

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.25	▲ \$ 0.12	▲ \$ 0.25

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 40.02	▲ \$ 0.09	▼ \$ (0.4)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 41.88	▲ \$ 0.11	▼ \$ (0.6)

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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	-0.5	1.0	1.2	1.7
24 Hr Chg	-3.3	-1.5	4.0	-0.8

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	-2.3	0.0	-0.5	-2.9
24 Hr Chg	-7.6	0.2	1.7	-5.7

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	84.4	▲ 0.74	▼ -2.18

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	33.5	▲ 1.34	▲ 2.88

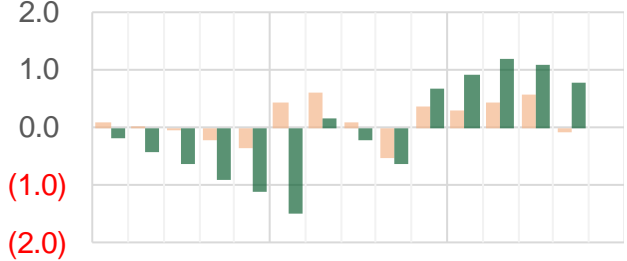
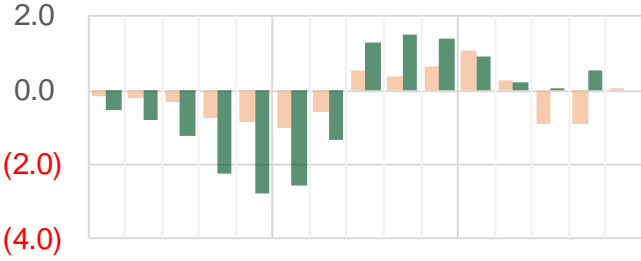
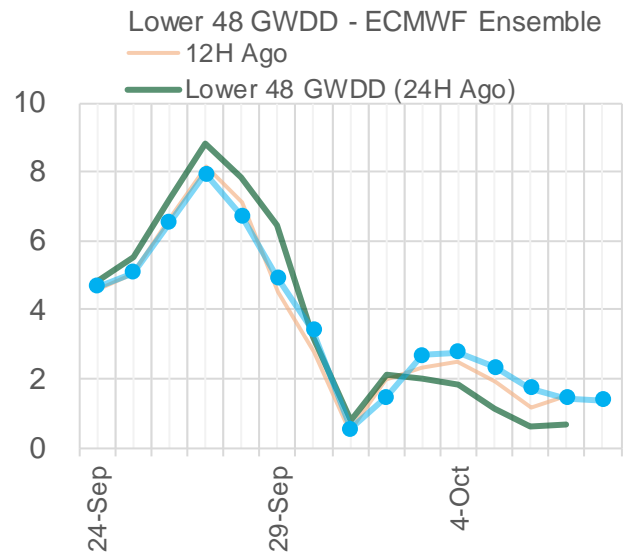
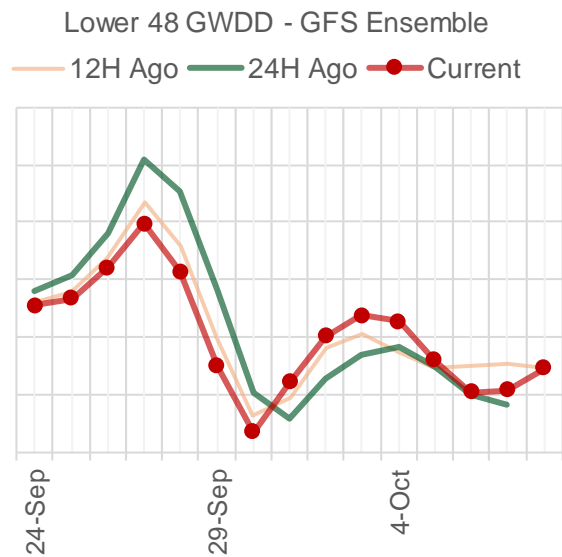
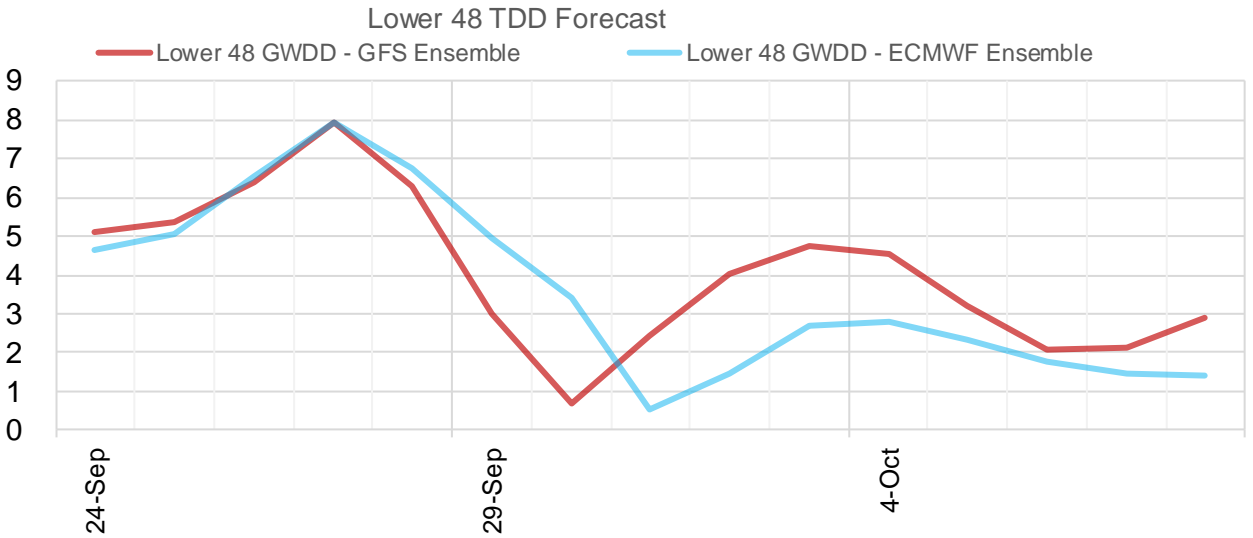
	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.0	▼ -0.12	▼ -2.49

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.6	▲ 0.02	▼ -0.04

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	6.1	▲ 0.78	▼ -0.03

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.2	▼ -0.36	▼ -0.22

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



Source: WSI , Bloomberg

## Lower 48 Component Models

### Daily Balances

	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>87.7</b>	<b>87.2</b>	<b>87.1</b>	<b>87.0</b>	<b>85.6</b>	<b>83.7</b>	<b>84.4</b>	▲ 0.7	▼ -2.0
<b>Canadian Imports</b>	<b>4.0</b>	<b>3.5</b>	<b>3.5</b>	<b>3.6</b>	<b>3.4</b>	<b>3.5</b>	<b>3.6</b>	▲ 0.0	▼ 0.0
L48 Power	31.5	28.5	27.8	30.1	31.3	32.2	33.5	▲ 1.3	▲ 3.3
L48 Residential & Commercial	10.9	12.5	11.6	11.2	10.2	8.1	8.0	▼ -0.1	▼ -2.8
L48 Industrial	18.6	18.5	18.2	18.2	18.2	18.4	18.7	▲ 0.4	▲ 0.4
L48 Lease and Plant Fuel	4.9	4.9	4.9	4.9	4.8	4.7	4.7	▲ 0.0	▼ -0.1
L48 Pipeline Distribution	2.0	1.9	1.9	2.0	2.0	1.9	2.0	▲ 0.1	▲ 0.0
<b>L48 Regional Gas Consumption</b>	<b>67.9</b>	<b>66.3</b>	<b>64.3</b>	<b>66.4</b>	<b>66.4</b>	<b>65.2</b>	<b>66.9</b>	▲ 1.7	▲ 0.8
<b>Net LNG Exports</b>	<b>8.3</b>	<b>6.5</b>	<b>5.8</b>	<b>5.1</b>	<b>3.9</b>	<b>5.3</b>	<b>6.1</b>	▲ 0.8	▲ 0.3
<b>Total Mexican Exports</b>	<b>6.7</b>	<b>6.3</b>	<b>6.0</b>	<b>6.3</b>	<b>6.7</b>	<b>6.6</b>	<b>6.2</b>	▼ -0.4	▼ -0.2
Implied Daily Storage Activity	8.8	11.7	14.5	12.8	11.9	10.1	8.8		
EIA Reported Daily Storage Activity									
Daily Model Error									

### EIA Storage Week Balances

	14-Aug	21-Aug	28-Aug	4-Sep	11-Sep	18-Sep	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>87.4</b>	<b>87.2</b>	<b>86.0</b>	<b>86.3</b>	<b>88.3</b>	<b>87.1</b>	▼ -1.2	▲ 0.1
<b>Canadian Imports</b>	<b>5.0</b>	<b>4.7</b>	<b>5.2</b>	<b>4.4</b>	<b>3.8</b>	<b>3.8</b>	▼ 0.0	▼ -0.7
L48 Power	42.8	40.0	41.6	37.3	35.2	33.2	▼ -1.9	▼ -5.3
L48 Residential & Commercial	8.1	8.2	8.3	7.8	8.8	8.5	▼ -0.3	▲ 0.2
L48 Industrial	19.1	20.4	19.6	19.6	18.7	18.9	▲ 0.2	▼ -0.7
L48 Lease and Plant Fuel	4.9	4.8	4.8	4.8	4.9	4.9	▼ -0.1	▲ 0.0
L48 Pipeline Distribution	2.3	2.2	2.3	2.1	2.1	2.0	▼ -0.1	▼ -0.2
<b>L48 Regional Gas Consumption</b>	<b>77.2</b>	<b>75.7</b>	<b>76.6</b>	<b>71.5</b>	<b>69.7</b>	<b>67.4</b>	▼ -2.3	▼ -5.9
<b>Net LNG Exports</b>	<b>4.4</b>	<b>4.7</b>	<b>3.9</b>	<b>3.0</b>	<b>5.2</b>	<b>7.3</b>	▲ 2.1	▲ 3.1
<b>Total Mexican Exports</b>	<b>6.0</b>	<b>6.2</b>	<b>6.6</b>	<b>6.5</b>	<b>6.4</b>	<b>6.2</b>	▼ -0.1	▼ -0.2
Implied Daily Storage Activity	4.8	5.3	4.1	9.6	10.9	9.9	-1.0	
EIA Reported Daily Storage Activity	6.1	6.4	5.0	10.0	12.7			
Daily Model Error	-1.3	-1.2	-0.9	-0.4	-1.8			

### Monthly Balances

	2Yr Ago Sep-18	LY Sep-19	May-20	Jun-20	Jul-20	Aug-20	MTD Sep-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>85.2</b>	<b>93.5</b>	<b>85.8</b>	<b>85.1</b>	<b>86.6</b>	<b>86.8</b>	<b>87.0</b>	▲ 0.2	▼ -6.4
<b>Canadian Imports</b>	<b>4.5</b>	<b>4.7</b>	<b>3.9</b>	<b>4.0</b>	<b>4.4</b>	<b>4.9</b>	<b>3.8</b>	▼ -1.1	▼ -0.9
L48 Power	34.3	36.4	26.9	34.8	43.8	40.6	33.7	▼ -6.8	▼ -2.7
L48 Residential & Commercial	8.5	8.3	12.9	9.0	8.6	8.1	9.0	▲ 0.9	▲ 0.7
L48 Industrial	21.6	22.2	18.9	18.4	17.8	19.5	18.8	▼ -0.8	▼ -3.5
L48 Lease and Plant Fuel	4.8	5.2	4.8	4.9	4.9	4.8	4.9	▲ 0.0	▼ -0.4
L48 Pipeline Distribution	2.0	2.1	1.9	2.0	2.4	2.2	2.0	▼ -0.2	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>71.2</b>	<b>74.3</b>	<b>65.5</b>	<b>69.1</b>	<b>77.5</b>	<b>75.3</b>	<b>68.4</b>	▼ -6.9	▼ -5.9
<b>Net LNG Exports</b>	<b>3.1</b>	<b>6.2</b>	<b>6.7</b>	<b>4.0</b>	<b>3.3</b>	<b>4.0</b>	<b>5.8</b>	▲ 1.7	▼ -0.4
<b>Total Mexican Exports</b>	<b>5.1</b>	<b>5.4</b>	<b>4.9</b>	<b>5.7</b>	<b>6.1</b>	<b>6.3</b>	<b>6.4</b>	▲ 0.1	▲ 1.0
Implied Daily Storage Activity	10.3	12.4	12.6	10.2	4.1	6.2	10.3		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

## Regional S/D Models Storage Projection

Week Ending 18-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	9.7	1.6	11.3	79
East	2.1	1.5	3.6	25
Midwest	3.6	0.3	4.0	28
Mountain	3.7	-2.8	1.0	7
South Central	-0.7	3.0	2.3	16
Pacific	1.0	-0.5	0.4	3

\*Adjustment Factor is calculated based on historical regional deltas

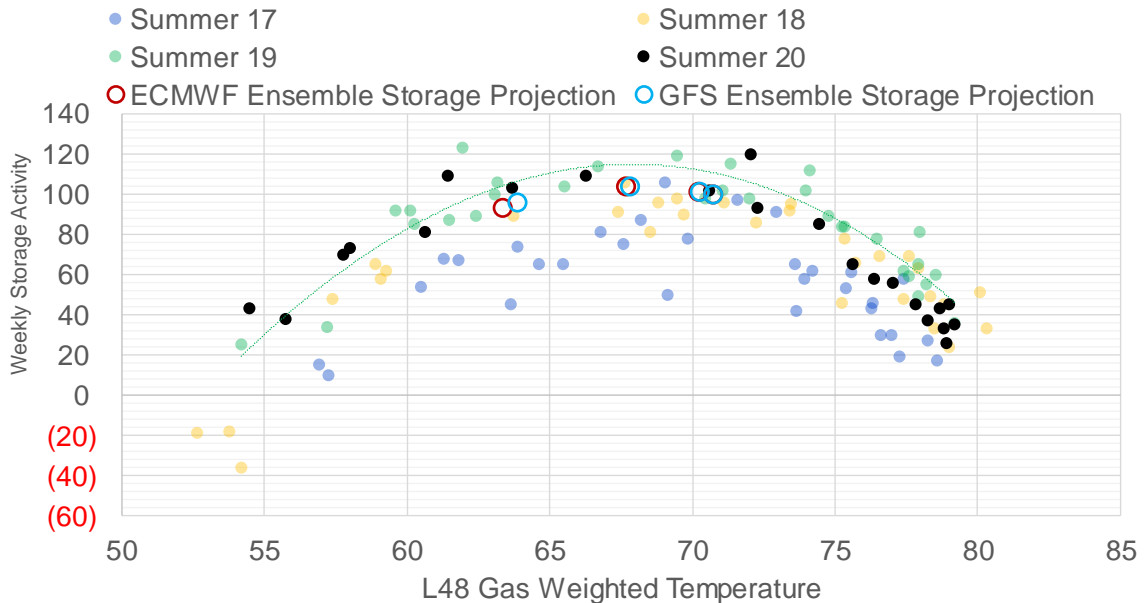
U.S. underground natural gas storage facilities by type (July 2015)



## Weather Model Storage Projection

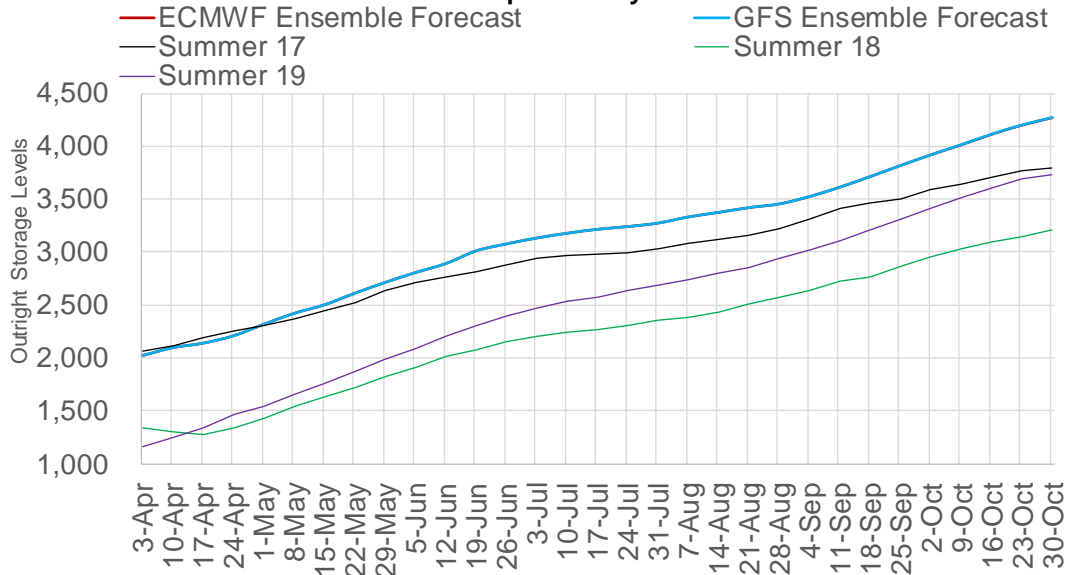
Next report and beyond	
Week Ending	Week Storage Projection
25-Sep	104
2-Oct	101
9-Oct	95

### Weather Storage Model - Next 4 Week Forecast



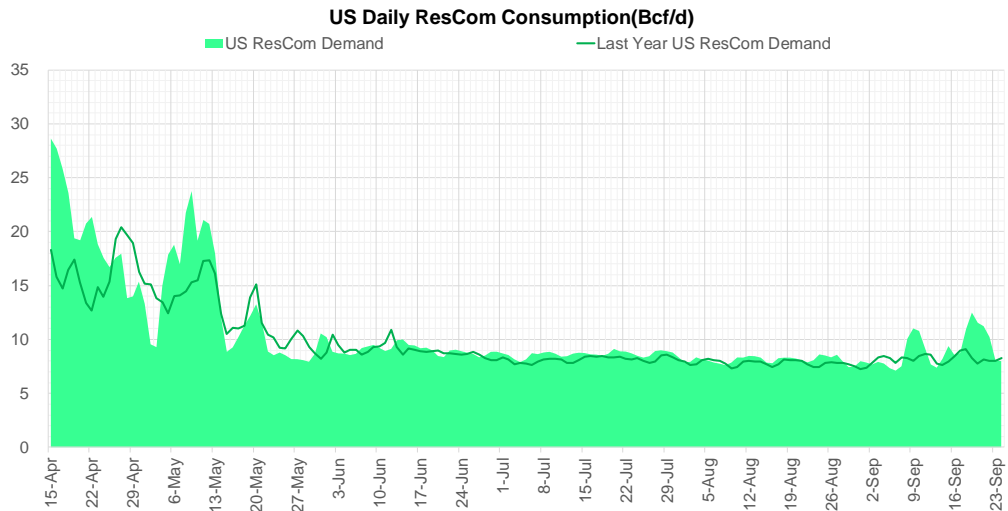
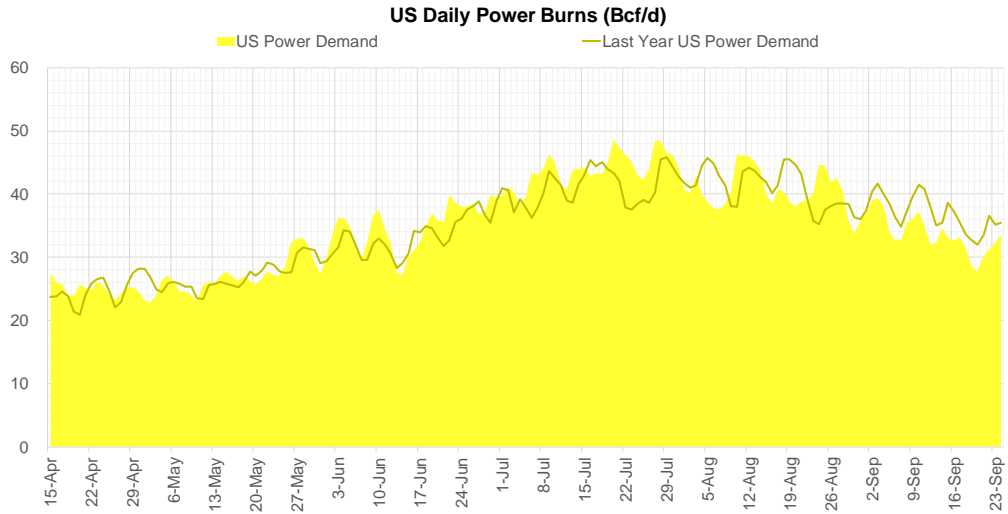
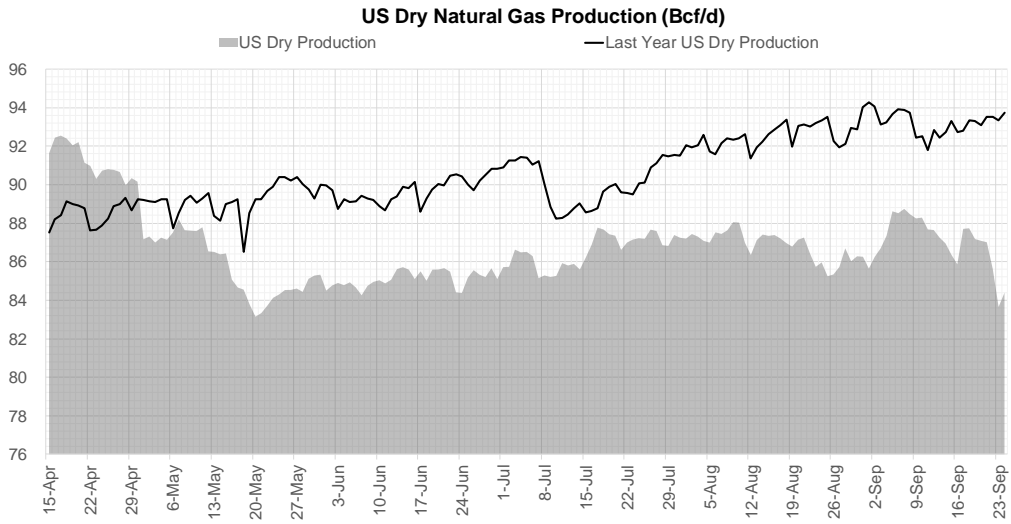
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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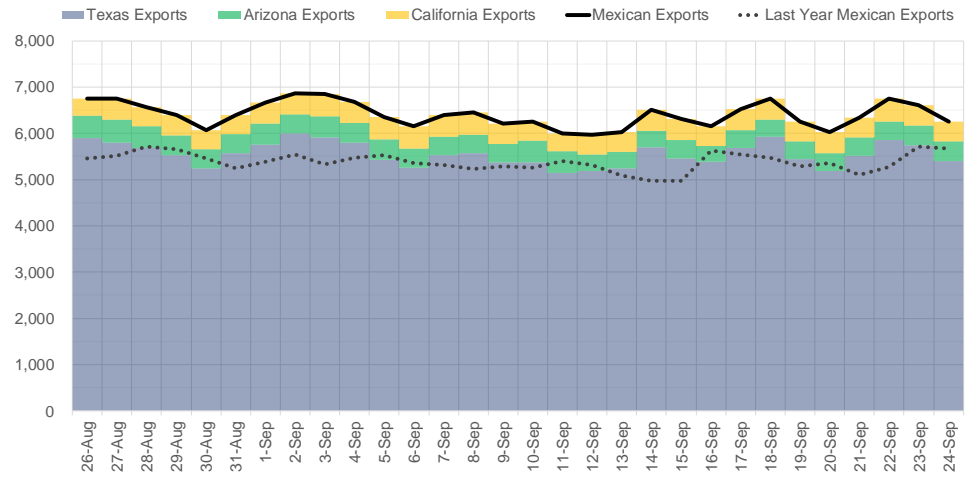
## Supply – Demand Trends



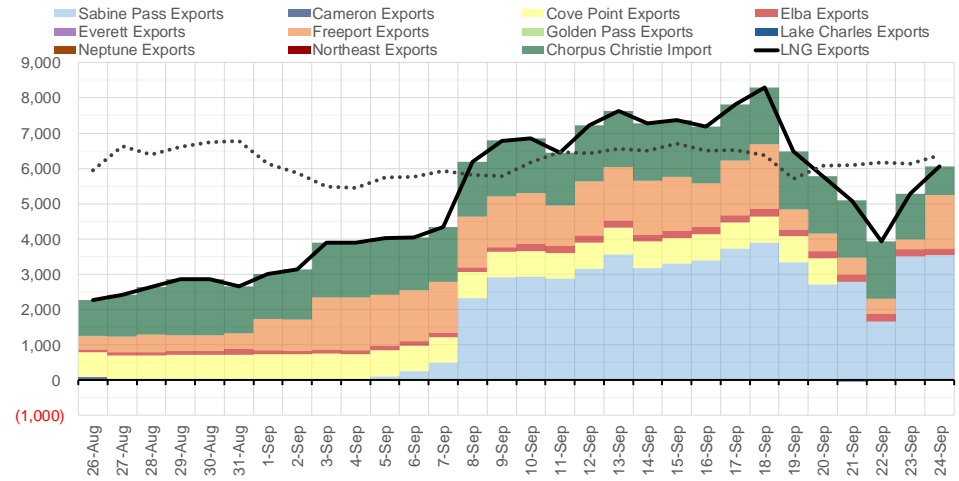
Source: Bloomberg

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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	2.25	13614	10	2020	C	2.75	49942
10	2020	C	2.10	13134	10	2020	C	3.00	48326
10	2020	P	2.00	12971	10	2020	P	2.00	46454
10	2020	C	2.15	11449	10	2020	P	1.50	42439
10	2020	P	1.90	8883	10	2020	P	1.75	39154
10	2020	C	2.20	8445	10	2020	P	2.25	37404
10	2020	C	2.50	7036	10	2020	P	1.60	36283
10	2020	C	2.40	7024	10	2020	C	2.50	35252
10	2020	P	1.80	6206	3	2021	P	2.00	33152
10	2020	C	2.35	6162	4	2021	C	5.00	32687
11	2020	C	3.50	5869	11	2020	C	3.50	29447
10	2020	C	2.00	5024	11	2020	C	5.00	27804
10	2020	C	2.30	4919	3	2021	C	3.25	27528
10	2020	P	1.85	4423	10	2020	P	1.25	27111
11	2020	P	1.65	4100	3	2021	C	4.00	26984
10	2020	C	2.05	3788	11	2020	P	2.00	26498
10	2020	C	2.45	3202	10	2020	C	2.25	26230
11	2020	P	2.50	3169	10	2020	C	2.10	24684
11	2020	P	2.00	3106	11	2020	P	2.25	24576
10	2020	P	1.70	3093	12	2020	P	2.00	23825
10	2020	P	2.05	2930	1	2021	C	3.50	23778
10	2020	P	1.75	2788	10	2020	P	2.10	23521
10	2020	P	1.95	2519	3	2021	C	6.00	23510
10	2020	P	1.60	2514	10	2020	C	3.25	23427
11	2020	P	1.75	2467	1	2021	C	4.50	23176
11	2020	P	2.80	2415	12	2020	P	2.50	22704
11	2020	C	3.25	2387	10	2020	P	1.00	22550
10	2020	P	2.10	2084	10	2020	P	1.90	22423
11	2020	C	3.00	2066	10	2020	P	1.80	22310
10	2020	P	1.50	2027	3	2021	C	3.00	22165
10	2020	P	2.15	1955	10	2020	P	2.20	21666
11	2021	C	4.00	1800	10	2020	C	2.00	21479
11	2020	C	2.80	1741	10	2020	P	1.30	20778
1	2021	P	3.00	1551	1	2021	C	5.00	20609
10	2020	C	2.70	1462	11	2020	C	3.00	19793
10	2020	P	2.20	1423	3	2021	C	3.50	19509
11	2020	P	2.25	1351	10	2020	C	2.80	19241
3	2021	C	7.00	1204	11	2020	P	2.50	18965
3	2021	C	9.00	1200	10	2020	C	3.50	18823
10	2020	C	2.60	1196	11	2020	C	3.25	18214
1	2021	C	3.50	1153	10	2020	C	2.60	17518
1	2021	C	3.75	1051	10	2020	C	2.40	17496
11	2020	C	2.60	1013	2	2021	C	5.00	17247
10	2020	C	1.90	1003	1	2021	C	3.00	16784
1	2021	C	3.25	1000	1	2021	C	3.75	16448
11	2020	P	1.35	983	10	2020	P	1.70	16344
12	2020	P	2.00	981	12	2020	C	4.00	16205
11	2020	C	2.75	978	1	2021	P	2.50	15983
1	2021	C	4.00	948	10	2020	P	1.85	15888
					12	2020	C	3.75	15823

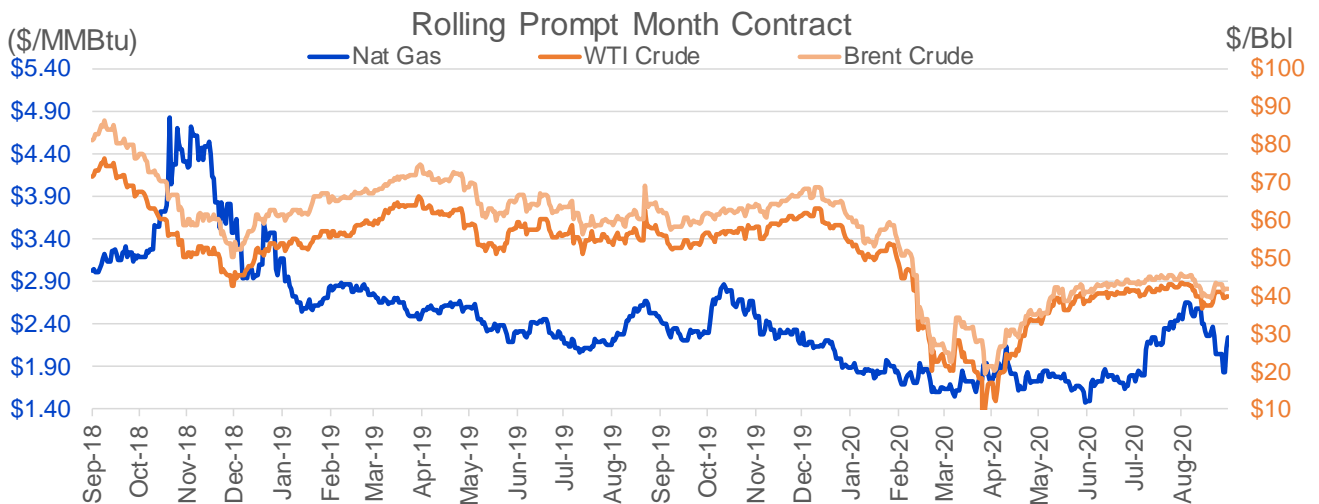
Source: CME, Nasdaq, ICE



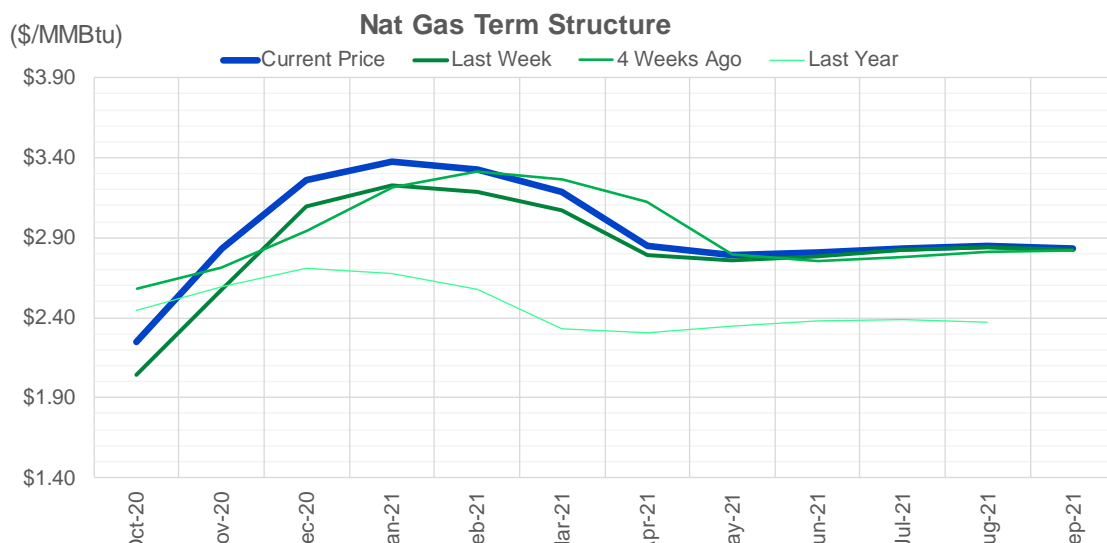
## Nat Gas Futures Open Interest CME, and ICE Combined

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
OCT 20	21267	36326	-15059	OCT 20	72427	73817	-1390
NOV 20	291520	291055	465	NOV 20	82662	83553	-890.75
DEC 20	138421	138840	-419	DEC 20	77303	77259	44
JAN 21	146925	146502	423	JAN 21	87568	87906	-337.25
FEB 21	59128	58699	429	FEB 21	60617	59893	724.5
MAR 21	120703	120357	346	MAR 21	79610	80236	-626
APR 21	80945	78404	2541	APR 21	64669	65507	-837.75
MAY 21	44676	44361	315	MAY 21	57457	56741	715.75
JUN 21	29699	28729	970	JUN 21	52718	52377	341.25
JUL 21	20380	20759	-379	JUL 21	55179	54898	280.25
AUG 21	24591	23800	791	AUG 21	55268	54610	657.5
SEP 21	31593	30318	1275	SEP 21	51856	51486	370.25
OCT 21	75003	72025	2978	OCT 21	77884	77294	590
NOV 21	28185	27664	521	NOV 21	44641	44451	189.25
DEC 21	25329	24692	637	DEC 21	44267	43889	378
JAN 22	26556	25989	567	JAN 22	37756	37481	275.5
FEB 22	14225	14056	169	FEB 22	32438	32387	50.5
MAR 22	18984	18565	419	MAR 22	34595	34534	61
APR 22	23050	22823	227	APR 22	35673	35502	171
MAY 22	6821	6794	27	MAY 22	25480	25310	169.75
JUN 22	3856	3856	0	JUN 22	24103	23922	180.5
JUL 22	3303	3148	155	JUL 22	25520	25333	187.25
AUG 22	2181	2128	53	AUG 22	24452	24260	192.5
SEP 22	2151	2130	21	SEP 22	23455	23264	190.25
OCT 22	3521	3505	16	OCT 22	25388	25136	252
NOV 22	2662	2509	153	NOV 22	22891	22772	118.5
DEC 22	2670	2610	60	DEC 22	25004	24837	166.75
JAN 23	2812	2812	0	JAN 23	12665	12647	18.5
FEB 23	875	875	0	FEB 23	12062	12038	24
MAR 23	911	911	0	MAR 23	12143	12015	128.75

Source: CME, ICE



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	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
<b>Current Price</b>	<b>\$2.245</b>	<b>\$2.831</b>	<b>\$3.258</b>	<b>\$3.378</b>	<b>\$3.324</b>	<b>\$3.184</b>	<b>\$2.849</b>	<b>\$2.792</b>	<b>\$2.808</b>	<b>\$2.834</b>	<b>\$2.850</b>	<b>\$2.830</b>
Last Week	\$2.042	\$2.577	\$3.097	\$3.229	\$3.189	\$3.074	\$2.795	\$2.758	\$2.787	\$2.825	\$2.837	\$2.825
vs. Last Week	\$0.203	\$0.254	\$0.161	\$0.149	\$0.135	\$0.110	\$0.054	\$0.034	\$0.021	\$0.009	\$0.013	\$0.005
4 Weeks Ago	\$2.579	\$2.710	\$2.943	\$3.216	\$3.318	\$3.266	\$3.125	\$2.799	\$2.753	\$2.778	\$2.810	\$2.819
vs. 4 Weeks Ago	-\$0.334	\$0.121	\$0.315	\$0.162	\$0.006	-\$0.082	-\$0.276	-\$0.007	\$0.055	\$0.056	\$0.040	\$0.011
Last Year	\$2.428	\$2.443	\$2.596	\$2.711	\$2.677	\$2.579	\$2.332	\$2.307	\$2.343	\$2.383	\$2.389	\$2.374
vs. Last Year	-\$0.183	\$0.388	\$0.662	\$0.667	\$0.647	\$0.605	\$0.517	\$0.485	\$0.465	\$0.451	\$0.461	\$0.456

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.50	1.34	-0.16
TETCO M3	\$/MMBtu	1.32	0.91	-0.42
FGT Zone 3	\$/MMBtu	1.30	2.02	0.72
Zone 6 NY	\$/MMBtu	1.30	0.85	-0.45
Chicago Citygate	\$/MMBtu	1.74	1.70	-0.04
Michcon	\$/MMBtu	1.76	1.69	-0.07
Columbia TCO Pool	\$/MMBtu	1.35	1.26	-0.09
Ventura	\$/MMBtu	1.75	1.70	-0.05
Rockies/Opal	\$/MMBtu	2.16	1.63	-0.53
El Paso Permian Basin	\$/MMBtu	1.41	1.29	-0.13
Socal Citygate	\$/MMBtu	3.00	1.90	-1.10
Malin	\$/MMBtu	2.37	1.82	-0.55
Houston Ship Channel	\$/MMBtu	1.69	1.98	0.29
Henry Hub Cash	\$/MMBtu	1.74	1.75	0.01
AECO Cash	C\$/GJ	1.65	1.46	-0.19
Station2 Cash	C\$/GJ	1.75	1.89	0.14
Dawn Cash	C\$/GJ	1.74	1.60	-0.14

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.53	▼ -0.095	▼ -0.010	▼ -0.108	
NatGas Mar/Apr	\$/MMBtu	-0.335	▼ -0.056	▼ -0.661	▼ -0.597	
NatGas Oct/Nov	\$/MMBtu	0.59	▲ 0.050	▲ 0.352	▲ 0.523	
NatGas Oct/Jan	\$/MMBtu	1.13	▼ -0.055	▲ 0.524	▲ 0.792	
WTI Crude	\$/Bbl	40.02	▼ -0.950	▼ -3.020	▼ -16.390	
Brent Crude	\$/Bbl	41.88	▼ -1.420	▼ -3.210	▼ -20.860	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	110.45	▼ -5.530	▼ -10.620	▼ -85.060	
Propane, Mt. Bel	cents/Gallon	0.49	▼ -0.006	▼ -0.014	▲ 0.041	
Ethane, Mt. Bel	cents/Gallon	0.20	▼ -0.003	▼ -0.045	▼ -0.016	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.100	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500	