

### 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](#)

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.67	▼ \$ (0.18)	▼ \$ (0.07)

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 40.09	▼ \$ (0.11)	▼ \$ (0.3)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 42.39	▼ \$ (0.06)	▼ \$ (0.2)

### 00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	-2.2	-4.7	-3.9	-10.8
24 Hr Chg	-0.2	-6.9	-4.0	-11.0

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	-2.4	-10.0	-7.7	-20.1
24 Hr Chg	-3.2	-4.6	-2.2	-10.0

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	86.7	▲ 0.01	▲ 1.50

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	31.3	▲ 1.17	▲ 0.67

	Current	Δ from YD	Δ from 7D Avg
US ResComm	12.4	▼ -1.07	▲ 1.77

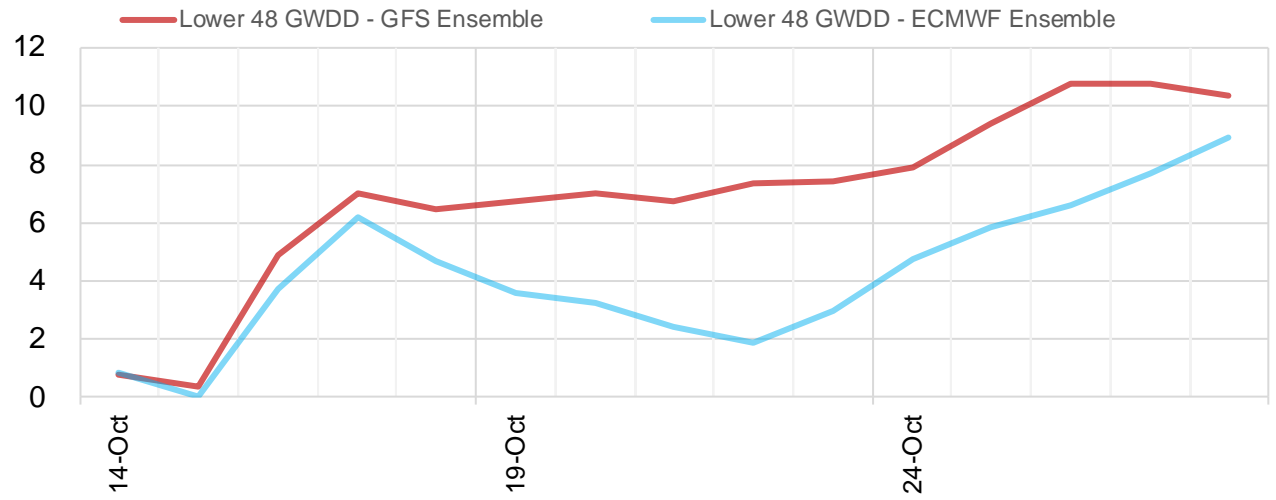
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.6	▼ -0.50	▼ -0.61

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	7.6	▲ 0.09	▲ 0.87

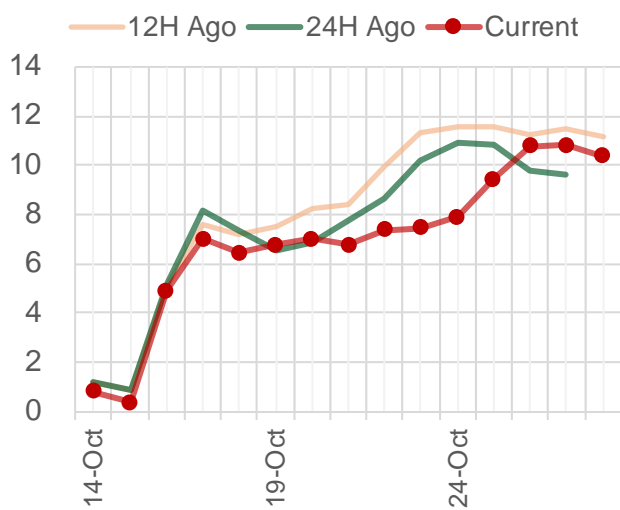
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.4	▼ -0.12	▼ -0.06

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

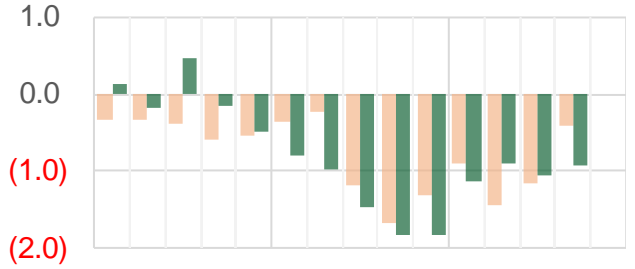
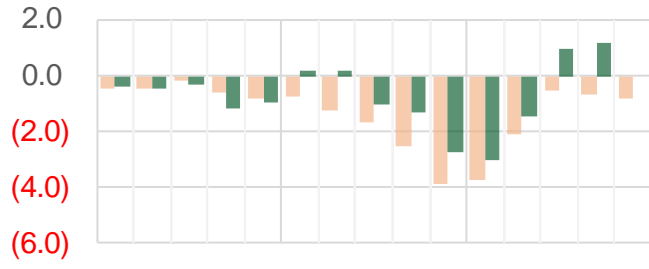
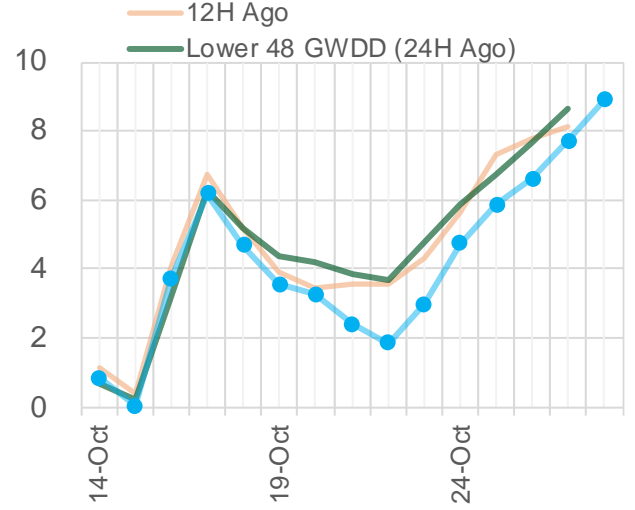
Lower 48 TDD Forecast



Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



Source: WSI, 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.

## Lower 48 Component Models

### Daily Balances

	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>86.2</b>	<b>85.1</b>	<b>82.9</b>	<b>84.1</b>	<b>85.5</b>	<b>86.7</b>	<b>86.7</b>	▲ 0.0	▲ 1.6
<b>Canadian Imports</b>	<b>4.5</b>	<b>4.0</b>	<b>4.1</b>	<b>4.1</b>	<b>4.1</b>	<b>4.1</b>	<b>3.6</b>	▼ -0.5	▼ -0.5
L48 Power	31.5	31.1	29.6	28.8	31.0	30.1	31.3	▲ 1.2	▲ 0.9
L48 Residential & Commercial	12.1	10.1	8.2	9.6	12.1	13.5	12.4	▼ -1.1	▲ 1.5
L48 Industrial	20.8	20.4	20.6	20.9	21.3	21.5	21.1	▼ -0.4	▲ 0.2
L48 Lease and Plant Fuel	4.7	4.7	4.6	4.6	4.7	4.8	4.8	▲ 0.0	▲ 0.1
L48 Pipeline Distribution	2.1	2.0	1.9	1.9	2.1	2.1	2.1	▲ 0.0	▲ 0.1
<b>L48 Regional Gas Consumption</b>	<b>71.3</b>	<b>68.3</b>	<b>64.8</b>	<b>65.8</b>	<b>71.3</b>	<b>72.0</b>	<b>71.7</b>	▼ -0.2	▲ 2.8
<b>Net LNG Delivered</b>	<b>6.90</b>	<b>5.93</b>	<b>5.51</b>	<b>6.03</b>	<b>7.46</b>	<b>7.54</b>	<b>7.63</b>	▲ 0.1	▲ 1.1
<b>Total Mexican Exports</b>	<b>6.7</b>	<b>6.6</b>	<b>5.9</b>	<b>6.2</b>	<b>6.4</b>	<b>6.5</b>	<b>6.4</b>	▼ -0.1	▼ 0.0
<b>Implied Daily Storage Activity</b>	<b>5.8</b>	<b>8.3</b>	<b>10.7</b>	<b>10.1</b>	<b>4.6</b>	<b>4.8</b>	<b>4.6</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

### EIA Storage Week Balances

	4-Sep	11-Sep	18-Sep	25-Sep	2-Oct	9-Oct	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>87.0</b>	<b>89.0</b>	<b>87.8</b>	<b>86.9</b>	<b>87.2</b>	<b>87.2</b>	▼ 0.0	▼ -0.5
<b>Canadian Imports</b>	<b>4.4</b>	<b>3.8</b>	<b>3.8</b>	<b>3.6</b>	<b>3.9</b>	<b>4.5</b>	▲ 0.7	▲ 0.8
L48 Power	37.6	35.4	33.5	30.8	30.6	30.7	▲ 0.0	▼ -1.9
L48 Residential & Commercial	7.4	8.4	8.0	9.9	9.5	13.6	▲ 4.0	▲ 4.6
L48 Industrial	20.4	19.7	21.3	21.1	22.2	21.1	▼ -1.1	▲ 0.0
L48 Lease and Plant Fuel	4.8	4.9	4.8	4.8	4.8	4.8	▲ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.2	2.1	2.0	2.0	2.2	▲ 0.2	▲ 0.1
<b>L48 Regional Gas Consumption</b>	<b>72.3</b>	<b>70.5</b>	<b>69.7</b>	<b>68.6</b>	<b>69.1</b>	<b>72.3</b>	▲ 3.2	▲ 2.8
<b>Net LNG Exports</b>	<b>3.0</b>	<b>5.2</b>	<b>7.3</b>	<b>5.8</b>	<b>6.8</b>	<b>7.5</b>	▲ 0.7	▲ 1.2
<b>Total Mexican Exports</b>	<b>6.5</b>	<b>6.4</b>	<b>6.2</b>	<b>6.4</b>	<b>6.3</b>	<b>6.2</b>	▼ -0.1	▼ -0.2
<b>Implied Daily Storage Activity</b>	<b>9.6</b>	<b>10.8</b>	<b>8.3</b>	<b>9.6</b>	<b>9.0</b>	<b>5.8</b>	-3.2	
<b>EIA Reported Daily Storage Activity</b>	<b>10.0</b>	<b>12.7</b>	<b>9.4</b>	<b>10.9</b>	<b>10.7</b>			
<b>Daily Model Error</b>	<b>-0.4</b>	<b>-1.9</b>	<b>-1.1</b>	<b>-1.2</b>	<b>-1.8</b>			

### Monthly Balances

	2Yr Ago	LY					MTD	MoM	vs. LY
	Oct-18	Oct-19	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20		
<b>Lower 48 Dry Production</b>	<b>86.7</b>	<b>95.0</b>	<b>86.6</b>	<b>87.8</b>	<b>87.7</b>	<b>87.6</b>	<b>86.4</b>	▼ -1.3	▼ -8.6
<b>Canadian Imports</b>	<b>4.7</b>	<b>4.6</b>	<b>4.0</b>	<b>4.4</b>	<b>4.8</b>	<b>3.8</b>	<b>4.2</b>	▲ 0.4	▼ -0.4
L48 Power	28.8	30.7	35.0	43.8	40.6	33.3	30.5	▼ -2.8	▼ -0.3
L48 Residential & Commercial	16.1	15.2	8.8	8.0	7.7	8.7	12.4	▲ 3.8	▼ -2.8
L48 Industrial	22.6	24.0	19.2	19.2	20.6	20.9	21.1	▲ 0.2	▼ -2.9
L48 Lease and Plant Fuel	4.9	5.2	4.8	4.9	4.8	4.8	4.7	▼ -0.1	▼ -0.5
L48 Pipeline Distribution	2.1	2.3	2.2	2.4	2.3	2.1	2.1	▲ 0.0	▼ -0.2
<b>L48 Regional Gas Consumption</b>	<b>74.5</b>	<b>77.4</b>	<b>70.1</b>	<b>78.4</b>	<b>76.1</b>	<b>69.8</b>	<b>70.9</b>	▲ 1.1	▼ -6.6
<b>Net LNG Exports</b>	<b>3.3</b>	<b>6.7</b>	<b>4.0</b>	<b>3.3</b>	<b>4.0</b>	<b>5.9</b>	<b>7.1</b>	▲ 1.2	▲ 0.4
<b>Total Mexican Exports</b>	<b>5.0</b>	<b>5.5</b>	<b>5.7</b>	<b>6.1</b>	<b>6.3</b>	<b>6.4</b>	<b>6.3</b>	▼ -0.1	▲ 0.8
<b>Implied Daily Storage Activity</b>	<b>8.6</b>	<b>10.0</b>	<b>10.9</b>	<b>4.4</b>	<b>6.1</b>	<b>9.4</b>	<b>6.4</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

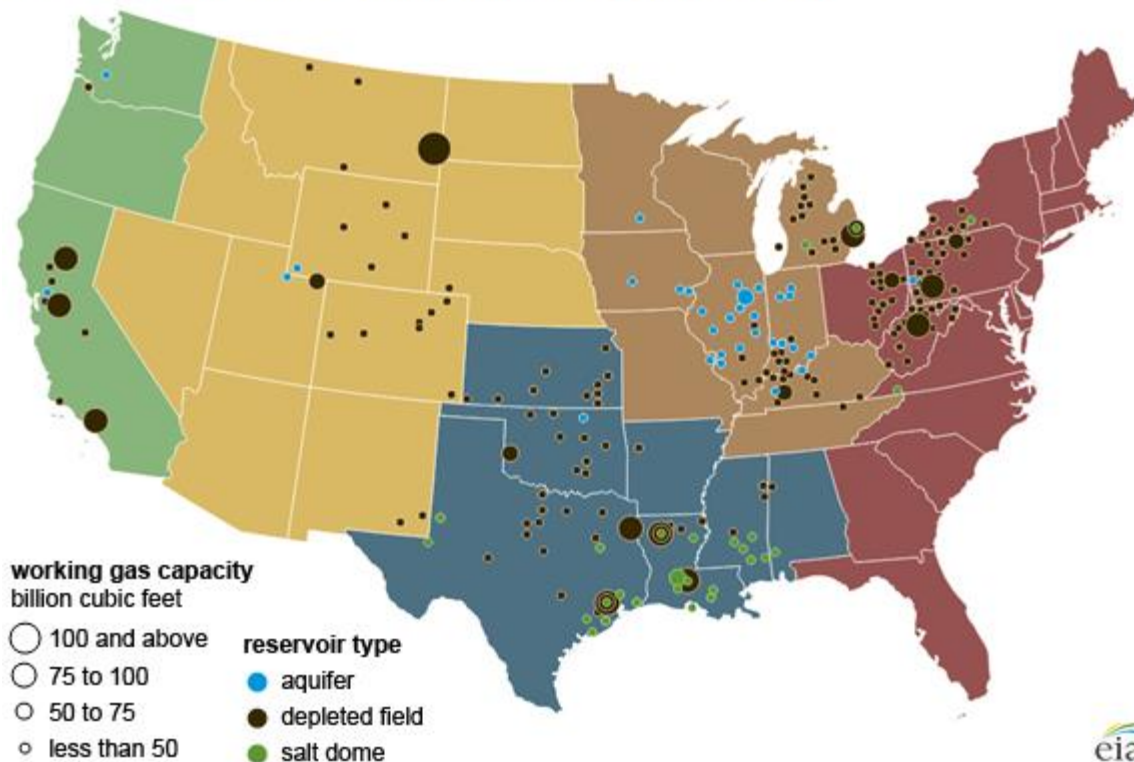
## Regional S/D Models Storage Projection

Week Ending 9-Oct

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	5.5	1.8	7.3	51
East	0.6	1.6	2.3	16
Midwest	1.1	0.5	1.7	12
Mountain	4.4	-2.7	1.6	11
South Central	-1.0	2.6	1.6	11
Pacific	0.4	-0.2	0.2	1

\*Adjustment Factor is calculated based on historical regional deltas

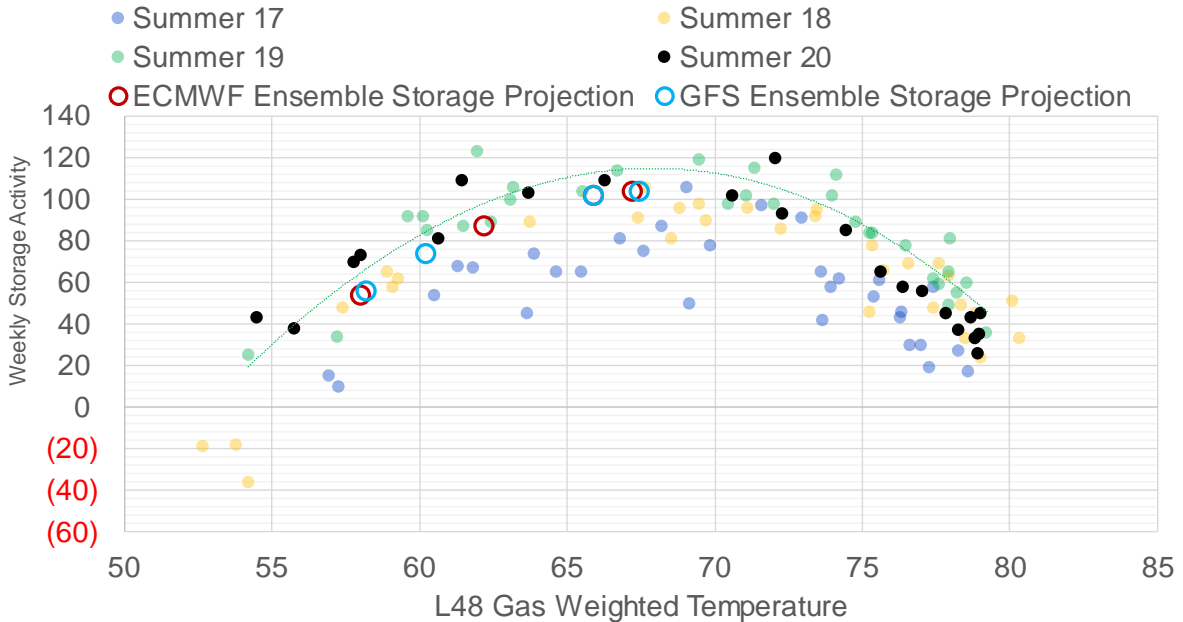
U.S. underground natural gas storage facilities by type (July 2015)



## Weather Model Storage Projection

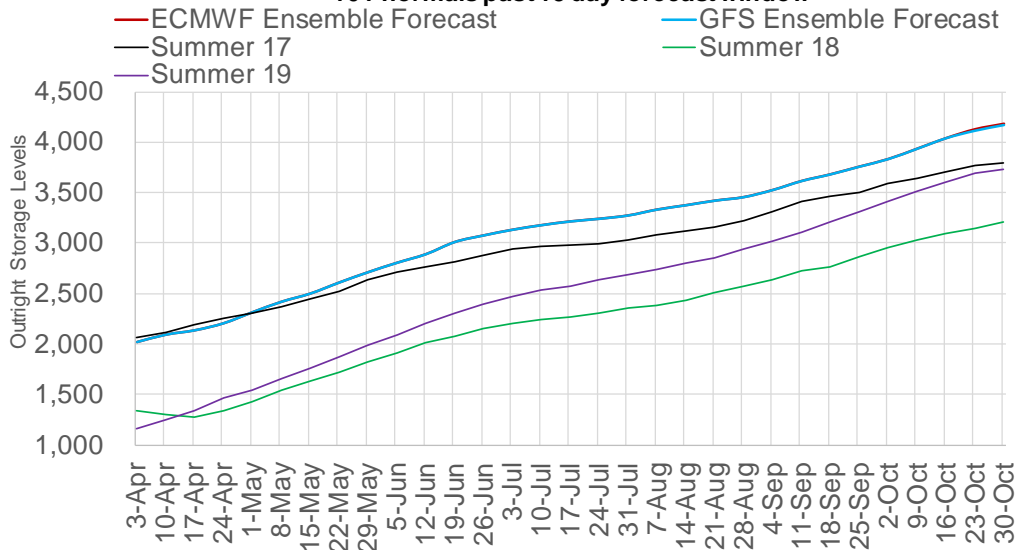
Next report and beyond	
Week Ending	Week Storage Projection
16-Oct	104
23-Oct	81
30-Oct	55

### Weather Storage Model - Next 4 Week Forecast



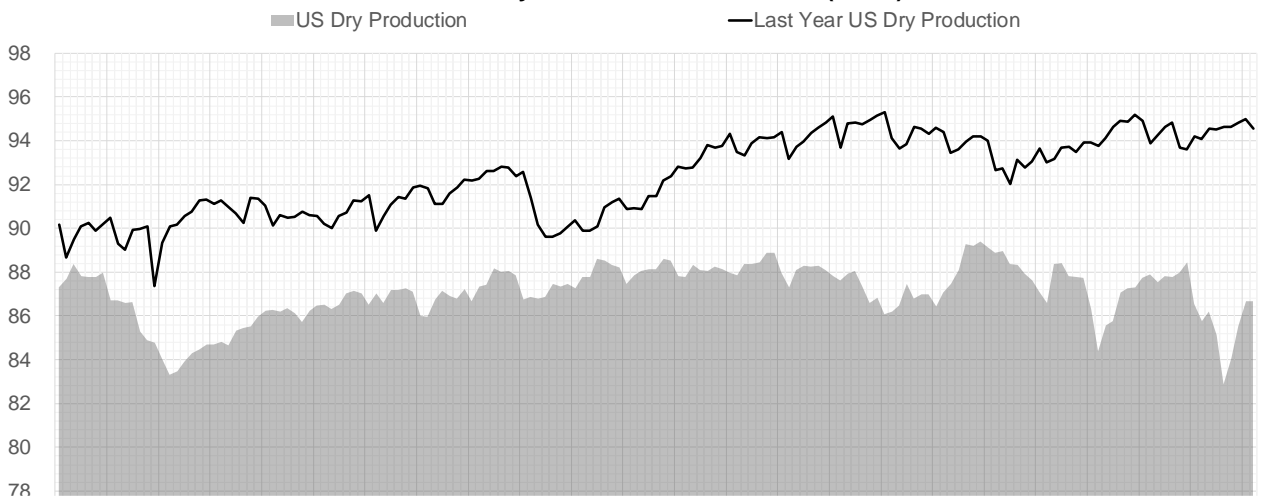
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window

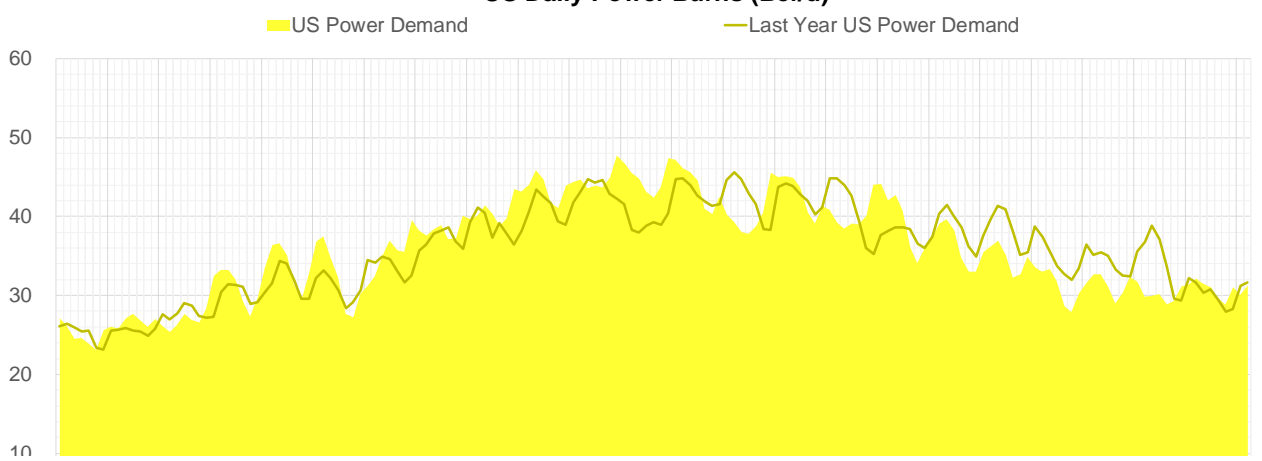


The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are 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.

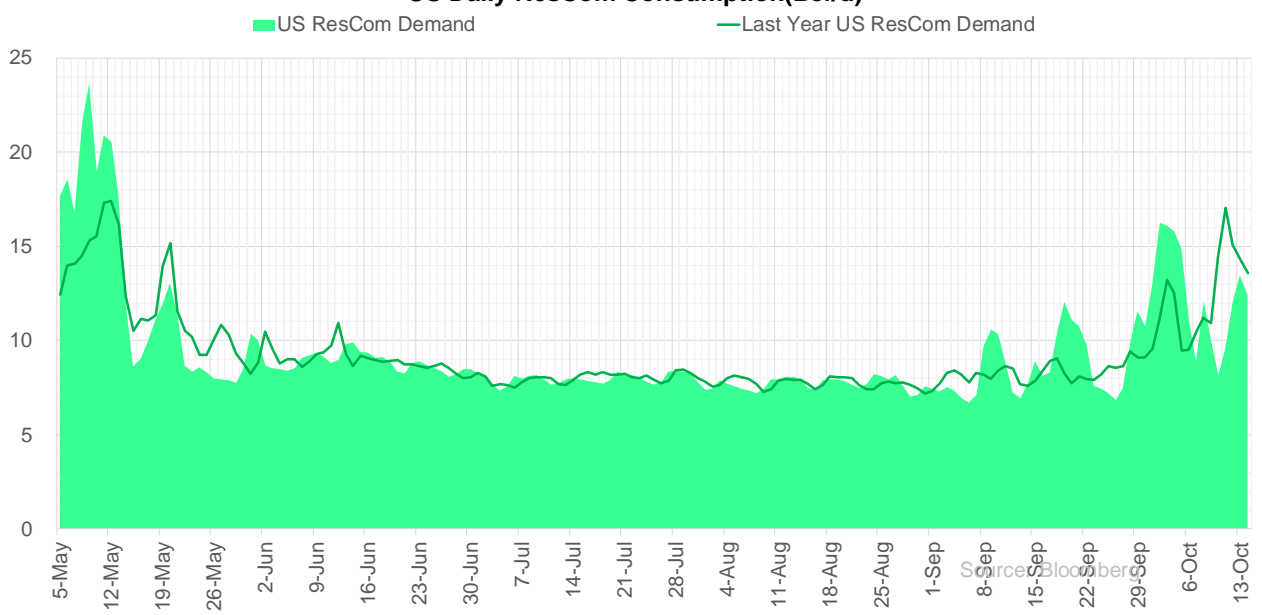
## Supply – Demand Trends US Dry Natural Gas Production (Bcf/d)



## US Daily Power Burns (Bcf/d)

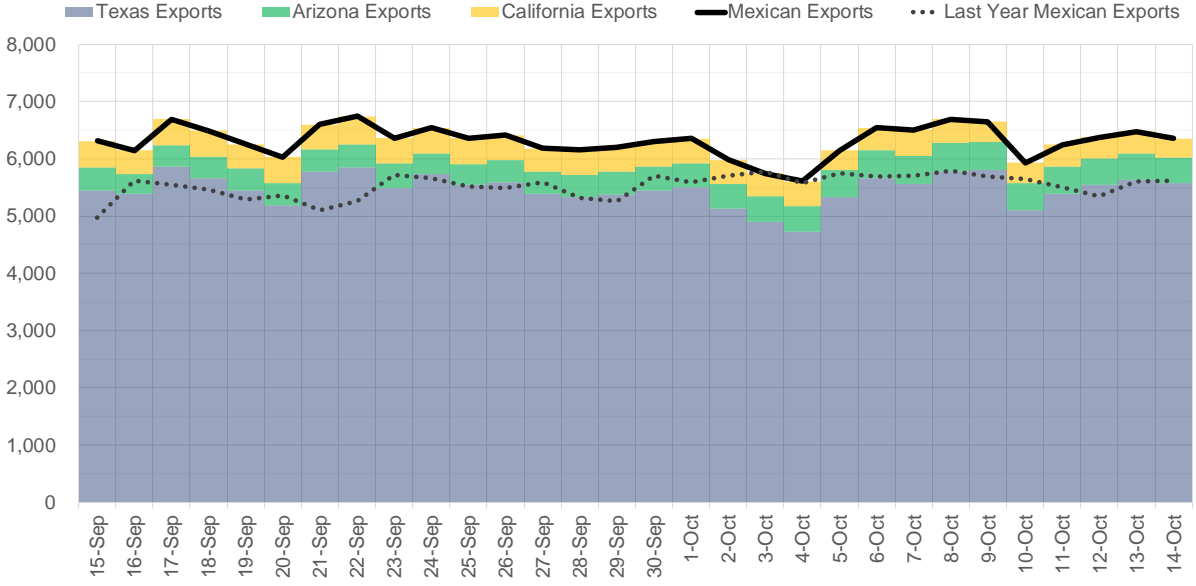


## US Daily ResCom Consumption (Bcf/d)

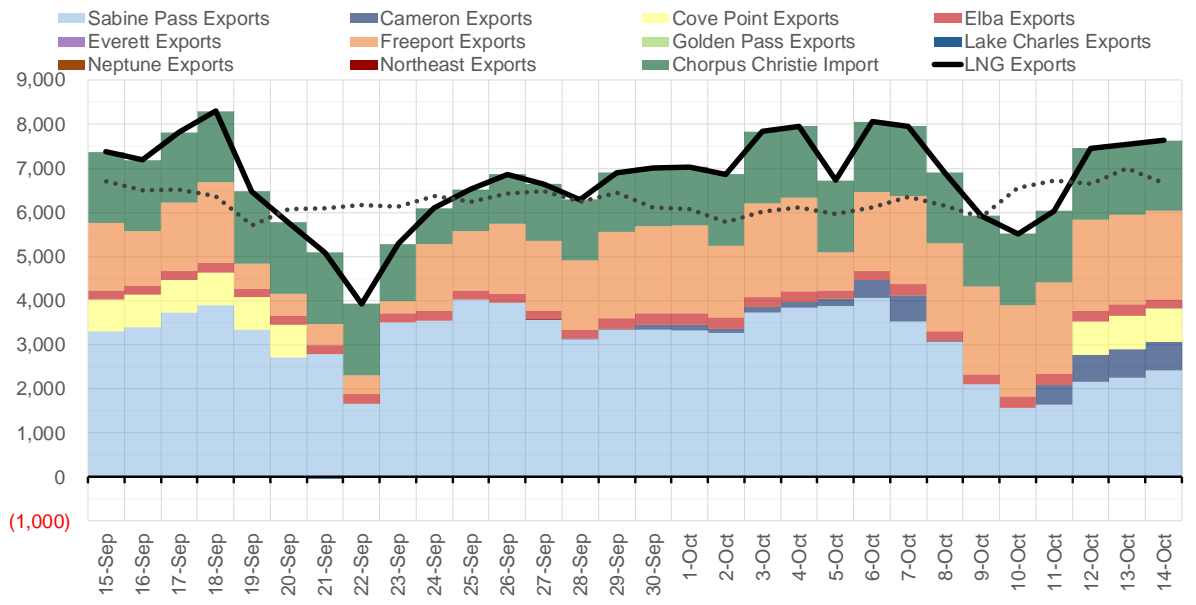


Source: Bloomberg

### 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
11	2020	C	3.25	7028	11	2020	P	2.00	53479
12	2020	C	4.50	6491	3	2021	P	2.00	34277
8	2021	C	4.00	4750	11	2020	C	3.25	34186
12	2020	C	4.00	4461	11	2020	C	3.50	32801
11	2020	C	3.50	3747	12	2020	P	2.00	31705
11	2020	P	2.50	3556	3	2021	C	6.00	30376
12	2020	C	5.00	3378	3	2021	C	5.00	29397
8	2021	P	2.25	3250	1	2021	C	4.50	28314
11	2020	P	2.75	3099	3	2021	C	3.25	27177
11	2020	P	2.65	3063	4	2021	C	5.00	26770
11	2020	P	2.80	2989	3	2021	C	4.00	26182
11	2020	C	3.00	2953	1	2021	C	3.50	25676
1	2021	C	4.50	2833	12	2020	P	2.50	25425
11	2020	P	2.40	2821	3	2021	C	7.00	25049
12	2020	C	3.25	2552	11	2020	C	4.00	24606
2	2021	C	5.00	2150	12	2020	C	4.00	22928
11	2020	P	2.25	2097	11	2020	P	2.25	22912
11	2020	P	2.00	2072	11	2020	C	3.00	22441
3	2021	C	7.00	2004	11	2020	C	5.00	21916
3	2021	C	6.00	2000	2	2021	C	5.00	21283
11	2020	P	2.10	1924	3	2021	C	3.00	20761
11	2020	P	2.60	1900	3	2021	C	3.50	19971
11	2020	P	2.55	1893	4	2021	C	4.00	19127
11	2020	C	3.75	1815	12	2020	C	3.75	18567
2	2021	C	4.50	1651	1	2021	C	5.00	18400
12	2020	P	2.50	1635	1	2021	P	2.50	18145
11	2020	P	2.70	1569	11	2020	C	2.75	18042
11	2020	C	2.60	1502	11	2020	P	1.75	18030
10	2021	P	2.25	1500	1	2021	P	2.25	17734
11	2020	C	3.10	1408	11	2020	P	2.50	17280
12	2020	P	2.25	1328	1	2021	C	6.00	16939
11	2020	C	2.85	1172	1	2021	C	3.00	16885
11	2020	P	2.20	1119	1	2021	C	3.75	16876
1	2021	C	4.25	1013	11	2020	P	2.65	15822
3	2021	P	2.00	1011	2	2021	C	3.50	15234
1	2021	C	5.00	1001	12	2020	C	3.50	15200
4	2021	P	2.00	1000	12	2020	C	5.00	15041
7	2021	C	5.00	1000	11	2020	P	2.80	14565
10	2021	P	3.00	1000	12	2020	C	4.50	14562
2	2021	P	2.50	948	2	2021	P	2.50	14473
11	2020	C	2.90	926	12	2020	P	1.50	14450
11	2020	C	3.15	924	4	2021	C	3.00	14385
3	2021	C	5.00	900	4	2021	P	2.00	14097
2	2021	C	4.25	855	11	2020	P	2.20	13882
11	2020	C	2.95	853	3	2021	P	2.50	13762
3	2021	P	1.75	800	5	2021	C	3.00	13706
3	2021	P	2.45	800	1	2021	C	3.25	13136
3	2021	P	2.90	800	12	2020	C	3.25	12719
4	2021	P	1.75	800	10	2021	C	3.00	12685
					11	2020	C	2.85	12670.75

Source: CME, ICE



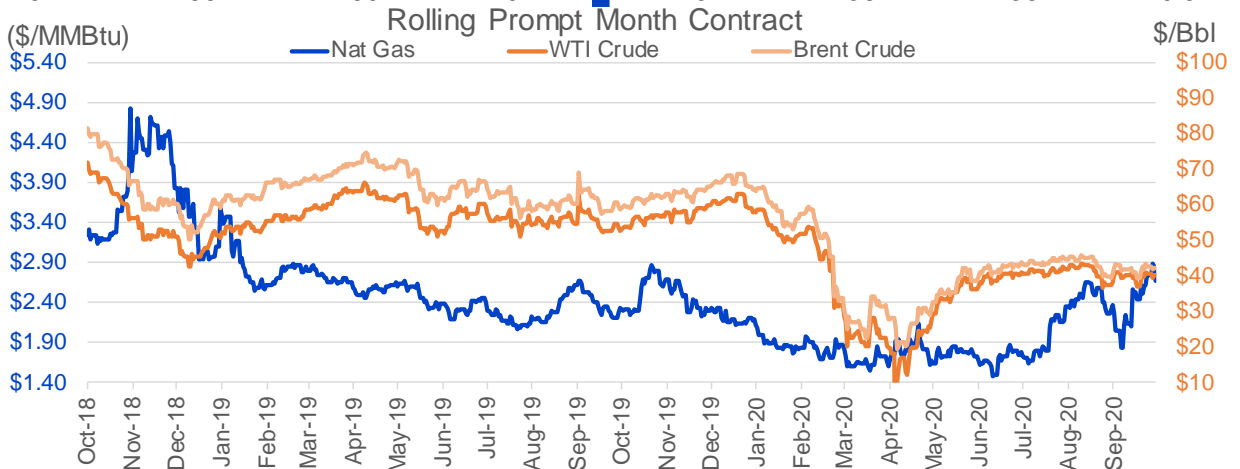
## Nat Gas Futures Open Interest

CME and ICE Combined

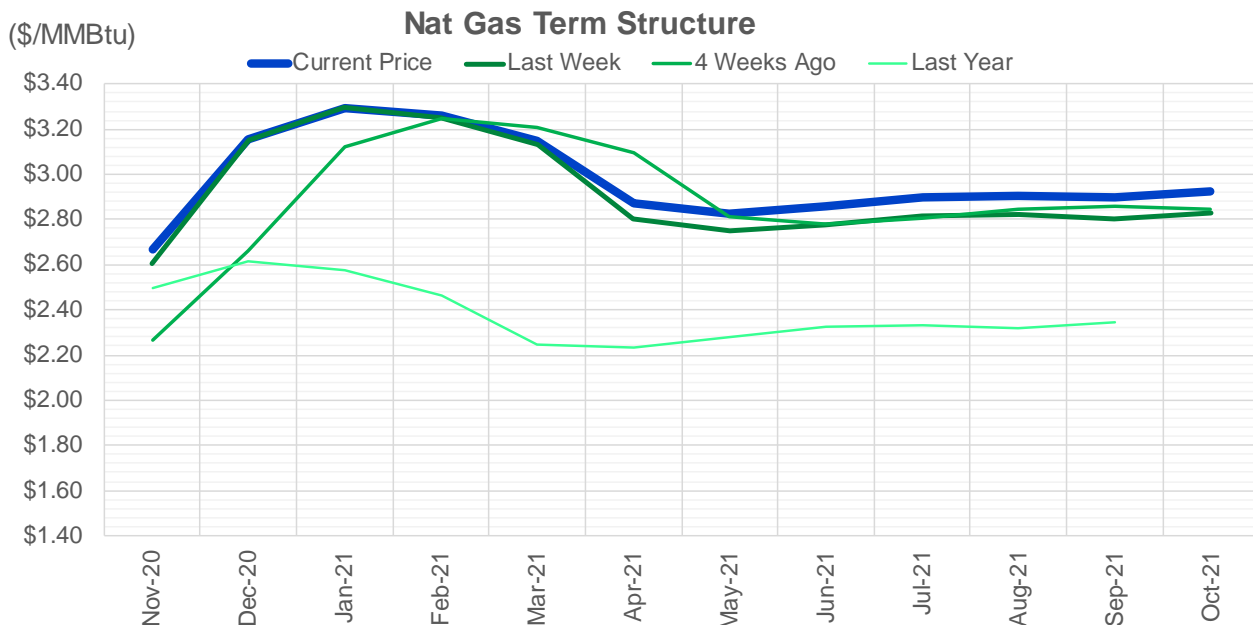
CME Henry Hub Futures (10,000 MMBtu)

ICE Henry Hub Futures Contract Equivalent (10,000 MM

	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
NOV 20	130589	157343	-26754	NOV 20	74199	76892	-2693.5
DEC 20	156846	153499	3347	DEC 20	76920	78241	-1320.75
JAN 21	198970	186110	12860	JAN 21	88646	89103	-457
FEB 21	78662	76074	2588	FEB 21	63709	63768	-59.5
MAR 21	138880	136102	2778	MAR 21	84328	84037	291.5
APR 21	86491	86834	-343	APR 21	68393	68610	-217.75
MAY 21	43228	43067	161	MAY 21	61636	62464	-827.5
JUN 21	32676	32320	356	JUN 21	55298	55265	33
JUL 21	25328	24133	1195	JUL 21	57484	57167	316.75
AUG 21	25797	25697	100	AUG 21	60438	60646	-208.25
SEP 21	37546	37996	-450	SEP 21	55521	55502	19.25
OCT 21	87865	87855	10	OCT 21	72165	72645	-480.75
NOV 21	31967	31696	271	NOV 21	48804	48494	309.75
DEC 21	26740	26449	291	DEC 21	46433	46308	125
JAN 22	28206	27988	218	JAN 22	41448	41197	250.75
FEB 22	16080	16528	-448	FEB 22	34187	34112	75
MAR 22	18419	18828	-409	MAR 22	37297	37174	123.25
APR 22	22079	21917	162	APR 22	35126	35135	-9
MAY 22	7740	8342	-602	MAY 22	27488	27162	326.25
JUN 22	4707	4093	614	JUN 22	26301	25997	304.25
JUL 22	3680	3795	-115	JUL 22	28015	27756	259.75
AUG 22	2527	2510	17	AUG 22	26174	25951	222.25
SEP 22	2322	2327	-5	SEP 22	25551	25265	286.5
OCT 22	3991	3734	257	OCT 22	28204	27818	386.25
NOV 22	2931	2870	61	NOV 22	24316	24286	30.75
DEC 22	2955	2958	-3	DEC 22	28069	28037	32.5
JAN 23	3011	3010	1	JAN 23	13863	13838	25.25
FEB 23	897	890	7	FEB 23	13065	13037	28.5
MAR 23	896	896	0	MAR 23	13314	13247	66.5
APR 23	2460	2460	0	APR 23	12362	12361	0.5



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.



	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
<b>Current Price</b>	<b>\$2.671</b>	<b>\$3.153</b>	<b>\$3.294</b>	<b>\$3.258</b>	<b>\$3.147</b>	<b>\$2.871</b>	<b>\$2.827</b>	<b>\$2.859</b>	<b>\$2.898</b>	<b>\$2.908</b>	<b>\$2.899</b>	<b>\$2.927</b>
Last Week	\$2.606	\$3.149	\$3.294	\$3.248	\$3.130	\$2.804	\$2.752	\$2.779	\$2.815	\$2.820	\$2.804	\$2.830
vs. Last Week	\$0.065	\$0.004	\$0.000	\$0.010	\$0.017	\$0.067	\$0.075	\$0.080	\$0.083	\$0.088	\$0.095	\$0.097
4 Weeks Ago	\$2.267	\$2.664	\$3.120	\$3.249	\$3.210	\$3.097	\$2.814	\$2.779	\$2.808	\$2.846	\$2.857	\$2.846
vs. 4 Weeks Ago	\$0.404	\$0.489	\$0.174	\$0.009	-\$0.063	-\$0.226	\$0.013	\$0.080	\$0.090	\$0.062	\$0.042	\$0.081
Last Year	\$2.303	\$2.495	\$2.612	\$2.575	\$2.462	\$2.247	\$2.234	\$2.278	\$2.326	\$2.335	\$2.318	\$2.344
vs. Last Year	\$0.368	\$0.658	\$0.682	\$0.683	\$0.685	\$0.624	\$0.593	\$0.581	\$0.572	\$0.573	\$0.581	\$0.583

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.70	3.55	1.85
TETCO M3	\$/MMBtu	1.27	2.33	1.06
FGT Zone 3	\$/MMBtu	1.24	2.62	1.38
Zone 6 NY	\$/MMBtu	1.24	2.49	1.25
Chicago Citygate	\$/MMBtu	1.92	2.44	0.52
Michcon	\$/MMBtu	1.91	2.37	0.46
Columbia TCO Pool	\$/MMBtu	1.74	2.20	0.46
Ventura	\$/MMBtu	1.74	2.45	0.71
Rockies/Opal	\$/MMBtu	1.47	2.36	0.89
El Paso Permian Basin	\$/MMBtu	-0.02	1.22	1.24
Socal Citygate	\$/MMBtu	5.79	2.96	-2.83
Malin	\$/MMBtu	2.05	2.98	0.93
Houston Ship Channel	\$/MMBtu	2.53	2.55	0.02
Henry Hub Cash	\$/MMBtu	2.12	2.40	0.28
AECO Cash	C\$/GJ	1.84	2.04	0.20
Station2 Cash	C\$/GJ	1.88	4.56	2.68
Dawn Cash	C\$/GJ	1.89	2.17	0.28

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks	
				Ago	vs. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.42	▲ 0.067	▲ 0.012	▼ -0.007
NatGas Mar/Apr	\$/MMBtu	-0.276	▲ 0.050	▼ -0.559	▼ -0.540
NatGas Oct/Nov	\$/MMBtu	0.57	▲ 0.065	▲ 0.173	▲ 0.505
NatGas Oct/Jan	\$/MMBtu	1.19	▲ 0.000	▲ 0.211	▲ 0.837
WTI Crude	\$/Bbl	40.09	▲ 0.140	▼ -0.070	▼ -13.270
Brent Crude	\$/Bbl	42.39	▲ 0.400	▲ 0.170	▼ -17.030
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	115.93	▼ -0.150	▲ 4.300	▼ -78.330
Propane, Mt. Bel	cents/Gallon	0.52	▲ 0.010	▲ 0.020	▲ 0.057
Ethane, Mt. Bel	cents/Gallon	0.21	▲ 0.005	▲ 0.002	▲ 0.020
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.100
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500