	2022	C	7.00	29666
8	2022	C	8.50	3877	10	2022	P	2.50	28387
8	2022	P	6.00	3619	9	2022	C	6.00	24423
8	2022	P	5.00	3088	10	2022	P	6.00	24030
8	2022	P	5.50	2492	10	2022	C	5.00	23368
9	2022	P	4.00	1846	9	2022	C	10.00	23033
10	2022	C	10.00	1759	8	2022	C	12.10	22001
9	2022	P	4.50	1600	10	2022	P	3.50	21121
8	2022	C	6.50	1579	8	2022	C	9.00	21067
8	2022	C	10.00	1537	5	2023	P	2.00	21027
5	2023	P	3.50	1275	9	2022	P	4.00	20507
10	2023	P	3.50	1275	8	2022	C	6.00	20066
8	2022	C	9.50	1247	8	2022	P	6.00	19413
10	2022	C	8.00	1160	9	2022	C	7.00	19346
1	2023	P	3.00	1147	8	2022	C	8.00	19172
8	2022	P	5.75	1145	1	2023	C	10.00	18788
8	2022	P	6.25	1105	12	2022	C	5.00	18218
1	2023	P	2.75	1100	10	2022	C	10.00	18217
10	2022	P	4.00	1046	3	2023	C	10.00	18066
10	2022	P	4.50	1016	10	2022	P	5.00	17773
10	2022	P	5.00	1012	10	2022	C	8.00	17594
8	2022	P	6.50	890	10	2022	P	4.00	17591
4	2023	P	4.00	875	8	2022	P	7.00	17326
9	2022	C	7.25	850	8	2022	P	5.00	16724
8	2022	C	10.50	809	10	2022	P	2.00	16679
10	2022	P	2.50	804	3	2023	P	3.00	16388
4	2023	C	5.00	801	2	2023	C	10.00	16055
9	2022	C	15.00	800	9	2022	P	3.00	16008
10	2022	C	9.00	795	9	2022	C	4.00	15970
4	2023	P	2.50	725	8	2022	P	4.00	15898
5	2023	P	4.00	725	12	2022	P	5.00	15689
6	2023	P	4.00	725	10	2023	P	2.00	15504
7	2023	P	4.00	725	9	2022	P	2.50	15475
8	2023	P	4.00	725	8	2022	P	3.00	15408
9	2023	P	4.00	725	10	2022	C	7.00	15261
10	2023	P	4.00	725	8	2022	P	5.50	14924
9	2022	C	8.00	724	9	2022	P	2.75	14887
10	2022	P	3.50	718	9	2022	C	9.00	14492
5	2023	C	5.00	700	8	2022	C	7.50	14281
6	2023	C	5.00	700	12	2022	C	6.00	14037
7	2023	C	5.00	700	10	2022	P	3.25	14016
8	2023	C	5.00	700	10	2023	P	2.50	13990
9	2023	C	5.00	700	11	2022	P	4.00	13557
10	2023	C	5.00	700	8	2022	C	7.10	13488
					9	2022	P	5	13405.25

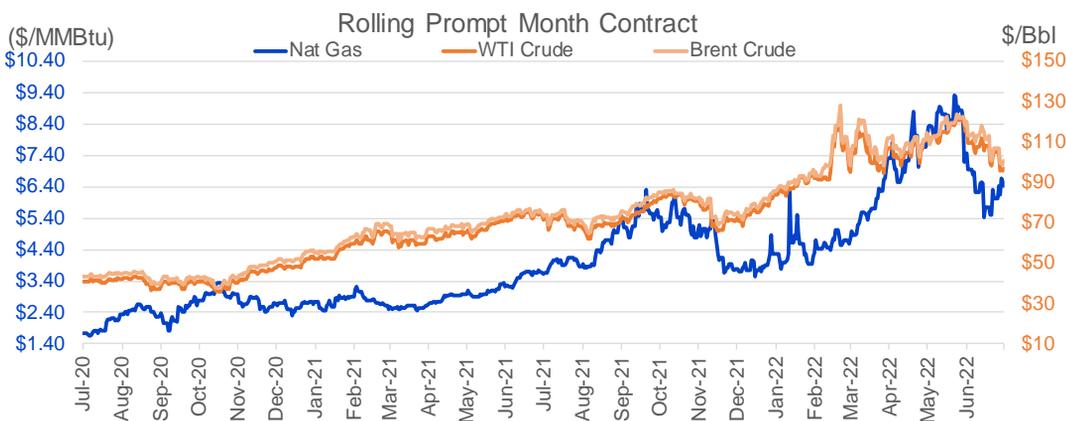
Source: CME, ICE

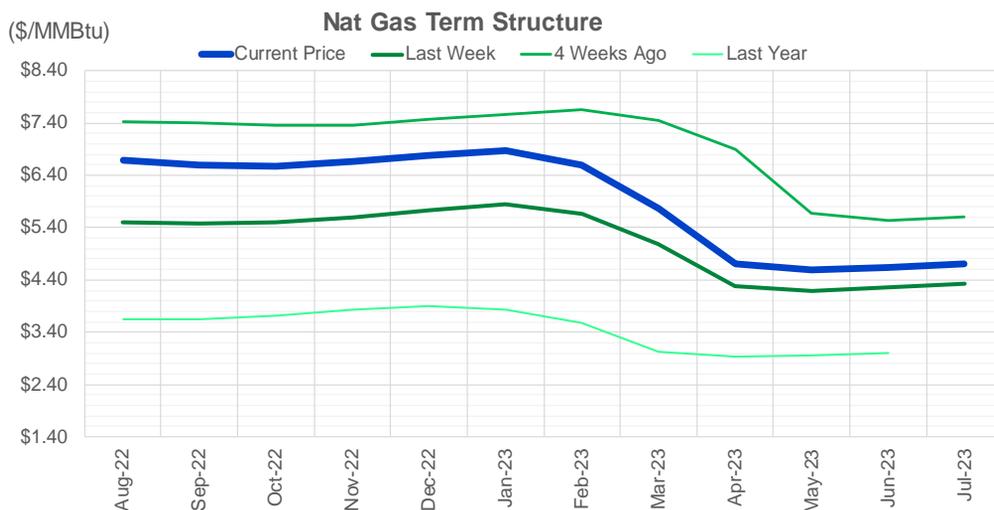
Nat Gas Futures Open Interest

CME and ICE data 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
AUG 22	56481	64724	-8243	AUG 22	80011	78762	1249
SEP 22	148323	147265	1058	SEP 22	78986	79009	-23
OCT 22	90926	90919	7	OCT 22	74393	75930	-1538
NOV 22	67887	66196	1691	NOV 22	62071	62038	33
DEC 22	50786	51524	-738	DEC 22	64462	64988	-526
JAN 23	72368	70959	1409	JAN 23	63000	63601	-602
FEB 23	33974	33578	396	FEB 23	55645	55389	257
MAR 23	48009	47813	196	MAR 23	50449	50872	-423
APR 23	67081	65832	1249	APR 23	51197	50744	453
MAY 23	55499	55447	52	MAY 23	50021	50004	17
JUN 23	21031	20582	449	JUN 23	44301	44319	-18
JUL 23	19789	19830	-41	JUL 23	43357	43332	26
AUG 23	17836	17619	217	AUG 23	42444	42674	-231
SEP 23	15520	15586	-66	SEP 23	41267	41493	-227
OCT 23	41272	40969	303	OCT 23	48406	48302	104
NOV 23	12313	12289	24	NOV 23	44427	44376	51
DEC 23	11782	11844	-62	DEC 23	39903	39845	57
JAN 24	17937	17997	-60	JAN 24	38975	39421	-447
FEB 24	7604	7664	-60	FEB 24	28541	28698	-158
MAR 24	16484	16424	60	MAR 24	33579	33514	66
APR 24	13779	13553	226	APR 24	27440	27421	19
MAY 24	6561	6449	112	MAY 24	26623	26627	-4
JUN 24	2406	2386	20	JUN 24	23654	23658	-4
JUL 24	2162	2108	54	JUL 24	23399	23403	-4
AUG 24	3166	3112	54	AUG 24	23721	23725	-4
SEP 24	1765	1711	54	SEP 24	23169	23173	-4
OCT 24	8439	8455	-16	OCT 24	26480	26465	15
NOV 24	4707	4707	0	NOV 24	24209	24179	31
DEC 24	7127	7127	0	DEC 24	27290	27258	32
JAN 25	14764	14764	0	JAN 25	19670	19669	2

Source: CME, ICE





	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
Current Price	\$6.689	\$6.589	\$6.574	\$6.677	\$6.789	\$6.883	\$6.604	\$5.764	\$4.702	\$4.592	\$4.647	\$4.703
Last Week	\$5.510	\$5.482	\$5.493	\$5.605	\$5.740	\$5.853	\$5.660	\$5.082	\$4.275	\$4.196	\$4.256	\$4.316
vs. Last Week	\$1.179	\$1.107	\$1.081	\$1.072	\$1.049	\$1.030	\$0.944	\$0.682	\$0.427	\$0.396	\$0.391	\$0.387
4 Weeks Ago	\$7.420	\$7.406	\$7.370	\$7.369	\$7.463	\$7.574	\$7.669	\$7.457	\$6.906	\$5.674	\$5.547	\$5.598
vs. 4 Weeks Ago	-\$0.731	-\$0.817	-\$0.796	-\$0.692	-\$0.674	-\$0.691	-\$1.065	-\$1.693	-\$2.204	-\$1.082	-\$0.900	-\$0.895
Last Year	\$3.660	\$3.648	\$3.655	\$3.721	\$3.829	\$3.899	\$3.821	\$3.580	\$3.024	\$2.935	\$2.965	\$3.001
vs. Last Year	\$3.029	\$2.941	\$2.919	\$2.956	\$2.960	\$2.984	\$2.783	\$2.184	\$1.678	\$1.657	\$1.682	\$1.702

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	▲ 0.000	▲ 0.000	▲ 2.231
NatGas Oct21/Nov21	\$/MMBtu	0.361	▲ 0.000	▲ 0.000	▲ 0.291
NatGas Oct21/Jan22	\$/MMBtu	-1.817	▲ 0.000	▲ 0.000	▼ -2.068
NatGas Apr22/Oct22	\$/MMBtu	1.168	▲ 0.251	▼ -0.879	▲ 1.169
WTI Crude	\$/Bbl	95.78	▼ -6.950	▼ -21.810	▲ 24.130
Brent Crude	\$/Bbl	99.10	▼ -5.550	▼ -20.710	▲ 25.630
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	364.94	▼ -2.450	▼ -92.190	▲ 153.680
Propane, Mt. Bel	cents/Gallon	1.14	▼ -0.043	▼ -0.082	▲ 0.038
Ethane, Mt. Bel	cents/Gallon	0.54	▲ 0.046	▼ -0.123	▲ 0.231
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000
Coal, PRB	\$/MMBtu	0.70			

Source: CME, Bloomberg

Baker Hughes Rig Counts

Rotary Rig Count					
7/15/2022					
Baker Hughes 					
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	599	2	597	219	380
Gas	153	0	153	49	104
Miscellaneous	4	2	2	4	0
Directional	40	-3	43	8	32
Horizontal	686	4	682	252	434
Vertical	30	3	27	12	18
Canada Breakout	This Week	+/-	Last Week	+/-	Year Ago
Oil	125	9	116	31	94
Gas	66	7	59	11	55
Miscellaneous	0	0	0	-1	1
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago
Ardmore Woodford	4	0	4	3	1
Arkoma Woodford	5	0	5	4	1
Barnett	4	0	4	4	0
Cana Woodford	27	0	27	11	16
DJ-Niobrara	16	0	16	5	11
Eagle Ford	69	1	68	37	32
Granite Wash	5	2	3	4	1
Haynesville	68	-1	69	19	49
Marcellus	38	0	38	10	28
Mississippian	1	0	1	1	0
Permian	350	0	350	112	238
Utica	11	0	11	1	10
Williston	38	0	38	20	18