

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.63	▼ \$ (0.05)	▲ \$ 0.08

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 47.19	▲ \$ 0.20	▲ \$ 0.8

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 50.44	▲ \$ 0.15	▲ \$ 0.7

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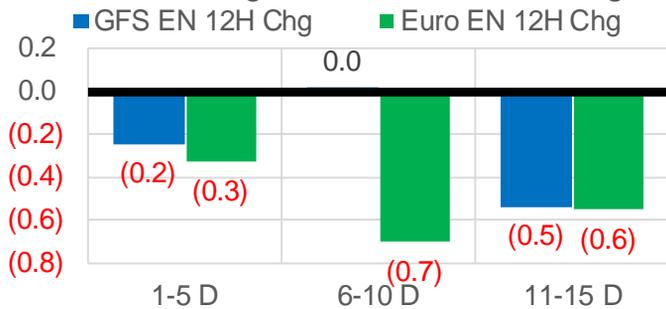
[Nat Gas Options Volume and Open Interest](#)

[Nat Gas Futures Open Interest](#)

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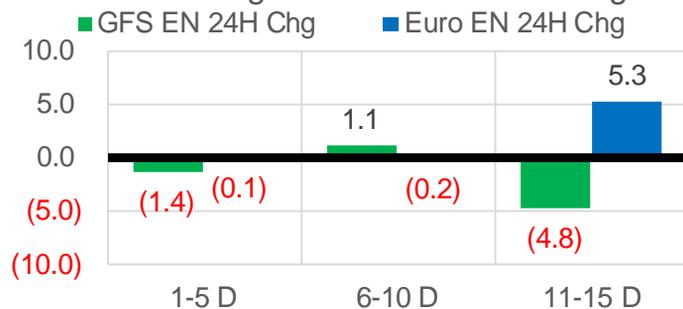
Vs. 12H Ago

L48 Region - 00z TDD vs 12H Ago



Vs. 24H Ago

L48 Region - 00z TDD vs 24H Ago



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	90.5	▼ -0.41	▼ -0.66

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	26.9	▼ -0.17	▲ 0.38

	Current	Δ from YD	Δ from 7D Avg
US ResComm	45.2	▲ 2.46	▲ 9.26

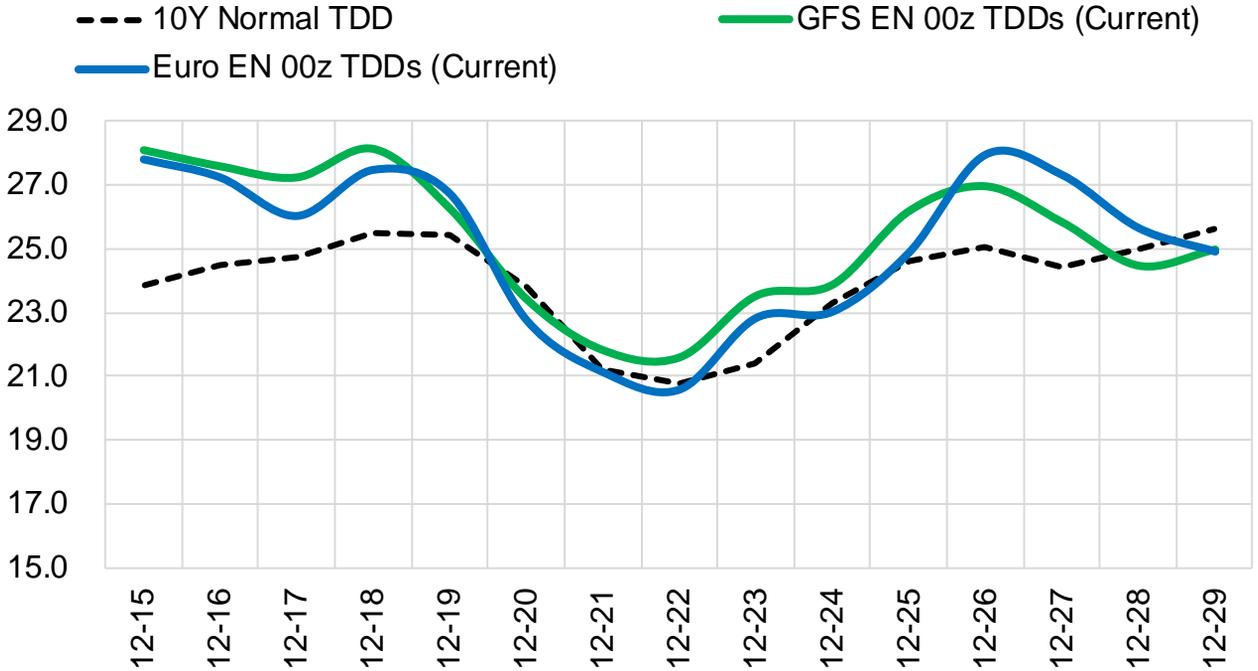
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	6.6	▲ 0.88	▲ 1.27

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.6	▼ -0.85	▼ -0.89

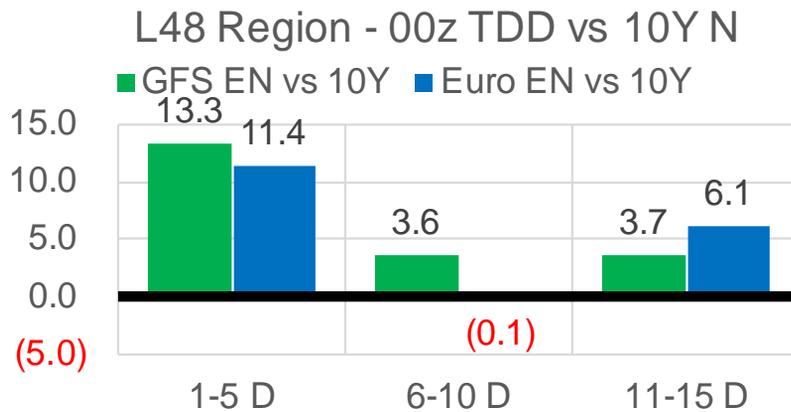
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.4	▼ -0.04	▲ 0.10

Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg

Lower 48 Component Models

Daily Balances

	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	DoD	vs. 7D
Lower 48 Dry Production	91.0	91.2	91.6	91.2	91.2	91.0	90.5	▼ -0.4	▼ -0.7
Canadian Imports	5.7	5.5	4.6	4.9	5.0	5.7	6.6	▲ 0.9	▲ 1.4
L48 Power	29.0	26.1	24.7	24.0	24.4	27.1	26.9	▼ -0.2	▲ 1.1
L48 Residential & Commercial	35.2	33.4	32.3	33.2	35.2	42.7	45.2	▲ 2.5	▲ 9.8
L48 Industrial	22.7	23.1	23.7	24.4	25.2	25.9	25.9	▼ 0.0	▲ 1.7
L48 Lease and Plant Fuel	5.0	5.1	5.1	5.1	5.1	5.0	5.0	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.9	2.7	2.6	2.6	2.7	3.2	3.3	▲ 0.1	▲ 0.5
L48 Regional Gas Consumption	94.9	90.4	88.4	89.2	92.5	104.0	106.3	▲ 2.3	▲ 13.1
Net LNG Delivered	11.37	11.39	11.49	11.59	11.62	11.40	10.55	▼ -0.8	▼ -0.9
Total Mexican Exports	6.4	6.3	6.3	6.0	5.7	6.4	6.4	▼ 0.0	▲ 0.2
Implied Daily Storage Activity	-16.0	-11.4	-9.9	-10.7	-13.7	-25.1	-26.1		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	6-Nov	13-Nov	20-Nov	27-Nov	4-Dec	11-Dec	WoW	vs. 4W
Lower 48 Dry Production	89.6	88.2	90.9	91.6	91.6	90.9	▼ -0.7	▲ 0.3
Canadian Imports	4.9	3.9	5.1	4.5	5.3	5.9	▲ 0.6	▲ 1.2
L48 Power	24.6	24.4	24.8	24.8	26.5	28.1	▲ 1.6	▲ 3.0
L48 Residential & Commercial	23.1	16.8	27.2	26.7	34.4	37.4	▲ 2.9	▲ 11.1
L48 Industrial	23.0	24.0	23.3	22.1	24.4	22.4	▼ -2.0	▼ -1.1
L48 Lease and Plant Fuel	4.9	4.9	5.0	5.1	5.1	5.0	▼ 0.0	▲ 0.0
L48 Pipeline Distribution	2.3	1.9	2.4	2.4	2.8	3.0	▲ 0.2	▲ 0.6
L48 Regional Gas Consumption	78.0	72.1	82.7	81.1	93.2	95.9	▲ 2.7	▲ 13.6
Net LNG Exports	10.2	10.4	10.2	9.7	10.4	11.3	▲ 0.9	▲ 1.1
Total Mexican Exports	6.0	6.3	6.1	6.3	6.4	6.3	▼ -0.1	▲ 0.0
Implied Daily Storage Activity	0.3	3.4	-2.9	-1.0	-13.1	-16.6	-3.5	
EIA Reported Daily Storage Activity	1.1	4.4	-2.6	-0.1	-13.0			
Daily Model Error	-0.8	-1.1	-0.3	-0.8	-0.1			

Monthly Balances

	2Yr Ago Dec-18	LY Dec-19	Aug-20	Sep-20	Oct-20	Nov-20	MTD Dec-20	MoM	vs. LY
Lower 48 Dry Production	87.5	95.1	88.6	87.8	87.5	90.4	91.1	▲ 0.6	▼ -4.1
Canadian Imports	4.8	4.5	4.9	3.8	4.3	4.6	5.8	▲ 1.2	▲ 1.2
L48 Power	24.4	28.9	41.0	34.1	29.4	24.7	27.4	▲ 2.7	▼ -1.5
L48 Residential & Commercial	39.3	39.1	7.7	8.8	16.2	24.2	37.8	▲ 13.6	▼ -1.2
L48 Industrial	22.4	24.4	20.3	19.2	22.3	23.2	24.0	▲ 0.8	▼ -0.4
L48 Lease and Plant Fuel	4.9	5.3	4.9	4.9	4.8	5.0	5.0	▲ 0.1	▼ -0.2
L48 Pipeline Distribution	2.8	3.1	2.4	2.2	2.2	2.3	3.0	▲ 0.7	▼ -0.1
L48 Regional Gas Consumption	93.9	100.7	76.3	69.1	74.9	79.3	97.3	▲ 17.9	▼ -3.5
Net LNG Exports	4.5	7.8	4.0	5.9	8.0	10.1	11.2	▲ 1.0	▲ 3.4
Total Mexican Exports	4.5	5.0	6.3	6.4	6.2	6.2	6.3	▲ 0.1	▲ 1.3
Implied Daily Storage Activity	-10.7	-13.9	6.8	10.2	2.7	-0.7	-17.9		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

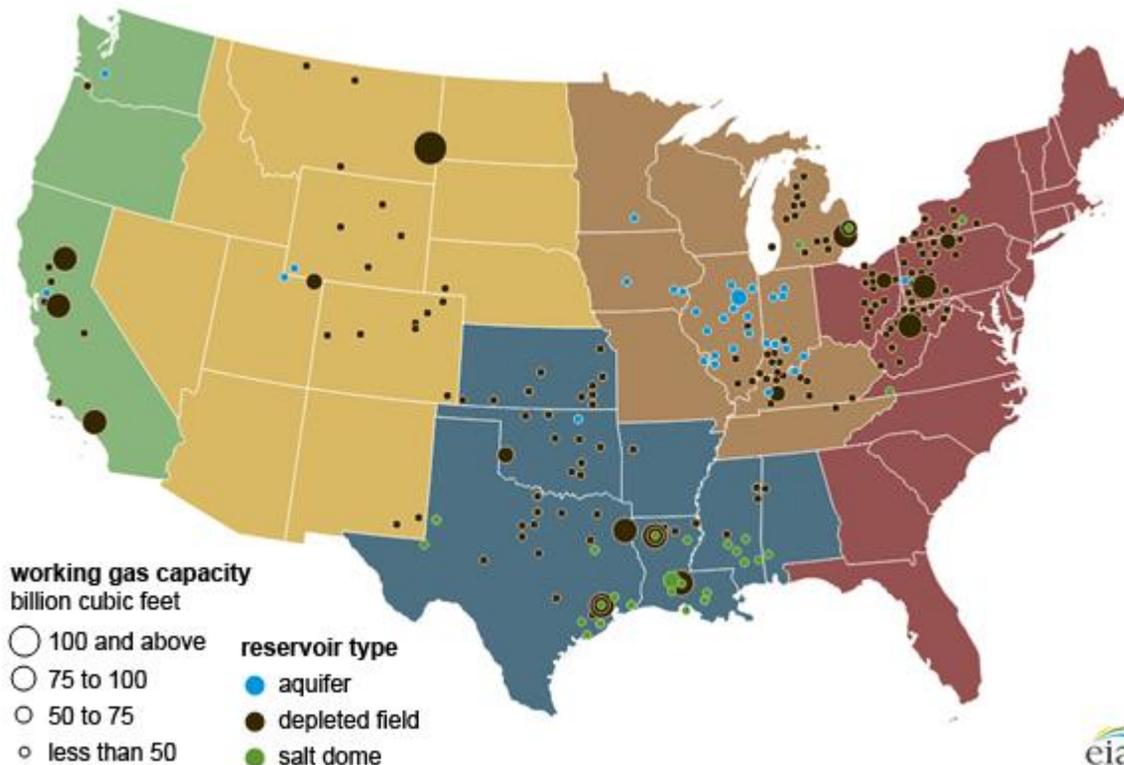
Regional S/D Models Storage Projection

Week Ending 11-Dec

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-17.4	0.6	-16.0	-112
East	-6.5	1.8	-4.6	-32
Midwest	-5.8	0.4	-5.2	-37
Mountain	2.8	-3.7	-0.8	-5
South Central	-7.3	2.4	-4.6	-32
Pacific	-0.5	-0.3	-0.8	-6

*Adjustment Factor is calculated based on historical regional deltas

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

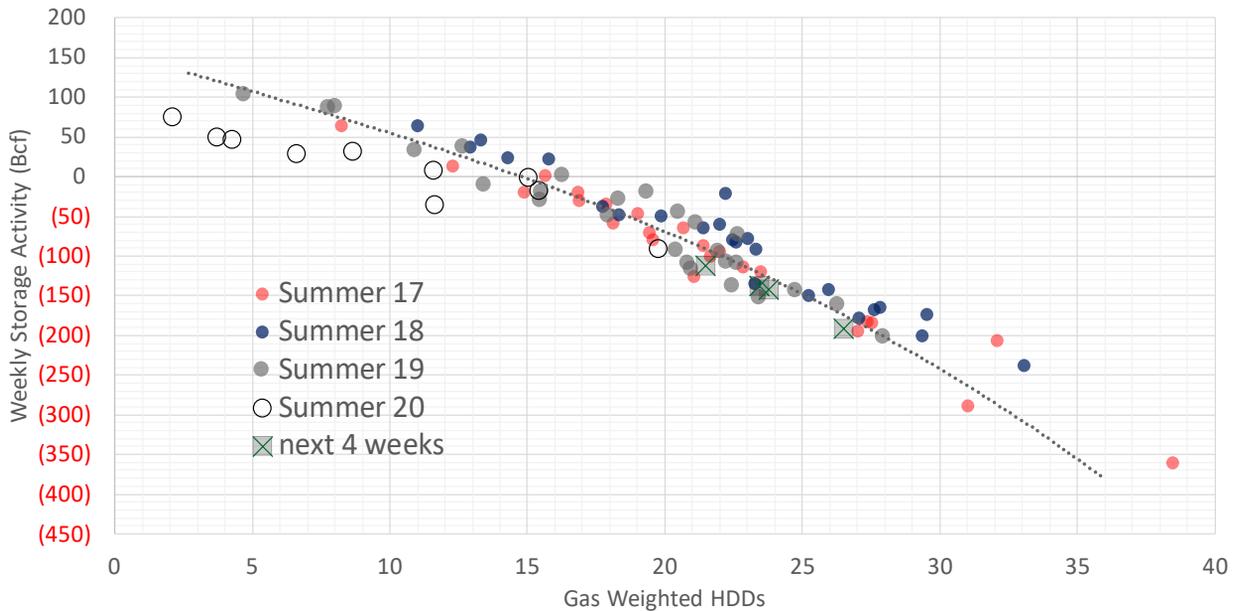


Weather Model Storage Projection

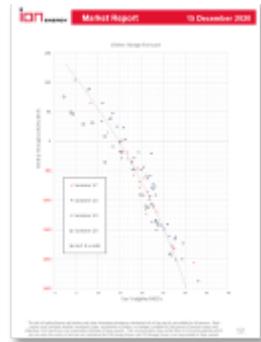
Next report
and beyond

Week Ending	Temp	Week Storage Projection
11-Dec	21.5	-112
18-Dec	23.8	-142
25-Dec	23.4	-137
01-Jan	26.5	-191

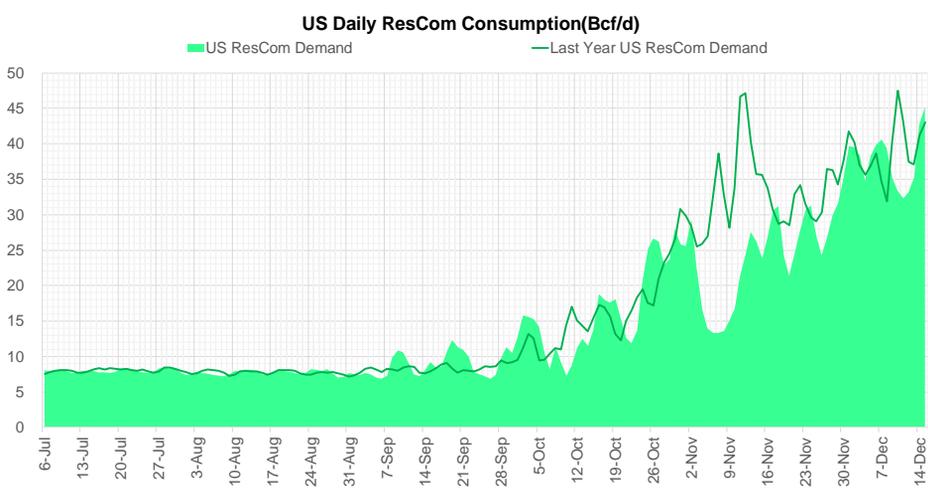
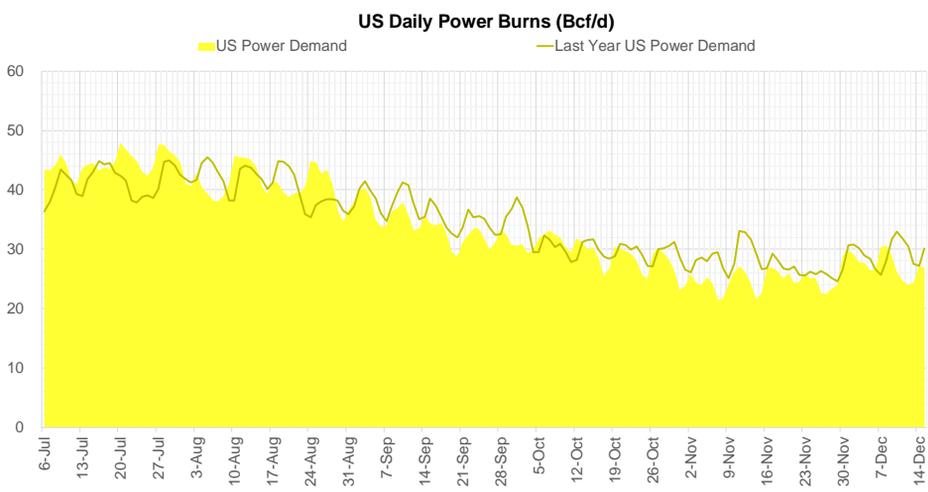
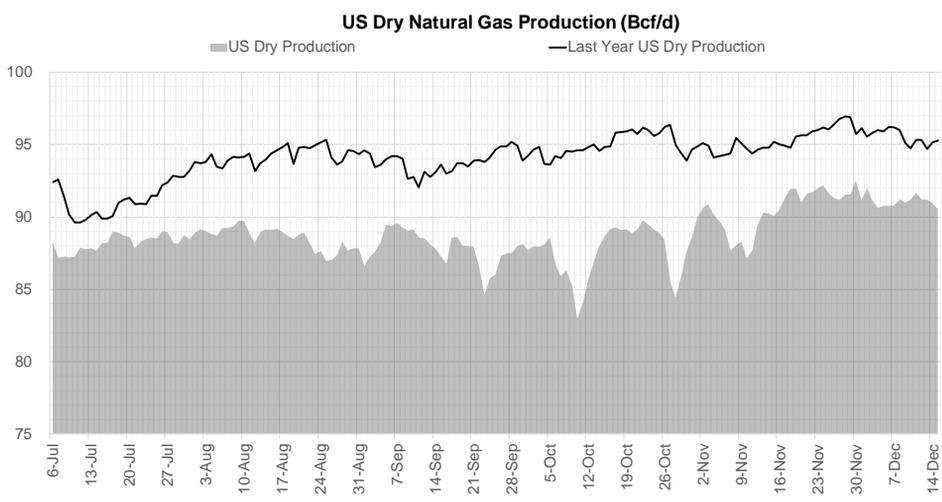
Winter Storage Forecast



Go to larger image



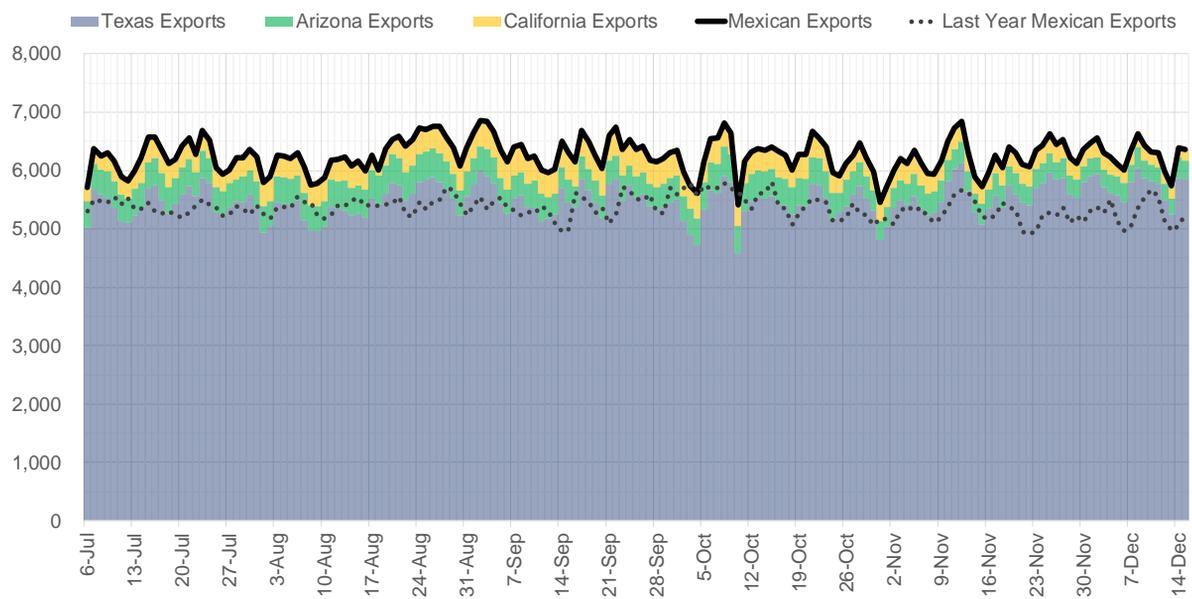
Supply – Demand Trends



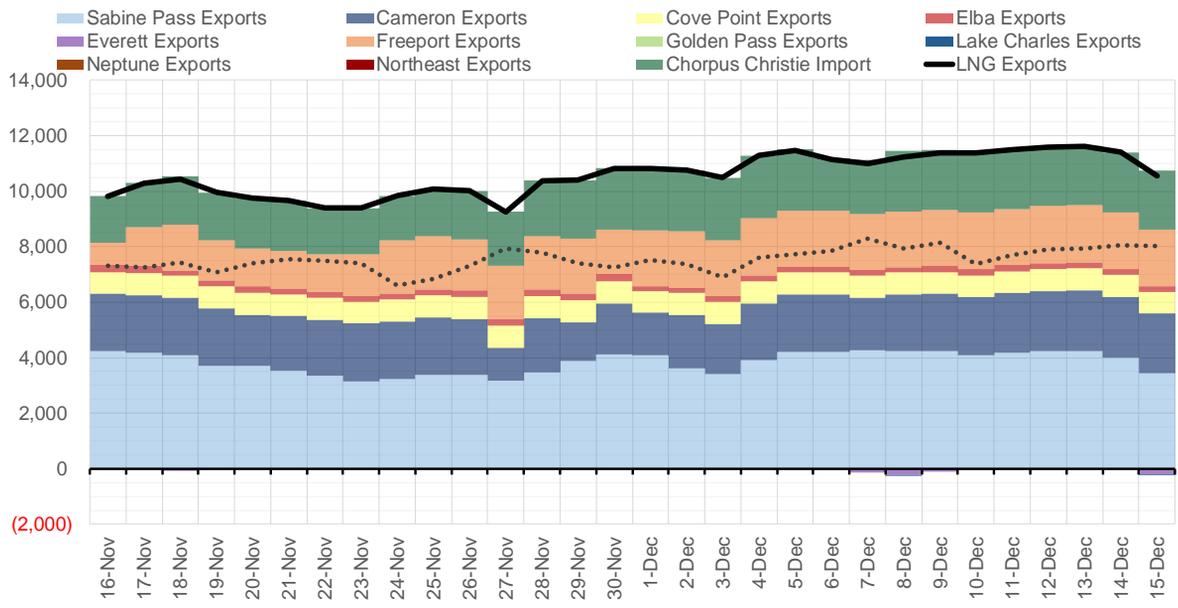
Source: Bloomberg

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 (MMcf/d)



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



Source: Bloomberg

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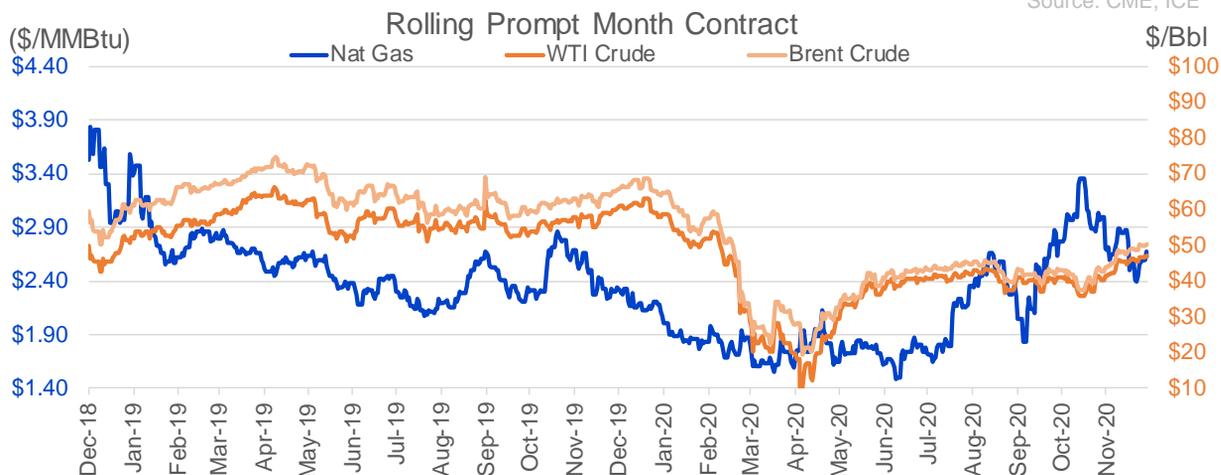
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

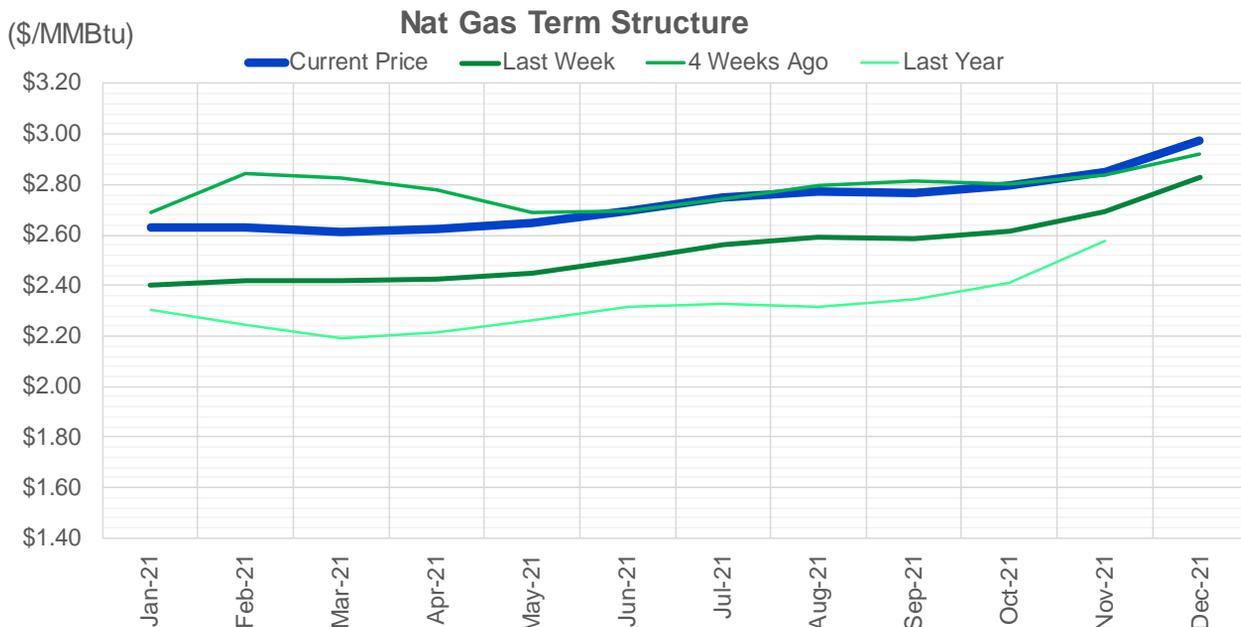
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
1	2021	C	3.25	5968	3	2021	P	2.00	42258
1	2021	C	3.00	4172	1	2021	C	3.50	39837
4	2021	C	4.00	3025	3	2021	C	5.00	37505
7	2021	C	4.00	2700	3	2021	C	6.00	35160
3	2021	C	3.00	2518	3	2021	C	4.00	33631
1	2021	P	2.50	2318	1	2021	P	2.50	32901
1	2021	P	2.40	2129	1	2021	C	3.00	30716
1	2021	C	3.30	2099	4	2021	C	3.25	30162
3	2021	C	3.50	2050	3	2021	C	3.00	29318
1	2021	C	2.90	1897	3	2021	C	3.25	28312
2	2021	P	2.25	1871	1	2021	C	4.50	27881
1	2021	P	2.25	1732	10	2021	C	4.00	27661
4	2021	C	2.75	1601	4	2021	C	4.00	26346
4	2021	P	2.00	1600	2	2021	P	2.25	25749
1	2021	C	3.10	1456	3	2021	C	4.50	25636
1	2021	C	4.00	1401	1	2021	C	5.00	25398
1	2021	C	3.20	1268	1	2021	P	2.25	24912
1	2021	P	2.00	1206	3	2021	C	3.50	24831
5	2021	C	2.75	1200	1	2021	C	4.00	24271
5	2021	C	4.00	1200	10	2021	C	3.25	23937
5	2021	P	2.00	1200	3	2021	P	2.50	23348
6	2021	C	2.75	1200	1	2021	C	3.75	22497
6	2021	C	4.00	1200	4	2021	C	3.00	21840
6	2021	P	2.00	1200	3	2021	C	7.00	21756
7	2021	C	2.75	1200	1	2021	C	6.00	21138
7	2021	P	2.00	1200	8	2021	C	4.00	20003
8	2021	C	2.75	1200	2	2021	P	2.50	19875
8	2021	C	4.00	1200	1	2021	C	2.75	19642
8	2021	P	2.00	1200	2	2021	C	3.50	19637
9	2021	C	2.75	1200	10	2021	C	5.00	19595
9	2021	C	4.00	1200	2	2021	C	4.00	19560
9	2021	P	2.00	1200	1	2021	P	2.00	19453
10	2021	C	2.75	1200	4	2021	C	2.75	19035
10	2021	C	4.00	1200	1	2021	C	3.25	18758
10	2021	P	2.00	1200	4	2021	C	5.00	18653
1	2021	C	2.75	1189	8	2021	P	2.25	18517
2	2021	P	2.50	1133	5	2021	C	3.00	18162
2	2021	C	2.75	1115	2	2021	C	3.00	16833
9	2021	C	3.15	1000	2	2021	P	2.00	16405
2	2021	C	3.25	990	2	2021	C	5.00	16349
2	2021	P	2.00	854	4	2021	P	2.00	15879
3	2021	P	2.25	846	6	2021	C	4.00	15671
3	2021	C	4.00	823	4	2021	C	3.50	15228
3	2021	C	3.25	787	1	2021	P	2.75	14812
1	2021	C	3.50	741	5	2021	C	3.50	14778
3	2021	P	2.00	718	10	2021	C	3.00	14566
1	2021	C	2.70	716	4	2021	P	2.25	14263
4	2021	C	2.85	700	1	2021	P	3.00	14186
5	2021	C	2.85	700	2	2021	C	4.50	14184
					3	2021	P	2.25	13775.5

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	112862	127295	-14433	JAN 21	89680	92261	-2581
FEB 21	162962	156020	6942	FEB 21	73282	72289	993.25
MAR 21	240450	242159	-1709	MAR 21	99497	98511	986.25
APR 21	98834	97344	1490	APR 21	83560	82827	733.5
MAY 21	61641	62468	-827	MAY 21	76665	76238	426.75
JUN 21	38681	38052	629	JUN 21	63316	62751	565.75
JUL 21	29676	30377	-701	JUL 21	64612	63906	706
AUG 21	28493	28124	369	AUG 21	66885	66705	179.25
SEP 21	47549	46543	1006	SEP 21	62083	61568	515.25
OCT 21	95553	90671	4882	OCT 21	77892	75012	2880
NOV 21	44250	45031	-781	NOV 21	51004	50856	148.5
DEC 21	42703	42954	-251	DEC 21	51649	51183	466.25
JAN 22	39305	39562	-257	JAN 22	50064	49290	773.5
FEB 22	24476	24457	19	FEB 22	38856	38616	239.25
MAR 22	26919	27265	-346	MAR 22	40367	40131	236.75
APR 22	25038	24691	347	APR 22	39313	39262	50.25
MAY 22	13231	13071	160	MAY 22	33231	33153	78
JUN 22	6670	6496	174	JUN 22	31415	31298	117.75
JUL 22	5787	5778	9	JUL 22	33031	32917	114.75
AUG 22	5026	5003	23	AUG 22	31986	31877	109
SEP 22	4529	4554	-25	SEP 22	31507	31439	67.75
OCT 22	9019	8331	688	OCT 22	37164	37113	51.25
NOV 22	6378	6303	75	NOV 22	31473	31554	-80.75
DEC 22	6913	6865	48	DEC 22	33999	34052	-53.25
JAN 23	4505	4495	10	JAN 23	16003	15971	32
FEB 23	1334	1330	4	FEB 23	14597	14578	19.25
MAR 23	2734	2715	19	MAR 23	14204	14111	93.25
APR 23	2206	2217	-11	APR 23	13506	13438	67.75
MAY 23	676	670	6	MAY 23	12570	12499	71
JUN 23	486	675	-189	JUN 23	12589	12530	58.75





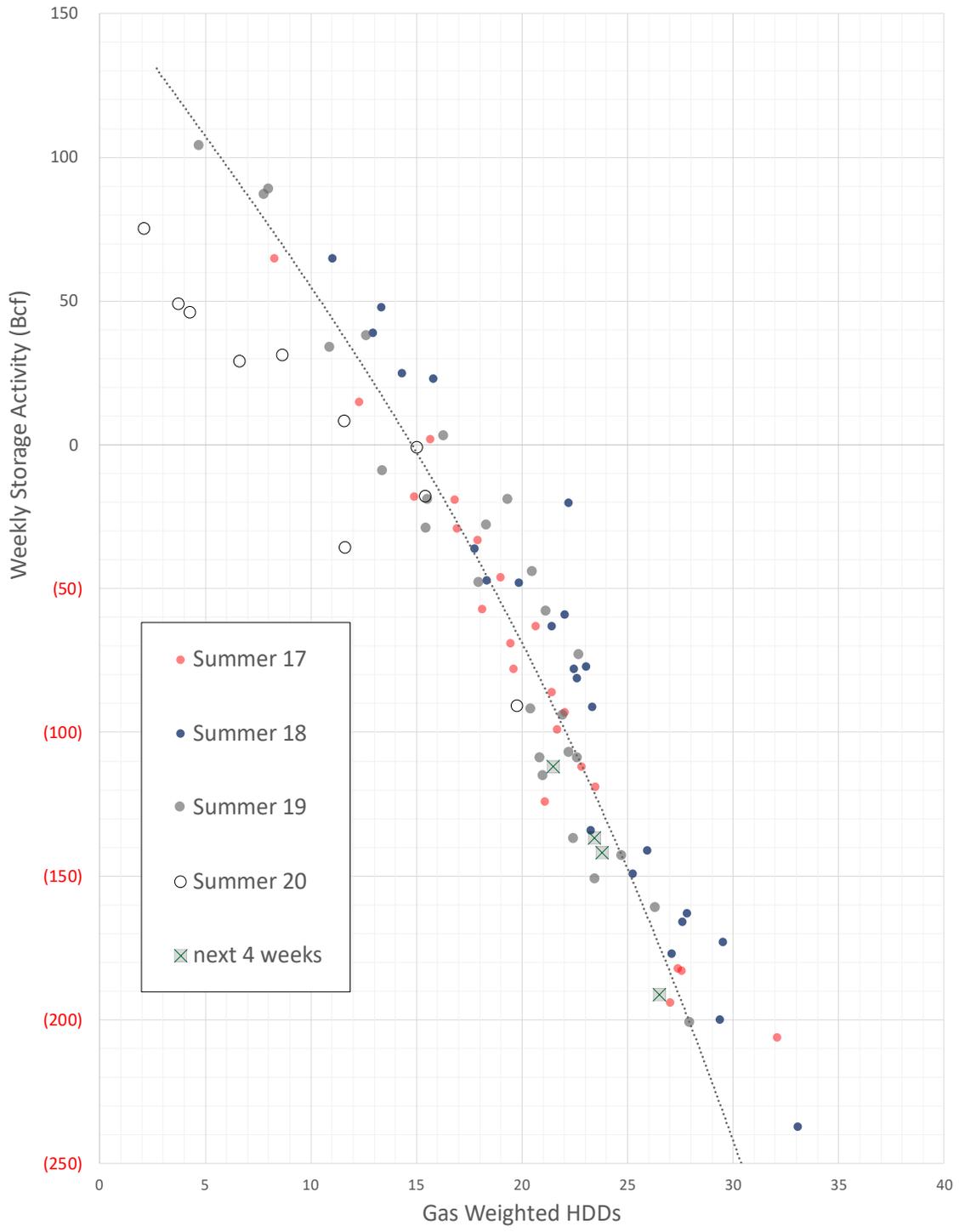
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Current Price	\$2.632	\$2.630	\$2.614	\$2.625	\$2.649	\$2.695	\$2.751	\$2.775	\$2.768	\$2.793	\$2.851	\$2.975
Last Week	\$2.399	\$2.422	\$2.419	\$2.428	\$2.452	\$2.501	\$2.562	\$2.590	\$2.588	\$2.618	\$2.692	\$2.829
vs. Last Week	\$0.233	\$0.208	\$0.195	\$0.197	\$0.197	\$0.194	\$0.189	\$0.185	\$0.180	\$0.175	\$0.159	\$0.146
4 Weeks Ago	\$2.692	\$2.844	\$2.826	\$2.777	\$2.691	\$2.697	\$2.740	\$2.793	\$2.811	\$2.801	\$2.837	\$2.921
vs. 4 Weeks Ago	-\$0.060	-\$0.214	-\$0.212	-\$0.152	-\$0.042	-\$0.002	\$0.011	-\$0.018	-\$0.043	-\$0.008	\$0.014	\$0.054
Last Year	\$2.319	\$2.303	\$2.244	\$2.191	\$2.215	\$2.264	\$2.316	\$2.328	\$2.316	\$2.344	\$2.413	\$2.575
vs. Last Year	\$0.313	\$0.327	\$0.370	\$0.434	\$0.434	\$0.431	\$0.435	\$0.447	\$0.452	\$0.449	\$0.438	\$0.400

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	6.46	4.31	-2.15
TETCO M3	\$/MMBtu	2.65	3.13	0.48
FGT Zone 3	\$/MMBtu	2.77	2.45	-0.32
Zone 6 NY	\$/MMBtu	2.77	3.74	0.97
Chicago Citygate	\$/MMBtu	2.58	2.36	-0.22
Michcon	\$/MMBtu	2.50	2.19	-0.31
Columbia TCO Pool	\$/MMBtu	2.33	1.93	-0.40
Ventura	\$/MMBtu	2.62	2.64	0.02
Rockies/Opal	\$/MMBtu	3.49	2.24	-1.25
El Paso Permian Basin	\$/MMBtu	2.53	2.20	-0.33
Socal Citygate	\$/MMBtu	4.35	3.08	-1.27
Malin	\$/MMBtu	3.57	2.85	-0.72
Houston Ship Channel	\$/MMBtu	2.67	2.41	-0.26
Henry Hub Cash	\$/MMBtu	2.67	2.26	-0.41
AECO Cash	C\$/GJ	2.19	1.90	-0.29
Station2 Cash	C\$/GJ	2.19	3.16	0.97
Dawn Cash	C\$/GJ	2.53	2.25	-0.28

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.007	▼ -0.036	▲ 0.146	▲ 0.394
NatGas Mar21/Apr21	\$/MMBtu	0.011	▲ 0.002	▼ -0.075	▼ -0.239
NatGas Oct21/Nov21	\$/MMBtu	0.058	▼ -0.016	▼ -0.026	▼ -0.012
NatGas Apr21/Oct21	\$/MMBtu	0.168	▲ 0.387	▲ 0.161	▼ -0.139
WTI Crude	\$/Bbl	47.19	▲ 1.590	▲ 5.760	▼ -13.750
Brent Crude	\$/Bbl	50.44	▲ 1.600	▲ 6.690	▼ -15.660
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	145.72	▲ 5.050	▲ 21.810	▼ -57.620
Propane, Mt. Bel	cents/Gallon	0.59	▲ 0.010	▲ 0.042	▲ 0.075
Ethane, Mt. Bel	cents/Gallon	0.20	▲ 0.013	▼ -0.020	▲ 0.030
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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