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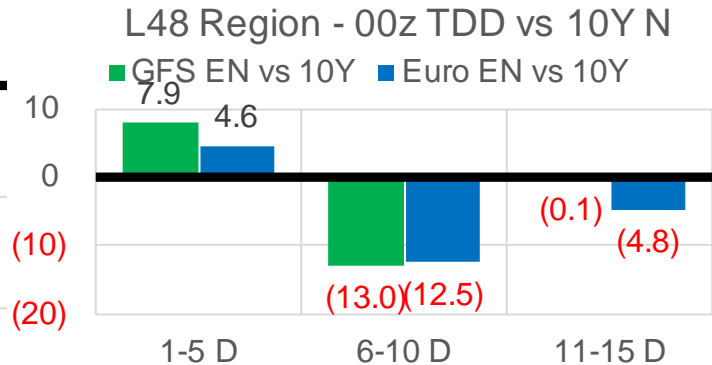
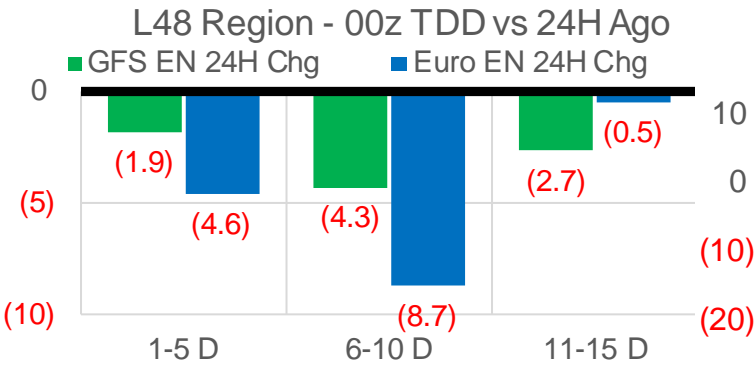
[Nat Gas Futures Open Interest](#)

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	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.90 ▲	\$ 0.02 ▲	\$ 0.04 ▲

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 45.16 ▼	\$ (0.18) ▼	\$ (0.3) ▼

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 47.81 ▲	\$ 0.22 ▼	\$ (0.2) ▼



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	90.2 ▼	-2.26 ▼	-1.49 ▼

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	29.0 ▲	0.63 ▲	4.61 ▲

	Current	Δ from YD	Δ from 7D Avg
US ResComm	37.2 ▲	2.12 ▲	7.75 ▲

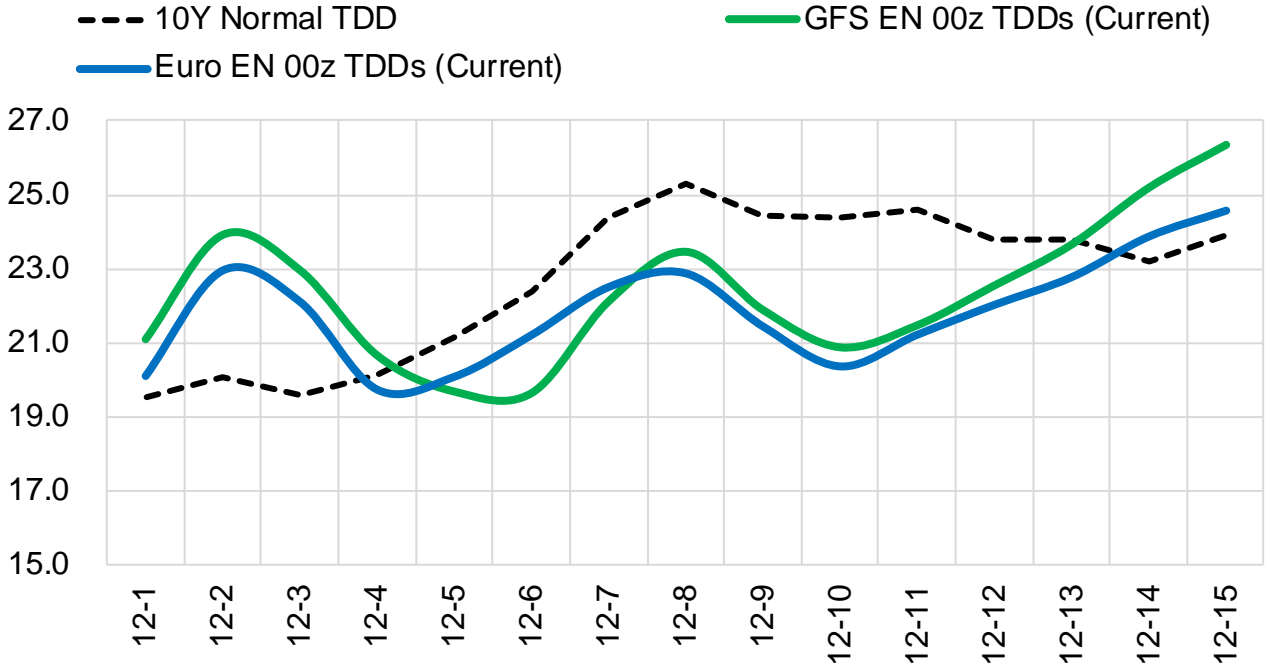
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.4 ▼	-0.62 ▼	-0.31 ▼

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.3 ▲	0.37 ▲	1.18 ▲

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.5 ▼	-0.02 ▼	0.09 ▲

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

### L48 Region



Source: WSI , Bloomberg

## Lower 48 Component Models

### Daily Balances

	25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov	1-Dec	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>91.6</b>	<b>91.3</b>	<b>91.2</b>	<b>91.5</b>	<b>91.6</b>	<b>92.5</b>	<b>90.2</b>	▼ -2.3	▼ -1.4
<b>Canadian Imports</b>	<b>4.4</b>	<b>4.5</b>	<b>4.5</b>	<b>4.7</b>	<b>4.8</b>	<b>5.0</b>	<b>4.4</b>	▼ -0.6	▼ -0.3
L48 Power	25.2	22.5	22.5	23.4	23.8	28.4	29.0	▲ 0.6	▲ 4.7
L48 Residential & Commercial	26.9	24.3	26.8	29.8	31.7	35.0	37.2	▲ 2.1	▲ 8.1
L48 Industrial	21.8	21.1	21.0	20.8	20.8	21.5	21.7	▲ 0.3	▲ 0.6
L48 Lease and Plant Fuel	5.1	5.0	5.0	5.1	5.1	5.1	5.0	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.2	2.3	2.5	2.6	3.0	3.0	▲ 0.1	▲ 0.5
<b>L48 Regional Gas Consumption</b>	<b>81.4</b>	<b>75.1</b>	<b>77.6</b>	<b>81.6</b>	<b>84.0</b>	<b>92.9</b>	<b>95.9</b>	▲ 3.0	▲ 13.8
<b>Net LNG Delivered</b>	<b>10.07</b>	<b>10.10</b>	<b>9.32</b>	<b>10.38</b>	<b>10.39</b>	<b>10.96</b>	<b>11.33</b>	▲ 0.4	▲ 1.1
<b>Total Mexican Exports</b>	<b>6.4</b>	<b>6.5</b>	<b>6.6</b>	<b>6.2</b>	<b>6.2</b>	<b>6.5</b>	<b>6.5</b>	▼ 0.0	▲ 0.1
<b>Implied Daily Storage Activity</b>	<b>-1.9</b>	<b>4.1</b>	<b>2.2</b>	<b>-2.0</b>	<b>-4.2</b>	<b>-13.0</b>	<b>-19.2</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

### EIA Storage Week Balances

	23-Oct	30-Oct	6-Nov	13-Nov	20-Nov	27-Nov	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>89.2</b>	<b>87.4</b>	<b>89.6</b>	<b>88.2</b>	<b>90.9</b>	<b>91.6</b>	▲ 0.7	▲ 2.6
<b>Canadian Imports</b>	<b>3.6</b>	<b>4.8</b>	<b>4.9</b>	<b>3.9</b>	<b>5.1</b>	<b>4.5</b>	▼ -0.6	▼ -0.2
L48 Power	28.5	28.0	24.7	24.4	24.6	24.8	▲ 0.1	▼ -0.7
L48 Residential & Commercial	16.1	22.7	23.1	16.8	27.2	26.7	▼ -0.5	▲ 4.2
L48 Industrial	22.5	24.2	23.0	24.0	23.3	24.1	▲ 0.7	▲ 0.4
L48 Lease and Plant Fuel	4.9	4.8	4.9	4.9	5.0	5.1	▲ 0.0	▲ 0.1
L48 Pipeline Distribution	2.2	2.5	2.3	1.9	2.4	2.4	▼ 0.0	▲ 0.1
<b>L48 Regional Gas Consumption</b>	<b>74.2</b>	<b>82.1</b>	<b>78.0</b>	<b>72.0</b>	<b>82.6</b>	<b>83.0</b>	▲ 0.4	▲ 4.3
<b>Net LNG Exports</b>	<b>8.0</b>	<b>9.2</b>	<b>10.2</b>	<b>10.4</b>	<b>10.2</b>	<b>9.7</b>	▼ -0.4	▼ -0.3
<b>Total Mexican Exports</b>	<b>6.3</b>	<b>6.2</b>	<b>6.0</b>	<b>6.3</b>	<b>6.1</b>	<b>6.3</b>	▲ 0.2	▲ 0.1
<b>Implied Daily Storage Activity</b>	<b>4.3</b>	<b>-5.3</b>	<b>0.3</b>	<b>3.4</b>	<b>-2.8</b>	<b>-2.9</b>	<b>-0.1</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>4.1</b>	<b>-5.1</b>	<b>1.1</b>	<b>4.4</b>	<b>-2.6</b>			
<b>Daily Model Error</b>	<b>0.1</b>	<b>-0.2</b>	<b>-0.9</b>	<b>-1.1</b>	<b>-0.3</b>			

### Monthly Balances

	2Yr Ago Dec-18	LY Dec-19	Jul-20	Aug-20	Sep-20	Oct-20	MTD Nov-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>87.5</b>	<b>95.1</b>	<b>88.2</b>	<b>88.6</b>	<b>87.8</b>	<b>87.5</b>	<b>89.9</b>	▲ 2.4	▼ -5.2
<b>Canadian Imports</b>	<b>4.8</b>	<b>4.5</b>	<b>4.4</b>	<b>4.9</b>	<b>3.8</b>	<b>4.3</b>	<b>5.2</b>	▲ 0.9	▲ 0.7
L48 Power	24.4	28.9	43.8	41.0	34.1	29.4	23.9	▼ -5.5	▼ -5.0
L48 Residential & Commercial	39.3	39.1	7.9	7.7	8.8	16.2	25.6	▲ 9.4	▼ -13.5
L48 Industrial	22.4	24.4	19.2	20.3	19.2	22.3	23.0	▲ 0.7	▼ -1.4
L48 Lease and Plant Fuel	4.9	5.3	4.9	4.9	4.9	4.8	5.0	▲ 0.2	▼ -0.3
L48 Pipeline Distribution	2.8	3.1	2.4	2.4	2.2	2.2	2.3	▲ 0.1	▼ -0.8
<b>L48 Regional Gas Consumption</b>	<b>93.9</b>	<b>100.7</b>	<b>78.3</b>	<b>76.3</b>	<b>69.1</b>	<b>74.9</b>	<b>79.7</b>	▲ 4.8	▼ -21.0
<b>Net LNG Exports</b>	<b>4.5</b>	<b>7.8</b>	<b>3.3</b>	<b>4.0</b>	<b>5.9</b>	<b>8.0</b>	<b>10.1</b>	▲ 2.0	▲ 2.3
<b>Total Mexican Exports</b>	<b>4.5</b>	<b>5.0</b>	<b>6.1</b>	<b>6.3</b>	<b>6.4</b>	<b>6.2</b>	<b>5.7</b>	▼ -0.5	▲ 0.7
<b>Implied Daily Storage Activity</b>	<b>-10.7</b>	<b>-13.9</b>	<b>4.9</b>	<b>6.8</b>	<b>10.2</b>	<b>2.7</b>	<b>-0.3</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 27-Nov

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-2.1	0.9	-1.2	-8
East	-2.5	1.5	-0.9	-7
Midwest	-1.6	0.3	-1.3	-9
Mountain	3.3	-3.5	-0.2	-2
South Central	-1.0	2.5	1.6	11
Pacific	-0.3	0.0	-0.3	-2

\*Adjustment Factor is calculated based on historical regional deltas

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

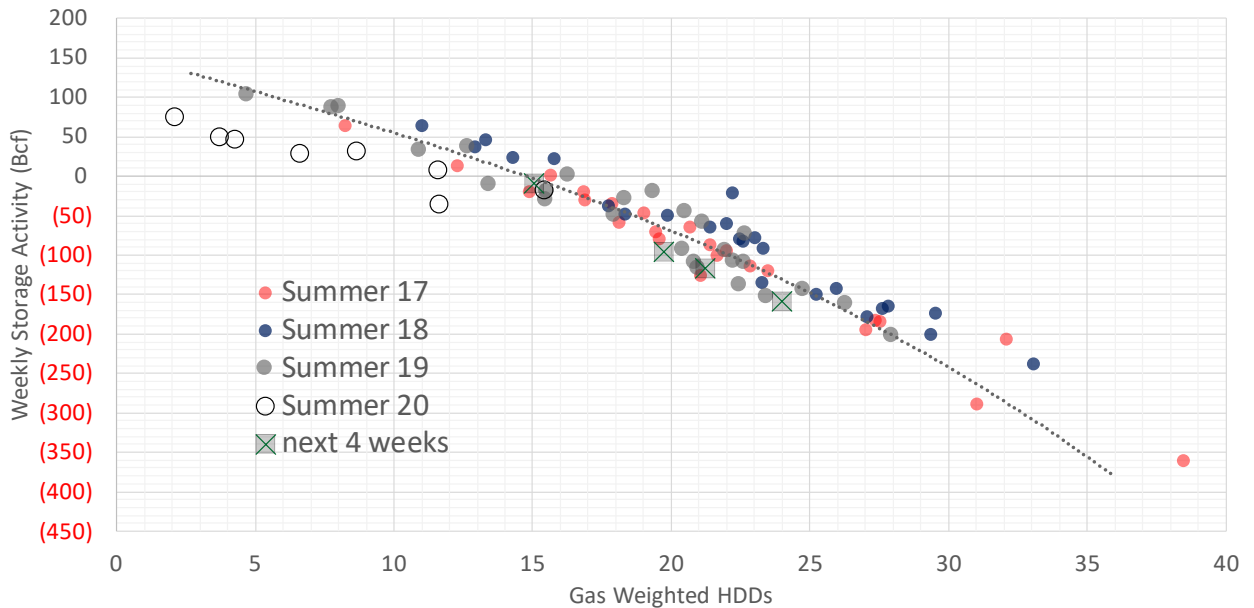


## Weather Model Storage Projection

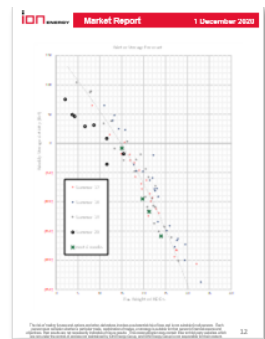
Next report  
and beyond

Week Ending	Temp	Week Storage Projection
27-Nov	15.1	-8
04-Dec	19.8	-95
11-Dec	21.3	-117
18-Dec	24.0	-159

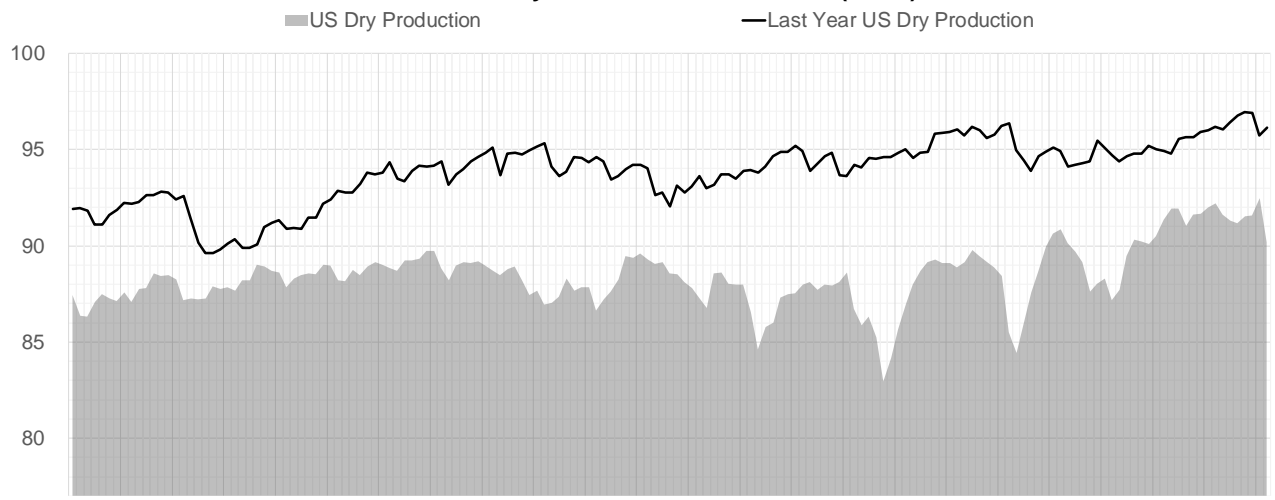
## Winter Storage Forecast



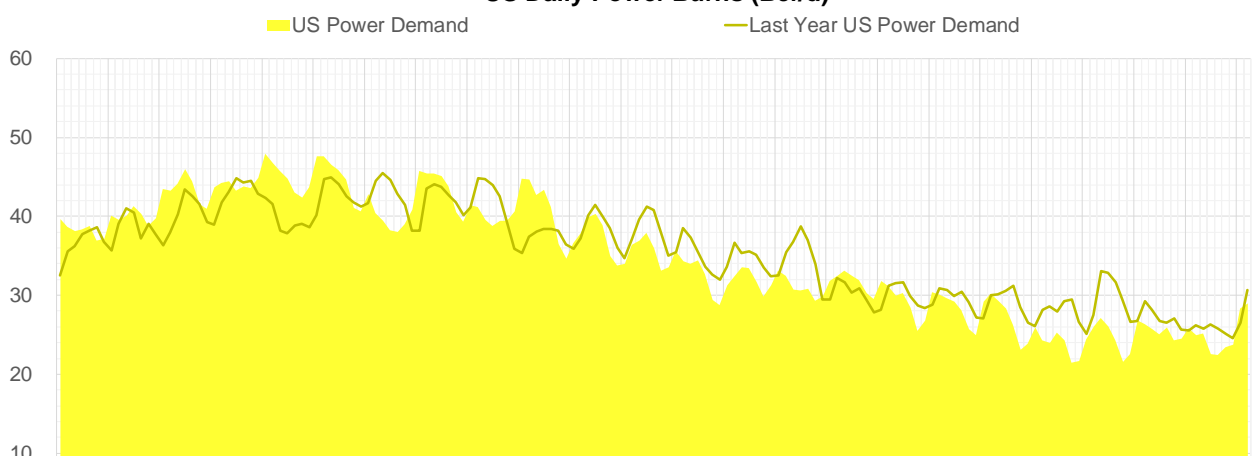
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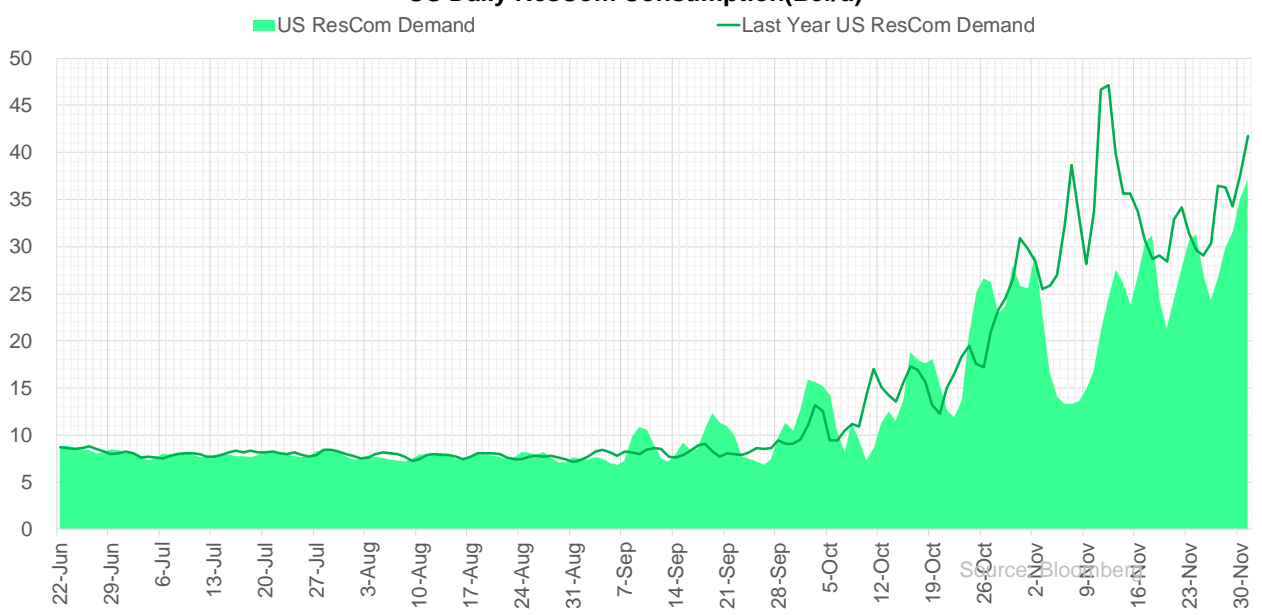
## Supply – Demand Trends US Dry Natural Gas Production (Bcf/d)



## US Daily Power Burns (Bcf/d)

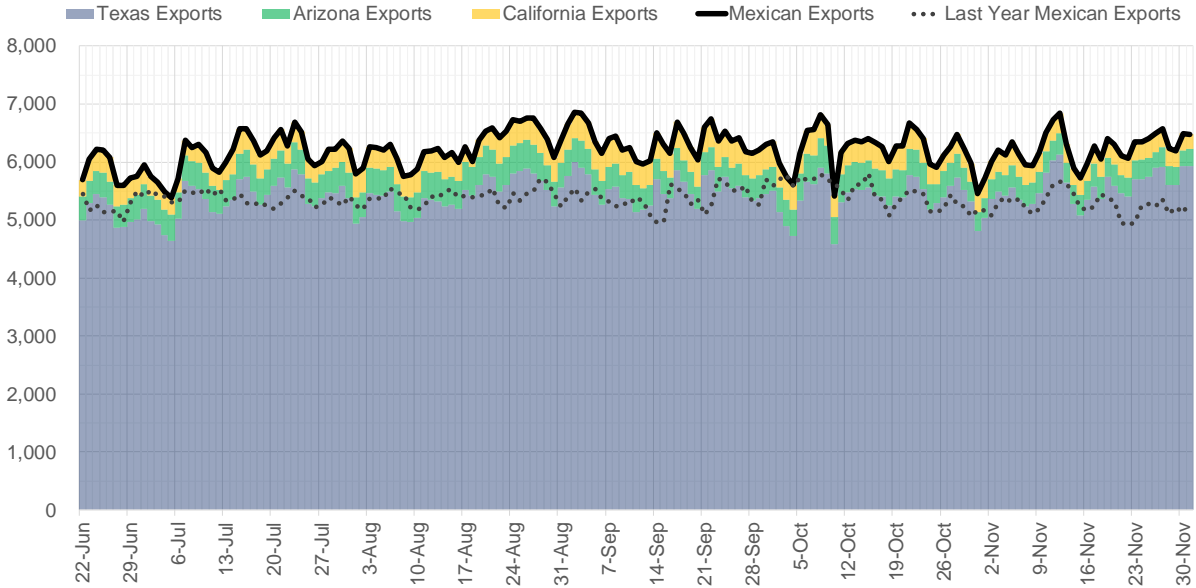


## US Daily ResCom Consumption (Bcf/d)

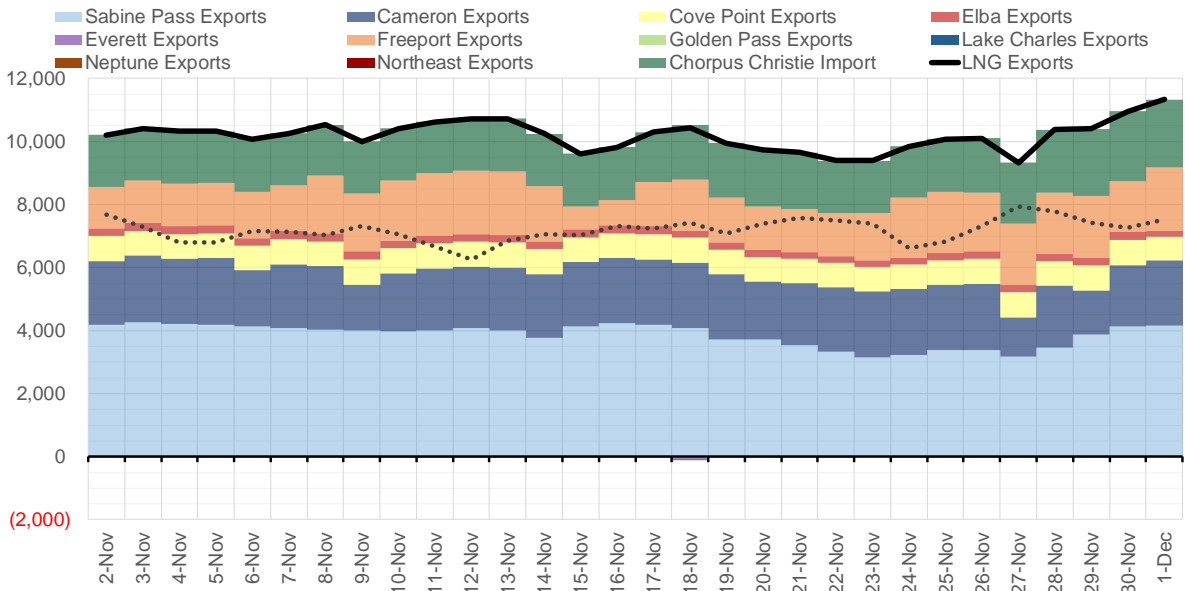


Source: Bloomberg

### Mexican Exports (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

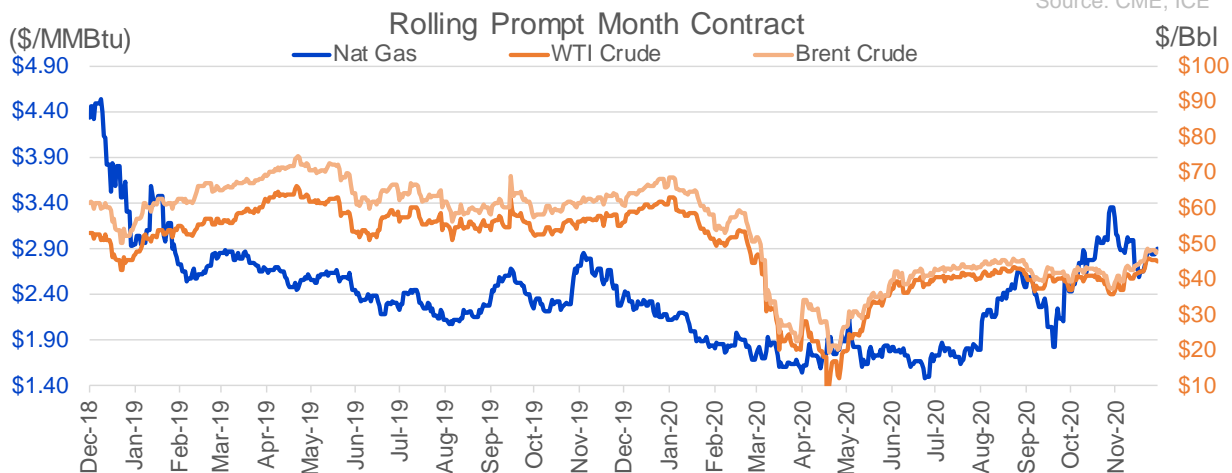
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
1	2021	P	2.50	7935	3	2021	P	2.00	40601
1	2021	C	3.50	6781	1	2021	C	3.50	40572
1	2021	C	4.00	5760	3	2021	C	4.00	35974
1	2021	C	3.25	5273	1	2021	P	2.50	30222
1	2021	C	3.75	4466	4	2021	C	4.00	29072
1	2021	P	2.30	4110	3	2021	C	3.25	28576
1	2021	C	4.50	3873	10	2021	C	4.00	28510
1	2021	C	3.00	3836	4	2021	C	3.50	28171
3	2021	C	4.00	3697	1	2021	C	4.50	27784
3	2021	P	2.00	3674	3	2021	C	6.00	26159
10	2021	C	4.00	3147	1	2021	C	5.00	25344
1	2021	P	2.25	3012	10	2021	C	3.25	24996
2	2021	P	2.25	2902	2	2021	P	2.25	24995
10	2021	C	3.25	2864	3	2021	C	5.00	24797
3	2021	C	3.25	2614	3	2021	C	7.00	23872
4	2021	C	4.00	2202	3	2021	C	3.00	23370
5	2021	C	4.00	2200	1	2021	C	4.00	22833
1	2021	P	2.10	2001	3	2021	C	3.50	22603
4	2021	C	3.25	1900	3	2021	C	4.50	22413
3	2021	P	2.25	1894	1	2021	C	3.75	21956
4	2021	C	3.50	1850	1	2021	C	3.00	21923
1	2021	P	2.75	1835	3	2021	P	2.50	21913
1	2021	P	3.00	1735	2	2021	C	3.50	21436
1	2021	P	2.80	1727	4	2021	C	3.25	21342
3	2021	C	5.00	1647	1	2021	C	6.00	21139
1	2021	P	2.00	1518	2	2021	P	2.50	19962
1	2021	P	2.40	1497	8	2021	C	4.00	19519
2	2021	C	5.00	1293	4	2021	C	5.00	18828
2	2021	P	2.50	1230	10	2021	C	5.00	18623
1	2021	P	2.60	1203	2	2021	C	4.00	18556
6	2021	C	3.25	1130	1	2021	P	2.00	18275
2	2021	C	4.50	954	8	2021	P	2.25	18217
3	2021	C	6.00	934	5	2021	C	3.00	18113
3	2021	C	3.00	883	4	2021	C	2.75	17236
1	2021	C	3.10	874	1	2021	P	2.25	17171
7	2021	C	3.00	850	2	2021	C	5.00	16782
2	2021	P	2.35	807	1	2021	C	3.25	16636
2	2021	C	3.50	783	4	2021	C	3.00	15908
3	2021	C	3.50	781	4	2021	P	2.00	15460
2	2021	C	3.25	770	10	2021	C	3.00	15389
7	2021	P	2.50	755	5	2021	C	3.50	14763
7	2021	C	3.50	750	2	2021	C	4.50	14329
2	2021	P	2.75	714	1	2021	C	7.00	13542
8	2021	C	4.00	710	6	2021	C	4.00	13530
6	2021	C	4.00	701	5	2021	C	3.25	13426
7	2021	C	4.00	700	1	2021	P	3.00	13266
9	2021	C	4.00	700	6	2021	P	2.50	13210
1	2021	P	2.90	655	2	2021	C	3.00	13108
1	2021	P	2.70	637	2	2021	P	2.00	12960
					3	2021	P	2.25	12812

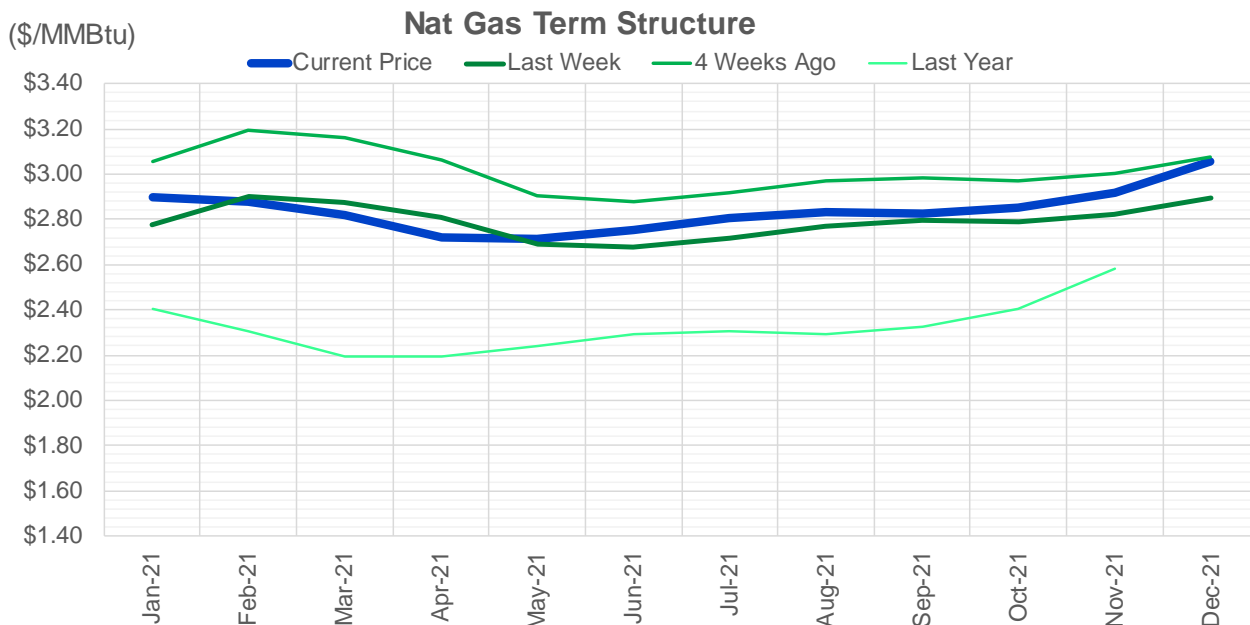
Source: CME, ICE



## 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
JAN 21	297930	295779	2151	JAN 21	104292	102720	1572.25
FEB 21	96056	94878	1178	FEB 21	71482	70739	743.5
MAR 21	195036	195905	-869	MAR 21	92420	90404	2015.75
APR 21	83445	85520	-2075	APR 21	71354	70704	650
MAY 21	54340	56602	-2262	MAY 21	72727	72600	127.25
JUN 21	37033	37313	-280	JUN 21	60918	60661	257.75
JUL 21	30228	30917	-689	JUL 21	62376	62110	265.5
AUG 21	26233	26053	180	AUG 21	64077	63898	178.75
SEP 21	38130	39138	-1008	SEP 21	59067	58622	445.25
OCT 21	91883	92738	-855	OCT 21	73194	72656	538
NOV 21	39924	40015	-91	NOV 21	51772	51675	97.25
DEC 21	33244	33170	74	DEC 21	50148	49865	283.25
JAN 22	32740	33116	-376	JAN 22	47611	47616	-5.25
FEB 22	22364	23073	-709	FEB 22	38323	38223	99.5
MAR 22	26224	26295	-71	MAR 22	40869	40882	-13.25
APR 22	24050	23984	66	APR 22	40880	40535	345
MAY 22	12465	12273	192	MAY 22	32008	31791	216.5
JUN 22	6561	6516	45	JUN 22	31005	30655	350.5
JUL 22	5669	5657	12	JUL 22	32537	32363	174
AUG 22	4933	4835	98	AUG 22	31168	30918	250.5
SEP 22	4340	4232	108	SEP 22	30981	30728	253
OCT 22	8090	7994	96	OCT 22	35132	34938	193.75
NOV 22	5489	5252	237	NOV 22	31419	31393	25.5
DEC 22	6223	5640	583	DEC 22	33850	33731	119.5
JAN 23	4904	4799	105	JAN 23	15279	15155	123.75
FEB 23	1134	1134	0	FEB 23	14237	14131	105.75
MAR 23	2555	2555	0	MAR 23	14193	14077	116
APR 23	2368	2368	0	APR 23	13305	13209	96
MAY 23	451	451	0	MAY 23	12357	12338	19
JUN 23	517	517	0	JUN 23	12278	12264	14





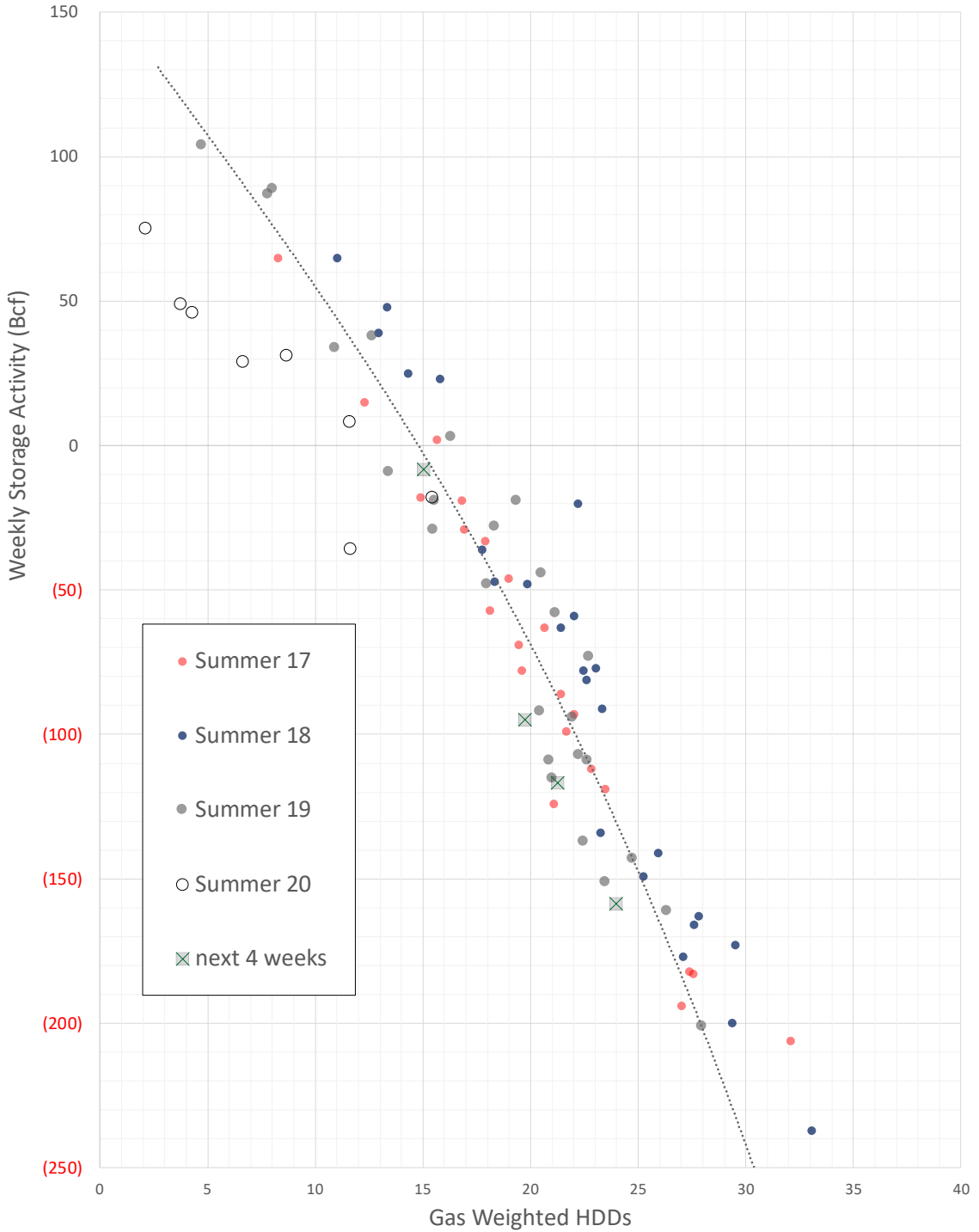
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
<b>Current Price</b>	<b>\$2.897</b>	<b>\$2.879</b>	<b>\$2.820</b>	<b>\$2.720</b>	<b>\$2.716</b>	<b>\$2.753</b>	<b>\$2.804</b>	<b>\$2.830</b>	<b>\$2.823</b>	<b>\$2.850</b>	<b>\$2.920</b>	<b>\$3.059</b>
Last Week	\$2.775	\$2.900	\$2.877	\$2.809	\$2.691	\$2.678	\$2.717	\$2.772	\$2.794	\$2.789	\$2.820	\$2.894
vs. Last Week	\$0.122	-\$0.021	-\$0.057	-\$0.089	\$0.025	\$0.075	\$0.087	\$0.058	\$0.029	\$0.061	\$0.100	\$0.165
4 Weeks Ago	\$3.059	\$3.195	\$3.159	\$3.063	\$2.907	\$2.881	\$2.921	\$2.971	\$2.983	\$2.969	\$3.006	\$3.076
vs. 4 Weeks Ago	-\$0.162	-\$0.316	-\$0.339	-\$0.343	-\$0.191	-\$0.128	-\$0.117	-\$0.141	-\$0.160	-\$0.119	-\$0.086	-\$0.017
Last Year	\$2.441	\$2.405	\$2.307	\$2.192	\$2.195	\$2.241	\$2.293	\$2.307	\$2.293	\$2.322	\$2.401	\$2.582
vs. Last Year	\$0.456	\$0.474	\$0.513	\$0.528	\$0.521	\$0.512	\$0.511	\$0.523	\$0.530	\$0.528	\$0.519	\$0.477

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.35	3.64	1.29
TETCO M3	\$/MMBtu	2.11	2.22	0.11
FGT Zone 3	\$/MMBtu	2.66	2.78	0.12
Zone 6 NY	\$/MMBtu	2.66	2.51	-0.15
Chicago Citygate	\$/MMBtu	2.66	2.60	-0.07
Michcon	\$/MMBtu	2.57	2.47	-0.10
Columbia TCO Pool	\$/MMBtu	2.32	1.92	-0.40
Ventura	\$/MMBtu	2.65	2.61	-0.04
Rockies/Opal	\$/MMBtu	3.32	2.54	-0.78
El Paso Permian Basin	\$/MMBtu	2.68	2.29	-0.39
Socal Citygate	\$/MMBtu	4.74	3.26	-1.48
Malin	\$/MMBtu	3.29	3.16	-0.13
Houston Ship Channel	\$/MMBtu	2.89	2.69	-0.20
Henry Hub Cash	\$/MMBtu	2.86	2.50	-0.36
AECO Cash	C\$/GJ	2.21	2.22	0.01
Station2 Cash	C\$/GJ	2.15	3.82	1.67
Dawn Cash	C\$/GJ	2.58	2.48	-0.10

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.177	▲ 0.032	▲ 0.111	▲ 0.236
NatGas Mar21/Apr21	\$/MMBtu	-0.100	▲ 0.018	▼ -0.256	▼ -0.360
NatGas Oct21/Nov21	\$/MMBtu	0.070	▼ -0.004	▼ 0.000	▼ -0.001
NatGas Apr21/Oct21	\$/MMBtu	0.130	▲ 0.050	▼ -0.059	▼ -0.211
WTI Crude	\$/Bbl	45.16	▲ 0.250	▲ 7.500	▼ -10.940
Brent Crude	\$/Bbl	47.81	▼ -0.050	▲ 8.100	▼ -13.010
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	137.56	▲ 1.610	▲ 24.850	▼ -50.430
Propane, Mt. Bel	cents/Gallon	0.55	▲ 0.002	▼ -0.005	▲ 0.019
Ethane, Mt. Bel	cents/Gallon	0.22	▲ 0.000	▼ -0.006	▲ 0.036
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.050
Coal, PRB	\$/MMBtu	0.70			
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.000
Coal, ILB	\$/MMBtu	1.32			

### Winter Storage Forecast



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