

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.35	▼ \$ (0.01)	▲ \$ 0.03

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 39.17	▲ \$ 0.89	▲ \$ 1.6

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 41.43	▲ \$ 0.90	▲ \$ 1.4

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- [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	-0.6	0.5	4.2	4.2
24 Hr Chg	-6.1	-4.3	-1.3	-11.6

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.6	1.0	4.3	5.9
24 Hr Chg	-1.4	0.7	7.1	6.4

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	85.3	▼ -1.03	▼ -2.25

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	32.9	▼ -0.33	▼ -1.40

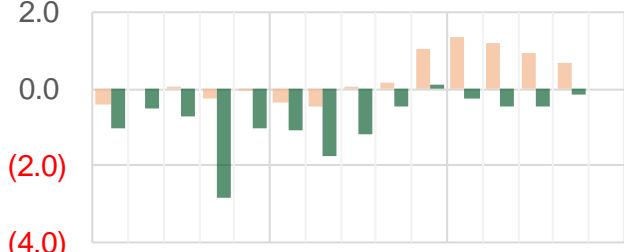
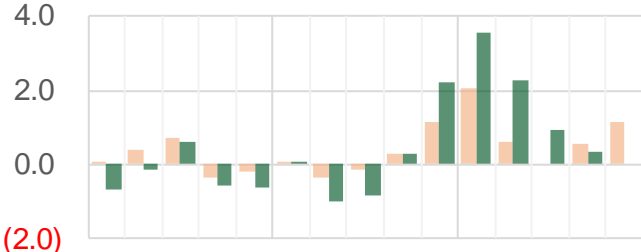
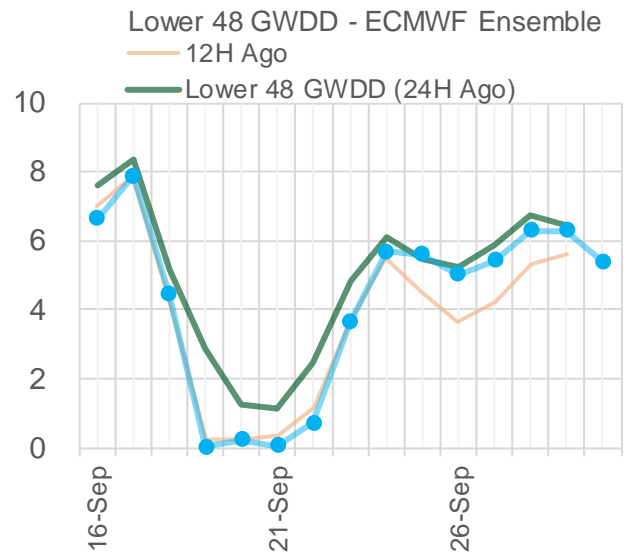
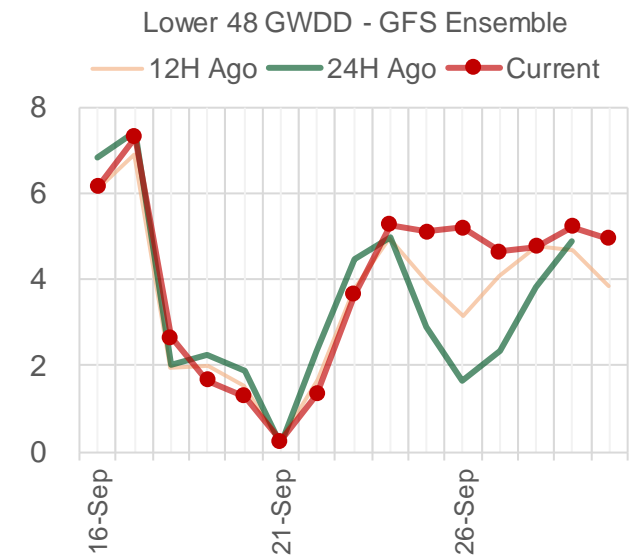
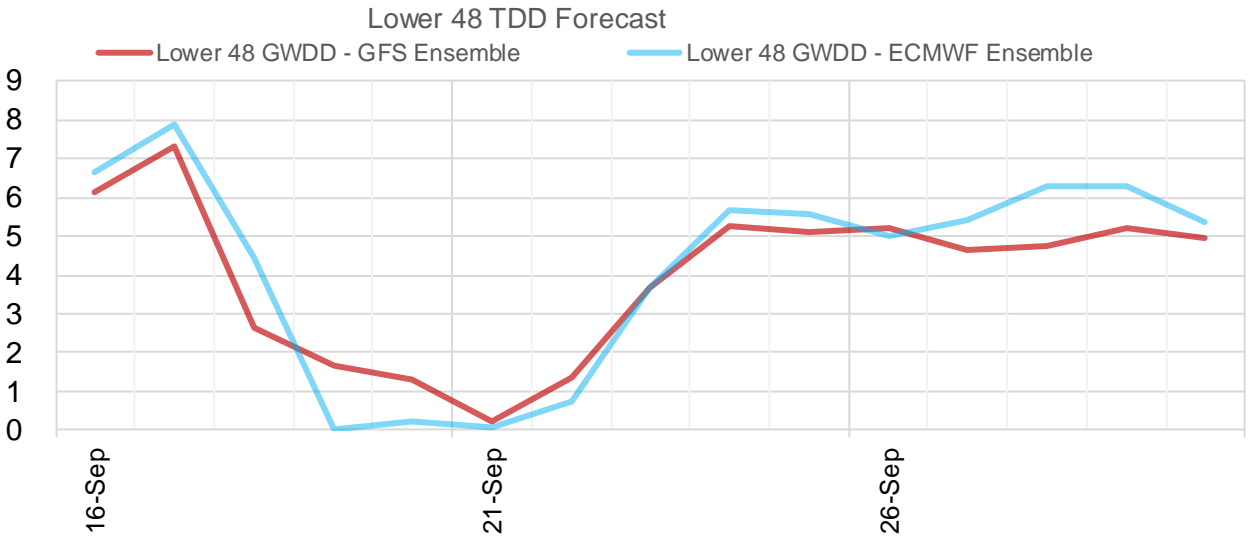
	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.0	▼ -1.43	▼ -1.08

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.6	▼ -0.04	▼ -0.43

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	7.3	▼ -0.04	▲ 0.25

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.1	▼ -0.17	▼ -0.03

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



Source: WSI, Bloomberg

## Lower 48 Component Models

### Daily Balances

	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>88.3</b>	<b>87.7</b>	<b>87.7</b>	<b>87.3</b>	<b>87.0</b>	<b>86.3</b>	<b>85.3</b>	▼ -1.0	▼ -2.1
<b>Canadian Imports</b>	<b>4.6</b>	<b>3.8</b>	<b>3.9</b>	<b>4.0</b>	<b>4.0</b>	<b>3.6</b>	<b>3.6</b>	▼ 0.0	▼ -0.4
L48 Power	37.2	34.9	31.9	32.4	34.7	33.3	32.9	▼ -0.3	▼ -1.1
L48 Residential & Commercial	10.8	9.2	7.6	7.3	8.2	9.4	8.0	▼ -1.4	▼ -0.8
L48 Industrial	19.7	19.6	19.3	19.2	19.2	19.5	19.4	▼ 0.0	▲ 0.0
L48 Lease and Plant Fuel	4.9	4.9	4.9	4.9	4.8	4.8	4.8	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.3	2.1	1.9	1.9	2.0	2.0	1.9	▼ -0.1	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>74.9</b>	<b>70.6</b>	<b>65.7</b>	<b>65.7</b>	<b>68.9</b>	<b>69.0</b>	<b>67.1</b>	▼ -1.9	▼ -2.1
<b>Net LNG Exports</b>	<b>6.9</b>	<b>6.4</b>	<b>7.2</b>	<b>7.6</b>	<b>7.3</b>	<b>7.4</b>	<b>7.3</b>	▼ 0.0	▲ 0.2
<b>Total Mexican Exports</b>	<b>6.3</b>	<b>6.2</b>	<b>6.0</b>	<b>5.9</b>	<b>6.3</b>	<b>6.3</b>	<b>6.1</b>	▼ -0.2	▼ 0.0
Implied Daily Storage Activity	5.0	8.2	12.7	12.0	8.5	7.2	8.3		
EIA Reported Daily Storage Activity									
Daily Model Error									

### EIA Storage Week Balances

	7-Aug	14-Aug	21-Aug	28-Aug	4-Sep	11-Sep	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>87.3</b>	<b>87.4</b>	<b>87.2</b>	<b>86.0</b>	<b>86.3</b>	<b>88.3</b>	▲ 2.1	▲ 1.6
<b>Canadian Imports</b>	<b>4.6</b>	<b>5.0</b>	<b>4.7</b>	<b>5.2</b>	<b>4.4</b>	<b>3.8</b>	▼ -0.6	▼ -1.0
L48 Power	40.7	42.9	40.0	41.6	37.2	35.1	▼ -2.1	▼ -5.3
L48 Residential & Commercial	8.1	8.1	8.2	8.3	7.7	8.8	▲ 1.0	▲ 0.7
L48 Industrial	18.8	19.0	20.4	19.6	19.7	19.7	▼ 0.0	▼ 0.0
L48 Lease and Plant Fuel	4.9	4.9	4.8	4.8	4.8	4.9	▲ 0.1	▲ 0.1
L48 Pipeline Distribution	2.2	2.3	2.2	2.3	2.1	2.1	▼ 0.0	▼ -0.2
<b>L48 Regional Gas Consumption</b>	<b>74.7</b>	<b>77.2</b>	<b>75.7</b>	<b>76.6</b>	<b>71.5</b>	<b>70.6</b>	▼ -1.0	▼ -4.7
<b>Net LNG Exports</b>	<b>3.9</b>	<b>4.4</b>	<b>4.7</b>	<b>3.9</b>	<b>3.0</b>	<b>5.2</b>	▲ 2.1	▲ 1.2
<b>Total Mexican Exports</b>	<b>6.1</b>	<b>6.0</b>	<b>6.2</b>	<b>6.6</b>	<b>6.5</b>	<b>6.4</b>	▼ -0.2	▲ 0.0
Implied Daily Storage Activity	7.2	4.8	5.3	4.1	9.6	10.0	0.5	
EIA Reported Daily Storage Activity	8.3	6.1	6.4	5.0	10.0			
Daily Model Error	-1.0	-1.3	-1.2	-0.9	-0.4			

### 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>87.4</b>	▲ 0.5	▼ -6.1
<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>3.9</b>	▼ -1.0	▼ -0.8
L48 Power	34.2	36.4	26.9	34.8	43.8	40.6	35.1	▼ -5.5	▼ -1.3
L48 Residential & Commercial	8.5	8.3	12.9	9.0	8.6	8.1	8.4	▲ 0.3	▲ 0.1
L48 Industrial	21.6	22.3	18.9	18.3	17.8	19.5	19.6	▲ 0.0	▼ -2.7
L48 Lease and Plant Fuel	4.8	5.2	4.8	4.9	4.9	4.8	4.9	▲ 0.0	▼ -0.3
L48 Pipeline Distribution	2.0	2.1	1.9	2.0	2.4	2.2	2.1	▼ -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>70.0</b>	▼ -5.3	▼ -4.3
<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>5.6</b>	▲ 1.5	▼ -0.6
<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	6.1	9.3		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

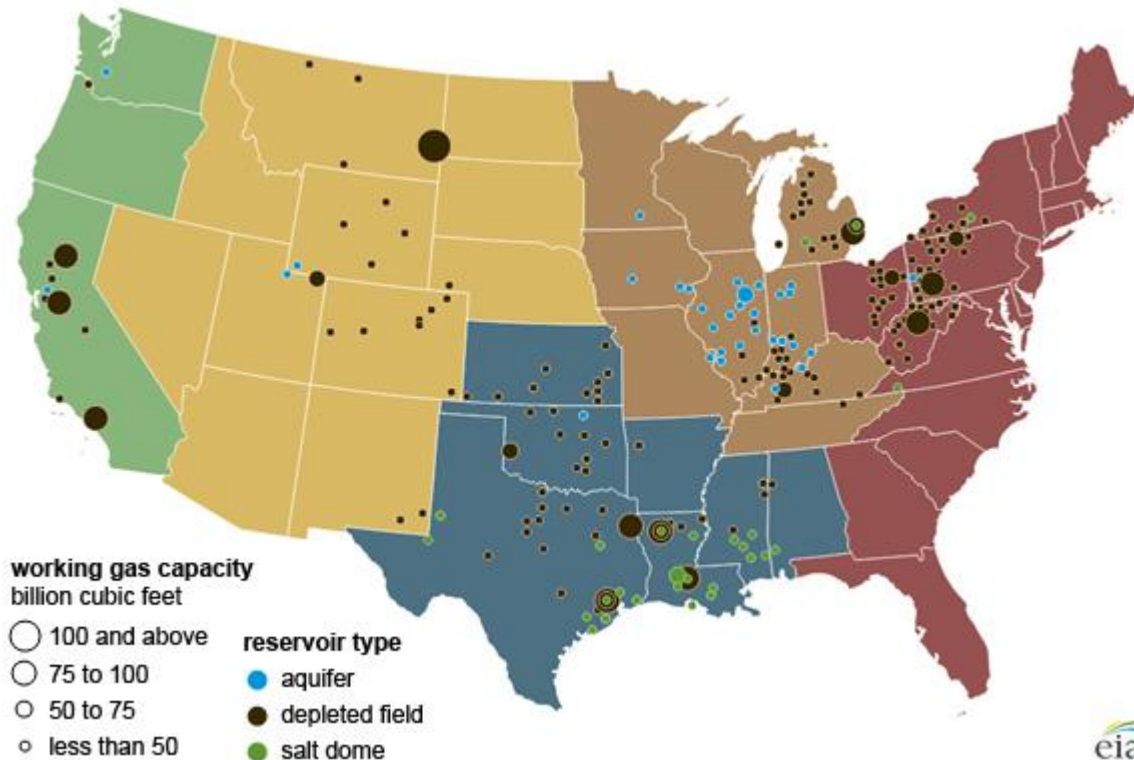
## Regional S/D Models Storage Projection

Week Ending 11-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	9.8	1.0	10.8	76
East	1.0	1.4	2.4	16
Midwest	3.7	0.4	4.1	28
Mountain	3.4	-2.9	0.5	4
South Central	1.0	2.7	3.6	25
Pacific	0.8	-0.5	0.3	2

\*Adjustment Factor is calculated based on historical regional deltas

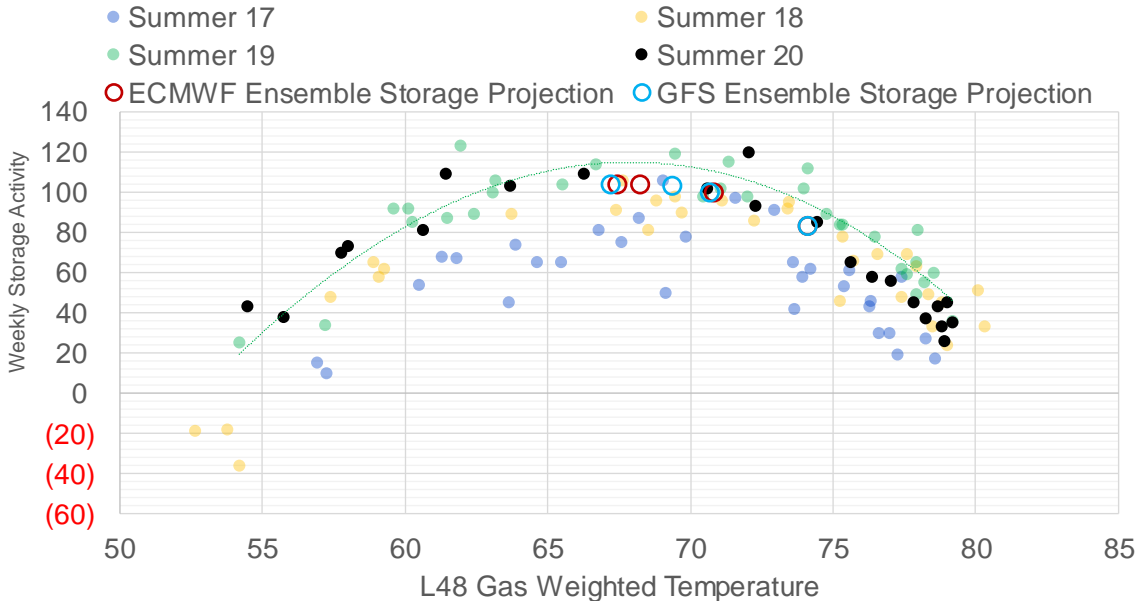
U.S. underground natural gas storage facilities by type (July 2015)



## Weather Model Storage Projection

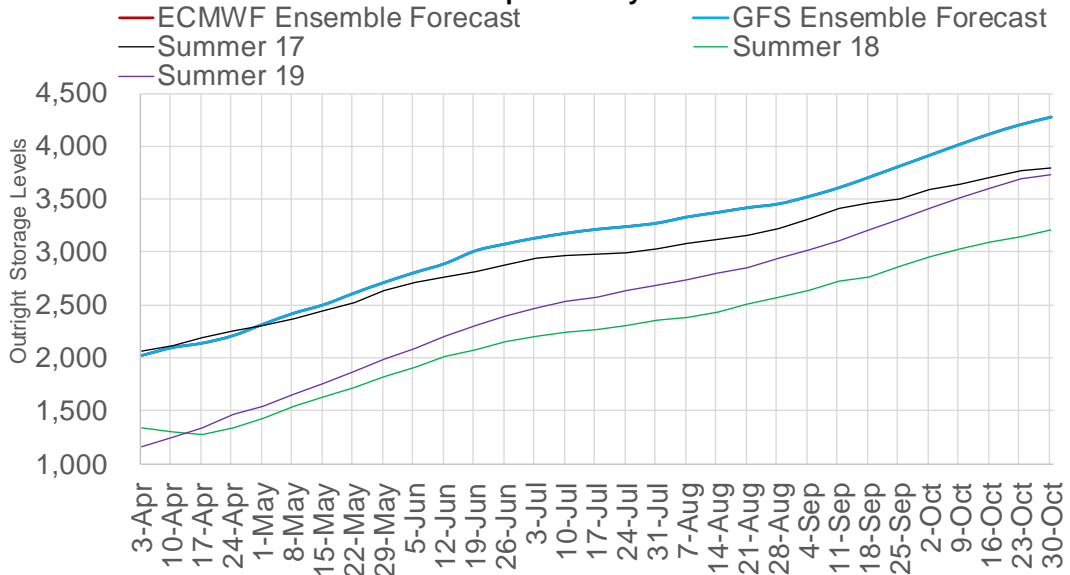
Next report and beyond	
Week Ending	Week Storage Projection
18-Sep	100
25-Sep	104
2-Oct	104

### Weather Storage Model - Next 4 Week Forecast

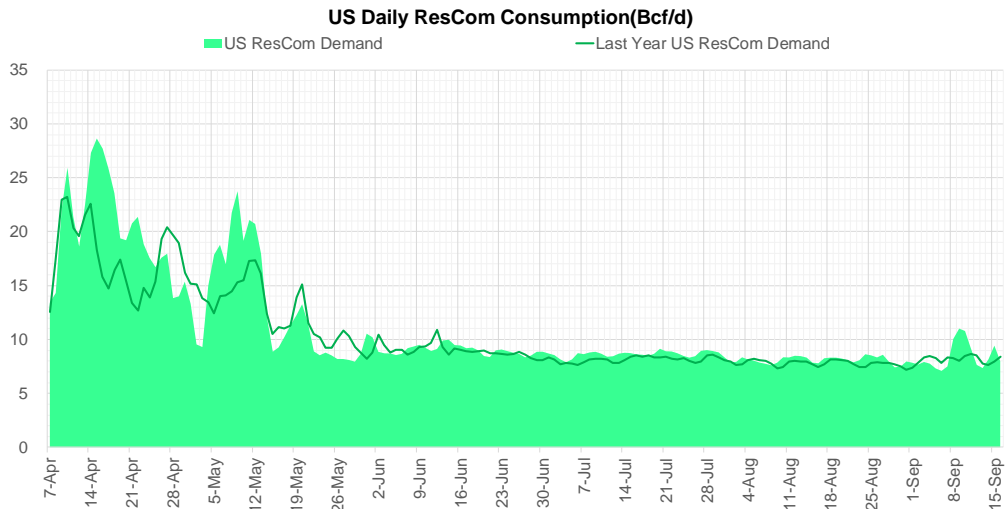
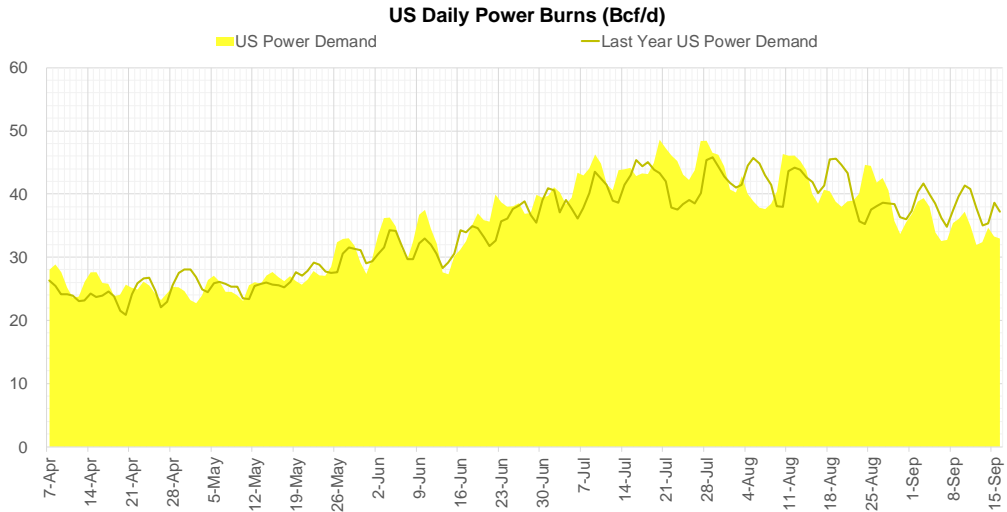
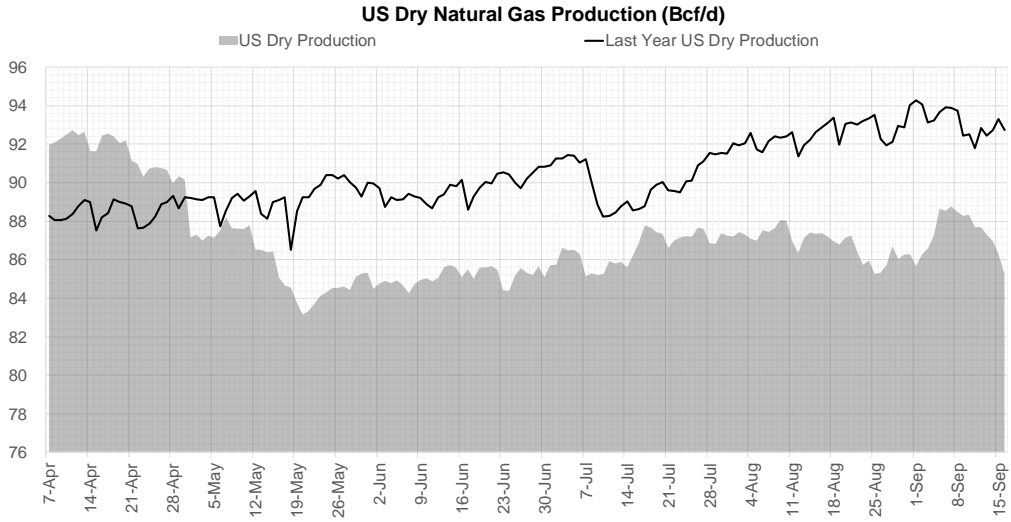


### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



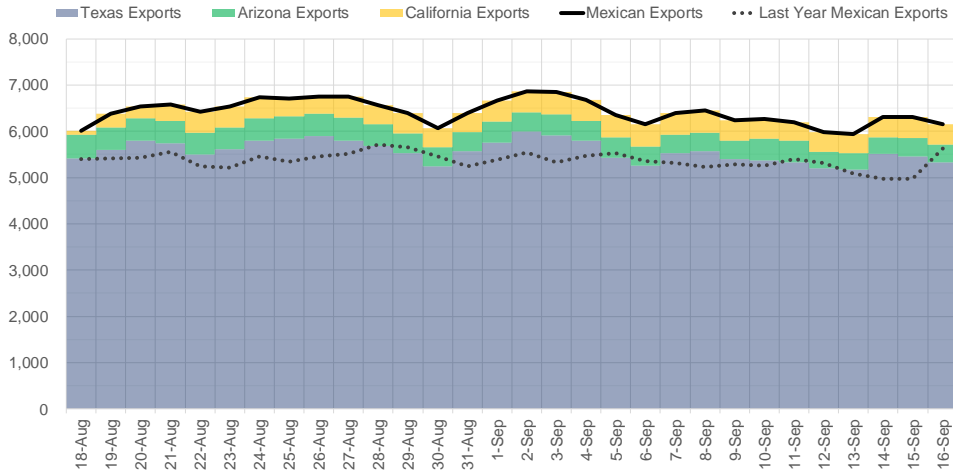
## Supply – Demand Trends



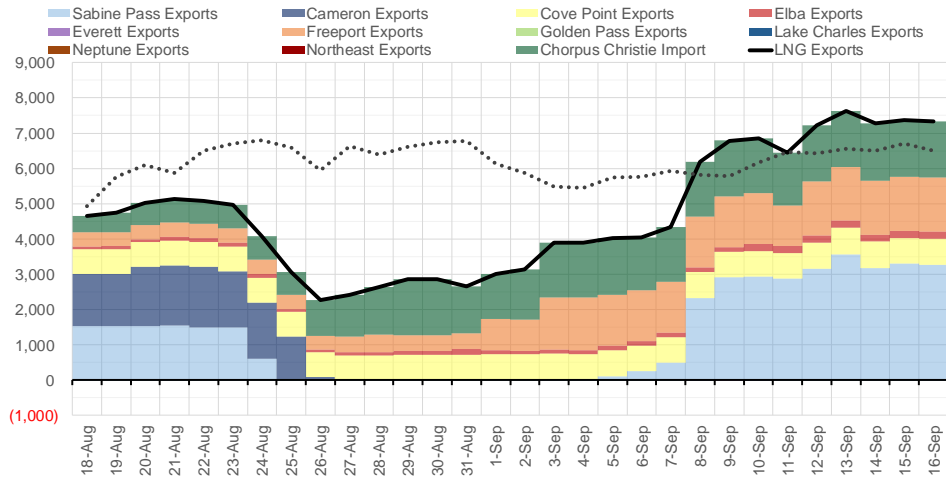
Source: Bloomberg

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
10	2020	C	2.80	7614	10	2020	C	3.00	46329
10	2020	C	2.60	6450	10	2020	C	2.75	45869
10	2020	C	3.00	5766	10	2020	P	2.00	45340
10	2020	C	2.75	5332	10	2020	P	1.50	44046
10	2020	P	2.00	5128	10	2020	P	2.25	40444
10	2020	P	2.05	5107	10	2020	P	1.60	34458
10	2020	P	2.25	4737	10	2020	C	2.50	33245
10	2020	C	2.40	3997	3	2021	P	2.00	33139
10	2020	P	2.40	3654	10	2020	P	1.75	32396
11	2020	C	3.50	3540	4	2021	C	5.00	29787
10	2020	C	2.50	3534	10	2020	P	1.25	28902
11	2020	C	3.00	3249	11	2020	C	5.00	27491
4	2021	C	5.00	3100	11	2020	C	3.50	26712
10	2020	P	2.20	3062	11	2020	P	2.00	26124
11	2020	P	2.40	2641	3	2021	C	3.25	26120
10	2020	P	1.75	2540	3	2021	C	4.00	25239
10	2020	C	2.70	2515	10	2020	P	2.10	25146
10	2020	C	2.65	2271	10	2020	P	1.00	24016
10	2020	P	2.15	2144	10	2020	C	3.25	23469
10	2020	P	1.85	2117	1	2021	C	4.50	23165
10	2020	P	2.10	2072	1	2021	C	3.50	23150
12	2020	C	5.00	2001	12	2020	P	2.00	23020
11	2020	C	3.25	1615	10	2020	P	1.90	22119
10	2020	C	2.55	1599	10	2020	P	2.20	21995
10	2020	P	2.30	1598	10	2020	C	2.10	21982
10	2020	C	2.35	1446	3	2021	C	3.00	21586
11	2020	P	2.50	1380	10	2020	P	1.80	21535
1	2021	C	5.00	1351	3	2021	C	6.00	20755
11	2020	P	2.75	1303	11	2020	P	2.25	20458
10	2020	P	1.80	1201	11	2020	P	2.50	20222
10	2020	C	2.45	1088	10	2020	P	1.30	19457
12	2020	P	2.60	1002	3	2021	C	3.50	19231
12	2020	P	2.75	1001	1	2021	C	5.00	18828
10	2020	P	2.35	805	10	2020	C	3.50	18823
2	2021	P	2.50	801	10	2020	C	2.00	18668
2	2021	P	3.00	800	12	2020	P	2.50	18335
10	2020	P	1.70	711	11	2020	C	3.25	17920
11	2020	P	2.25	676	10	2020	C	2.60	17897
11	2020	C	2.75	628	11	2020	C	3.00	17748
11	2020	P	2.35	545	10	2020	C	2.80	17448
3	2021	C	3.25	525	2	2021	C	5.00	17146
12	2020	P	2.50	519	1	2021	C	3.00	16784
12	2020	P	3.15	500	1	2021	C	3.75	16559
3	2021	C	4.50	500	10	2020	C	2.25	16520
10	2021	C	3.00	475	10	2020	C	2.40	16269
11	2020	C	4.00	458	10	2020	P	1.40	15908
11	2020	C	3.60	449	12	2020	C	4.00	15121
12	2020	P	2.30	400	11	2020	C	4.00	14965
1	2021	P	3.00	400	12	2020	C	3.75	14313
					1	2021	P	2.25	14180

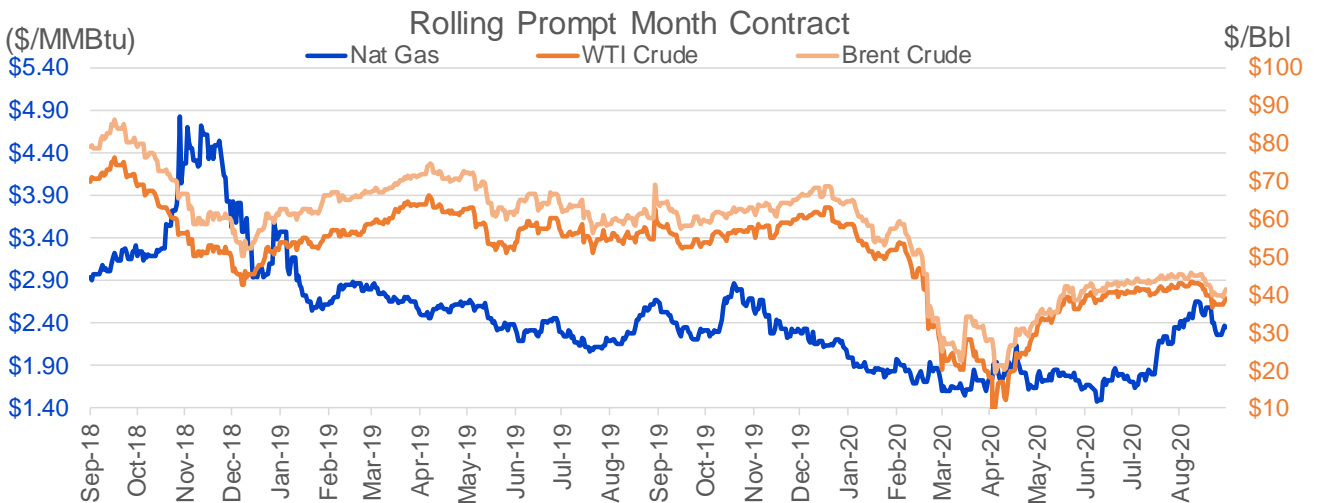
Source: CME, Nasdaq, ICE

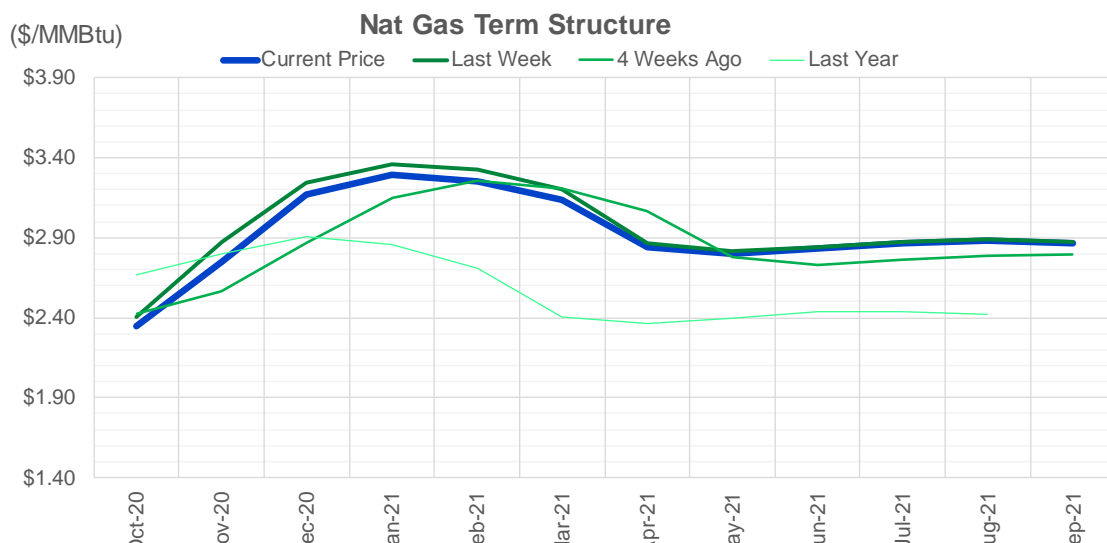


## Nat Gas Futures Open Interest CME, and ICE Combined

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
OCT 20	112865	129800	-16935	OCT 20	81012	84189	-3176.75
NOV 20	255300	245660	9640	NOV 20	81265	79989	1276
DEC 20	115185	112670	2515	DEC 20	74582	73749	832.75
JAN 21	139104	138175	929	JAN 21	87733	88102	-369
FEB 21	55925	55675	250	FEB 21	59038	58911	127.25
MAR 21	114227	115128	-901	MAR 21	78823	78078	745
APR 21	77947	77600	347	APR 21	64728	64403	325.75
MAY 21	44822	47363	-2541	MAY 21	55241	56978	-1737.5
JUN 21	29094	29225	-131	JUN 21	51132	51023	109
JUL 21	20655	20890	-235	JUL 21	53677	53602	74.25
AUG 21	22043	22174	-131	AUG 21	53599	53478	121
SEP 21	27818	27918	-100	SEP 21	50306	50252	54.25
OCT 21	69707	69152	555	OCT 21	74741	74613	128.75
NOV 21	27065	27050	15	NOV 21	42915	42751	164.5
DEC 21	24206	24200	6	DEC 21	43129	42941	188.5
JAN 22	23705	22976	729	JAN 22	36884	36511	372.5
FEB 22	12990	13024	-34	FEB 22	32151	32044	107.5
MAR 22	18176	17741	435	MAR 22	34049	33900	148.75
APR 22	21959	21782	177	APR 22	34115	33906	209
MAY 22	6269	6269	0	MAY 22	24968	24832	136.5
JUN 22	3617	3611	6	JUN 22	24140	24032	108.5
JUL 22	2987	2985	2	JUL 22	25236	25153	82.75
AUG 22	1968	1978	-10	AUG 22	24485	24373	112
SEP 22	2177	2164	13	SEP 22	23532	23424	108.5
OCT 22	3242	3162	80	OCT 22	25032	24715	316.75
NOV 22	2306	2373	-67	NOV 22	22574	22331	242.75
DEC 22	2488	2309	179	DEC 22	24641	24515	126.25
JAN 23	2827	2873	-46	JAN 23	12479	12448	31
FEB 23	855	858	-3	FEB 23	11959	11450	508.75
MAR 23	901	901	0	MAR 23	11889	11870	18.5

Source: CME, ICE





	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>\$2.350</b>	<b>\$2.748</b>	<b>\$3.167</b>	<b>\$3.293</b>	<b>\$3.253</b>	<b>\$3.136</b>	<b>\$2.837</b>	<b>\$2.801</b>	<b>\$2.835</b>	<b>\$2.864</b>	<b>\$2.881</b>	<b>\$2.865</b>
Last Week	\$2.406	\$2.873	\$3.241	\$3.361	\$3.323	\$3.201	\$2.862	\$2.820	\$2.844	\$2.877	\$2.887	\$2.875
vs. Last Week	-\$0.056	-\$0.125	-\$0.074	-\$0.068	-\$0.070	-\$0.065	-\$0.025	-\$0.019	-\$0.009	-\$0.013	-\$0.006	-\$0.010
4 Weeks Ago	\$2.426	\$2.563	\$2.868	\$3.152	\$3.255	\$3.203	\$3.065	\$2.777	\$2.733	\$2.759	\$2.791	\$2.799
vs. 4 Weeks Ago	-\$0.076	\$0.185	\$0.299	\$0.141	-\$0.002	-\$0.067	-\$0.228	\$0.024	\$0.102	\$0.105	\$0.090	\$0.066
Last Year	\$2.637	\$2.665	\$2.803	\$2.906	\$2.857	\$2.712	\$2.401	\$2.367	\$2.398	\$2.435	\$2.440	\$2.424
vs. Last Year	-\$0.287	\$0.083	\$0.364	\$0.387	\$0.396	\$0.424	\$0.436	\$0.434	\$0.437	\$0.429	\$0.441	\$0.441

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.30	1.68	0.38
TETCO M3	\$/MMBtu	1.15	1.36	0.21
FGT Zone 3	\$/MMBtu	1.31	2.42	1.11
Zone 6 NY	\$/MMBtu	1.31	1.31	0.00
Chicago Citygate	\$/MMBtu	1.91	2.08	0.17
Michcon	\$/MMBtu	1.92	1.96	0.04
Columbia TCO Pool	\$/MMBtu	1.66	1.52	-0.14
Ventura	\$/MMBtu	1.87	2.08	0.21
Rockies/Opal	\$/MMBtu	2.26	1.92	-0.34
El Paso Permian Basin	\$/MMBtu	1.69	1.60	-0.09
Socal Citygate	\$/MMBtu	2.57	2.31	-0.26
Malin	\$/MMBtu	2.25	2.20	-0.05
Houston Ship Channel	\$/MMBtu	2.18	2.37	0.19
Henry Hub Cash	\$/MMBtu	2.19	2.11	-0.08
AECO Cash	C\$/GJ	1.86	1.85	-0.01
Station2 Cash	C\$/GJ	1.92	2.32	0.40
Dawn Cash	C\$/GJ	1.91	1.97	0.06

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.46	▲ 0.043	▲ 0.022	▲ 0.001	
NatGas Mar/Apr	\$/MMBtu	-0.299	▲ 0.040	▼ -0.587	▼ -0.575	
NatGas Oct/Nov	\$/MMBtu	0.40	▼ -0.069	▲ 0.093	▲ 0.345	
NatGas Oct/Jan	\$/MMBtu	0.94	▼ -0.012	▲ 0.251	▲ 0.615	
WTI Crude	\$/Bbl	39.17	▲ 1.120	▼ -3.760	▼ -18.940	
Brent Crude	\$/Bbl	41.43	▲ 0.640	▼ -3.940	▼ -22.170	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	111.43	▲ 0.820	▼ -13.670	▼ -85.900	
Propane, Mt. Bel	cents/Gallon	0.49	▲ 0.024	▼ -0.015	▲ 0.048	
Ethane, Mt. Bel	cents/Gallon	0.21	▼ -0.003	▼ -0.035	▼ -0.013	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.150	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500	