

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 1.64	▼ \$ (0.04)	▼ \$ (0.08)

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 41.33	▼ \$ (0.81)	▲ \$ 0.4

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 43.71	▼ \$ (0.61)	▲ \$ 0.3

### Page Menu

- [Short-term Weather Model Outlooks](#)
- [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	-0.2	-2.1	-2.0	-4.4
24 Hr Chg	-0.3	-5.5	-4.7	-10.6

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	4.0	1.3	-2.8	2.6
24 Hr Chg	1.2	-4.0	-1.5	-4.2

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	85.4	▼ -0.13	▼ -0.75

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	44.3	▼ -2.05	▼ -0.50

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.7	▼ -0.04	▲ 0.21

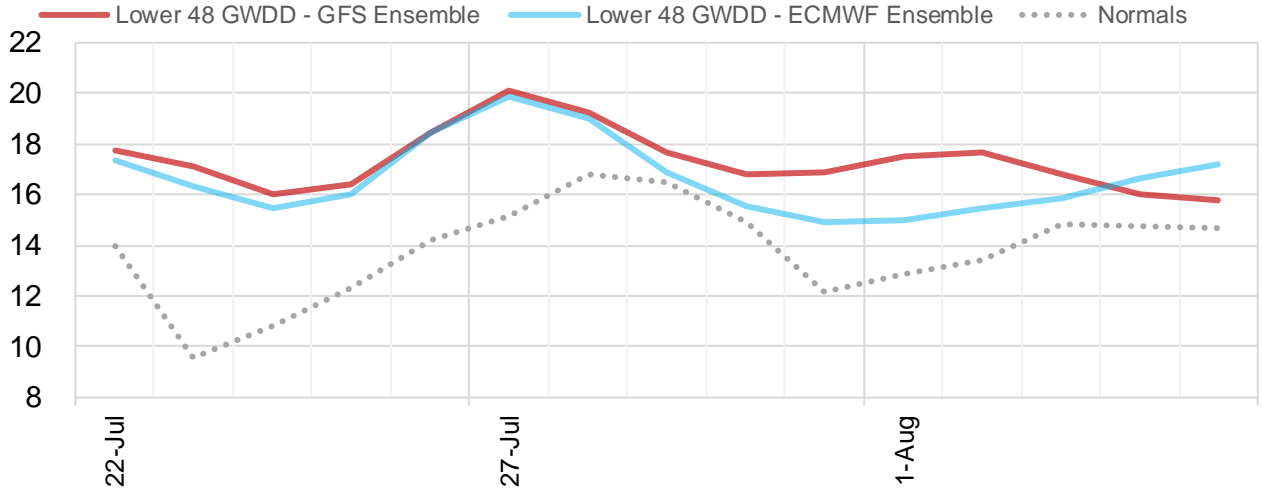
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.9	▼ -0.50	▼ -0.57

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	3.6	▲ 0.01	▼ -0.05

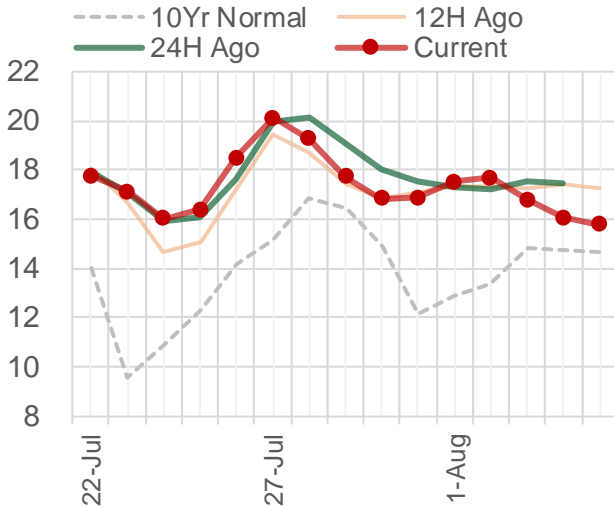
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.3	▼ -0.26	▼ -0.09

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

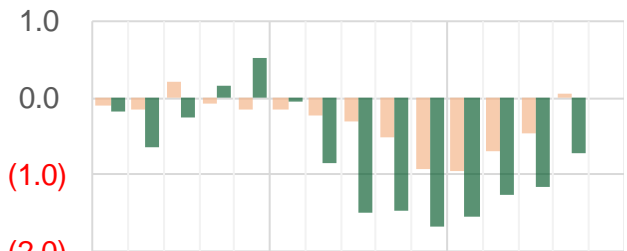
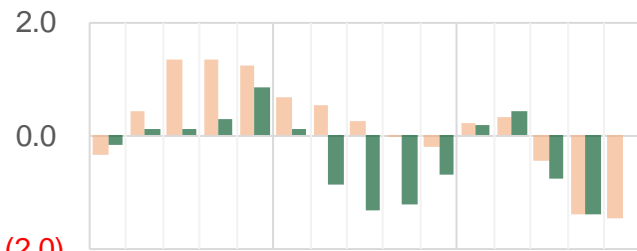
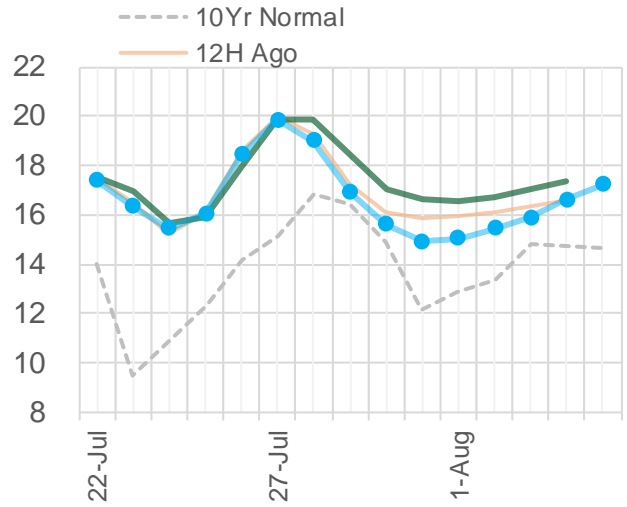
Lower 48 TDD Forecast



Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



Source: WSI, Bloomberg

### Lower 48 Component Models

#### Daily Balances

	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>85.8</b>	<b>86.7</b>	<b>86.6</b>	<b>86.4</b>	<b>86.3</b>	<b>85.6</b>	<b>85.4</b>	▼ -0.1	▼ -0.8
<b>Canadian Imports</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.7</b>	<b>4.7</b>	<b>4.4</b>	<b>3.9</b>	▼ -0.5	▼ -0.6
L48 Power	42.8	43.2	43.2	45.0	48.9	46.3	44.3	▼ -2.0	▼ -0.6
L48 Residential & Commercial	7.4	7.4	7.2	7.4	7.9	7.8	7.7	▼ 0.0	▲ 0.2
L48 Industrial	17.2	16.8	16.5	16.2	16.3	16.5	17.0	▲ 0.5	▲ 0.4
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	4.8	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.3	2.3	2.3	2.4	2.6	2.5	2.4	▼ -0.1	▼ 0.0
<b>L48 Regional Gas Consumption</b>	<b>74.4</b>	<b>74.5</b>	<b>74.0</b>	<b>75.9</b>	<b>80.5</b>	<b>77.9</b>	<b>76.1</b>	▼ -1.7	▼ -0.1
<b>Net LNG Exports</b>	<b>3.6</b>	<b>3.7</b>	<b>3.6</b>	<b>3.6</b>	<b>4.0</b>	<b>3.6</b>	<b>3.6</b>	▲ 0.0	▼ -0.1
<b>Total Mexican Exports</b>	<b>6.5</b>	<b>6.5</b>	<b>6.2</b>	<b>6.1</b>	<b>6.4</b>	<b>6.6</b>	<b>6.3</b>	▼ -0.3	▼ -0.1
<b>Implied Daily Storage Activity</b>	<b>5.6</b>	<b>6.3</b>	<b>7.3</b>	<b>5.5</b>	<b>0.1</b>	<b>2.0</b>	<b>3.3</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

#### 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>84.7</b>	<b>85.1</b>	<b>84.9</b>	<b>85.2</b>	<b>85.6</b>	<b>85.5</b>	▼ -0.1	▲ 0.3
<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	38.4	41.8	42.9	▲ 1.1	▲ 6.0
L48 Residential & Commercial	7.7	8.0	7.4	7.4	7.3	7.4	▲ 0.1	▼ -0.1
L48 Industrial	19.6	19.0	19.3	19.8	18.8	17.9	▼ -0.9	▼ -1.3
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▼ 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>67.4</b>	<b>63.8</b>	<b>70.7</b>	<b>72.6</b>	<b>74.9</b>	<b>75.3</b>	▲ 0.4	▲ 4.8
<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>6.2</b>	▲ 0.3	▲ 0.4
<b>Implied Daily Storage Activity</b>	<b>11.6</b>	<b>15.7</b>	<b>8.5</b>	<b>6.9</b>	<b>6.1</b>	<b>5.2</b>	<b>-0.8</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>12.1</b>	<b>17.1</b>	<b>9.3</b>	<b>8.0</b>	<b>6.4</b>			
<b>Daily Model Error</b>	<b>-0.6</b>	<b>-1.5</b>	<b>-0.8</b>	<b>-1.1</b>	<b>-0.4</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>85.7</b>	▲ 0.8	▼ -4.4
<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	42.9	▲ 8.6	▲ 2.0
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	19.5	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>75.4</b>	▲ 7.1	▼ -1.2
<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>	▼ -0.7	▼ -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>5.3</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 17-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	5.0	0.9	5.9	39
East	1.0	1.8	2.7	18
Midwest	3.6	-0.6	3.0	20
Mountain	3.1	-2.5	0.6	4
South Central	-2.8	2.6	-0.2	-1
Pacific	0.1	-0.4	-0.3	-2

\*Adjustment Factor is calculated based on historical regional deltas

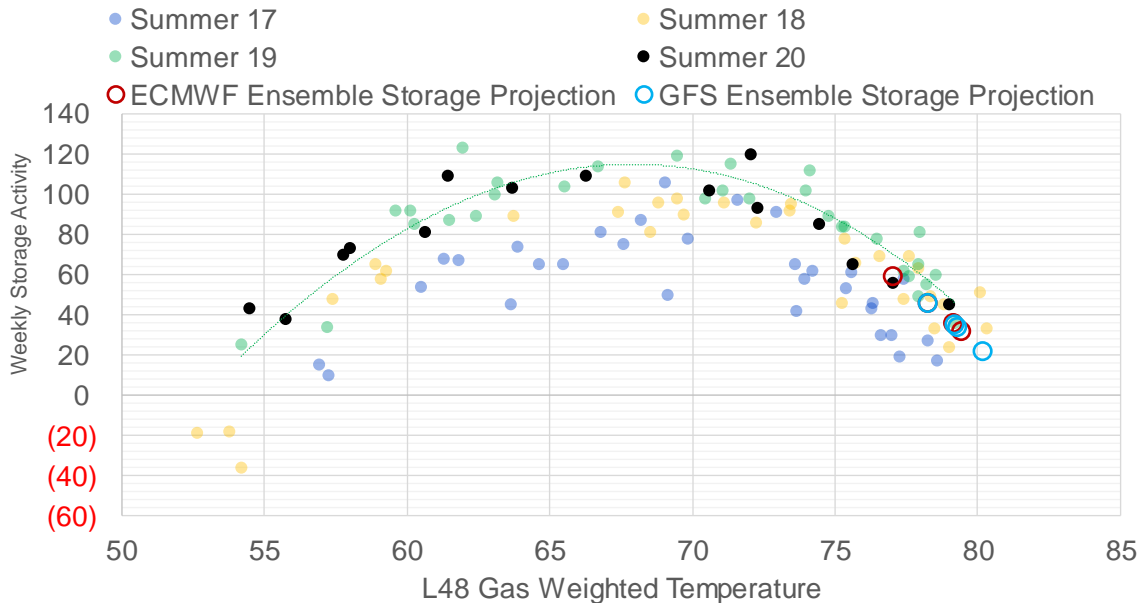
U.S. underground natural gas storage facilities by type (July 2015)



### Weather Model Storage Projection

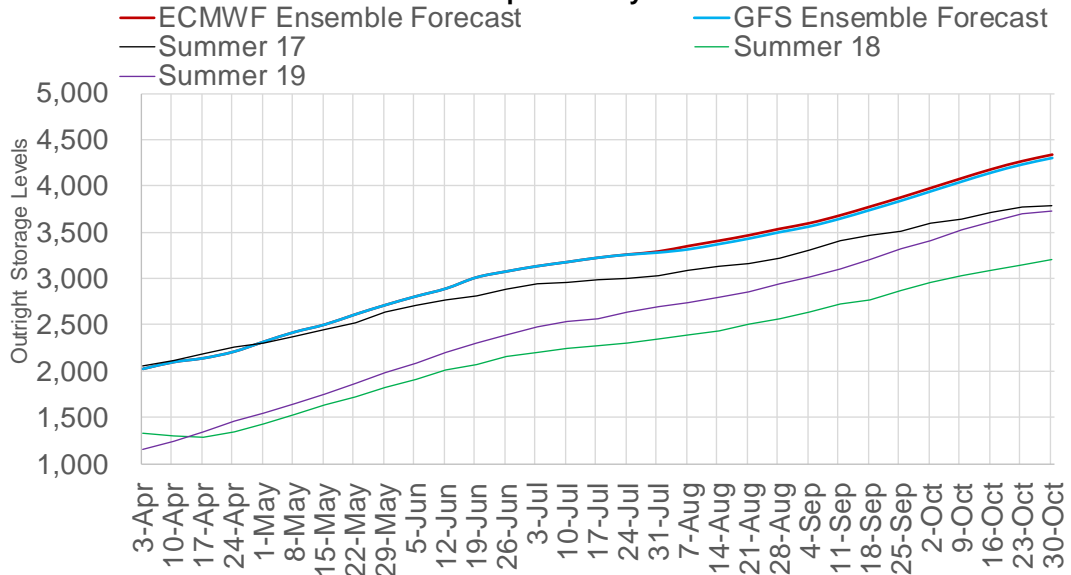
Next report and beyond	
Week Ending	Week Storage Projection
24-Jul	35
31-Jul	27
7-Aug	47

### Weather Storage Model - Next 4 Week Forecast



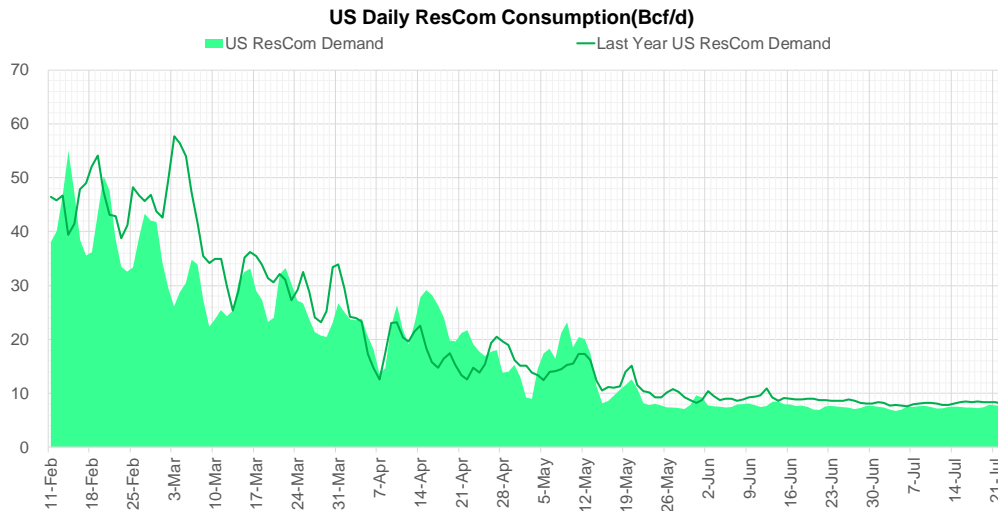
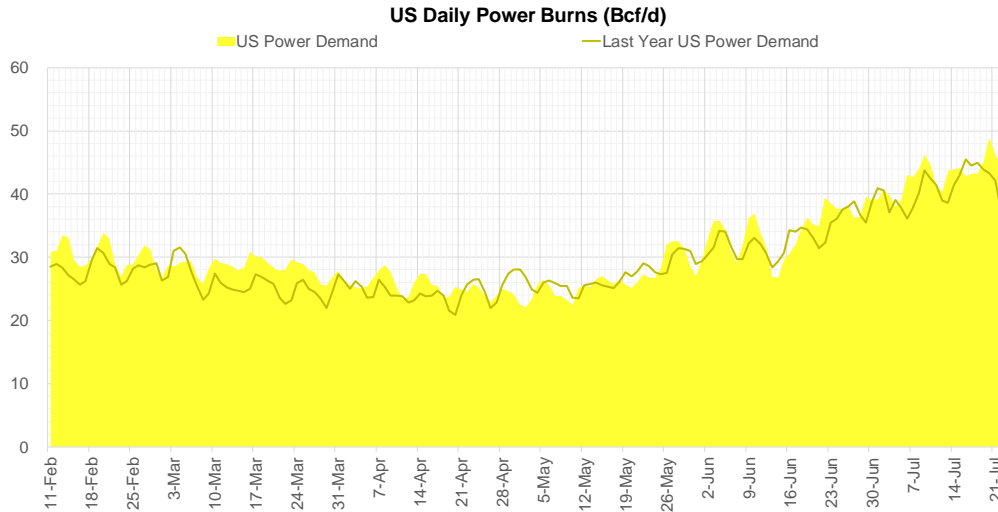
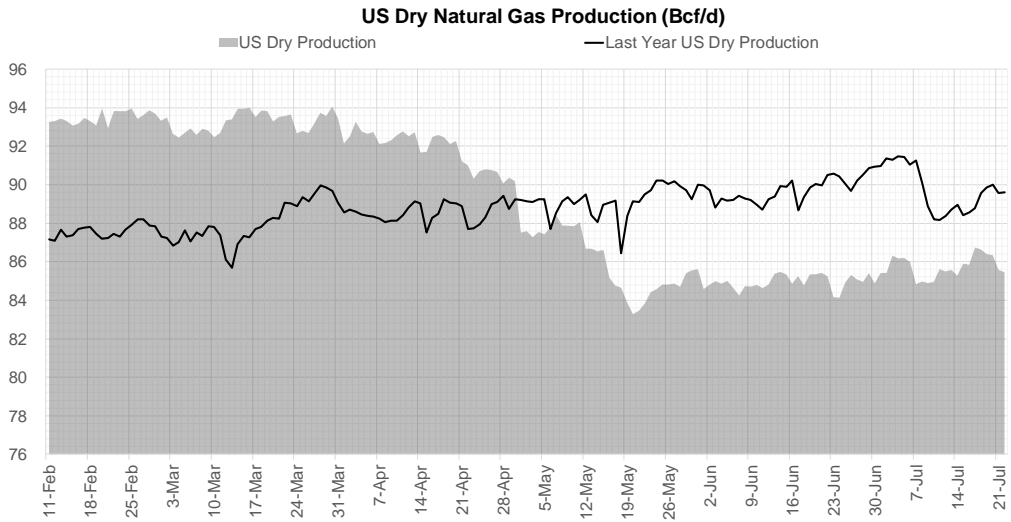
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.

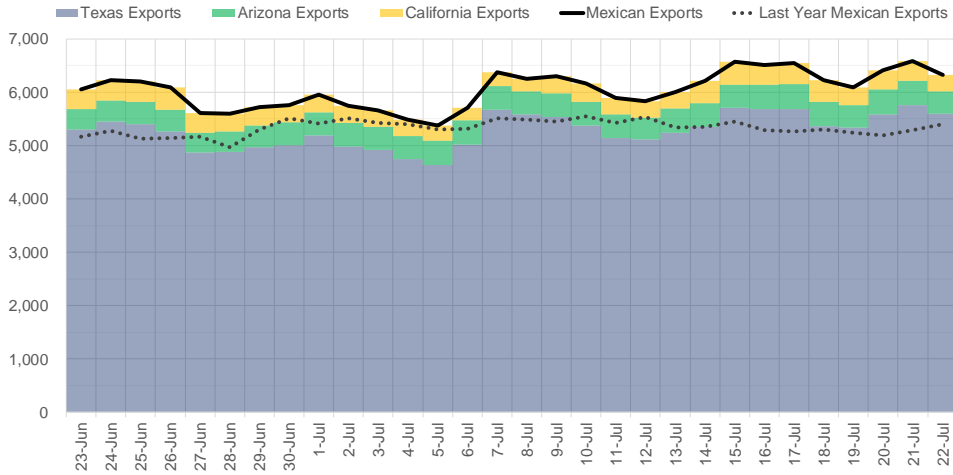
## Supply – Demand Trends



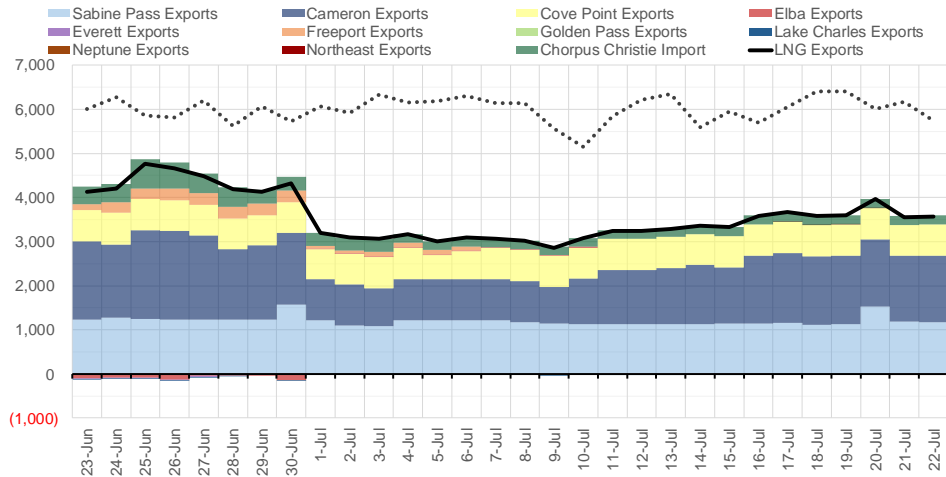
Source: Bloomberg

The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.

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



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



Source: Bloomberg

The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.

### 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	1.65	6423	10	2020	P	1.50	47326
8	2020	P	1.60	3291	10	2020	C	2.75	39973
8	2020	C	1.75	3268	8	2020	C	2.00	35790
8	2020	P	1.50	2433	3	2021	P	2.00	34831
10	2020	P	1.50	2415	10	2020	C	2.50	33122
9	2020	C	2.25	2028	8	2020	P	1.50	33051
10	2020	C	2.50	1792	9	2020	P	1.50	32933
8	2020	C	1.80	1606	10	2020	P	1.60	32427
8	2020	C	1.70	1590	10	2020	C	3.00	32225
7	2021	C	4.00	1530	10	2020	P	2.00	30774
9	2020	C	2.00	1491	9	2020	C	2.50	30122
9	2020	C	2.10	1356	10	2020	P	1.75	28187
9	2020	P	1.45	1310	10	2020	P	1.25	27394
9	2020	C	2.20	1186	9	2020	C	3.00	24621
10	2020	C	2.40	1084	8	2020	C	2.50	23901
10	2020	C	2.00	995	9	2020	P	1.00	23290
8	2020	C	2.00	959	9	2020	P	1.20	23179
9	2020	P	1.35	902	3	2021	C	3.00	21804
9	2020	P	1.65	881	9	2020	C	2.00	20751
8	2020	P	1.55	870	9	2020	P	1.75	19382
9	2020	P	1.50	848	8	2020	C	2.25	18980
9	2020	C	1.95	752	9	2020	P	1.25	18960
9	2020	P	1.30	719	8	2020	P	1.30	18837
10	2020	C	2.25	674	9	2020	C	2.75	18588
8	2020	P	1.40	607	10	2020	C	2.10	18389
10	2020	P	1.40	587	1	2021	C	3.50	18309
8	2020	C	1.85	552	10	2020	C	3.25	18190
10	2020	P	1.70	550	10	2020	P	2.10	18133
9	2020	P	1.25	539	3	2021	C	3.50	17908
10	2020	C	2.35	530	10	2020	P	1.00	17423
10	2020	P	1.30	507	1	2021	C	3.00	17288
10	2020	C	2.20	501	8	2020	P	1.75	17226
10	2020	C	3.00	500	3	2021	C	6.00	17226
11	2020	P	1.50	451	9	2020	C	2.25	17025
10	2020	C	2.60	441	10	2020	C	2.25	17022
8	2020	P	1.70	431	8	2020	P	1.60	17018
3	2021	P	1.95	425	8	2020	P	1.00	16762
3	2021	P	2.25	425	10	2020	C	2.00	16190
9	2020	C	1.80	415	8	2020	P	1.20	15639
10	2021	C	3.25	405	4	2021	C	3.00	15601
9	2020	C	1.85	392	10	2020	P	1.30	15534
8	2020	C	1.90	376	8	2020	P	1.25	15377
9	2020	C	2.40	357	12	2020	P	1.50	15255
11	2020	P	2.00	354	8	2020	P	1.40	14887
9	2020	P	1.60	325	8	2020	C	3.00	14670
8	2020	C	1.65	307	9	2020	P	1.30	14513
11	2020	C	2.90	304	9	2020	P	2.00	13945
11	2020	C	2.30	300	11	2020	C	3.50	13865
11	2020	C	2.50	300	8	2020	C	2.10	13709
					9	2020	P	1.6	13540.75

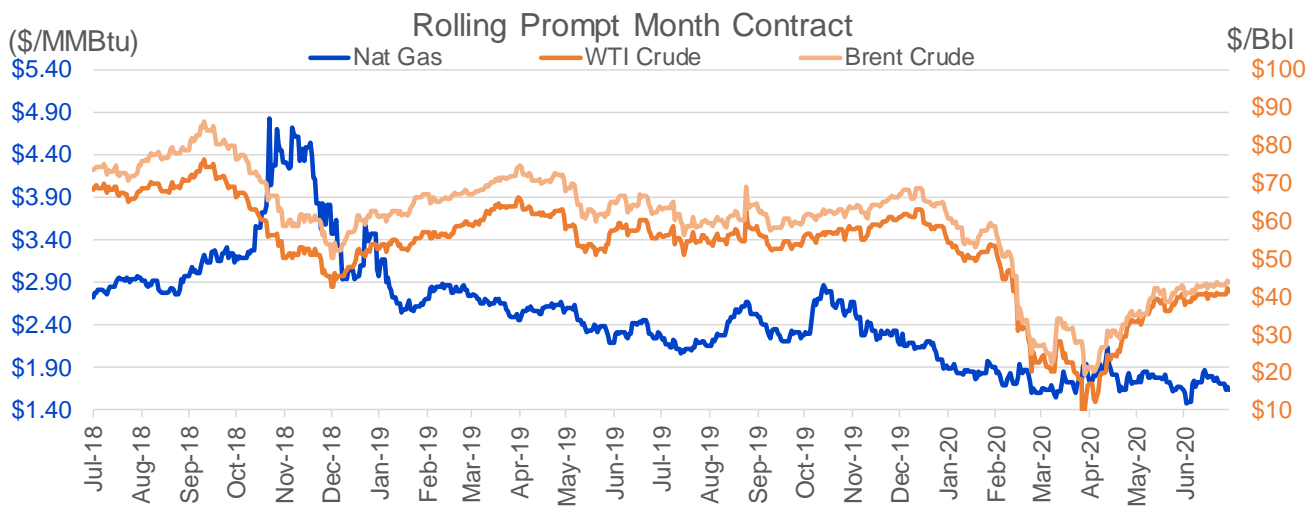
Source: CME, Nasdaq, ICE



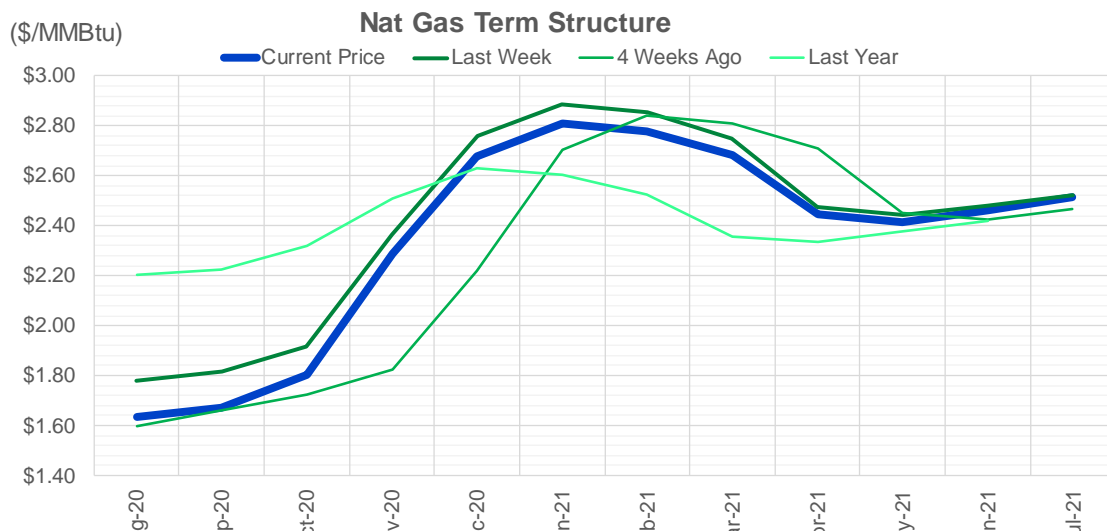
### Nat Gas Futures Open Interest CME, and ICE Combined

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	77662	99882	-22220	AUG 20	72950	74686	-1735.5
SEP 20	320806	302342	18464	SEP 20	78746	77842	904.25
OCT 20	139278	135394	3884	OCT 20	83835	84686	-851
NOV 20	95962	94800	1162	NOV 20	67333	67337	-3.75
DEC 20	85403	84834	569	DEC 20	62954	62792	162.25
JAN 21	125646	125003	643	JAN 21	80335	80003	332.75
FEB 21	41528	41578	-50	FEB 21	48456	48380	76.25
MAR 21	78945	78823	122	MAR 21	66136	66041	94.5
APR 21	76500	76194	306	APR 21	52833	52644	189.5
MAY 21	34198	33585	613	MAY 21	46530	46455	75.75
JUN 21	20070	20105	-35	JUN 21	45448	45479	-31
JUL 21	17014	17043	-29	JUL 21	46143	46087	55.25
AUG 21	13927	13923	4	AUG 21	46522	46490	32
SEP 21	16309	16244	65	SEP 21	44460	44491	-30.75
OCT 21	41429	41485	-56	OCT 21	66032	65955	77
NOV 21	22209	22143	66	NOV 21	37937	37954	-17.25
DEC 21	15339	15380	-41	DEC 21	39511	39512	-1.5
JAN 22	14292	13845	447	JAN 22	31190	31171	19
FEB 22	8764	8632	132	FEB 22	27902	27849	52.75
MAR 22	13589	13837	-248	MAR 22	29796	29427	368.75
APR 22	13340	13334	6	APR 22	29200	28555	644.5
MAY 22	5287	5201	86	MAY 22	22866	22731	135.25
JUN 22	2554	2056	498	JUN 22	22543	22634	-90.5
JUL 22	1925	1911	14	JUL 22	22475	22513	-38.5
AUG 22	1346	1344	2	AUG 22	22332	22254	77.75
SEP 22	1868	1842	26	SEP 22	21983	21915	67.75
OCT 22	2304	2382	-78	OCT 22	23533	23398	135.25
NOV 22	1547	1577	-30	NOV 22	20759	20736	23.25
DEC 22	1412	1412	0	DEC 22	21237	21213	24
JAN 23	2608	2615	-7	JAN 23	11202	11205	-3

Source: CME, ICE



The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.



	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>\$1.635</b>	<b>\$1.672</b>	<b>\$1.802</b>	<b>\$2.287</b>	<b>\$2.678</b>	<b>\$2.811</b>	<b>\$2.779</b>	<b>\$2.684</b>	<b>\$2.446</b>	<b>\$2.414</b>	<b>\$2.459</b>	<b>\$2.516</b>
Last Week	\$1.778	\$1.818	\$1.917	\$2.366	\$2.760	\$2.888	\$2.852	\$2.750	\$2.476	\$2.443	\$2.480	\$2.524
vs. Last Week	-\$0.143	-\$0.146	-\$0.115	-\$0.079	-\$0.082	-\$0.077	-\$0.073	-\$0.066	-\$0.030	-\$0.029	-\$0.021	-\$0.008
4 Weeks Ago	\$1.597	\$1.661	\$1.723	\$1.822	\$2.221	\$2.705	\$2.842	\$2.812	\$2.710	\$2.451	\$2.425	\$2.465
vs. 4 Weeks Ago	\$0.038	\$0.011	\$0.079	\$0.465	\$0.457	\$0.106	-\$0.063	-\$0.128	-\$0.264	-\$0.037	\$0.034	\$0.051
Last Year	\$2.220	\$2.202	\$2.227	\$2.318	\$2.508	\$2.631	\$2.604	\$2.525	\$2.354	\$2.337	\$2.377	\$2.419
vs. Last Year	-\$0.585	-\$0.530	-\$0.425	-\$0.031	\$0.170	\$0.180	\$0.175	\$0.159	\$0.092	\$0.077	\$0.082	\$0.097

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.58	1.72	0.14
TETCO M3	\$/MMBtu	1.79	1.91	0.12
FGT Zone 3	\$/MMBtu	0.00	1.86	1.86
Zone 6 NY	\$/MMBtu	0.00	1.69	1.69
Chicago Citygate	\$/MMBtu	1.61	1.73	0.12
Michcon	\$/MMBtu	1.63	1.70	0.06
Columbia TCO Pool	\$/MMBtu	1.49	1.57	0.08
Ventura	\$/MMBtu	1.60	1.70	0.10
Rockies/Opal	\$/MMBtu	1.52	1.61	0.09
El Paso Permian Basin	\$/MMBtu	1.41	1.53	0.12
Socal Citygate	\$/MMBtu	1.89	1.97	0.08
Malin	\$/MMBtu	1.55	1.72	0.17
Houston Ship Channel	\$/MMBtu	1.62	1.78	0.16
Henry Hub Cash	\$/MMBtu	1.63	1.70	0.06
AECO Cash	C\$/GJ	1.49	1.48	-0.01
Station2 Cash	C\$/GJ	1.48	1.70	0.22
Dawn Cash	C\$/GJ	1.62	1.75	0.13

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.37	▲ 0.047	▲ 0.026	▲ 0.011	
NatGas Mar/Apr	\$/MMBtu	-0.238	▲ 0.036	▼ -0.497	▼ -0.481	
NatGas Oct/Nov	\$/MMBtu	0.49	▲ 0.036	▲ 0.086	▲ 0.416	
NatGas Oct/Jan	\$/MMBtu	1.01	▲ 0.038	▼ -0.011	▲ 0.666	
WTI Crude	\$/Bbl	41.33	▲ 0.130	▲ 3.320	▼ -14.550	
Brent Crude	\$/Bbl	43.71	▼ -0.080	▲ 3.400	▼ -19.470	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	125.84	▲ 1.360	▲ 10.760	▼ -65.030	
Propane, Mt. Bel	cents/Gallon	0.49	▲ 0.006	▼ -0.007	▲ 0.005	
Ethane, Mt. Bel	cents/Gallon	0.21	▼ -0.011	▼ -0.009	▲ 0.063	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -7.500	