

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 1.77	▲ \$ 0.04	▲ \$ 0.02

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 41.37	▼ \$ (0.23)	▼ \$ (0.1)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 43.41	▲ \$ -	▼ \$ (0.2)

### Page Menu

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- [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](#)

### 00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	2.5	1.9	0.6	5.0
24 Hr Chg	1.0	-0.8	-2.0	-1.8

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	1.7	1.4	-0.9	2.3
24 Hr Chg	1.4	-0.9	0.2	0.7

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	84.5	▼ -2.04	▼ -1.63

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	44.6	▼ -3.06	▼ -0.73

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.8	▼ -0.03	▲ 0.29

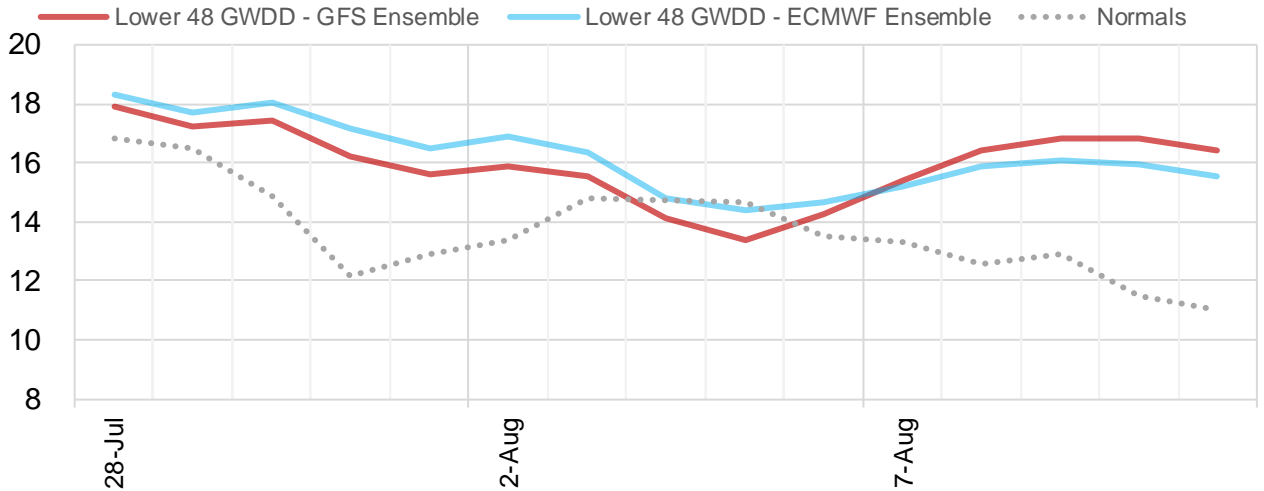
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.9	▲ 0.53	▲ 0.68

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	3.1	▲ 0.02	▼ -0.17

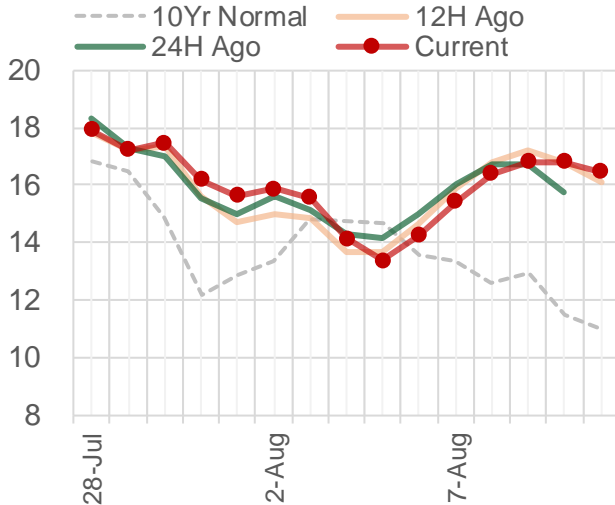
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.3	▲ 0.28	▼ -0.01

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

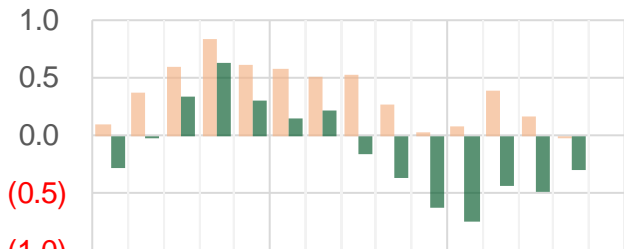
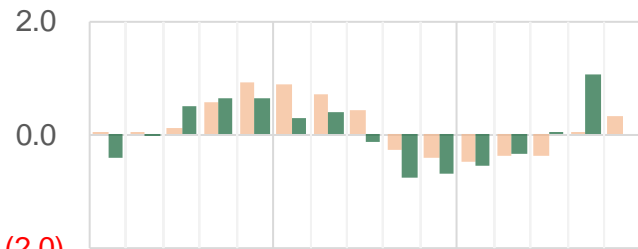
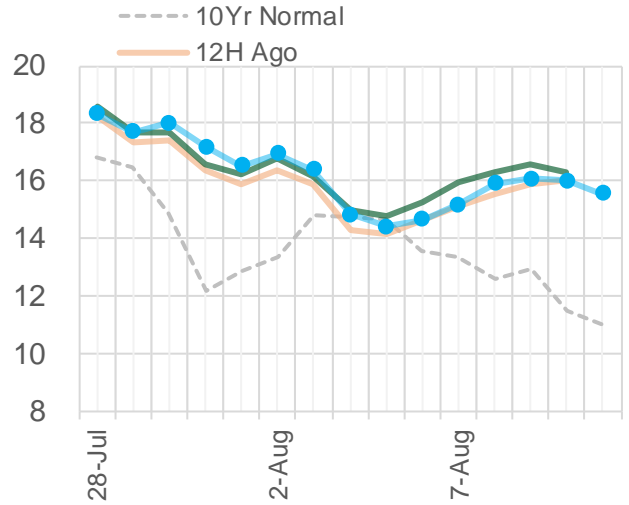
Lower 48 TDD Forecast



Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



Source: WSI, Bloomberg

### Lower 48 Component Models

#### Daily Balances

	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>85.9</b>	<b>86.1</b>	<b>86.2</b>	<b>86.1</b>	<b>86.6</b>	<b>86.5</b>	<b>84.5</b>	▼ -2.0	▼ -1.7
<b>Canadian Imports</b>	<b>4.1</b>	<b>4.0</b>	<b>4.1</b>	<b>4.1</b>	<b>4.2</b>	<b>4.3</b>	<b>4.9</b>	▲ 0.5	▲ 0.7
L48 Power	46.5	45.5	43.2	42.5	44.1	47.6	44.6	▼ -3.1	▼ -0.3
L48 Residential & Commercial	7.7	7.6	7.4	7.2	7.4	7.9	7.8	▼ 0.0	▲ 0.3
L48 Industrial	17.0	17.0	17.1	17.0	17.2	17.4	17.7	▲ 0.3	▲ 0.6
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	4.7	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.5	2.4	2.3	2.3	2.3	2.5	2.4	▼ -0.1	▼ 0.0
<b>L48 Regional Gas Consumption</b>	<b>78.4</b>	<b>77.3</b>	<b>74.8</b>	<b>73.8</b>	<b>75.8</b>	<b>80.2</b>	<b>77.2</b>	▼ -3.0	▲ 0.5
<b>Net LNG Exports</b>	<b>3.5</b>	<b>3.4</b>	<b>2.9</b>	<b>3.1</b>	<b>3.1</b>	<b>3.0</b>	<b>3.1</b>	▲ 0.0	▼ -0.1
<b>Total Mexican Exports</b>	<b>6.2</b>	<b>6.6</b>	<b>6.5</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>6.3</b>	▲ 0.3	▲ 0.0
<b>Implied Daily Storage Activity</b>	<b>1.9</b>	<b>2.9</b>	<b>6.0</b>	<b>7.3</b>	<b>5.8</b>	<b>1.6</b>	<b>2.9</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

#### EIA Storage Week Balances

	19-Jun	26-Jun	3-Jul	10-Jul	17-Jul	24-Jul	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>85.1</b>	<b>84.9</b>	<b>85.2</b>	<b>85.6</b>	<b>85.5</b>	<b>86.2</b>	▲ 0.7	▲ 0.9
<b>Canadian Imports</b>	<b>3.8</b>	<b>4.2</b>	<b>4.1</b>	<b>4.3</b>	<b>4.5</b>	<b>4.4</b>	▼ -0.1	▲ 0.1
L48 Power	30.3	37.1	38.5	41.9	43.0	45.8	▲ 2.8	▲ 5.7
L48 Residential & Commercial	8.0	7.4	7.4	7.3	7.4	7.6	▲ 0.2	▲ 0.2
L48 Industrial	18.9	19.3	19.8	18.7	18.2	17.1	▼ -1.1	▼ -1.9
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▲ 0.0	▲ 0.0
L48 Pipeline Distribution	1.8	2.1	2.2	2.2	2.3	2.4	▲ 0.1	▲ 0.2
<b>L48 Regional Gas Consumption</b>	<b>63.8</b>	<b>70.7</b>	<b>72.6</b>	<b>74.9</b>	<b>75.7</b>	<b>77.7</b>	▲ 2.0	▲ 4.2
<b>Net LNG Exports</b>	<b>3.8</b>	<b>4.0</b>	<b>4.0</b>	<b>3.0</b>	<b>3.3</b>	<b>3.6</b>	▲ 0.3	▲ 0.0
<b>Total Mexican Exports</b>	<b>5.6</b>	<b>5.9</b>	<b>5.8</b>	<b>5.9</b>	<b>6.2</b>	<b>6.3</b>	▲ 0.2	▲ 0.4
<b>Implied Daily Storage Activity</b>	<b>15.7</b>	<b>8.5</b>	<b>6.9</b>	<b>6.0</b>	<b>4.8</b>	<b>3.0</b>	-1.8	
<b>EIA Reported Daily Storage Activity</b>	<b>17.1</b>	<b>9.3</b>	<b>8.0</b>	<b>6.4</b>	<b>5.3</b>			
<b>Daily Model Error</b>	<b>-1.5</b>	<b>-0.8</b>	<b>-1.1</b>	<b>-0.4</b>	<b>-0.5</b>			

#### Monthly Balances

	2Yr Ago Jul-18	LY Jul-19	Mar-20	Apr-20	May-20	Jun-20	MTD Jul-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>81.8</b>	<b>90.1</b>	<b>93.3</b>	<b>91.8</b>	<b>86.0</b>	<b>84.9</b>	<b>85.8</b>	▲ 0.8	▼ -4.3
<b>Canadian Imports</b>	<b>5.6</b>	<b>5.0</b>	<b>4.1</b>	<b>4.0</b>	<b>3.9</b>	<b>4.0</b>	<b>4.4</b>	▲ 0.3	▼ -0.6
L48 Power	39.1	40.9	28.3	25.3	26.3	34.3	43.4	▲ 9.2	▲ 2.5
L48 Residential & Commercial	7.8	8.1	27.5	20.9	12.3	7.7	7.4	▼ -0.3	▼ -0.7
L48 Industrial	20.7	20.3	22.8	20.7	20.3	19.6	18.0	▼ -1.6	▼ -2.3
L48 Lease and Plant Fuel	4.6	5.0	5.2	5.1	4.8	4.8	4.8	▲ 0.0	▼ -0.2
L48 Pipeline Distribution	2.2	2.2	2.5	2.1	1.9	2.0	2.3	▲ 0.3	▲ 0.1
<b>L48 Regional Gas Consumption</b>	<b>74.3</b>	<b>76.6</b>	<b>86.4</b>	<b>74.2</b>	<b>65.6</b>	<b>68.3</b>	<b>76.0</b>	▲ 7.7	▼ -0.6
<b>Net LNG Exports</b>	<b>3.3</b>	<b>6.0</b>	<b>8.5</b>	<b>8.2</b>	<b>6.7</b>	<b>4.0</b>	<b>3.3</b>	▼ -0.8	▼ -2.7
<b>Total Mexican Exports</b>	<b>5.0</b>	<b>5.4</b>	<b>5.6</b>	<b>4.9</b>	<b>4.9</b>	<b>5.7</b>	<b>6.1</b>	▲ 0.4	▲ 0.7
<b>Implied Daily Storage Activity</b>	<b>4.8</b>	<b>7.1</b>	<b>-3.1</b>	<b>8.4</b>	<b>12.7</b>	<b>10.9</b>	<b>4.8</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

### Regional S/D Models Storage Projection

Week Ending 24-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	2.7	0.7	3.4	22
East	-0.6	2.0	1.4	9
Midwest	2.6	-0.7	1.9	12
Mountain	2.9	-2.4	0.4	3
South Central	-2.9	2.2	-0.7	-5
Pacific	0.7	-0.3	0.4	3

\*Adjustment Factor is calculated based on historical regional deltas

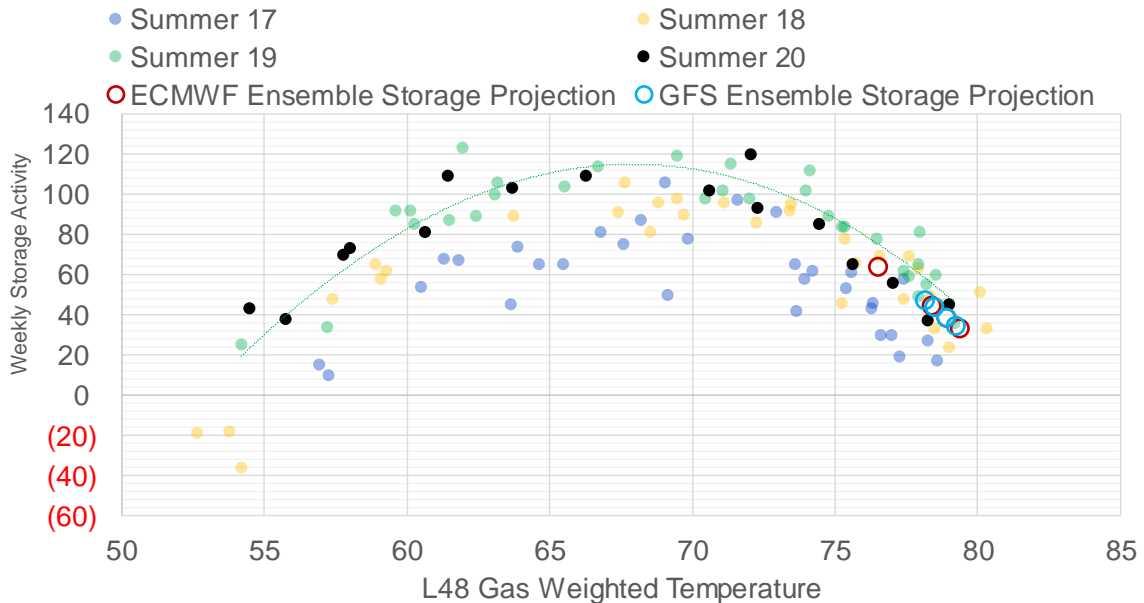
U.S. underground natural gas storage facilities by type (July 2015)



### Weather Model Storage Projection

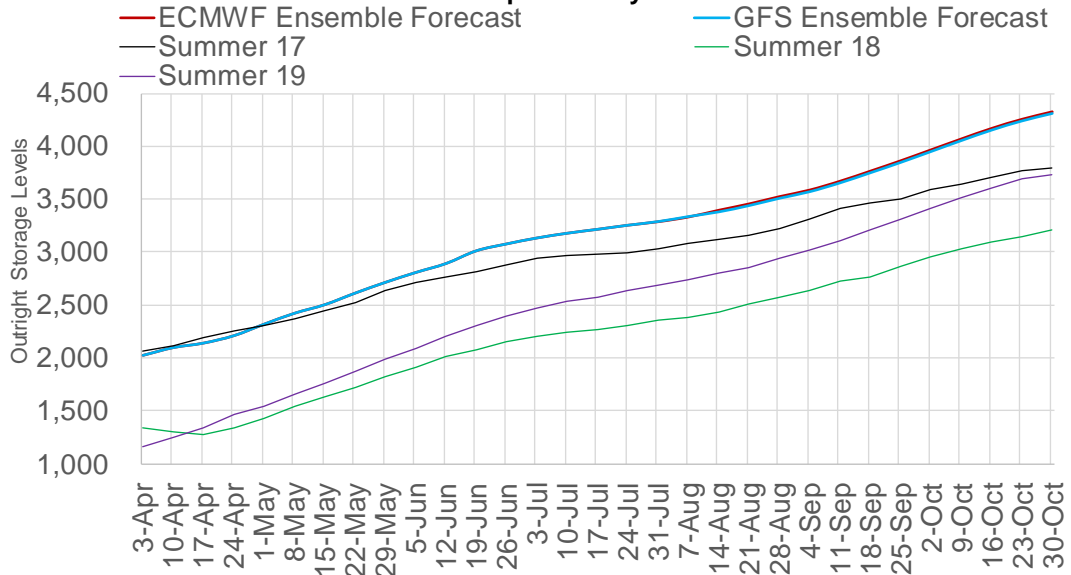
Next report and beyond	
Week Ending	Week Storage Projection
31-Jul	34
7-Aug	46
14-Aug	54

### Weather Storage Model - Next 4 Week Forecast



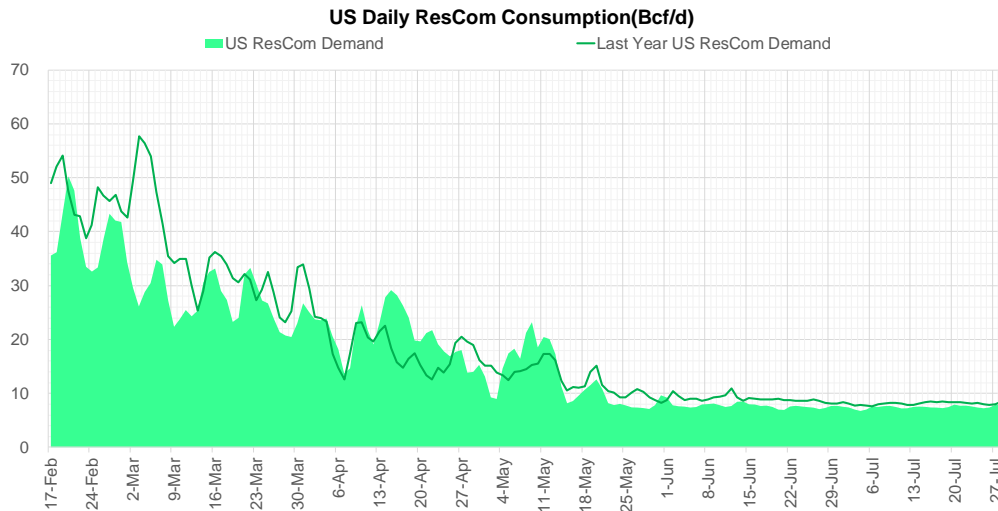
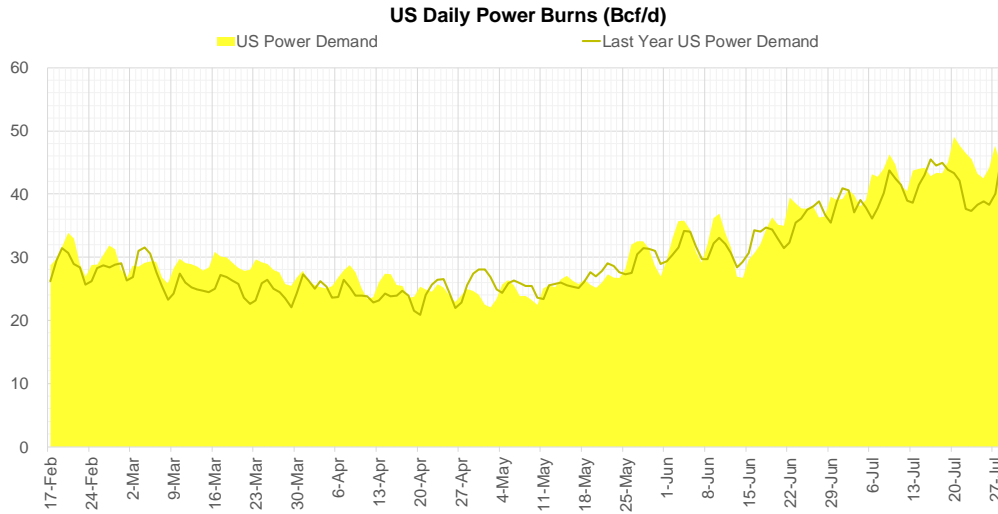
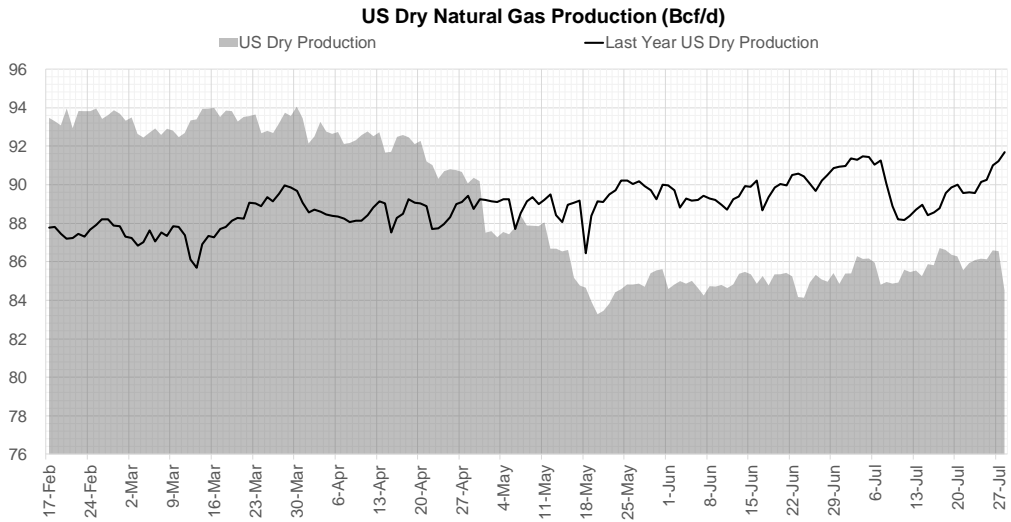
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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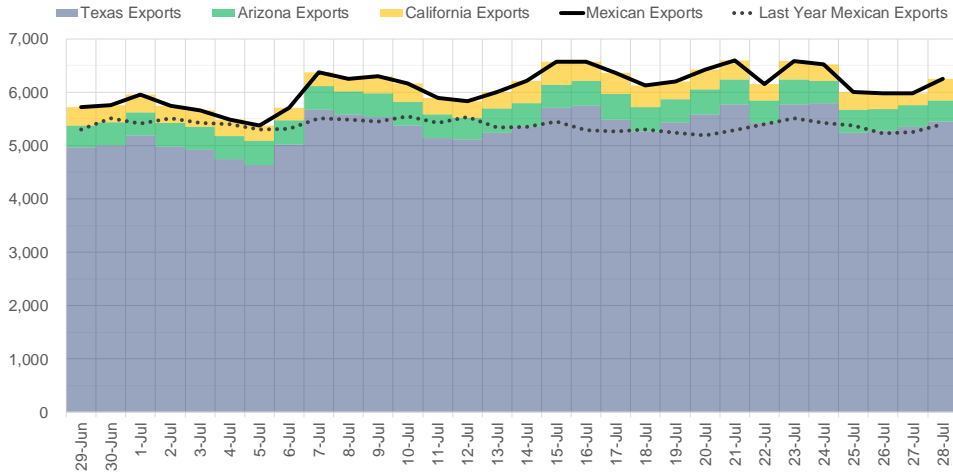
## Supply – Demand Trends



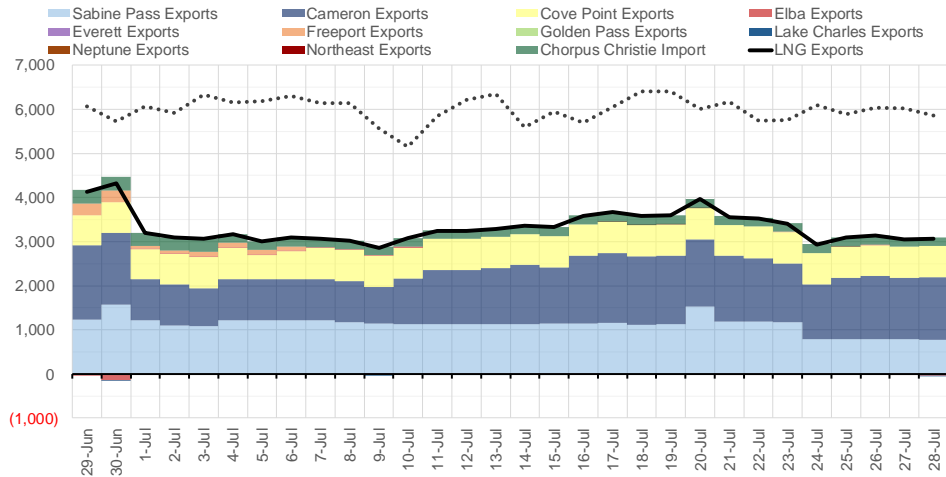
Source: Bloomberg

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### Mexican Exports - Last 30 days (MMcf/d)



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



Source: Bloomberg

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### 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
8	2020	P	1.70	6132	10	2020	C	2.75	50076
9	2020	P	1.50	5877	10	2020	P	1.50	49585
8	2020	P	1.65	4406	10	2020	C	2.50	37671
9	2020	P	1.35	3240	8	2020	C	2.00	36630
10	2020	C	2.50	2800	3	2021	P	2.00	35681
9	2020	C	2.25	2744	10	2020	P	1.60	33243
8	2020	P	1.60	2597	10	2020	C	3.00	31823
9	2020	P	1.20	2333	8	2020	P	1.50	30690
11	2020	C	3.00	1948	10	2020	P	2.00	30646
9	2020	P	1.60	1889	9	2020	C	2.50	30358
8	2020	P	1.75	1819	9	2020	P	1.50	28421
8	2020	C	1.80	1631	10	2020	P	1.25	28261
11	2020	P	1.60	1500	10	2020	P	1.75	25732
8	2020	C	1.85	1398	9	2020	C	3.00	24385
10	2020	P	1.50	1366	9	2020	P	1.00	24341
9	2020	C	2.00	1333	8	2020	C	2.50	23901
9	2020	P	1.25	1279	9	2020	P	1.20	22663
9	2020	P	1.40	1276	3	2021	C	3.00	21504
11	2020	C	2.75	1203	10	2020	P	1.00	21073
9	2020	P	1.75	1159	9	2020	P	1.75	20890
11	2020	P	1.90	1105	9	2020	C	2.00	20363
1	2021	P	1.75	1100	9	2020	P	1.25	19806
1	2021	P	2.00	1100	9	2020	P	1.30	19226
9	2020	C	2.20	1084	10	2020	P	1.30	19144
10	2020	C	2.75	1013	8	2020	C	2.25	18979
11	2020	C	3.50	999	8	2020	P	1.30	18845
9	2020	P	1.00	981	3	2021	C	6.00	18626
10	2020	P	1.60	954	9	2020	C	2.75	18588
10	2020	P	1.75	925	10	2020	C	2.10	18559
10	2020	P	1.55	887	9	2020	C	2.25	18393
8	2020	C	1.75	845	1	2021	C	3.50	18259
10	2020	P	1.40	830	10	2020	C	3.25	18190
10	2020	P	1.00	773	10	2020	P	2.10	18133
10	2020	P	0.75	771	3	2021	C	3.50	17908
10	2020	C	2.10	603	12	2020	P	2.00	17503
8	2020	C	1.90	570	10	2020	C	2.25	17273
10	2020	P	1.20	510	1	2021	C	3.00	17188
2	2021	C	3.50	507	8	2020	P	1.75	16979
10	2020	C	2.25	504	8	2020	P	1.00	16762
9	2020	P	1.10	501	11	2020	P	1.75	16746
10	2020	P	1.10	500	8	2020	P	1.65	16404
12	2020	C	3.25	500	8	2020	P	1.60	16246
2	2021	C	4.00	500	10	2020	C	2.40	16214
10	2020	P	1.30	441	8	2020	P	1.25	15675
10	2020	P	1.25	413	8	2020	P	1.20	15626
10	2020	P	1.80	391	10	2020	C	2.00	15587
10	2020	P	1.45	390	4	2021	C	3.00	15541
9	2020	C	2.05	348	12	2020	P	1.50	15254
9	2020	P	1.65	342	8	2020	C	3.00	14670
					8	2020	C	2.1	14084.5

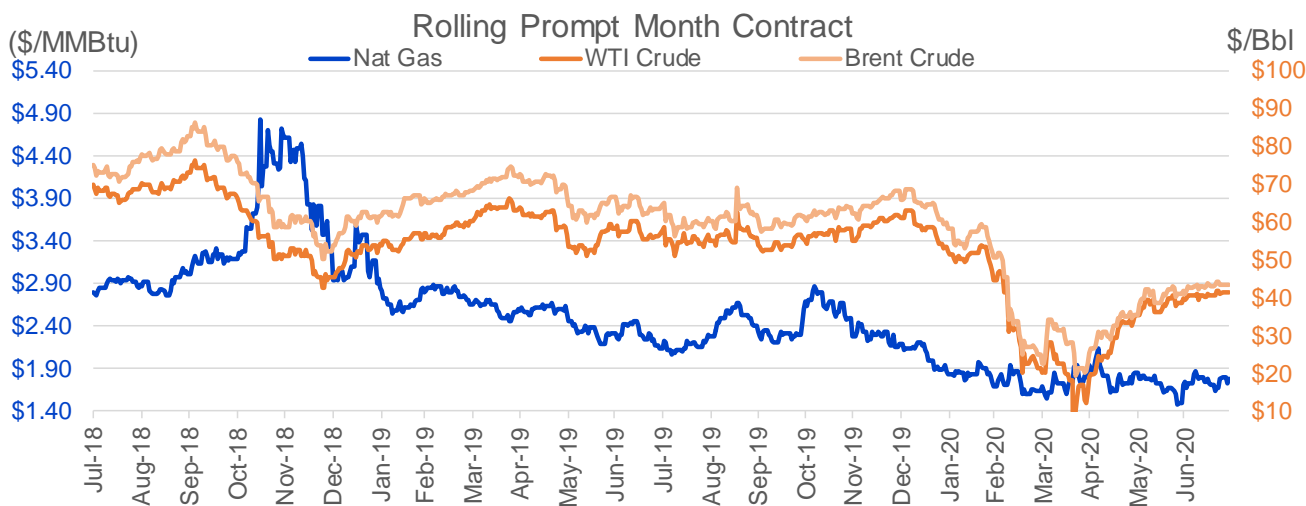
Source: CME, Nasdaq, ICE

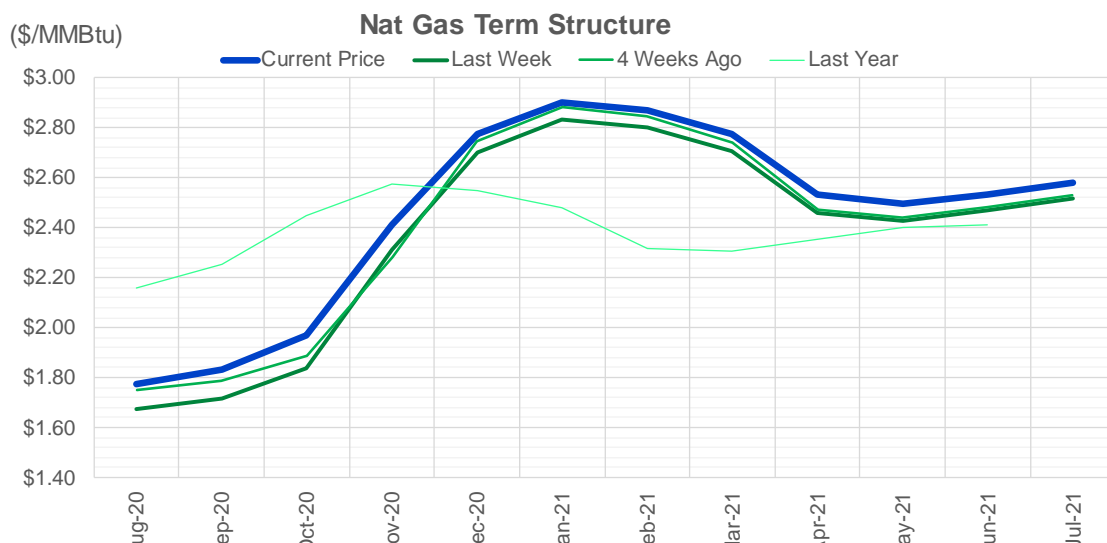


### Nat Gas Futures Open Interest CME, and ICE Combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MMBtu)			
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
AUG 20	13320	17709	-4389	AUG 20	68697	69487	-790
SEP 20	342078	350573	-8495	SEP 20	77831	75858	1973
OCT 20	149250	146634	2616	OCT 20	81507	82553	-1045.25
NOV 20	101942	98082	3860	NOV 20	66781	67417	-636
DEC 20	87318	87463	-145	DEC 20	63818	64462	-643.75
JAN 21	129601	129117	484	JAN 21	81995	81993	2.5
FEB 21	41706	41409	297	FEB 21	49402	49593	-191.5
MAR 21	78171	78994	-823	MAR 21	66743	67270	-527.25
APR 21	77703	77399	304	APR 21	55324	54827	497.25
MAY 21	35760	35115	645	MAY 21	47625	47516	109
JUN 21	21023	20704	319	JUN 21	46438	46141	296.75
JUL 21	17154	16952	202	JUL 21	47021	46848	172.25
AUG 21	14306	14105	201	AUG 21	47292	47244	48.25
SEP 21	16465	16520	-55	SEP 21	44930	44764	166.75
OCT 21	43106	42651	455	OCT 21	66649	66500	148.5
NOV 21	22347	22343	4	NOV 21	37665	37694	-29
DEC 21	15564	15395	169	DEC 21	39694	39722	-28.25
JAN 22	15169	14702	467	JAN 22	31545	31568	-23.25
FEB 22	9002	8823	179	FEB 22	28215	28223	-7.75
MAR 22	13658	13639	19	MAR 22	30101	30125	-24.25
APR 22	13462	13394	68	APR 22	29111	29079	31.25
MAY 22	5429	5341	88	MAY 22	22957	23027	-70
JUN 22	2647	2556	91	JUN 22	22572	22549	23.5
JUL 22	2035	1936	99	JUL 22	22566	22550	16.5
AUG 22	1462	1361	101	AUG 22	22377	22362	14.5
SEP 22	1991	1881	110	SEP 22	22012	21988	23.5
OCT 22	2325	2292	33	OCT 22	23671	23702	-31.25
NOV 22	1736	1646	90	NOV 22	20761	20749	12
DEC 22	1433	1346	87	DEC 22	21238	21226	12.5
JAN 23	2595	2595	0	JAN 23	11243	11250	-6.75

Source: CME, ICE





	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21
<b>Current Price</b>	<b>\$1.774</b>	<b>\$1.833</b>	<b>\$1.967</b>	<b>\$2.411</b>	<b>\$2.777</b>	<b>\$2.902</b>	<b>\$2.870</b>	<b>\$2.775</b>	<b>\$2.531</b>	<b>\$2.498</b>	<b>\$2.535</b>	<b>\$2.581</b>
Last Week	\$1.675	\$1.714	\$1.837	\$2.310	\$2.703	\$2.833	\$2.803	\$2.705	\$2.457	\$2.425	\$2.469	\$2.519
vs. Last Week	\$0.099	\$0.119	\$0.130	\$0.101	\$0.074	\$0.069	\$0.067	\$0.070	\$0.074	\$0.073	\$0.066	\$0.062
4 Weeks Ago	\$1.751	\$1.789	\$1.887	\$2.282	\$2.747	\$2.883	\$2.847	\$2.739	\$2.474	\$2.443	\$2.482	\$2.528
vs. 4 Weeks Ago	\$0.023	\$0.044	\$0.080	\$0.129	\$0.030	\$0.019	\$0.023	\$0.036	\$0.057	\$0.055	\$0.053	\$0.053
Last Year	\$2.137	\$2.160	\$2.252	\$2.447	\$2.574	\$2.549	\$2.478	\$2.318	\$2.304	\$2.351	\$2.401	\$2.414
vs. Last Year	-\$0.363	-\$0.327	-\$0.285	-\$0.036	\$0.203	\$0.353	\$0.392	\$0.457	\$0.227	\$0.147	\$0.134	\$0.167

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.85	1.62	-0.23
TETCO M3	\$/MMBtu	1.82	1.66	-0.16
FGT Zone 3	\$/MMBtu	1.89	1.75	-0.15
Zone 6 NY	\$/MMBtu	1.89	1.57	-0.32
Chicago Citygate	\$/MMBtu	1.69	1.62	-0.07
Michcon	\$/MMBtu	1.68	1.56	-0.12
Columbia TCO Pool	\$/MMBtu	1.59	1.45	-0.14
Ventura	\$/MMBtu	1.68	1.58	-0.10
Rockies/Opal	\$/MMBtu	1.66	1.49	-0.17
El Paso Permian Basin	\$/MMBtu	1.02	1.43	0.41
Socal Citygate	\$/MMBtu	2.35	1.79	-0.56
Malin	\$/MMBtu	1.68	1.59	-0.09
Houston Ship Channel	\$/MMBtu	1.71	1.66	-0.05
Henry Hub Cash	\$/MMBtu	1.63	1.57	-0.06
AECO Cash	C\$/GJ	1.52	1.40	-0.12
Station2 Cash	C\$/GJ	1.47	1.59	0.12
Dawn Cash	C\$/GJ	1.68	1.60	-0.08

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.37	▲ 0.005	▲ 0.038	▲ 0.012	
NatGas Mar/Apr	\$/MMBtu	-0.244	▲ 0.004	▼ -0.509	▼ -0.492	
NatGas Oct/Nov	\$/MMBtu	0.44	▼ -0.029	▲ 0.049	▲ 0.374	
NatGas Oct/Jan	\$/MMBtu	0.94	▼ -0.061	▼ -0.061	▲ 0.585	
WTI Crude	\$/Bbl	41.37	▼ -0.590	▲ 2.100	▼ -16.680	
Brent Crude	\$/Bbl	43.41	▼ -0.910	▲ 2.260	▼ -21.310	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	124.69	▼ -3.310	▲ 6.880	▼ -69.710	
Propane, Mt. Bel	cents/Gallon	0.49	▲ 0.002	▼ -0.002	▲ 0.005	
Ethane, Mt. Bel	cents/Gallon	0.22	▲ 0.005	▼ -0.003	▲ 0.070	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -7.500	