

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 1.69	▼ \$ (0.02)	▼ \$ (0.04)

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 40.27	▼ \$ (0.32)	▼ \$ (0.3)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 42.82	▼ \$ (0.32)	▼ \$ (0.4)

### Page Menu

- [Short-term Weather Model Outlooks](#)
- [Lower 48 Component Models](#)
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- [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	0.2	1.3	2.0	3.5
24 Hr Chg	-2.4	-0.9	0.3	-3.0

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.7	1.8	3.8	6.3
24 Hr Chg	0.5	1.5	2.9	4.9

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	84.6	▼ -0.21	▼ -0.03

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	43.3	▼ -0.86	▼ -0.34

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.4	▼ -0.17	▼ -0.07

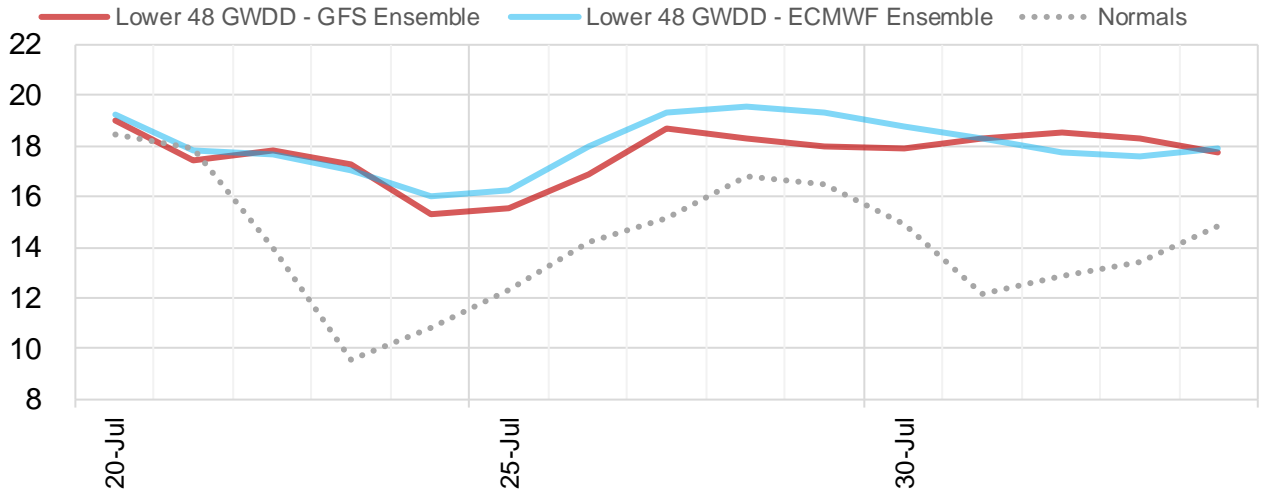
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.5	▼ -0.09	▲ 0.06

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	3.9	▲ 0.35	▲ 0.41

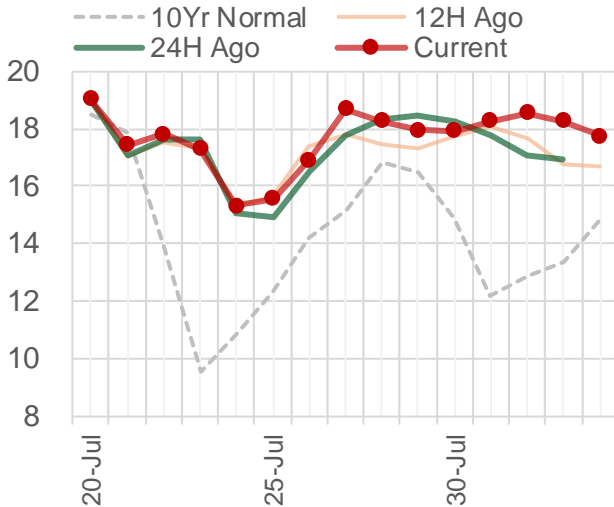
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.1	▲ 0.09	▼ -0.12

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

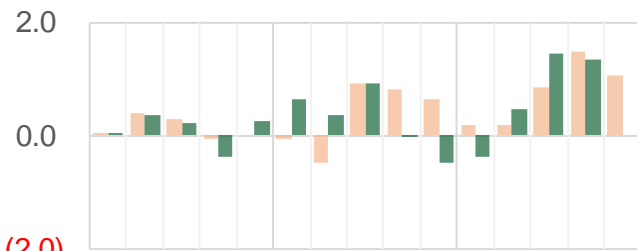
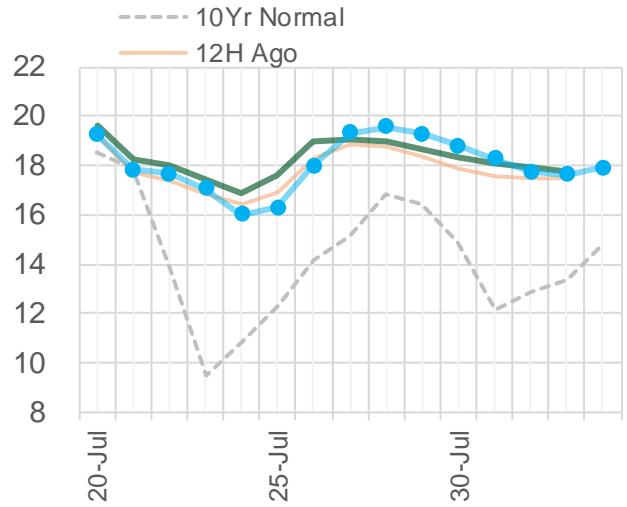
Lower 48 TDD Forecast



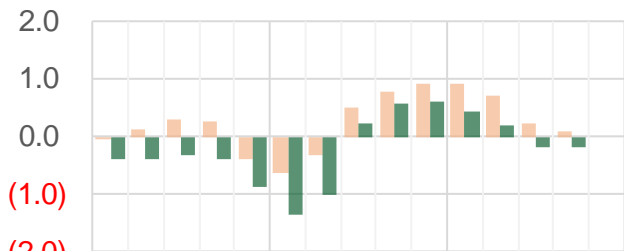
Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



(2.0)



(1.0)

(2.0)

Source: WSI, Bloomberg

### Lower 48 Component Models

#### Daily Balances

	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>84.0</b>	<b>84.5</b>	<b>84.4</b>	<b>85.2</b>	<b>85.2</b>	<b>84.8</b>	<b>84.6</b>	▼ -0.2	▼ -0.1
<b>Canadian Imports</b>	<b>4.4</b>	<b>4.4</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.6</b>	<b>4.5</b>	▼ -0.1	▲ 0.1
L48 Power	44.0	44.1	42.8	43.3	43.3	44.1	43.3	▼ -0.9	▼ -0.3
L48 Residential & Commercial	7.5	7.5	7.4	7.4	7.3	7.6	7.4	▼ -0.2	▼ -0.1
L48 Industrial	16.9	16.9	16.9	16.9	17.0	17.1	17.3	▲ 0.2	▲ 0.3
L48 Lease and Plant Fuel	4.7	4.7	4.7	4.8	4.8	4.7	4.7	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.3	2.3	2.3	2.3	2.3	2.3	2.3	▼ 0.0	▼ 0.0
<b>L48 Regional Gas Consumption</b>	<b>75.4</b>	<b>75.6</b>	<b>74.1</b>	<b>74.6</b>	<b>74.6</b>	<b>75.9</b>	<b>75.0</b>	▼ -0.9	▼ -0.1
<b>Net LNG Exports</b>	<b>3.4</b>	<b>3.3</b>	<b>3.6</b>	<b>3.7</b>	<b>3.6</b>	<b>3.5</b>	<b>3.9</b>	▲ 0.3	▲ 0.4
<b>Total Mexican Exports</b>	<b>6.2</b>	<b>6.5</b>	<b>6.4</b>	<b>6.4</b>	<b>6.1</b>	<b>6.0</b>	<b>6.1</b>	▲ 0.1	▼ -0.2
Implied Daily Storage Activity	3.5	3.4	4.6	4.8	5.5	4.0	4.2		
EIA Reported Daily Storage Activity									
Daily Model Error									

#### EIA Storage Week Balances

	12-Jun	19-Jun	26-Jun	3-Jul	10-Jul	17-Jul	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>84.1</b>	<b>84.3</b>	<b>84.2</b>	<b>84.3</b>	<b>84.7</b>	<b>84.3</b>	▼ -0.4	▼ -0.1
<b>Canadian Imports</b>	<b>3.9</b>	<b>3.8</b>	<b>4.2</b>	<b>4.1</b>	<b>4.3</b>	<b>4.5</b>	▲ 0.2	▲ 0.4
L48 Power	33.3	30.3	37.1	38.5	41.9	43.0	▲ 1.1	▲ 6.1
L48 Residential & Commercial	7.7	8.0	7.4	7.4	7.3	7.4	▲ 0.1	▼ -0.1
L48 Industrial	19.0	18.2	18.6	18.9	17.9	16.9	▼ -1.0	▼ -1.5
L48 Lease and Plant Fuel	4.7	4.7	4.7	4.7	4.7	4.7	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.0	1.8	2.1	2.2	2.2	2.3	▲ 0.1	▲ 0.2
<b>L48 Regional Gas Consumption</b>	<b>66.8</b>	<b>63.0</b>	<b>70.0</b>	<b>71.7</b>	<b>74.0</b>	<b>74.3</b>	▲ 0.3	▲ 4.7
<b>Net LNG Exports</b>	<b>3.9</b>	<b>3.8</b>	<b>4.0</b>	<b>4.0</b>	<b>3.0</b>	<b>3.3</b>	▲ 0.3	▼ -0.4
<b>Total Mexican Exports</b>	<b>5.7</b>	<b>5.6</b>	<b>5.9</b>	<b>5.8</b>	<b>5.9</b>	<b>6.1</b>	▲ 0.2	▲ 0.3
Implied Daily Storage Activity	11.6	15.6	8.5	6.9	6.0	5.0	-1.0	
EIA Reported Daily Storage Activity	12.1	17.1	9.3	8.0	6.4			
Daily Model Error	-0.6	-1.5	-0.8	-1.1	-0.4			

#### 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>81.9</b>	<b>90.1</b>	<b>92.2</b>	<b>90.7</b>	<b>85.0</b>	<b>84.2</b>	<b>84.6</b>	▲ 0.4	▼ -5.5
<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>	▲ 0.4	▼ -0.6
L48 Power	39.1	40.9	28.3	25.3	26.3	34.3	42.4	▲ 8.1	▲ 1.5
L48 Residential & Commercial	7.8	8.1	27.5	20.9	12.3	7.7	7.4	▼ -0.3	▼ -0.8
L48 Industrial	20.7	20.1	21.8	19.6	19.4	18.8	17.5	▼ -1.4	▼ -2.7
L48 Lease and Plant Fuel	4.6	5.0	5.2	5.1	4.8	4.7	4.7	▼ 0.0	▼ -0.3
L48 Pipeline Distribution	2.2	2.2	2.5	2.1	1.9	2.0	2.3	▲ 0.2	▲ 0.0
<b>L48 Regional Gas Consumption</b>	<b>74.3</b>	<b>76.4</b>	<b>85.3</b>	<b>73.1</b>	<b>64.6</b>	<b>67.6</b>	<b>74.2</b>	▲ 6.7	▼ -2.2
<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>6.0</b>	▲ 0.3	▲ 0.6
Implied Daily Storage Activity	5.0	7.3	-3.1	8.4	12.7	10.9	5.5		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

### Regional S/D Models Storage Projection

Week Ending 17-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	4.8	0.9	5.7	40
East	0.9	1.8	2.7	19
Midwest	3.8	-0.8	3.1	21
Mountain	2.2	-1.7	0.5	3
South Central	-2.4	2.1	-0.3	-2
Pacific	0.2	-0.5	-0.3	-2

\*Adjustment Factor is calculated based on historical regional deltas

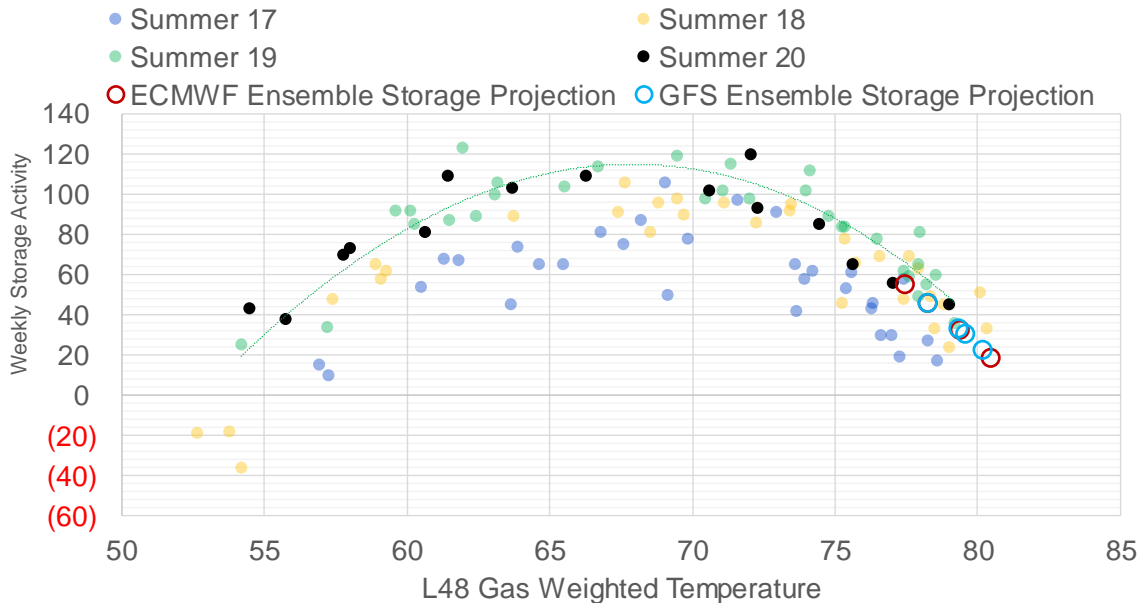
U.S. underground natural gas storage facilities by type (July 2015)



### Weather Model Storage Projection

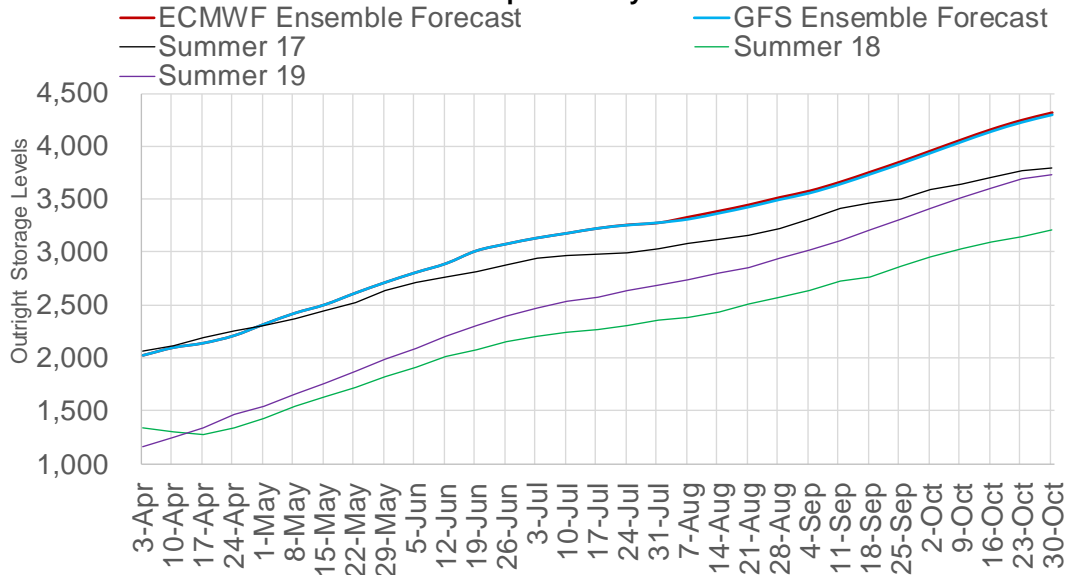
Next report and beyond	
Week Ending	Week Storage Projection
24-Jul	32
31-Jul	21
7-Aug	44

### Weather Storage Model - Next 4 Week Forecast



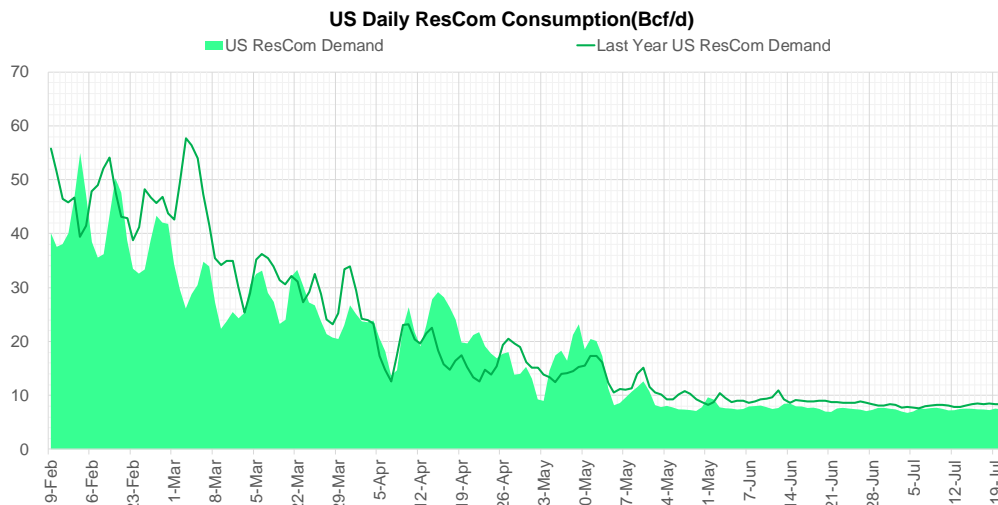
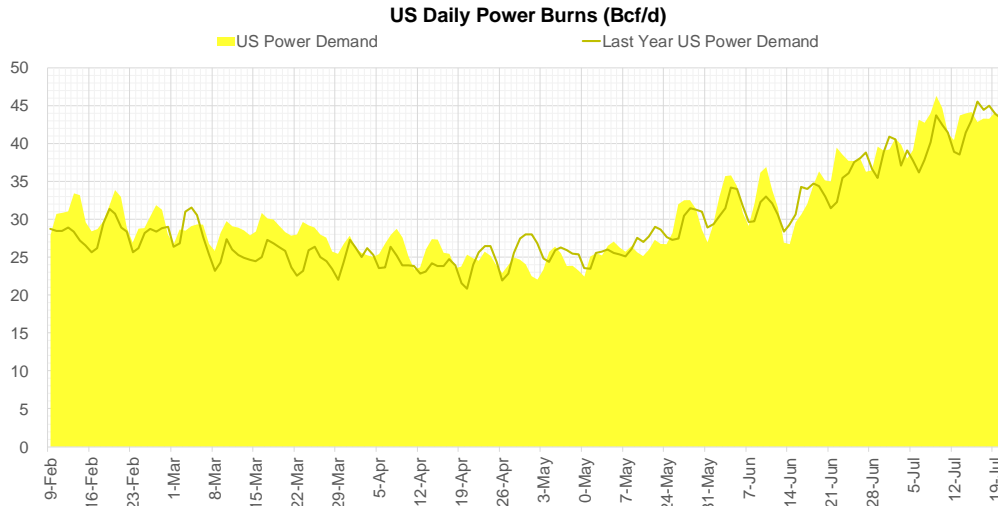
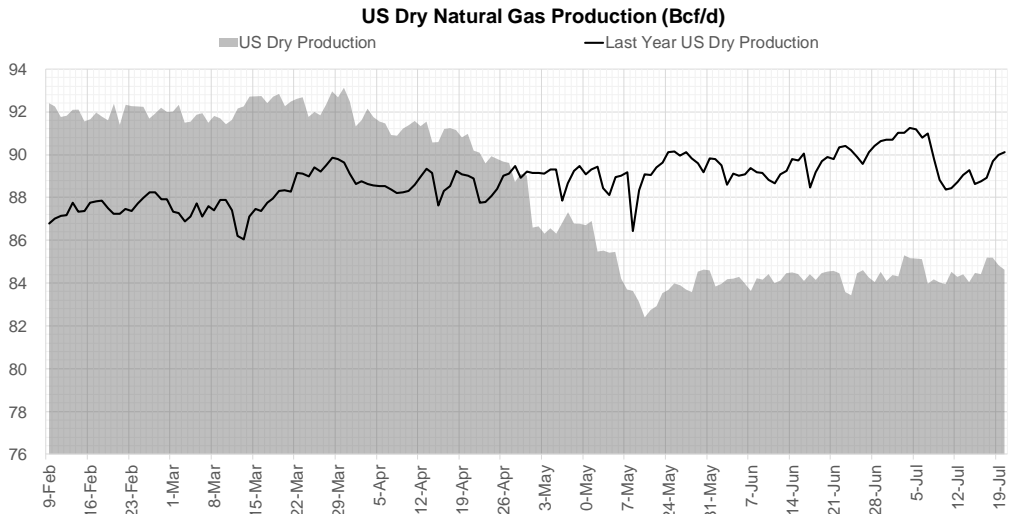
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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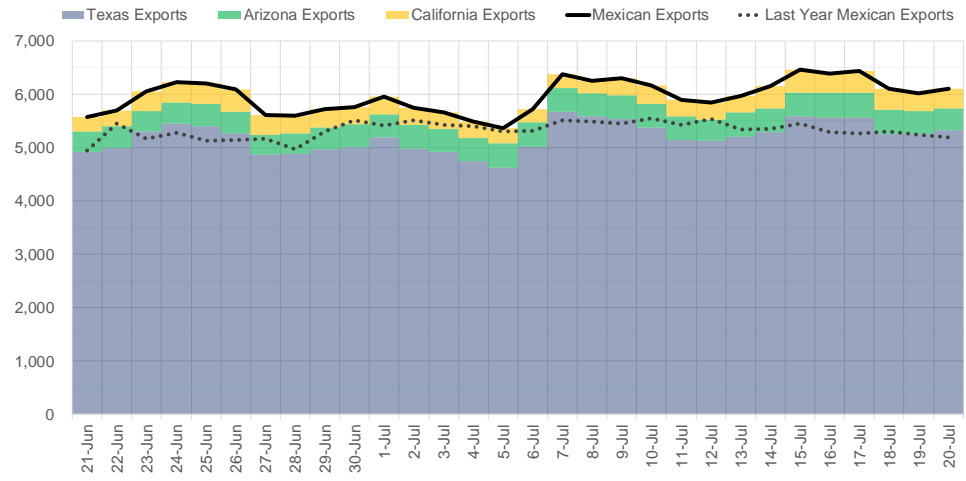
## Supply – Demand Trends



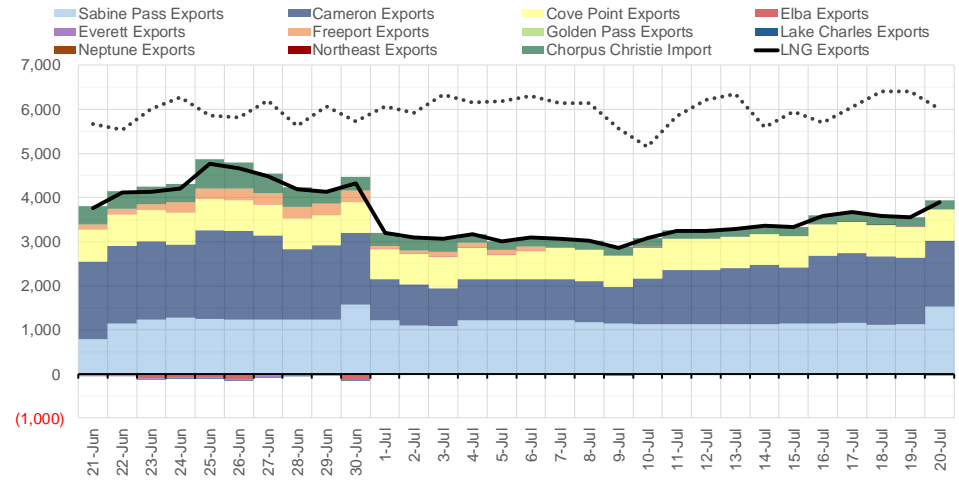
Source: Bloomberg

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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
10	2020	C	2.75	3074	10	2020	P	1.50	46099
8	2020	P	1.60	2622	8	2020	C	2.00	37307
8	2020	P	1.70	2210	10	2020	C	2.75	35847
8	2020	P	1.50	2004	3	2021	P	2.00	34826
10	2020	P	1.50	1908	8	2020	P	1.50	34199
8	2020	C	1.90	1890	10	2020	C	2.50	34166
8	2020	C	1.75	1851	9	2020	P	1.50	33694
10	2020	C	2.50	1741	10	2020	P	1.60	31444
9	2020	P	1.75	1551	10	2020	P	2.00	30774
10	2020	C	3.00	1500	10	2020	C	3.00	30566
10	2020	C	2.25	1297	9	2020	C	2.50	30023
4	2021	C	3.00	1175	10	2020	P	1.75	28667
5	2021	C	3.00	975	10	2020	P	1.25	28001
6	2021	C	3.00	975	9	2020	P	1.20	24974
7	2021	C	3.00	975	9	2020	C	3.00	24777
8	2021	C	3.00	975	8	2020	C	2.50	23902
9	2021	C	3.00	975	9	2020	P	1.00	23345
11	2020	P	1.75	960	9	2020	P	1.75	21844
8	2020	P	1.65	960	3	2021	C	3.00	21543
10	2020	P	1.75	950	9	2020	P	1.25	19129
9	2020	P	1.50	905	8	2020	C	2.25	18982
10	2021	C	3.00	850	8	2020	P	1.30	18927
9	2020	P	1.60	780	9	2020	C	2.75	18588
10	2020	P	1.85	760	10	2020	C	2.10	18286
8	2020	C	2.00	756	10	2020	C	3.25	18191
4	2021	P	2.00	750	9	2020	C	2.00	18168
5	2021	P	2.00	750	10	2020	P	2.10	18132
6	2021	P	2.00	750	1	2021	C	3.50	17983
7	2021	P	2.00	750	3	2021	C	3.50	17585
8	2021	P	2.00	750	8	2020	P	1.60	17437
9	2021	P	2.00	750	10	2020	P	1.00	17420
10	2021	P	2.00	750	1	2021	C	3.00	17288
9	2020	C	1.75	738	8	2020	P	1.75	17273
4	2021	C	2.75	700	8	2020	P	1.00	16762
5	2021	C	2.75	700	9	2020	C	2.25	16487
6	2021	C	2.75	700	10	2020	P	1.30	15765
7	2021	C	2.75	700	8	2020	P	1.20	15641
8	2021	C	2.75	700	8	2020	P	1.25	15379
9	2021	C	2.75	700	4	2021	C	3.00	15370
10	2021	C	2.75	700	12	2020	P	1.50	15255
10	2020	C	2.00	627	10	2020	C	2.25	15195
8	2020	P	1.55	601	8	2020	C	3.00	14670
9	2020	P	1.40	571	8	2020	P	1.40	14517
9	2020	P	1.30	537	10	2020	P	1.20	14516
10	2020	C	1.90	529	10	2020	C	2.00	14441
10	2020	P	1.90	515	9	2020	P	1.30	14218
8	2020	P	1.75	514	11	2020	C	3.50	14187
9	2020	P	1.10	503	9	2020	P	2.00	13947
10	2020	P	2.20	500	8	2020	C	2.10	13707
					8	2020	C	2.75	13515

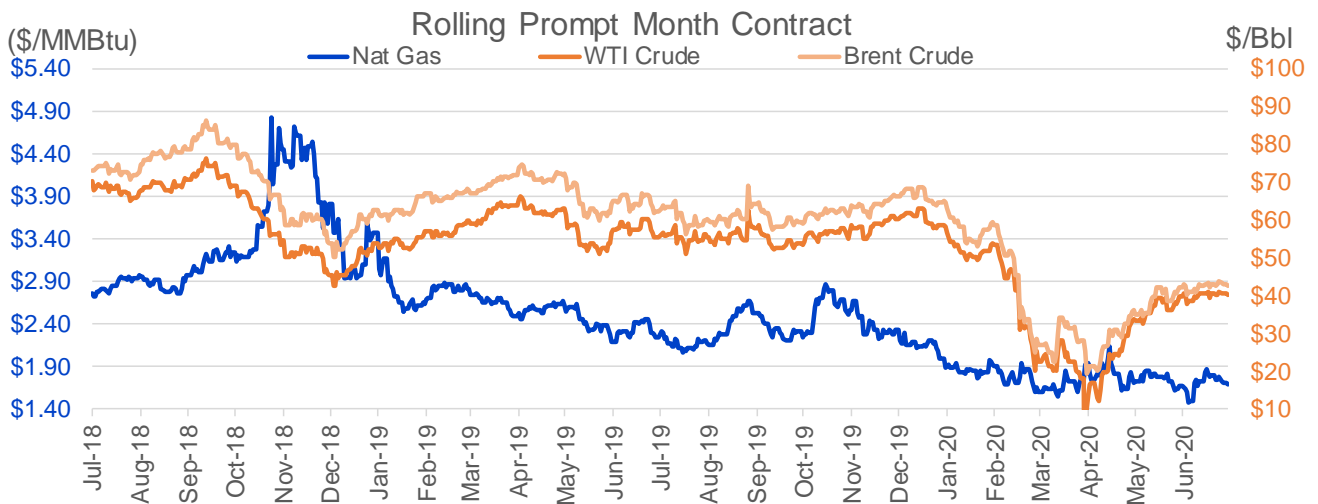
Source: CME, Nasdaq, ICE



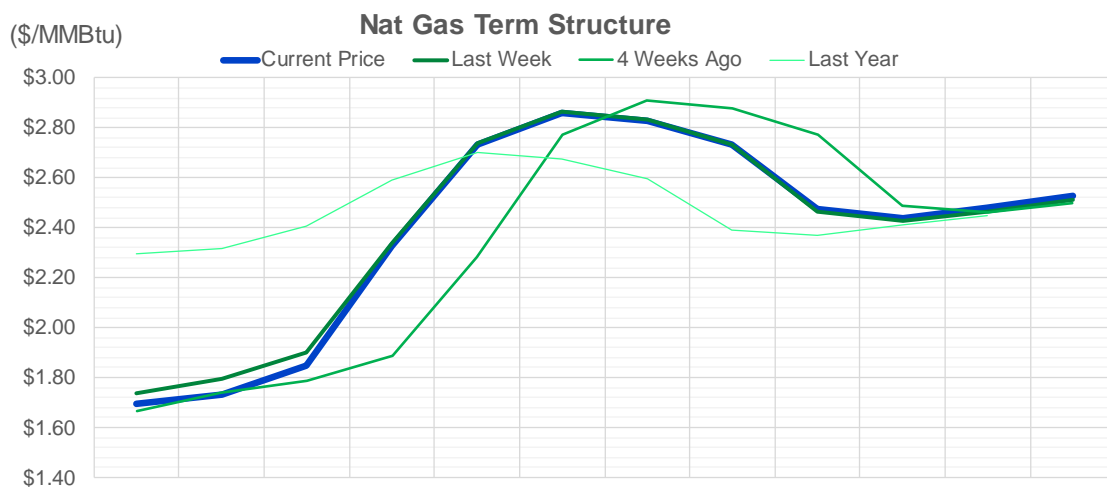
### Nat Gas Futures Open Interest CME, and ICE Combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM			
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
AUG 20	112450	129791	-17341	AUG 20	75194	74990	203.75
SEP 20	286229	271672	14557	SEP 20	76593	76615	-21.75
OCT 20	130417	128224	2193	OCT 20	85234	87012	-1778
NOV 20	93805	93112	693	NOV 20	67365	66976	389.5
DEC 20	84104	82865	1239	DEC 20	62459	62088	371.25
JAN 21	119927	118387	1540	JAN 21	79924	80163	-239
FEB 21	40948	40599	349	FEB 21	48302	48255	47.25
MAR 21	80822	80638	184	MAR 21	66342	66260	81.25
APR 21	75710	75011	699	APR 21	52343	52105	238.25
MAY 21	33621	33427	194	MAY 21	46404	46379	25.25
JUN 21	19770	19489	281	JUN 21	45151	45155	-3.75
JUL 21	17007	16929	78	JUL 21	45929	45849	79.75
AUG 21	13756	13516	240	AUG 21	46363	46299	64.25
SEP 21	16300	16219	81	SEP 21	44217	44223	-5.25
OCT 21	41268	41213	55	OCT 21	65707	65697	10.25
NOV 21	22075	21685	390	NOV 21	37824	37844	-20.25
DEC 21	15387	15401	-14	DEC 21	39456	39317	139
JAN 22	13698	13569	129	JAN 22	31149	31030	119.5
FEB 22	8584	8359	225	FEB 22	27830	27749	81.75
MAR 22	13870	13698	172	MAR 22	29410	29359	50.75
APR 22	13267	13169	98	APR 22	28719	28695	23.75
MAY 22	5145	5150	-5	MAY 22	22754	22704	50
JUN 22	2048	2042	6	JUN 22	22671	22656	15
JUL 22	1910	1902	8	JUL 22	22552	22536	15.75
AUG 22	1351	1342	9	AUG 22	22293	22277	15.5
SEP 22	1842	1842	0	SEP 22	21945	21930	15.5
OCT 22	2369	2370	-1	OCT 22	23332	23289	42.5
NOV 22	1577	1570	7	NOV 22	20751	20743	7.5
DEC 22	1411	1407	4	DEC 22	21229	20978	250.25
JAN 23	2615	2715	-100	JAN 23	11196	11180	16.5

Source: CME, ICE



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	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>\$1.693</b>	<b>\$1.733</b>	<b>\$1.846</b>	<b>\$2.327</b>	<b>\$2.734</b>	<b>\$2.857</b>	<b>\$2.827</b>	<b>\$2.734</b>	<b>\$2.473</b>	<b>\$2.439</b>	<b>\$2.481</b>	<b>\$2.526</b>
Last Week	\$1.739	\$1.797	\$1.899	\$2.340	\$2.739	\$2.866	\$2.833	\$2.734	\$2.462	\$2.429	\$2.464	\$2.510
vs. Last Week	-\$0.046	-\$0.064	-\$0.053	-\$0.013	-\$0.005	-\$0.009	-\$0.006	\$0.000	\$0.011	\$0.010	\$0.017	\$0.016
4 Weeks Ago	\$1.664	\$1.738	\$1.787	\$1.888	\$2.280	\$2.771	\$2.909	\$2.880	\$2.773	\$2.490	\$2.460	\$2.496
vs. 4 Weeks Ago	\$0.029	-\$0.005	\$0.059	\$0.439	\$0.454	\$0.086	-\$0.082	-\$0.146	-\$0.300	-\$0.051	\$0.021	\$0.030
Last Year	\$2.312	\$2.293	\$2.319	\$2.407	\$2.589	\$2.704	\$2.675	\$2.594	\$2.393	\$2.372	\$2.411	\$2.451
vs. Last Year	-\$0.619	-\$0.560	-\$0.473	-\$0.080	\$0.145	\$0.153	\$0.152	\$0.140	\$0.080	\$0.067	\$0.070	\$0.075

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.83	1.65	-0.19
TETCO M3	\$/MMBtu	1.86	1.60	-0.26
FGT Zone 3	\$/MMBtu	0.00	1.81	1.81
Zone 6 NY	\$/MMBtu	0.00	1.59	1.59
Chicago Citygate	\$/MMBtu	1.65	1.68	0.03
Michcon	\$/MMBtu	1.71	1.65	-0.06
Columbia TCO Pool	\$/MMBtu	1.55	1.50	-0.05
Ventura	\$/MMBtu	1.63	1.65	0.02
Rockies/Opal	\$/MMBtu	1.61	1.56	-0.05
El Paso Permian Basin	\$/MMBtu	1.48	1.47	-0.01
Socal Citygate	\$/MMBtu	1.83	1.93	0.10
Malin	\$/MMBtu	1.59	1.65	0.06
Houston Ship Channel	\$/MMBtu	1.71	1.73	0.02
Henry Hub Cash	\$/MMBtu	1.74	1.65	-0.09
AECO Cash	C\$/GJ	1.46	1.39	-0.07
Station2 Cash	C\$/GJ	1.45	1.65	0.20
Dawn Cash	C\$/GJ	1.68	1.69	0.01

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.38	▲ 0.020	▲ 0.035	▲ 0.007	
NatGas Mar/Apr	\$/MMBtu	-0.261	▲ 0.011	▼ -0.544	▼ -0.508	
NatGas Oct/Nov	\$/MMBtu	0.48	▲ 0.040	▲ 0.089	▲ 0.416	
NatGas Oct/Jan	\$/MMBtu	1.01	▲ 0.044	▼ -0.010	▲ 0.677	
WTI Crude	\$/Bbl	40.27	▲ 0.170	▼ -0.190	▼ -15.950	
Brent Crude	\$/Bbl	42.82	▲ 0.100	▼ -0.260	▼ -20.440	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	121.57	▼ -0.780	▼ -0.290	▼ -68.380	
Propane, Mt. Bel	cents/Gallon	0.48	▲ 0.002	▼ -0.026	▼ -0.011	
Ethane, Mt. Bel	cents/Gallon	0.22	▼ -0.005	▼ -0.006	▲ 0.055	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -7.500	