

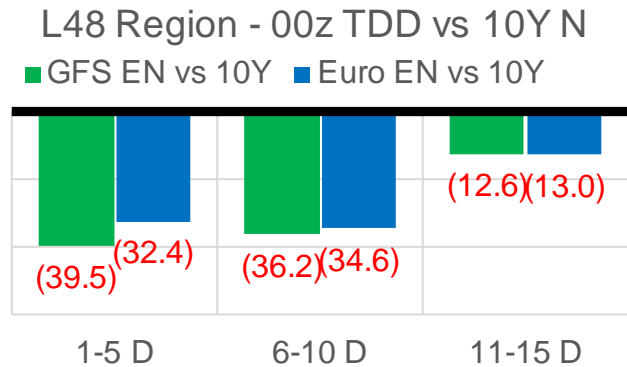
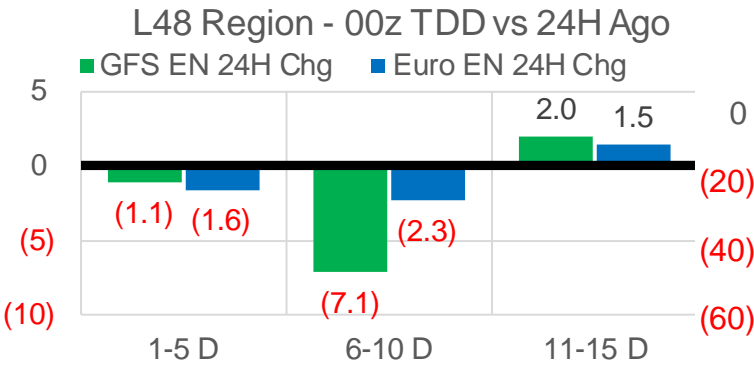
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	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.95 ▲	\$ 0.00	\$ (0.25) ▼

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 37.63 ▼	\$ (1.16)	\$ 0.5 ▲

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 39.84 ▼	\$ (1.09)	\$ 0.8 ▲



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	89.2 ▼	-1.23	-1.24 ▼

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	24.9 ▼	-0.36	0.19 ▲

	Current	Δ from YD	Δ from 7D Avg
US ResComm	15.0 ▲	0.56	-8.55 ▼

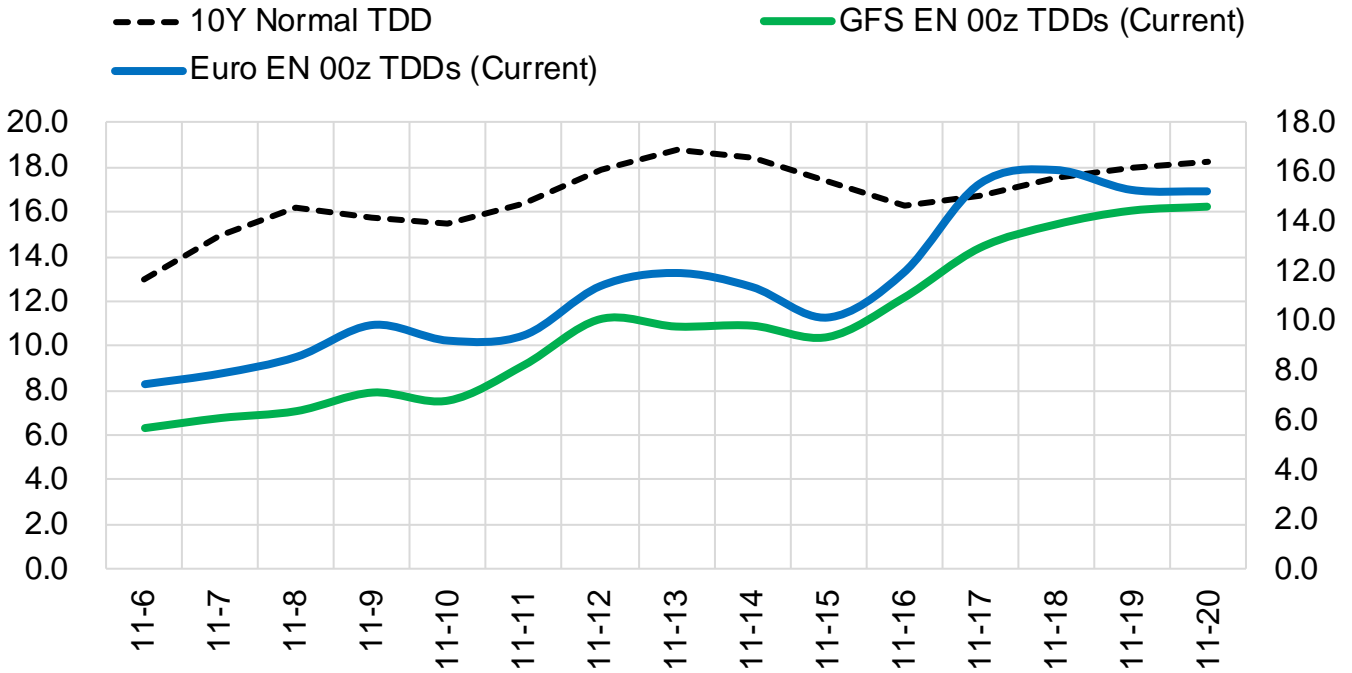
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.0 ▼	-0.70	-1.90 ▼

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.3 ▼	-0.01	0.10 ▲

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.1 ▼	-0.24	0.09 ▲

Short-term Weather Model Outlooks (00z)

L48 Region



Source: WSI, Bloomberg

Lower 48 Component Models

Daily Balances

	31-Oct	1-Nov	2-Nov	3-Nov	4-Nov	5-Nov	6-Nov	DoD	vs. 7D
Lower 48 Dry Production	89.4	90.8	91.5	91.7	91.0	90.4	89.2	▼ -1.2	▼ -1.6
Canadian Imports	5.0	5.2	5.8	4.9	4.1	3.7	3.0	▼ -0.7	▼ -1.8
L48 Power	23.2	23.9	25.9	24.5	24.0	25.3	24.9	▼ -0.4	▲ 0.5
L48 Residential & Commercial	26.2	26.0	29.7	22.9	17.0	14.4	15.0	▲ 0.6	▼ -7.7
L48 Industrial	26.0	26.0	26.4	25.6	25.3	25.4	25.7	▲ 0.2	▼ -0.1
L48 Lease and Plant Fuel	4.9	5.0	5.0	5.1	5.0	5.0	4.9	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.3	2.6	2.2	1.9	1.9	1.9	▲ 0.0	▼ -0.4
L48 Regional Gas Consumption	82.8	83.3	89.7	80.4	73.1	72.0	72.3	▲ 0.4	▼ -7.9
Net LNG Delivered	10.41	10.05	10.20	10.41	10.34	10.35	10.34	▼ 0.0	▲ 0.0
Total Mexican Exports	5.8	5.8	5.7	6.2	6.0	6.3	6.1	▼ -0.2	▲ 0.1
Implied Daily Storage Activity	-4.5	-3.1	-8.4	-0.4	5.5	5.5	3.4		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	2-Oct	9-Oct	16-Oct	23-Oct	30-Oct	6-Nov	WoW	vs. 4W
Lower 48 Dry Production	88.2	88.1	86.7	90.0	88.2	90.4	▲ 2.3	▲ 2.2
Canadian Imports	3.9	4.5	4.0	3.6	4.8	4.9	▲ 0.0	▲ 0.6
L48 Power	30.7	31.0	30.5	28.6	28.1	24.7	▼ -3.4	▼ -4.8
L48 Residential & Commercial	9.3	13.4	11.4	16.8	23.3	23.5	▲ 0.2	▲ 7.3
L48 Industrial	23.3	22.5	22.8	23.6	25.6	25.9	▲ 0.3	▲ 2.3
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.9	4.8	5.0	▲ 0.1	▲ 0.1
L48 Pipeline Distribution	2.0	2.2	2.1	2.2	2.5	2.3	▼ -0.2	▲ 0.0
L48 Regional Gas Consumption	70.1	73.9	71.6	76.2	84.3	81.4	▼ -2.9	▲ 4.9
Net LNG Exports	6.8	7.5	6.9	8.0	9.2	10.2	▲ 1.0	▲ 2.3
Total Mexican Exports	6.3	6.2	6.2	6.3	6.2	6.0	▼ -0.2	▼ -0.2
Implied Daily Storage Activity	8.9	5.1	6.0	3.0	-6.7	-2.3	4.4	
EIA Reported Daily Storage Activity	10.7	6.6	7.0	4.1	-5.1			
Daily Model Error	-1.8	-1.5	-1.0	-1.2	-1.6			

Monthly Balances

	2Yr Ago Nov-18	LY Nov-19	Jul-20	Aug-20	Sep-20	Oct-20	MTD Nov-20	MoM	vs. LY
Lower 48 Dry Production	88.1	95.3	88.3	88.6	88.6	88.3	90.8	▲ 2.5	▼ -4.5
Canadian Imports	4.1	4.5	4.4	4.9	3.8	4.3	4.4	▲ 0.1	▼ -0.1
L48 Power	25.4	27.5	43.7	40.7	33.3	29.3	24.8	▼ -4.5	▼ -2.8
L48 Residential & Commercial	32.9	32.8	7.9	7.7	8.5	16.8	20.8	▲ 4.0	▼ -12.0
L48 Industrial	25.1	25.1	19.8	21.3	22.1	23.8	25.7	▲ 2.0	▲ 0.6
L48 Lease and Plant Fuel	5.0	5.3	4.9	5.0	4.9	4.9	5.0	▲ 0.2	▼ -0.2
L48 Pipeline Distribution	2.6	2.8	2.4	2.4	2.1	2.3	2.1	▼ -0.1	▼ -0.7
L48 Regional Gas Consumption	91.0	93.5	78.8	77.0	70.7	77.0	78.5	▲ 1.5	▼ -15.0
Net LNG Exports	4.3	7.2	3.3	4.0	5.9	8.0	10.3	▲ 2.3	▲ 3.1
Total Mexican Exports	4.8	5.3	6.1	6.3	6.4	6.2	6.0	▼ -0.2	▲ 0.8
Implied Daily Storage Activity	-7.8	-6.2	4.4	6.2	9.4	1.4	0.4		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

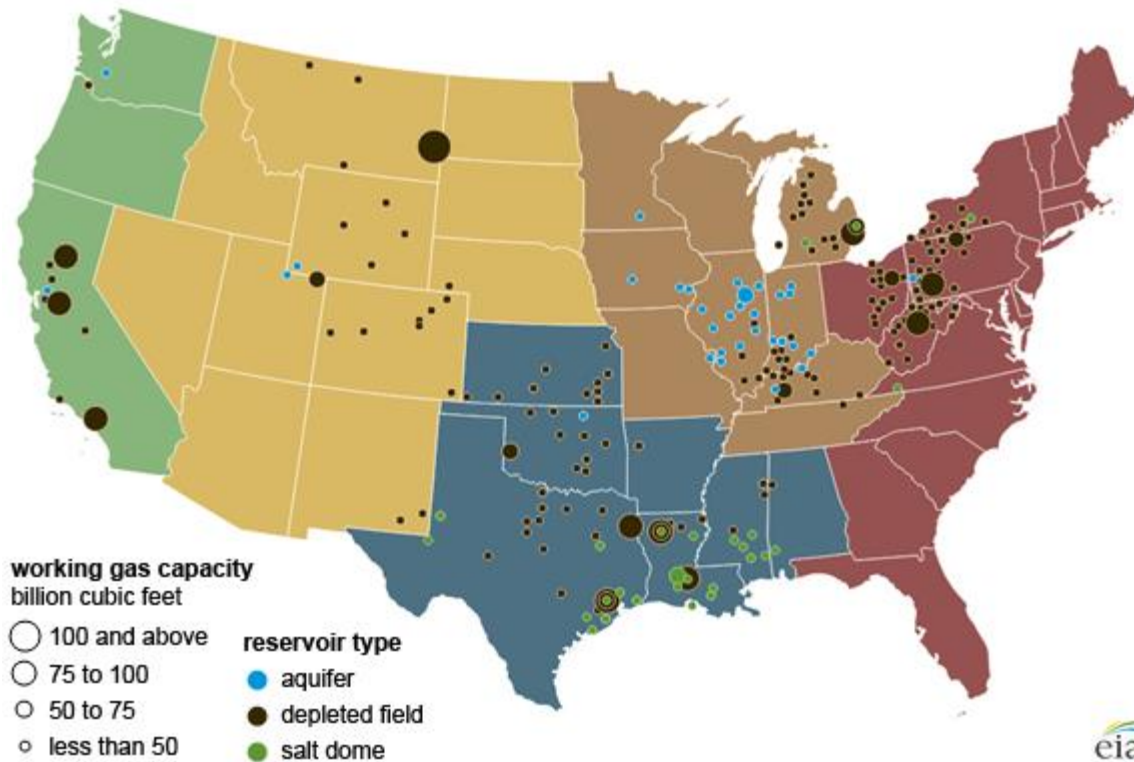
Regional S/D Models Storage Projection

Week Ending 6-Nov

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-2.6	1.7	-0.9	-7
East	-3.4	2.3	-1.1	-8
Midwest	-0.6	1.6	1.0	7
Mountain	4.0	-3.0	1.0	7
South Central	-2.8	0.5	-2.3	-16
Pacific	0.2	0.3	0.5	4

*Adjustment Factor is calculated based on historical regional deltas

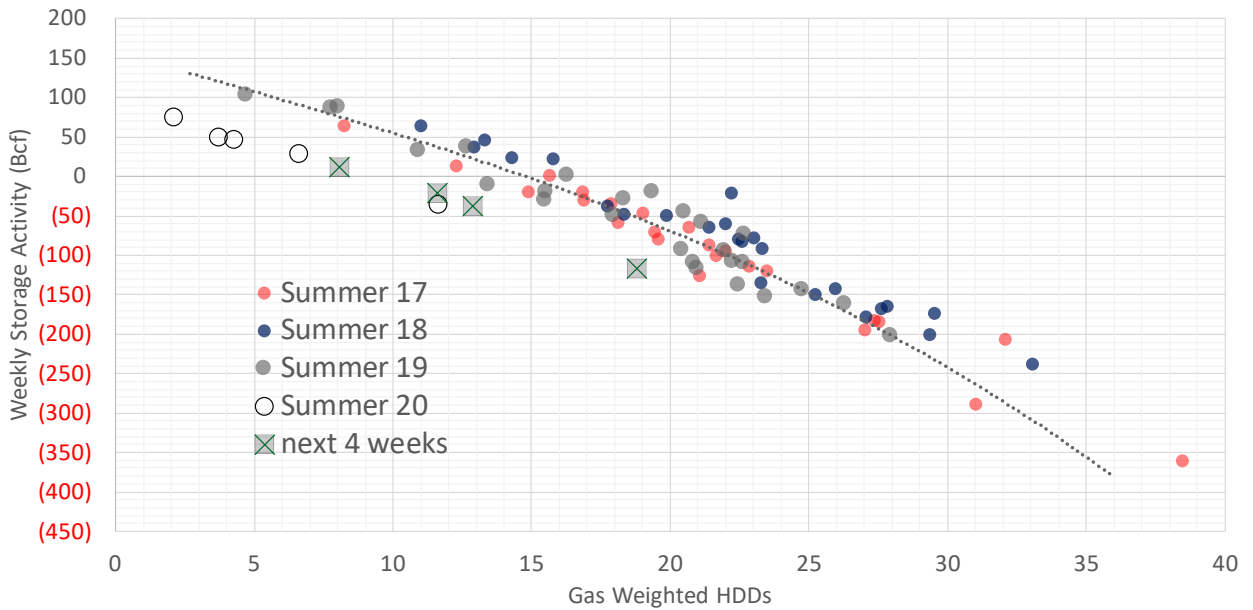
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	Temp	Week Storage Projection
13-Nov	8.1	12
20-Nov	12.9	-38
27-Nov	18.8	-116

Winter Storage Forecast

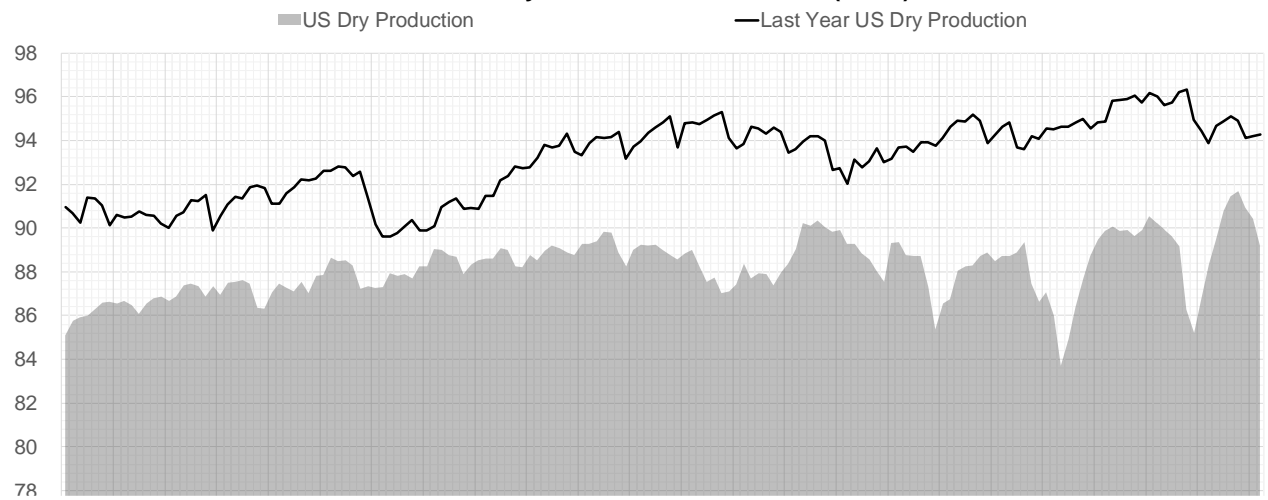


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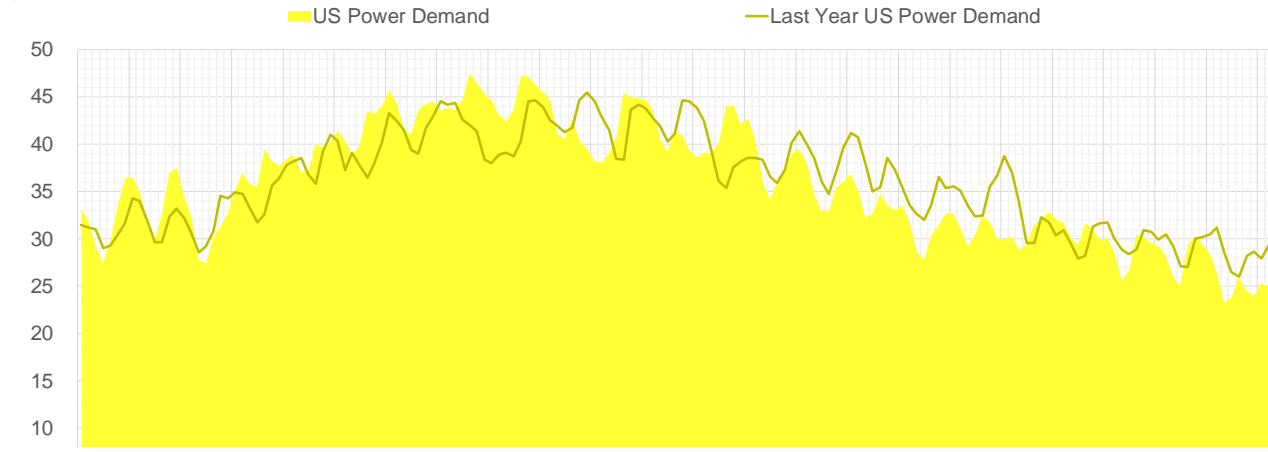


Supply – Demand Trends

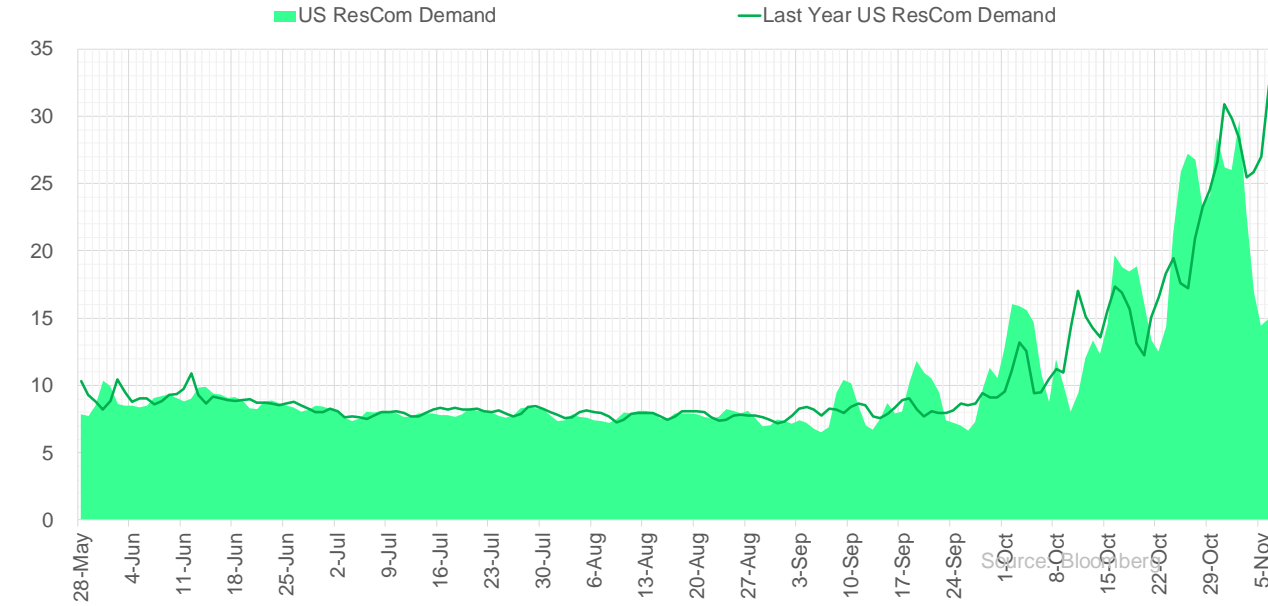
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)

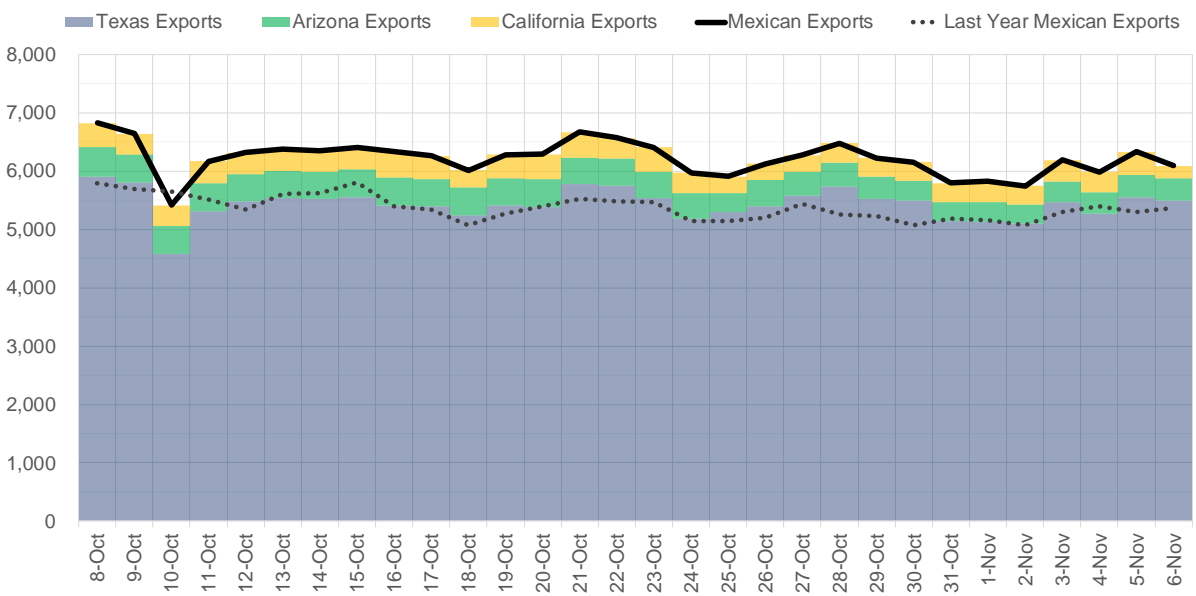


US Daily ResCom Consumption (Bcf/d)

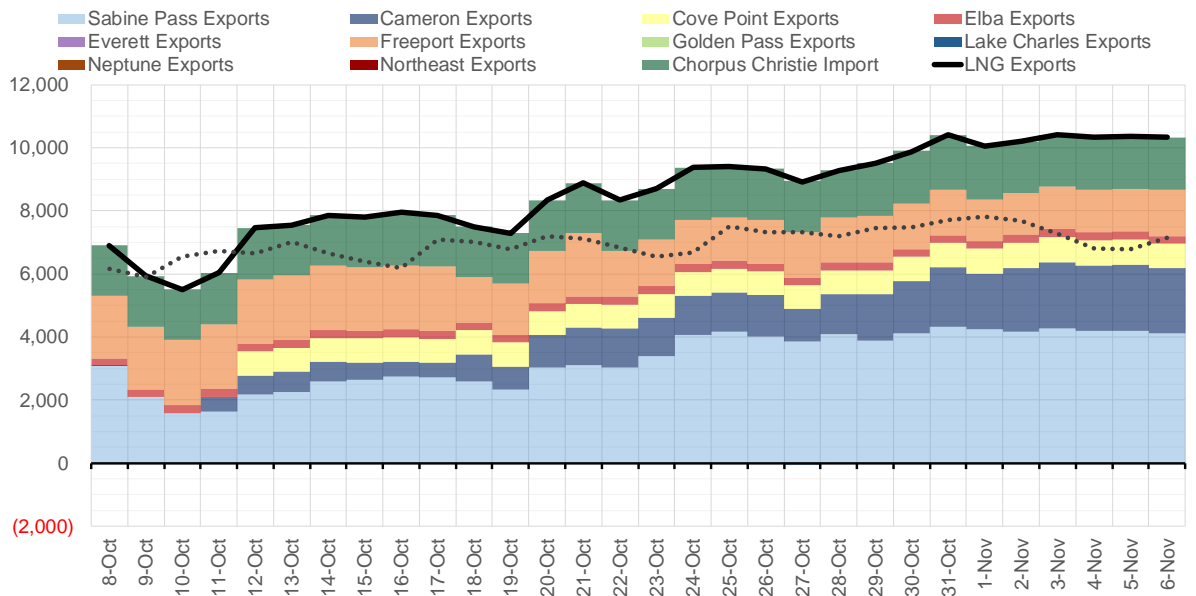


Source: Bloomberg

Mexican Exports - Last 30 days (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d)



Source: Bloomberg

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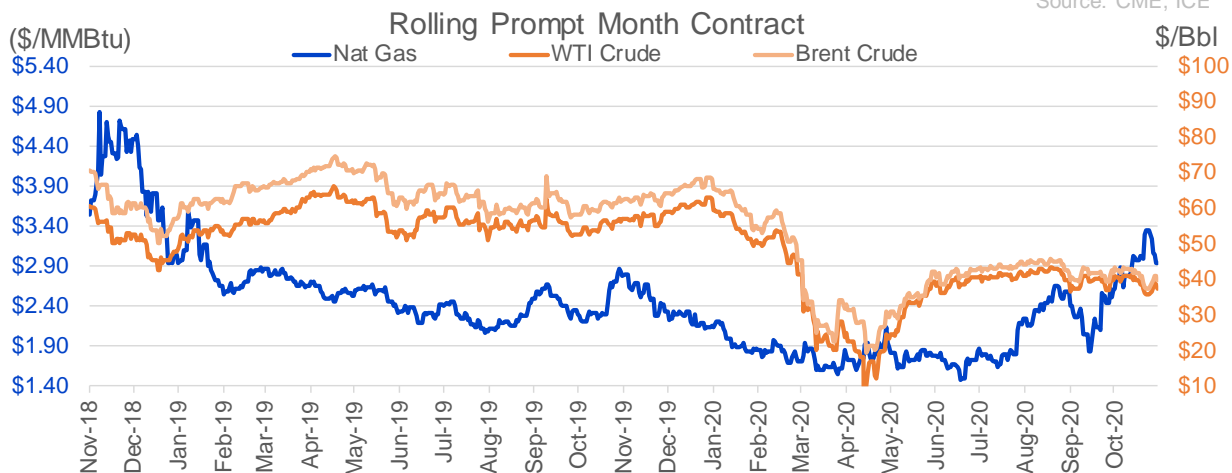
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

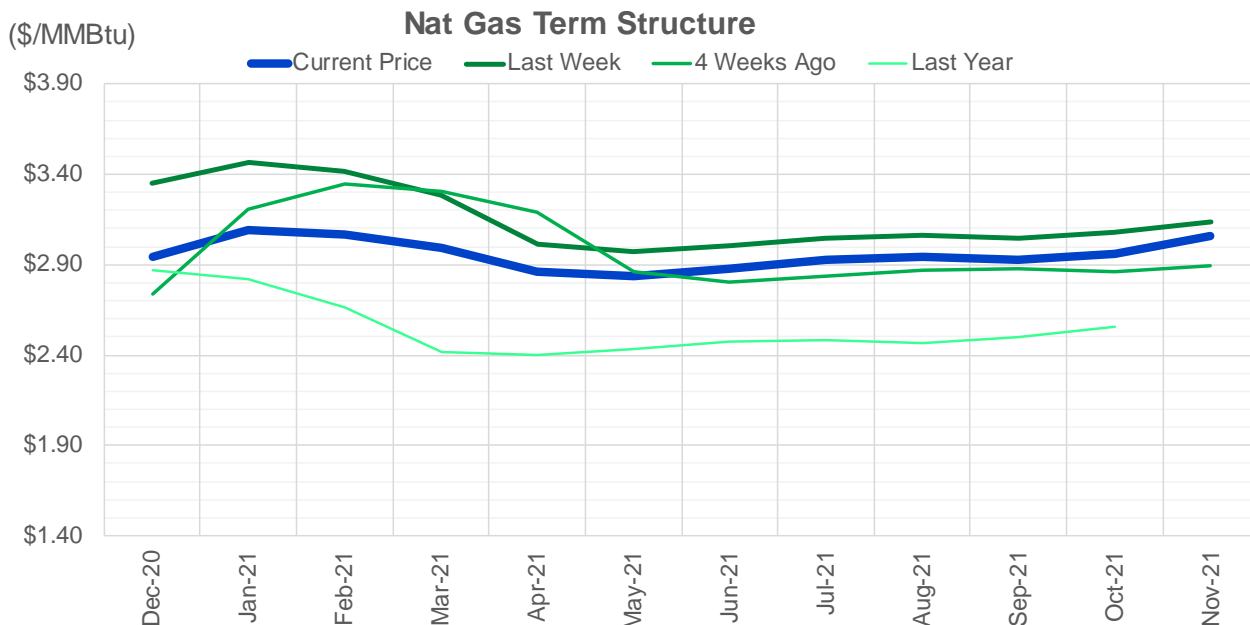
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
12	2020	C	4.00	8498	3	2021	P	2.00	38288
1	2021	P	2.50	7480	12	2020	P	2.00	33053
12	2020	C	4.50	7372	3	2021	C	6.00	31445
2	2021	C	4.50	7223	1	2021	C	4.50	30670
1	2021	C	4.00	7088	12	2020	C	4.00	30007
1	2021	C	4.50	6144	3	2021	C	3.25	29824
1	2021	C	3.75	5860	10	2021	C	4.00	28615
12	2020	P	2.50	5264	12	2020	P	2.50	28540
12	2020	C	3.40	5106	3	2021	C	4.00	27801
1	2021	C	5.00	4726	1	2021	C	3.50	27344
2	2021	C	5.00	3456	10	2021	C	3.25	27120
12	2020	P	2.75	3246	4	2021	C	5.00	26672
3	2021	C	6.00	3151	3	2021	C	7.00	25143
3	2021	C	4.75	3150	12	2020	C	3.75	24560
3	2021	C	5.00	2906	4	2021	C	4.00	24070
4	2021	C	4.00	2902	3	2021	C	5.00	23867
1	2021	C	3.50	2613	3	2021	C	4.50	23649
12	2020	C	3.50	2373	12	2020	C	4.50	23499
2	2021	C	3.75	2360	12	2020	C	3.50	22178
3	2021	C	4.50	2333	1	2021	C	5.00	21772
12	2020	C	3.75	1851	1	2021	C	3.75	21591
1	2021	P	2.75	1782	3	2021	C	3.00	21576
12	2020	P	2.70	1666	1	2021	P	2.50	21253
3	2021	C	4.00	1585	3	2021	C	3.50	21146
2	2021	P	2.75	1534	2	2021	P	2.25	20016
1	2021	C	3.25	1534	8	2021	C	4.00	19599
2	2021	C	4.00	1486	12	2020	P	2.75	19514
12	2020	P	2.60	1414	12	2020	P	3.00	19385
2	2021	C	4.25	1377	2	2021	C	5.00	19381
12	2020	P	3.00	1354	1	2021	C	6.00	18451
12	2020	C	3.20	1270	1	2021	P	2.25	18148
12	2020	P	2.80	1232	3	2021	P	2.50	17910
12	2020	C	3.10	1199	8	2021	P	2.25	17742
12	2020	P	2.90	1183	1	2021	C	3.00	17464
12	2020	P	2.25	1164	2	2021	C	3.50	17365
2	2021	C	6.00	1155	1	2021	C	4.00	17172
3	2021	C	5.50	1133	2	2021	C	4.00	17119
1	2021	C	7.00	1088	2	2021	P	2.50	17116
12	2020	C	3.25	1012	10	2021	C	5.00	16853
3	2021	C	3.75	1000	12	2020	C	5.00	15830
1	2021	C	3.00	991	10	2021	C	3.00	14711
1	2021	C	4.25	957	4	2021	C	3.00	14687
1	2021	C	3.80	910	12	2020	P	1.50	14450
2	2021	C	4.75	850	12	2020	C	3.25	14308
1	2021	C	3.20	828	2	2021	C	4.50	14208
12	2020	P	2.95	764	1	2021	C	7.00	14183
3	2021	C	7.00	707	5	2021	C	3.00	13861
2	2021	C	7.00	651	4	2021	P	2.00	13802
2	2021	C	3.25	650	12	2020	C	4.25	13668
					1	2021	P	2	13642

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
DEC 20	153996	157978	-3982	DEC 20	76669	79168	-2498.5
JAN 21	219577	212219	7358	JAN 21	92763	93706	-942.75
FEB 21	90494	87629	2865	FEB 21	66514	66375	139.5
MAR 21	141786	137667	4119	MAR 21	93414	93480	-66.5
APR 21	77622	75906	1716	APR 21	70193	68802	1391
MAY 21	56541	55015	1526	MAY 21	71560	70951	608.5
JUN 21	33322	33273	49	JUN 21	58211	58248	-36.25
JUL 21	28878	28999	-121	JUL 21	60444	60457	-13
AUG 21	29224	28934	290	AUG 21	64707	64116	591
SEP 21	37912	38898	-986	SEP 21	58440	58367	73
OCT 21	91254	93457	-2203	OCT 21	68526	67874	652
NOV 21	35883	34669	1214	NOV 21	54460	54080	379.5
DEC 21	31007	30857	150	DEC 21	48205	47988	217.5
JAN 22	32447	32068	379	JAN 22	46547	46034	513.5
FEB 22	23540	22947	593	FEB 22	37572	37196	375.5
MAR 22	23333	23051	282	MAR 22	40811	40174	637.25
APR 22	25225	24614	611	APR 22	41439	40932	507.5
MAY 22	10625	10373	252	MAY 22	29942	29871	71
JUN 22	5674	5582	92	JUN 22	29425	29170	255
JUL 22	4699	4637	62	JUL 22	30560	30608	-48
AUG 22	3646	3552	94	AUG 22	29184	28946	238
SEP 22	3404	3394	10	SEP 22	29207	28952	255
OCT 22	5091	4746	345	OCT 22	33450	33186	264.5
NOV 22	4410	4139	271	NOV 22	29182	28943	239
DEC 22	4705	4593	112	DEC 22	31482	31206	276
JAN 23	4303	4300	3	JAN 23	14982	14973	9.75
FEB 23	1029	1036	-7	FEB 23	13870	13861	9
MAR 23	2305	2311	-6	MAR 23	13938	13921	17.5
APR 23	1557	1552	5	APR 23	12817	12966	-148.5
MAY 23	444	441	3	MAY 23	11454	11469	-14.75





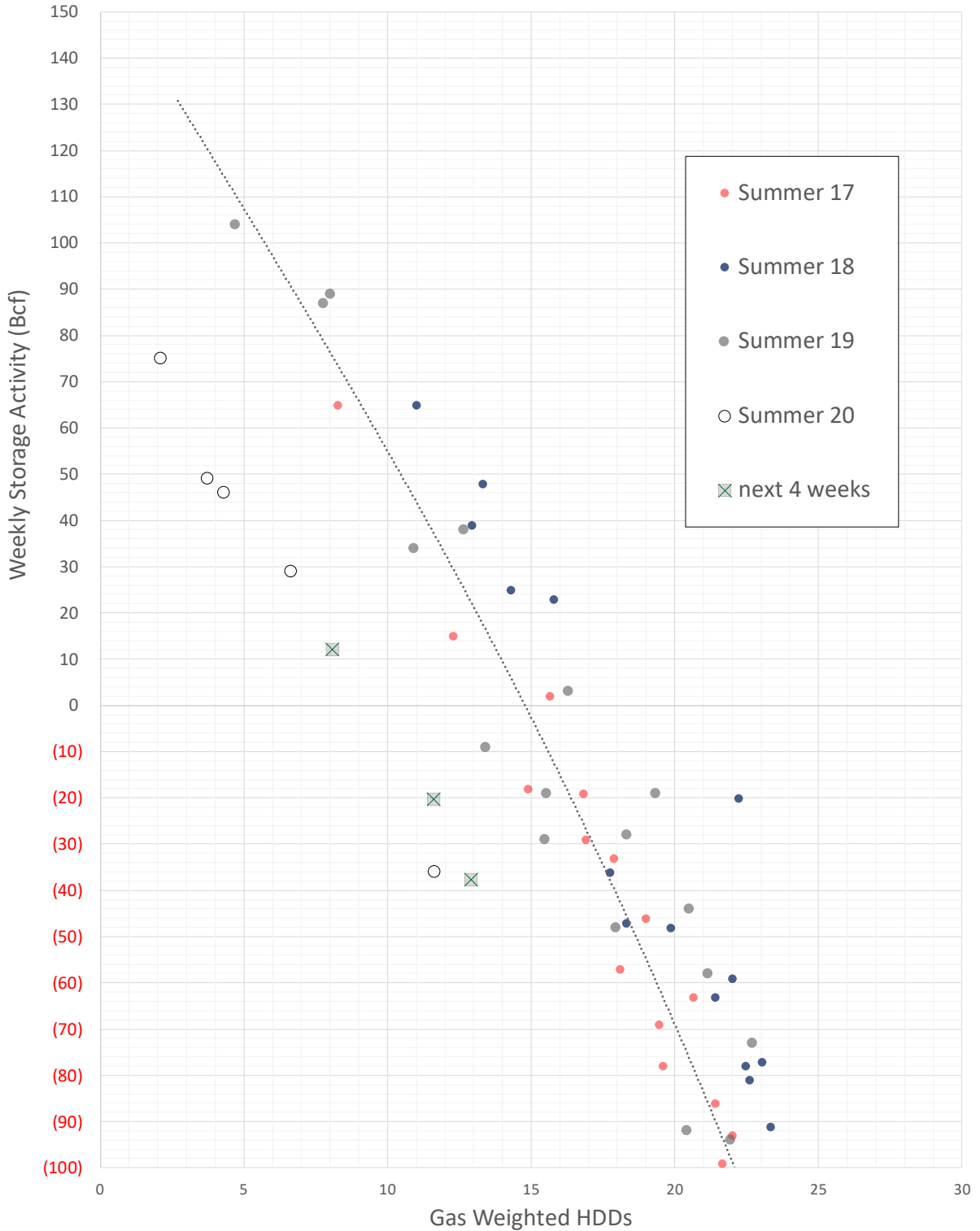
	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
Current Price	\$2.945	\$3.091	\$3.064	\$2.993	\$2.858	\$2.834	\$2.875	\$2.927	\$2.941	\$2.929	\$2.964	\$3.058
Last Week	\$3.354	\$3.469	\$3.416	\$3.284	\$3.017	\$2.975	\$3.006	\$3.047	\$3.059	\$3.046	\$3.080	\$3.138
vs. Last Week	-\$0.409	-\$0.378	-\$0.352	-\$0.291	-\$0.159	-\$0.141	-\$0.131	-\$0.120	-\$0.118	-\$0.117	-\$0.116	-\$0.080
4 Weeks Ago	\$2.741	\$3.204	\$3.347	\$3.305	\$3.192	\$2.858	\$2.804	\$2.833	\$2.871	\$2.879	\$2.865	\$2.893
vs. 4 Weeks Ago	\$0.204	-\$0.113	-\$0.283	-\$0.312	-\$0.334	-\$0.024	\$0.071	\$0.094	\$0.070	\$0.050	\$0.099	\$0.165
Last Year	\$2.789	\$2.873	\$2.822	\$2.661	\$2.420	\$2.396	\$2.435	\$2.478	\$2.484	\$2.468	\$2.496	\$2.554
vs. Last Year	\$0.156	\$0.218	\$0.242	\$0.332	\$0.438	\$0.438	\$0.440	\$0.449	\$0.457	\$0.461	\$0.468	\$0.504

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	0.78	5.61	4.83
TETCO M3	\$/MMBtu	0.51	3.69	3.18
FGT Zone 3	\$/MMBtu	0.50	3.42	2.92
Zone 6 NY	\$/MMBtu	0.50	4.38	3.88
Chicago Citygate	\$/MMBtu	2.20	3.41	1.21
Michcon	\$/MMBtu	2.26	3.12	0.86
Columbia TCO Pool	\$/MMBtu	0.49	2.98	2.49
Ventura	\$/MMBtu	2.13	3.61	1.48
Rockies/Opal	\$/MMBtu	3.03	3.30	0.27
El Paso Permian Basin	\$/MMBtu	1.94	3.03	1.09
Socal Citygate	\$/MMBtu	4.50	4.32	-0.18
Malin	\$/MMBtu	3.13	4.00	0.87
Houston Ship Channel	\$/MMBtu	2.78	3.33	0.55
Henry Hub Cash	\$/MMBtu	2.67	3.23	0.56
AECO Cash	C\$/GJ	2.22	2.62	0.40
Station2 Cash	C\$/GJ	2.24	5.44	3.20
Dawn Cash	C\$/GJ	2.30	3.27	0.97

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.233	▲ 0.219	▲ 0.256	▲ 0.263
NatGas Mar21/Apr21	\$/MMBtu	-0.135	▲ 0.132	▼ -0.469	▼ -0.435
NatGas Oct21/Nov21	\$/MMBtu	0.094	▲ 0.036	▲ 0.041	▲ 0.029
NatGas Apr21/Oct21	\$/MMBtu	0.106	▼ -0.283	▼ -0.348	▼ -0.328
WTI Crude	\$/Bbl	37.63	▲ 1.840	▼ -2.970	▼ -19.610
Brent Crude	\$/Bbl	39.84	▲ 2.380	▼ -3.010	▼ -22.670
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	114.48	▲ 6.350	▼ -4.850	▼ -77.330
Propane, Mt. Bel	cents/Gallon	0.56	▲ 0.040	▲ 0.042	▲ 0.047
Ethane, Mt. Bel	cents/Gallon	0.23	▲ 0.012	▲ 0.031	▲ 0.027
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	▼ -4.500
Coal, ILB	\$/MMBtu	1.32			

Winter Storage Forecast



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