

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.17	▲ \$ 0.01	▼ \$ (0.03)

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 42.66	▼ \$ (0.01)	▲ \$ 1.0

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 45.35	▼ \$ (0.08)	▲ \$ 0.6

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### 00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	-0.4	2.8	5.2	7.6
24 Hr Chg	-2.4	1.9	1.7	1.3

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	1.0	5.0	8.6	14.6
24 Hr Chg	2.8	6.8	0.9	10.5

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	85.0	▼ -0.20	▼ -1.37

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	42.8	▼ -1.40	▲ 1.27

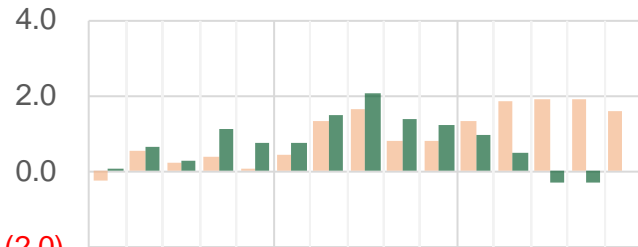
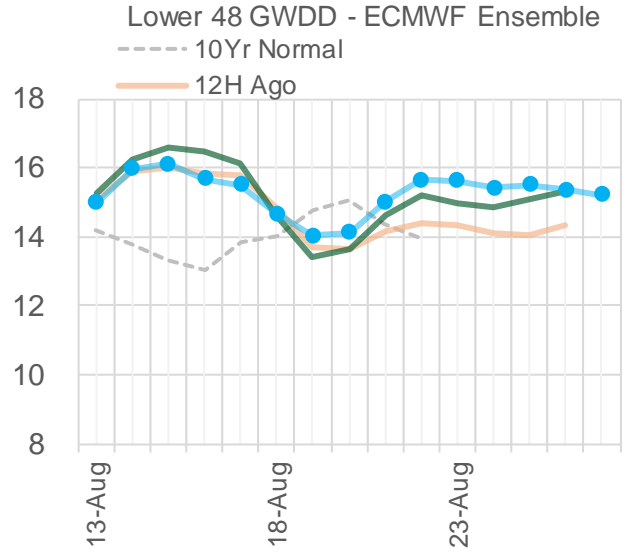
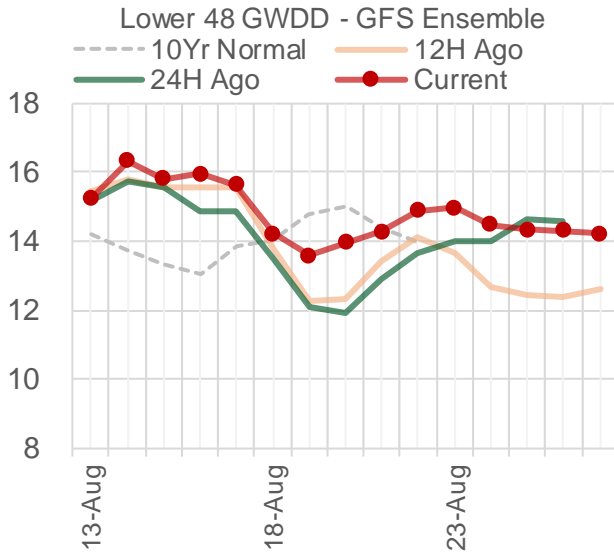
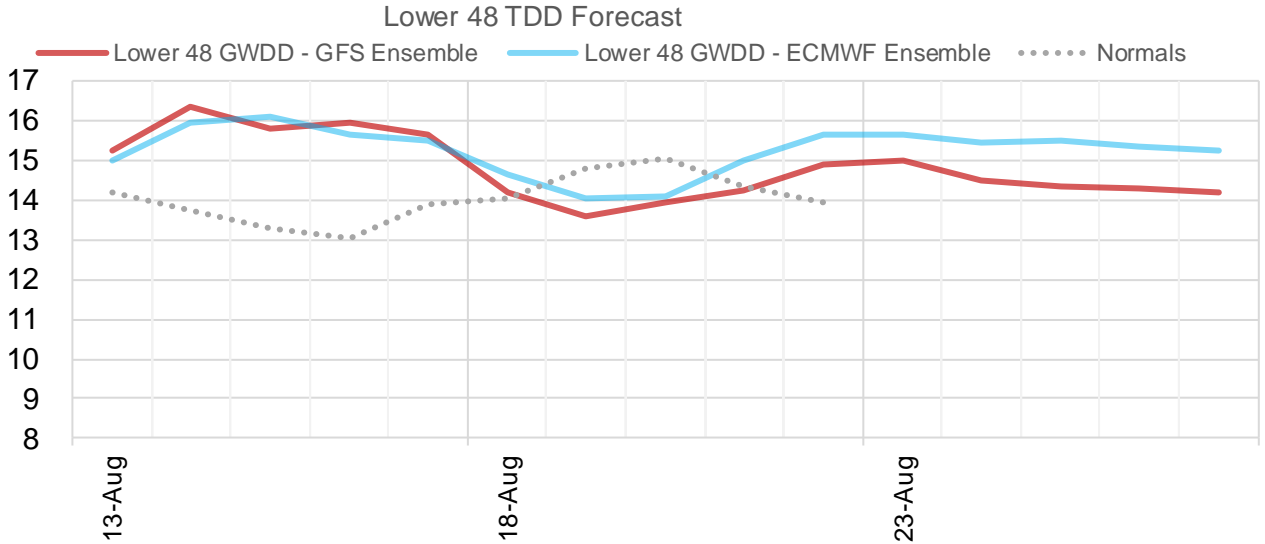
	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.0	▼ -0.03	▲ 0.41

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.1	▼ -0.35	▲ 0.23

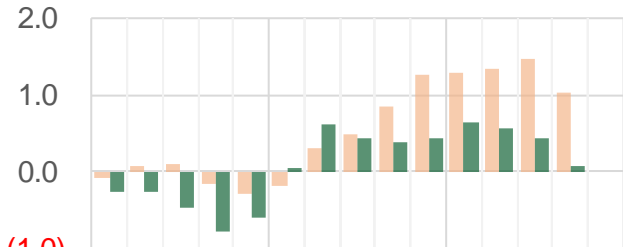
	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	4.5	▲ 0.03	▲ 0.16

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.2	▲ 0.10	▲ 0.20

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



(2.0)



(1.0)

Source: WSI, Bloomberg

## Lower 48 Component Models

### Daily Balances

	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>86.4</b>	<b>86.6</b>	<b>87.1</b>	<b>86.9</b>	<b>86.0</b>	<b>85.2</b>	<b>85.0</b>	▼ -0.2	▼ -1.3
<b>Canadian Imports</b>	<b>4.2</b>	<b>4.7</b>	<b>4.7</b>	<b>5.2</b>	<b>5.8</b>	<b>5.5</b>	<b>5.1</b>	▼ -0.3	▲ 0.1
L48 Power	37.7	38.6	40.6	46.2	45.7	44.2	42.8	▼ -1.4	▲ 0.7
L48 Residential & Commercial	7.3	7.2	7.4	7.9	7.9	8.0	8.0	▼ 0.0	▲ 0.4
L48 Industrial	18.4	18.6	18.7	18.8	18.9	19.1	19.2	▲ 0.1	▲ 0.4
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.7	4.7	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.1	2.1	2.2	2.5	2.5	2.4	2.3	▼ -0.1	▲ 0.0
<b>L48 Regional Gas Consumption</b>	<b>70.3</b>	<b>71.2</b>	<b>73.8</b>	<b>80.3</b>	<b>79.8</b>	<b>78.5</b>	<b>77.1</b>	▼ -1.4	▲ 1.4
<b>Net LNG Exports</b>	<b>4.0</b>	<b>4.3</b>	<b>4.3</b>	<b>4.5</b>	<b>4.5</b>	<b>4.4</b>	<b>4.5</b>	▲ 0.0	▲ 0.1
<b>Total Mexican Exports</b>	<b>6.3</b>	<b>5.8</b>	<b>5.7</b>	<b>5.9</b>	<b>6.2</b>	<b>6.1</b>	<b>6.2</b>	▲ 0.1	▲ 0.2
<b>Implied Daily Storage Activity</b>	<b>10.0</b>	<b>10.0</b>	<b>8.0</b>	<b>1.4</b>	<b>1.3</b>	<b>1.6</b>	<b>2.3</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

### EIA Storage Week Balances

	3-Jul	10-Jul	17-Jul	24-Jul	31-Jul	7-Aug	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>85.3</b>	<b>85.7</b>	<b>85.6</b>	<b>86.3</b>	<b>86.3</b>	<b>86.3</b>	▼ 0.0	▲ 0.3
<b>Canadian Imports</b>	<b>4.1</b>	<b>4.3</b>	<b>4.5</b>	<b>4.4</b>	<b>4.5</b>	<b>4.6</b>	▲ 0.1	▲ 0.2
L48 Power	38.5	41.9	42.9	45.5	45.5	40.8	▼ -4.8	▼ -3.2
L48 Residential & Commercial	8.2	7.9	7.9	8.1	8.1	7.6	▼ -0.5	▼ -0.4
L48 Industrial	19.0	18.2	17.9	17.2	17.0	18.1	▲ 1.1	▲ 0.6
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.3	2.3	2.4	2.4	2.2	▼ -0.2	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>72.7</b>	<b>75.0</b>	<b>75.8</b>	<b>78.0</b>	<b>77.9</b>	<b>73.5</b>	▼ -4.4	▼ -3.1
<b>Net LNG Exports</b>	<b>4.0</b>	<b>3.0</b>	<b>3.3</b>	<b>3.6</b>	<b>3.1</b>	<b>3.9</b>	▲ 0.7	▲ 0.6
<b>Total Mexican Exports</b>	<b>5.8</b>	<b>5.9</b>	<b>6.2</b>	<b>6.4</b>	<b>6.2</b>	<b>6.1</b>	▼ -0.1	▼ 0.0
<b>Implied Daily Storage Activity</b>	<b>6.9</b>	<b>6.0</b>	<b>4.8</b>	<b>2.7</b>	<b>3.5</b>	<b>7.4</b>	<b>3.8</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>8.0</b>	<b>6.4</b>	<b>5.3</b>	<b>3.7</b>	<b>4.7</b>			
<b>Daily Model Error</b>	<b>-1.1</b>	<b>-0.4</b>	<b>-0.5</b>	<b>-1.0</b>	<b>-1.2</b>			

### Monthly Balances

	2Yr Ago Aug-18	LY Aug-19	Apr-20	May-20	Jun-20	Jul-20	MTD Aug-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>83.3</b>	<b>92.4</b>	<b>91.7</b>	<b>86.0</b>	<b>84.9</b>	<b>85.9</b>	<b>86.2</b>	▲ 0.3	▼ -6.2
<b>Canadian Imports</b>	<b>5.0</b>	<b>4.4</b>	<b>3.9</b>	<b>3.9</b>	<b>4.0</b>	<b>4.4</b>	<b>4.9</b>	▲ 0.5	▲ 0.5
L48 Power	38.2	41.0	25.5	26.9	34.4	43.7	41.3	▼ -2.4	▲ 0.3
L48 Residential & Commercial	7.8	7.8	20.4	13.0	8.6	8.0	7.6	▼ -0.4	▼ -0.2
L48 Industrial	20.2	21.9	20.7	18.8	18.4	17.7	18.6	▲ 0.9	▼ -3.3
L48 Lease and Plant Fuel	4.7	5.1	5.1	4.8	4.8	4.8	4.8	▼ 0.0	▼ -0.3
L48 Pipeline Distribution	2.1	2.3	2.1	1.9	2.1	2.3	2.3	▼ -0.1	▲ 0.0
<b>L48 Regional Gas Consumption</b>	<b>73.0</b>	<b>78.1</b>	<b>73.8</b>	<b>65.4</b>	<b>68.3</b>	<b>76.5</b>	<b>74.5</b>	▼ -2.0	▼ -3.6
<b>Net LNG Exports</b>	<b>3.3</b>	<b>5.2</b>	<b>8.2</b>	<b>6.7</b>	<b>4.0</b>	<b>3.3</b>	<b>4.2</b>	▲ 0.9	▼ -1.0
<b>Total Mexican Exports</b>	<b>5.0</b>	<b>5.4</b>	<b>4.9</b>	<b>4.9</b>	<b>5.7</b>	<b>6.1</b>	<b>6.1</b>	▼ -0.1	▲ 0.7
<b>Implied Daily Storage Activity</b>	<b>7.0</b>	<b>8.1</b>	<b>8.7</b>	<b>12.9</b>	<b>10.8</b>	<b>4.4</b>	<b>6.3</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

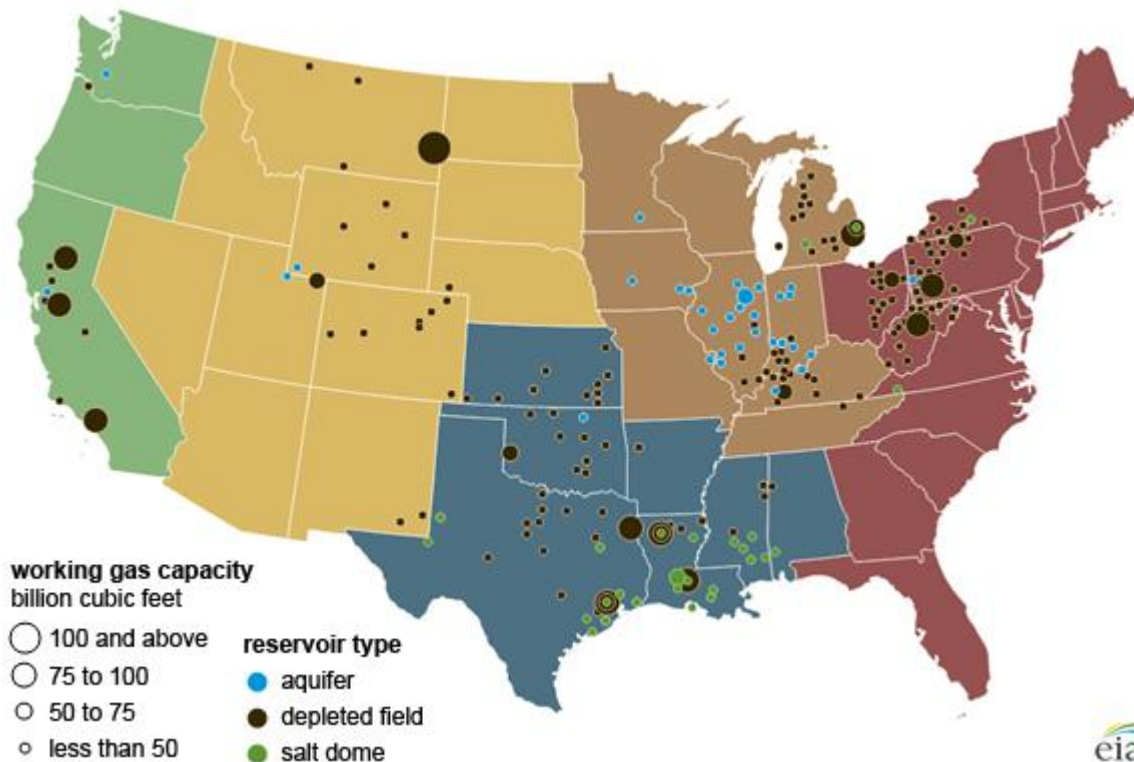
## Regional S/D Models Storage Projection

Week Ending 7-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	7.1	1.3	8.4	59
East	0.7	2.7	3.5	24
Midwest	3.4	-0.3	3.0	21
Mountain	3.1	-2.2	1.0	7
South Central	-1.1	1.8	0.6	4
Pacific	1.0	-0.7	0.3	2

\*Adjustment Factor is calculated based on historical regional deltas

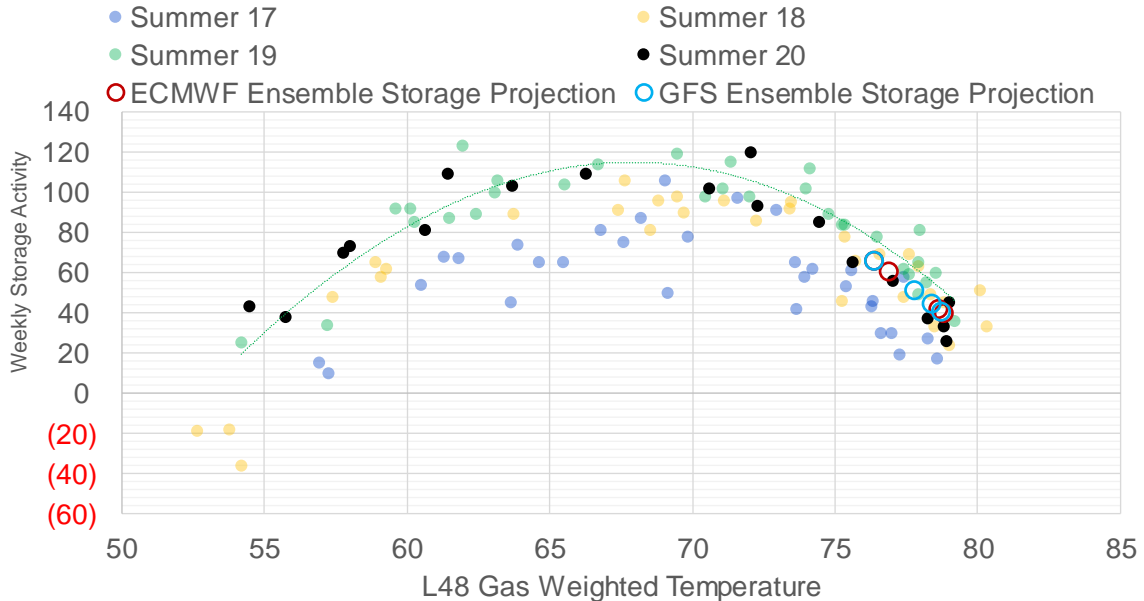
U.S. underground natural gas storage facilities by type (July 2015)



## Weather Model Storage Projection

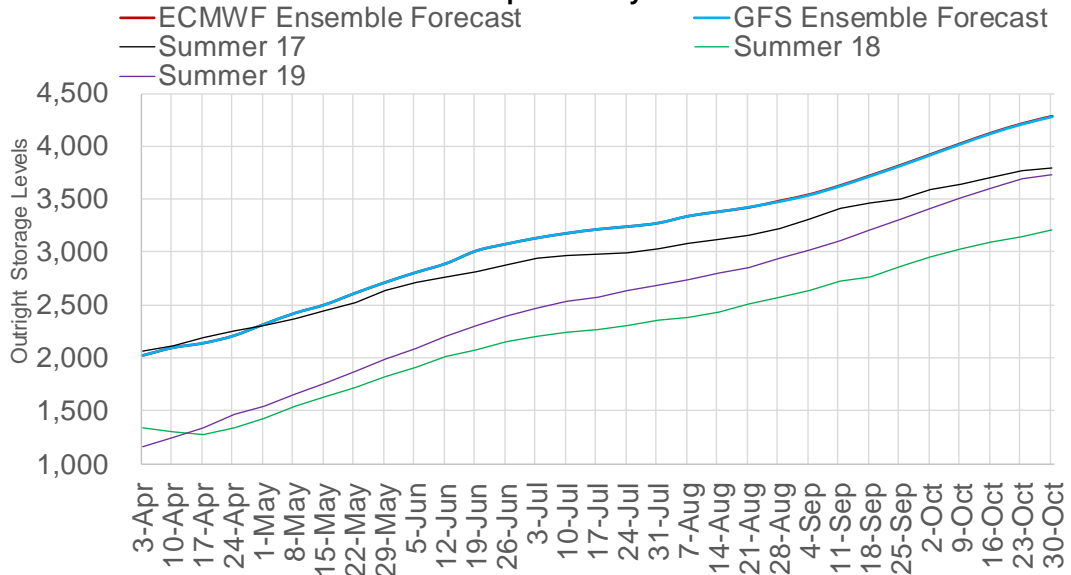
Next report and beyond	
Week Ending	Week Storage Projection
14-Aug	42
21-Aug	42
28-Aug	56

### Weather Storage Model - Next 4 Week Forecast



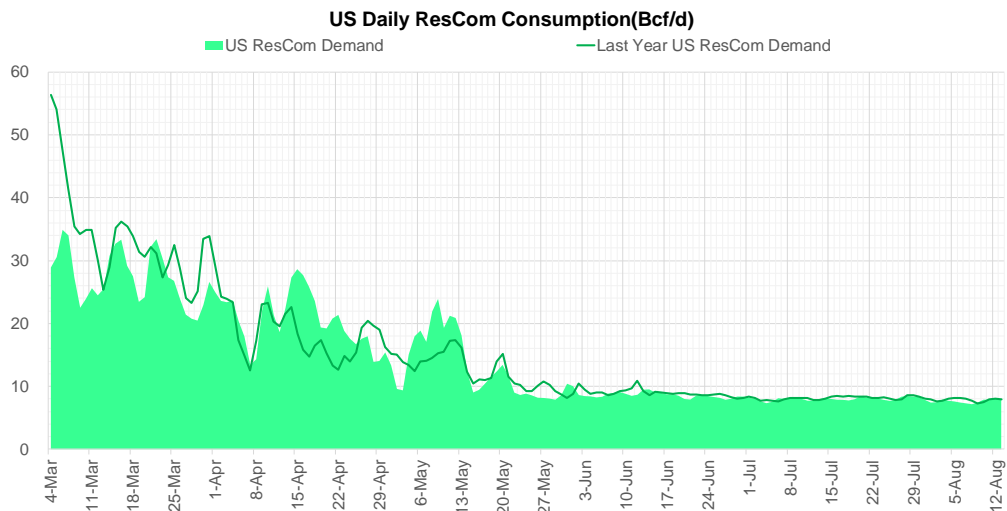
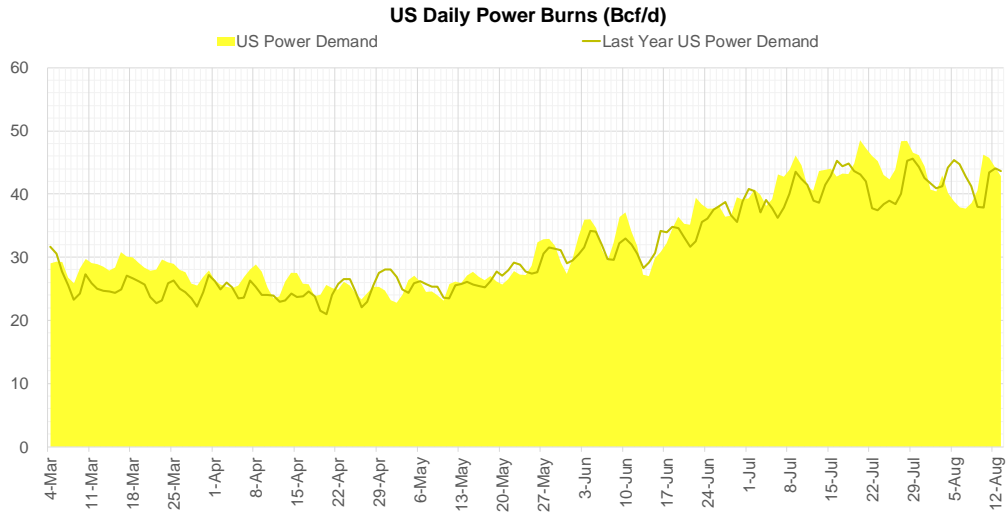
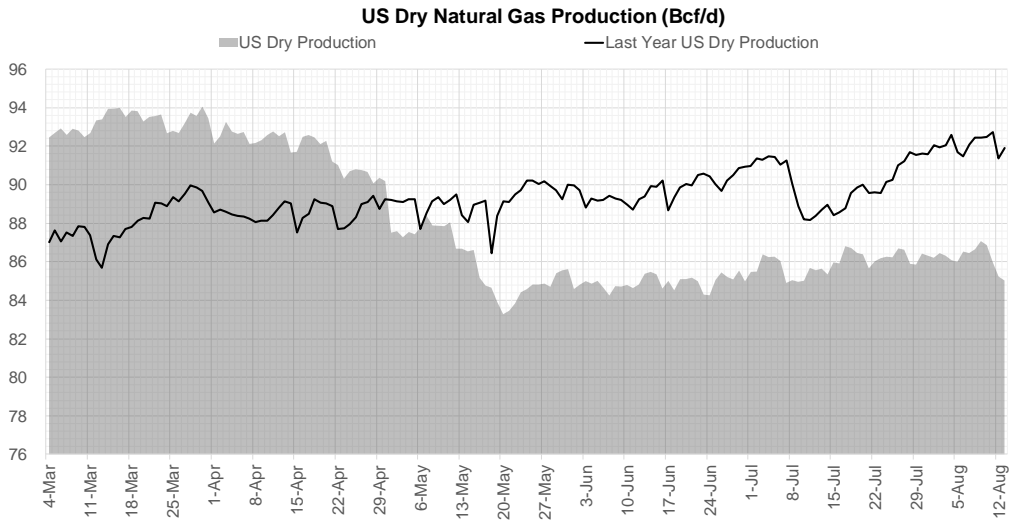
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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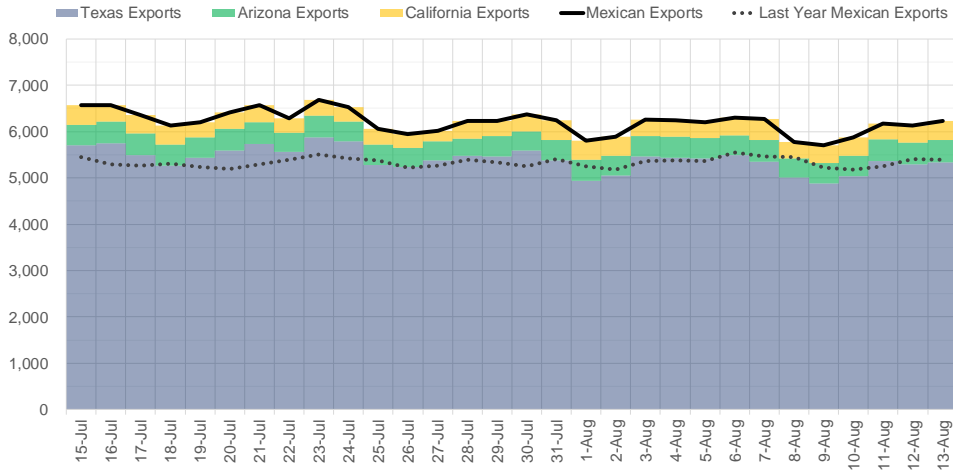
## Supply – Demand Trends



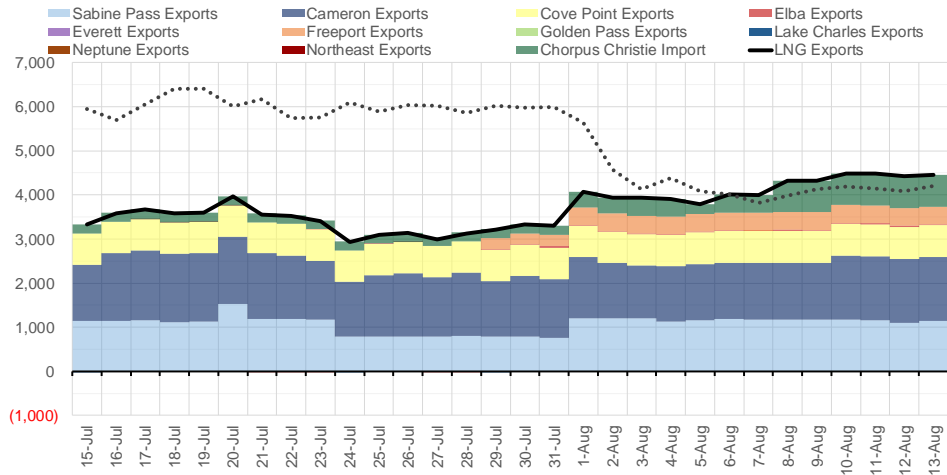
Source: Bloomberg

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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	4729	9	2020	C	2.50	46955
9	2020	P	2.00	4705	10	2020	P	1.50	46171
9	2020	P	1.90	4408	10	2020	C	2.75	45709
9	2020	P	1.80	4056	10	2020	C	2.50	40493
9	2020	C	2.50	3450	10	2020	P	2.00	37556
9	2020	P	1.75	2622	3	2021	P	2.00	35522
10	2020	C	3.00	2612	10	2020	P	1.60	34473
10	2020	C	2.50	2517	10	2020	C	3.00	33128
9	2020	C	2.15	2501	10	2020	P	1.25	28920
10	2020	P	1.75	2164	10	2020	P	1.75	27686
9	2020	C	2.25	1799	10	2020	P	1.00	24723
10	2020	C	2.60	1544	9	2020	P	2.00	24299
10	2020	P	2.00	1535	9	2020	P	1.00	24289
9	2020	P	1.85	1501	9	2020	C	3.00	23708
10	2020	C	3.25	1501	9	2020	P	1.50	23394
9	2020	C	2.40	1471	9	2020	C	2.00	22948
9	2020	P	2.10	1348	9	2020	P	1.20	22879
10	2020	P	1.50	1303	9	2020	P	1.75	22471
2	2021	C	3.25	1000	3	2021	C	3.00	22349
10	2020	P	2.15	966	10	2020	C	2.10	22060
9	2020	P	1.95	801	3	2021	C	6.00	21604
10	2020	P	2.25	771	10	2020	C	3.25	21243
9	2020	P	2.15	761	12	2020	P	2.00	19718
9	2020	P	2.05	700	9	2020	C	2.25	19409
11	2020	P	2.00	605	9	2020	P	1.30	19379
9	2020	C	2.35	552	9	2020	P	1.25	19214
1	2022	C	3.00	550	10	2020	P	2.10	19093
9	2020	P	1.70	543	10	2020	P	1.30	19087
9	2020	P	1.50	526	1	2021	C	4.50	19076
10	2020	C	3.50	506	3	2021	C	3.50	18984
11	2020	P	1.85	500	10	2020	C	2.00	18662
11	2020	P	2.25	500	9	2020	C	2.75	18641
12	2020	C	4.50	500	1	2021	C	3.50	18327
2	2021	C	2.75	500	11	2020	C	3.00	17556
2	2021	C	3.75	500	10	2020	C	2.40	16986
3	2021	C	4.00	500	10	2020	C	2.25	16966
3	2021	C	5.00	500	10	2020	P	1.80	16934
10	2020	P	2.10	498	11	2020	C	3.50	16794
10	2020	P	1.60	437	1	2021	C	3.00	16605
10	2020	C	2.70	408	12	2020	P	1.50	16402
9	2020	C	2.30	395	11	2020	C	2.75	15146
10	2020	C	3.15	360	4	2021	C	3.00	15037
1	2022	P	3.00	350	10	2020	C	3.50	14386
9	2020	P	1.60	307	1	2021	C	3.75	13927
9	2020	C	2.20	266	1	2021	P	2.25	13853
1	2021	C	3.50	265	9	2020	C	2.40	13577
11	2020	C	3.00	255	2	2021	C	5.00	13519
10	2020	C	2.25	254	10	2020	P	1.40	13159
9	2020	C	2.55	210	9	2020	C	3.25	12929
					10	2021	C	3	12925

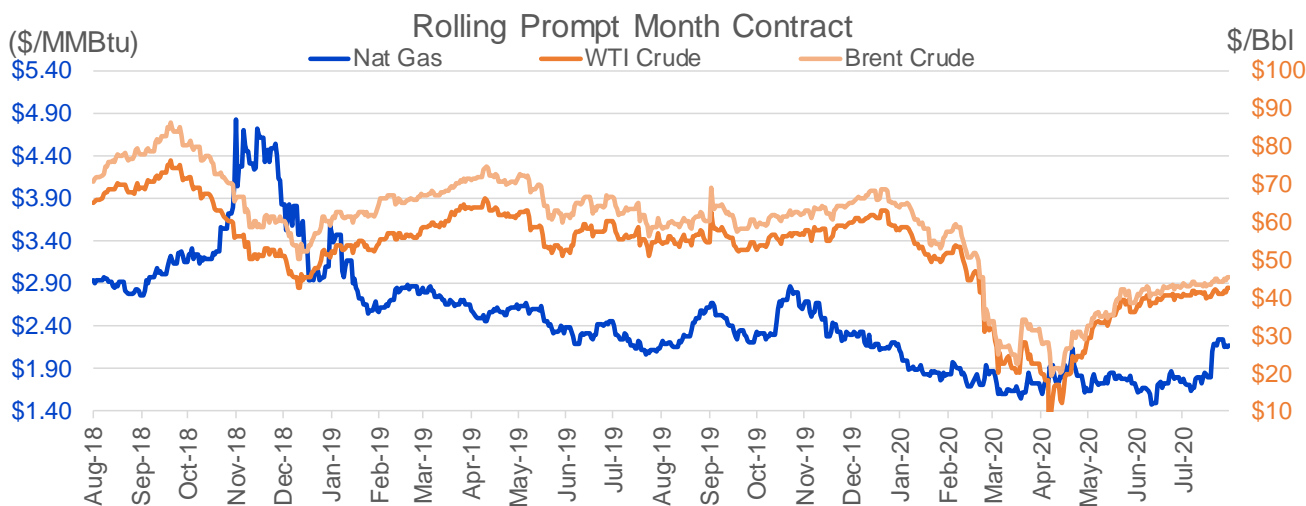
Source: CME, Nasdaq, ICE

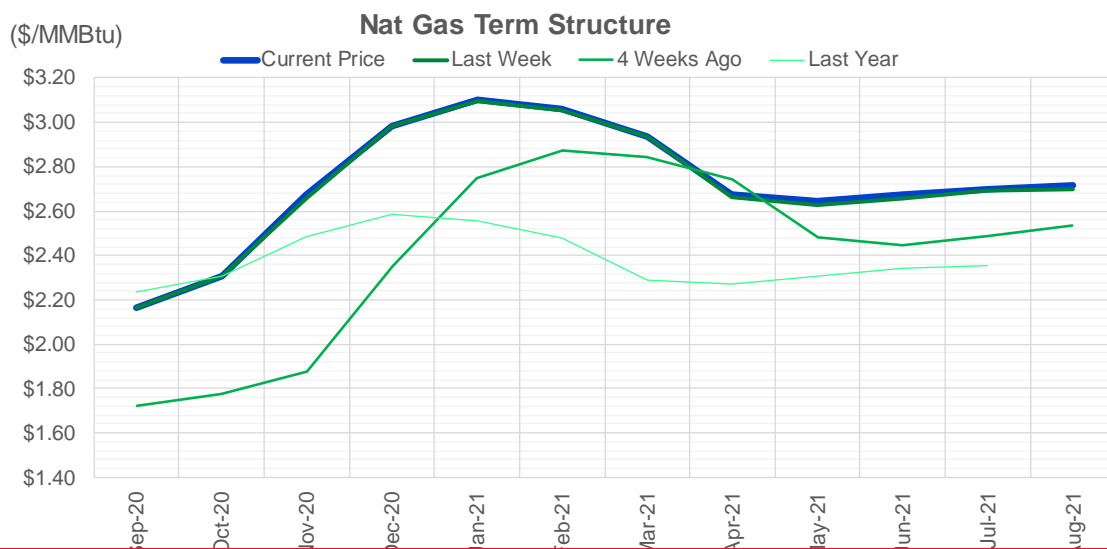


## Nat Gas Futures Open Interest CME, and ICE Combined

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
SEP 20	174825	211767	-36942	SEP 20	72592	72758	-165.5
OCT 20	184258	170525	13733	OCT 20	82335	80903	1432
NOV 20	156786	137413	19373	NOV 20	68973	68855	118
DEC 20	91461	91571	-110	DEC 20	71712	71516	195.5
JAN 21	125903	123823	2080	JAN 21	87579	87272	307.25
FEB 21	41444	41181	263	FEB 21	53039	53155	-115.5
MAR 21	78440	80053	-1613	MAR 21	69204	68854	349.25
APR 21	77845	78056	-211	APR 21	59885	59301	583.25
MAY 21	43896	43309	587	MAY 21	49826	49732	93.5
JUN 21	23393	23366	27	JUN 21	48038	48040	-1.75
JUL 21	17084	17351	-267	JUL 21	49653	49490	162.75
AUG 21	16896	16674	222	AUG 21	48080	47967	112.75
SEP 21	20127	19985	142	SEP 21	47093	47000	93.75
OCT 21	50470	50090	380	OCT 21	67899	67711	187.5
NOV 21	24099	23912	187	NOV 21	40315	40360	-45
DEC 21	17739	17156	583	DEC 21	41812	41735	77
JAN 22	18875	18939	-64	JAN 22	34286	34306	-20.25
FEB 22	11133	11104	29	FEB 22	29243	29274	-30.75
MAR 22	16253	16312	-59	MAR 22	31739	31667	72
APR 22	16572	16578	-6	APR 22	30758	30733	25.25
MAY 22	5427	5430	-3	MAY 22	23241	23218	23
JUN 22	2824	2824	0	JUN 22	23037	23005	32
JUL 22	2115	2114	1	JUL 22	22677	22656	21
AUG 22	1740	1740	0	AUG 22	23025	22967	58.25
SEP 22	2226	2234	-8	SEP 22	22487	22461	26
OCT 22	2780	2783	-3	OCT 22	23879	23885	-5.5
NOV 22	1970	1947	23	NOV 22	21438	21436	2
DEC 22	1948	1947	1	DEC 22	22194	22192	2.25
JAN 23	2627	2637	-10	JAN 23	12182	12146	36
FEB 23	681	681	0	FEB 23	11006	10876	129.5

Source: CME, ICE





	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21
<b>Current Price</b>	<b>\$2.167</b>	<b>\$2.308</b>	<b>\$2.674</b>	<b>\$2.985</b>	<b>\$3.101</b>	<b>\$3.059</b>	<b>\$2.938</b>	<b>\$2.677</b>	<b>\$2.643</b>	<b>\$2.672</b>	<b>\$2.700</b>	<b>\$2.715</b>
Last Week	\$2.165	\$2.305	\$2.654	\$2.985	\$3.096	\$3.053	\$2.936	\$2.661	\$2.625	\$2.654	\$2.690	\$2.697
vs. Last Week	\$0.002	\$0.003	\$0.020	\$0.000	\$0.005	\$0.006	\$0.002	\$0.016	\$0.018	\$0.018	\$0.010	\$0.018
4 Weeks Ago	\$1.723	\$1.776	\$1.879	\$2.350	\$2.747	\$2.875	\$2.842	\$2.740	\$2.480	\$2.449	\$2.488	\$2.535
vs. 4 Weeks Ago	\$0.444	\$0.532	\$0.795	\$0.635	\$0.354	\$0.184	\$0.096	-\$0.063	\$0.163	\$0.223	\$0.212	\$0.180
Last Year	\$2.232	\$2.237	\$2.304	\$2.483	\$2.588	\$2.555	\$2.481	\$2.290	\$2.271	\$2.307	\$2.345	\$2.352
vs. Last Year	-\$0.065	\$0.071	\$0.370	\$0.502	\$0.513	\$0.504	\$0.457	\$0.387	\$0.372	\$0.365	\$0.355	\$0.363

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.70	1.73	0.03
TETCO M3	\$/MMBtu	1.75	1.61	-0.14
FGT Zone 3	\$/MMBtu	1.70	2.23	0.53
Zone 6 NY	\$/MMBtu	1.70	1.65	-0.05
Chicago Citygate	\$/MMBtu	1.91	1.90	-0.01
Michcon	\$/MMBtu	1.87	1.87	0.00
Columbia TCO Pool	\$/MMBtu	1.85	1.73	-0.12
Ventura	\$/MMBtu	1.89	1.87	-0.02
Rockies/Opal	\$/MMBtu	1.99	1.80	-0.19
El Paso Permian Basin	\$/MMBtu	1.49	1.56	0.07
Socal Citygate	\$/MMBtu	3.01	2.03	-0.98
Malin	\$/MMBtu	1.98	1.84	-0.14
Houston Ship Channel	\$/MMBtu	2.03	2.14	0.11
Henry Hub Cash	\$/MMBtu	2.05	1.99	-0.06
AECO Cash	C\$/GJ	1.80	1.70	-0.10
Station2 Cash	C\$/GJ	1.77	1.91	0.14
Dawn Cash	C\$/GJ	1.88	1.88	0.00

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks	
				Ago	vs. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.42	▲ 0.011	▼ -0.029	▼ -0.023
NatGas Mar/Apr	\$/MMBtu	-0.261	▲ 0.014	▼ -0.521	▼ -0.519
NatGas Oct/Nov	\$/MMBtu	0.37	▲ 0.017	▼ -0.105	▲ 0.302
NatGas Oct/Jan	\$/MMBtu	0.79	▲ 0.002	▼ -0.203	▲ 0.455
WTI Crude	\$/Bbl	42.66	▲ 0.710	▲ 1.910	▼ -11.810
Brent Crude	\$/Bbl	45.35	▲ 0.260	▲ 1.980	▼ -12.880
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	125.18	▲ 0.190	▲ 2.390	▼ -55.890
Propane, Mt. Bel	cents/Gallon	0.51	▼ 0.000	▲ 0.025	▲ 0.119
Ethane, Mt. Bel	cents/Gallon	0.23	▲ 0.001	▲ 0.012	▲ 0.087
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.200
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -7.000