

	Cı	ırrent	Δf	rom YD		om 7D Avg
Nat Gas Prompt	\$	1.84	_	\$ 0.01	<u></u>	0.15

	С	urrent	∆ fro	om YD	Δ fror Α\	
WTI Prompt	\$	32.71	4	0.21	\$	3.4

	_	urrant	Λ from YD		Δ from 7D			
	Current △ from YD		Αv	g				
Brent Prompt	\$	35.53		¢	0 88		\$	2 1
Prompt	Ψ	33.33		Ψ	0.00		Ψ	5.1

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Short-term Weather Model Outlooks
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00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.1	1.1	0.1	1.3
24 Hr Chg	-2.7	4.2	2.3	3.8
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day 0.6	6-10 Day 5.9	11-15 Day 4.3	Total 10.8

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	82.2	▼ -0.82	▼ -2.13

	Current	Δf	rom YD	Δf	rom 7D Avg
US ResComm	12.7	_	0.33	ightharpoons	-2.70

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	5.9	▼ -0.38	▼ -0.49

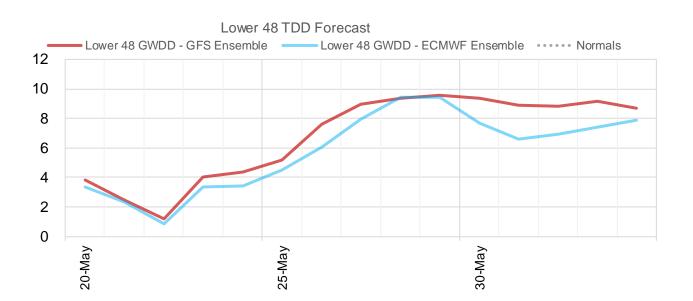
	Current	Δ from YD	Δ from 7D Avg
US Power Burns	26.1	▼ -0.13	- 0.39

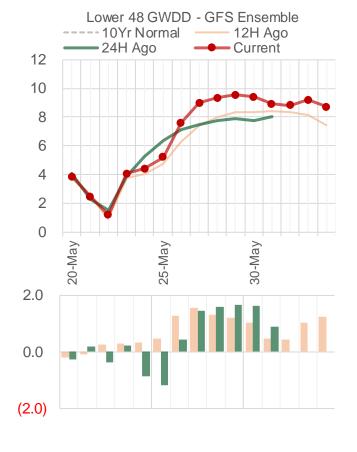
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.2	a 0.08	a 0.21

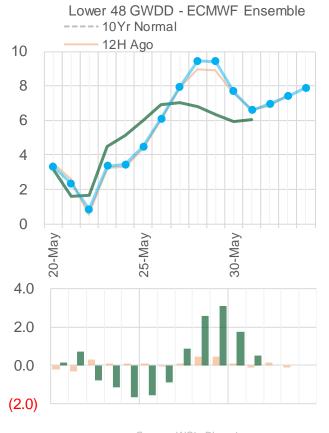
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	5.5	▼ -0.11	a 0.78



Short-term Weather Model Outlooks (00z)







Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	14-May	15-May	16-May	17-May	18-May	19-May	20-May	DoD	vs.7D
Lower 48 Dry Production	85.3	85.4	84.2	83.7	83.6	83.1	82.2	▽ -0.8	▼ -1.9
Canadian Imports	3.9	4.2	4.0	4.0	4.0	4.1	4.2	△ 0.1	△ 0.2
L48 Power	26.8	27.3	26.7	26.3	26.8	26.3	26.1	▼ -0.1	▼ -0.6
L48 Residential & Commercial	12.1	8.9	9.3	10.3	36.5	12.3	12.7	a 0.3	▼ -2.3
L48 Industrial	16.6	15.9	15.5	15.3	17.2	15.8	16.4	△ 0.6	0.4
L48 Lease and Plant Fuel	4.8	4.8	4.7	4.7	4.7	4.6	4.6	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	1.9	1.8	1.8	1.8	3.1	1.9	1.9	△ 0.0	▼ -0.1
L48 Regional Gas Consumption	62.2	58.6	58.0	58.4	88.4	61.0	61.7	8.0	▼ -2.7
Net LNG Exports	6.2	6.5	6.5	6.4	6.4	6.3	5.9	▽ -0.4	▽ -0.5
Total Mexican Exports	4.5	4.6	4.6	4.6	4.8	5.6	5.5	▽ -0.1	△ 0.7
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	16.4	19.9	19.1	18.2	-12.0	14.3	13.3		

EIA Storage Week Balances

	10-Apr	17-Apr	24-Apr	1-May	8-May	15-May	WoW	vs. 4W
Lower 48 Dry Production	91.7	91.5	90.9	89.7	86.6	86.2	▽ -0.4	▼ -3.5
Canadian Imports	3.7	4.4	3.9	3.4	3.6	4.0	△ 0.4	△ 0.2
L48 Power	26.5	25.5	24.9	24.5	24.4	24.8	0.4	▼ 0.0
L48 Residential & Commercial	20.4	26.1	22.7	17.0	14.7	19.6	4.9	▼ -0.5
L48 Industrial	18.9	18.7	18.4	18.4	18.0	17.9	▼ -0.1	▼ -0.4
L48 Lease and Plant Fuel	5.2	5.2	5.1	5.1	4.8	4.8	▼ 0.0	▼ -0.2
L48 Pipeline Distribution	2.3	2.5	2.3	2.0	1.9	2.2	a 0.3	a 0.0
L48 Regional Gas Consumption	73.3	78.0	73.4	66.9	64.0	69.3	▲ 5.4	▼ -1.2
Net LNG Exports	8.4	8.6	8.1	7.5	7.7	6.9	▼ -0.8	▼ -1.0
Total Mexican Exports	5.0	4.8	5.0	4.8	4.7	4.7	▽ 0.0	▼ -0.1
Implied Daily Storage Activity	8.8	4.5	8.3	13.8	13.8	9.2	-4.6	
EIA Reported Daily Storage Activity	10.4	6.1	10.0	15.6	14.7			
Daily Model Error	-1.6	-1.6	-1.7	-1.8	-0.9			

Monthly Balances

2Υr Δαο	1.7					MTD		
May-18	May-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	MoM	vs. LY
81.2	89.1	92.6	91.9	91.9	91.0	85.6	▽ -5.4	▽ -3.6
5.8	4.7	4.8	5.3	4.1	3.9	3.9	▽ 0.0	▽ -0.8
27.3	26.9	30.0	29.9	27.4	25.3	25.2	▼ -0.1	▼ -1.7
10.6	12.8	41.4	40.5	27.9	21.8	16.5	▼ -5.3	▲ 3.8
21.7	22.8	24.2	24.7	22.2	18.7	17.4	▼ -1.3	▼ -5.4
4.6	4.9	5.1	5.1	5.2	5.1	4.8	▼ -0.4	▼ -0.1
1.6	1.8	3.0	3.0	2.4	2.3	2.1	▼ -0.2	△ 0.3
65.8	69.1	103.6	103.2	85.1	73.3	66.0	▼ -7.3	▼ -3.2
3.1	5.6	8.3	8.5	8.5	8.2	7.0	▼ -1.2	1.4
4.4	5.1	5.2	5.3	5.6	4.9	4.8	▽ -0.1	▽ -0.3
13.6	13.9	-19.7	-19.8	-3.3	8.5	11.7		
	81.2 5.8 27.3 10.6 21.7 4.6 1.6 65.8 3.1 4.4	May-18 May-19 81.2 89.1 5.8 4.7 27.3 26.9 10.6 12.8 21.7 22.8 4.6 4.9 1.6 1.8 65.8 69.1 3.1 5.6 4.4 5.1	May-18 May-19 Jan-20 81.2 89.1 92.6 5.8 4.7 4.8 27.3 26.9 30.0 10.6 12.8 41.4 21.7 22.8 24.2 4.6 4.9 5.1 1.6 1.8 3.0 65.8 69.1 103.6 3.1 5.6 8.3 4.4 5.1 5.2	May-18 May-19 Jan-20 Feb-20 81.2 89.1 92.6 91.9 5.8 4.7 4.8 5.3 27.3 26.9 30.0 29.9 10.6 12.8 41.4 40.5 21.7 22.8 24.2 24.7 4.6 4.9 5.1 5.1 1.6 1.8 3.0 3.0 65.8 69.1 103.6 103.2 3.1 5.6 8.3 8.5 4.4 5.1 5.2 5.3	May-18 May-19 Jan-20 Feb-20 Mar-20 81.2 89.1 92.6 91.9 91.9 5.8 4.7 4.8 5.3 4.1 27.3 26.9 30.0 29.9 27.4 10.6 12.8 41.4 40.5 27.9 21.7 22.8 24.2 24.7 22.2 4.6 4.9 5.1 5.1 5.2 1.6 1.8 3.0 3.0 2.4 65.8 69.1 103.6 103.2 85.1 3.1 5.6 8.3 8.5 8.5 4.4 5.1 5.2 5.3 5.6	May-18 May-19 Jan-20 Feb-20 Mar-20 Apr-20 81.2 89.1 92.6 91.9 91.9 91.0 5.8 4.7 4.8 5.3 4.1 3.9 27.3 26.9 30.0 29.9 27.4 25.3 10.6 12.8 41.4 40.5 27.9 21.8 21.7 22.8 24.2 24.7 22.2 18.7 4.6 4.9 5.1 5.1 5.2 5.1 1.6 1.8 3.0 3.0 2.4 2.3 65.8 69.1 103.6 103.2 85.1 73.3 3.1 5.6 8.3 8.5 8.5 8.2 4.4 5.1 5.2 5.3 5.6 4.9	May-18 May-19 Jan-20 Feb-20 Mar-20 Apr-20 May-20 81.2 89.1 92.6 91.9 91.9 91.0 85.6 5.8 4.7 4.8 5.3 4.1 3.9 3.9 27.3 26.9 30.0 29.9 27.4 25.3 25.2 10.6 12.8 41.4 40.5 27.9 21.8 16.5 21.7 22.8 24.2 24.7 22.2 18.7 17.4 4.6 4.9 5.1 5.1 5.2 5.1 4.8 1.6 1.8 3.0 3.0 2.4 2.3 2.1 65.8 69.1 103.6 103.2 85.1 73.3 66.0 3.1 5.6 8.3 8.5 8.5 8.2 7.0 4.4 5.1 5.2 5.3 5.6 4.9 4.8	May-18 May-19 Jan-20 Feb-20 Mar-20 Apr-20 May-20 MoM 81.2 89.1 92.6 91.9 91.9 91.0 85.6 ▼-5.4 5.8 4.7 4.8 5.3 4.1 3.9 3.9 ▼ 0.0 27.3 26.9 30.0 29.9 27.4 25.3 25.2 ▼ -0.1 10.6 12.8 41.4 40.5 27.9 21.8 16.5 ▼ -5.3 21.7 22.8 24.2 24.7 22.2 18.7 17.4 ▼ -1.3 4.6 4.9 5.1 5.1 5.2 5.1 4.8 ▼ -0.4 1.6 1.8 3.0 3.0 2.4 2.3 2.1 ▼ -0.2 65.8 69.1 103.6 103.2 85.1 73.3 66.0 ▼ -7.3 3.1 5.6 8.3 8.5 8.5 8.2 7.0 ▼ -1.2 4.4 5.1 5.2 5.3

Source: Bloomberg, analytix.ai



Regional S/D Models Storage Projection

Week Ending 15-May

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	8.9	1.6	10.5	79
East	-1.0	2.6	1.6	12
Midwest	2.0	0.9	2.9	22
Mountain	2.6	-1.9	0.7	5
South Central	2.9	0.6	3.4	26
Pacific	2.4	-0.5	1.9	13

^{*}Adjustment Factor is calcuated based on historical regional deltas

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





Weather Model Storage Projection

Week Ending	Week Storage Projection
15-May	77
22-May	88
29-May	98
5-Jun	98

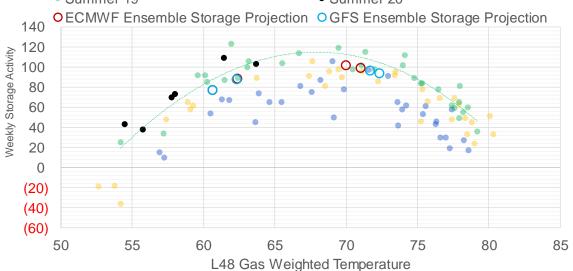
Weather Storage Model - Next 4 Week Forecast

Summer 17

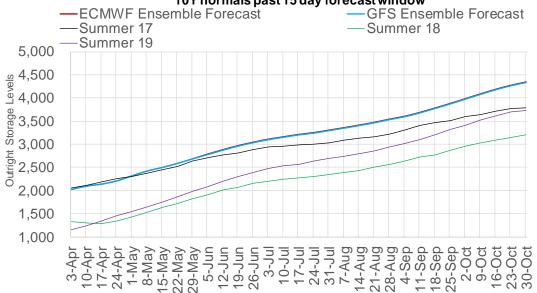
Summer 18

Summer 19

• Summer 20



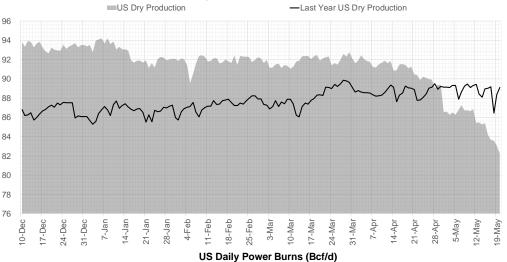
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window

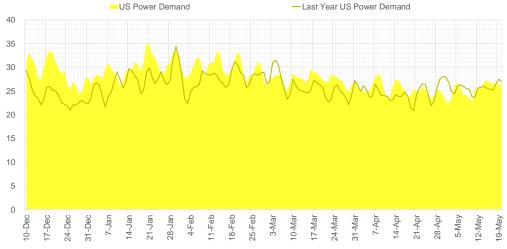




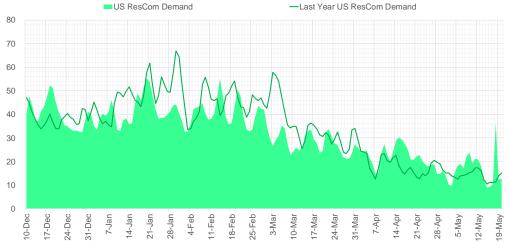
Supply - Demand Trends

US Dry Natural Gas Production (Bcf/d)





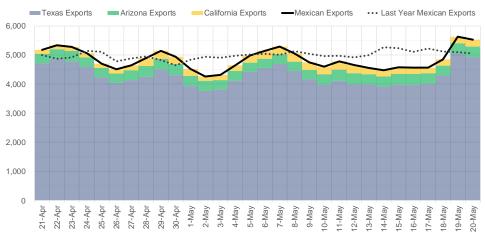
US Daily ResCom Consumption(Bcf/d)

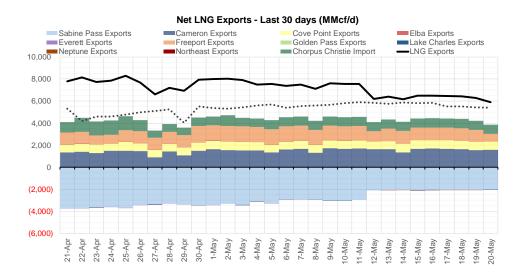


Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)





Source: Bloomberg



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	CUMULATIVI
6	2020	С	2.00	4966	6	2020	Р	1.25	39835
9	2020	С	2.75	4820	10	2020	С	3.00	38007
8	2020	Р	1.00	4385	6	2020	С	2.50	37257
6	2020	Р	1.50	3764	6	2020	Р	1.50	36826
9	2020	С	2.50	3010	6	2020	С	2.25	34848
6	2020	Р	1.75	2807	10	2020	Р	1.50	34054
6	2020	С	1.95	2768	3	2021	Р	2.00	32768
6	2020	Č	1.90	2724	7	2020	Р	1.50	32498
6	2020	P	1.80	2682	6	2020	С	2.00	31399
6	2020	C	1.85	2572	10	2020	С	2.75	30984
7	2020	P	1.50	2477	10	2020	Р	1.60	30519
6	2020	Р	1.70	2299	6	2020	Р	1.75	29301
10	2020	Р	1.00	2212	10	2020	Р	2.00	27801
7	2020	r P	1.20	2031	9	2020	С	2.50	26686
7 12	2020	C	5.00	2025	7	2020	С	3.00	26119
9		C			6	2020	P	2.00	25468
	2020		3.25	2000	7	2020	Р	1.75	23591
12	2020	С	4.00	2000	7	2020	С	2.50	23400
7	2020	P	1.75	1868	10	2020	C	2.50	22813
4	2021	P	2.00	1825	9	2020	P	1.50	22165
7	2020	C	2.75	1788	6	2020	C	3.00	21358
7	2020	P	2.00	1531	9	2020	Ċ	2.75	21241
7	2020	С	2.00	1432	6	2020	P	1.60	21009
7	2020	С	2.25	1375	7	2020	Р	2.00	20535
9	2020	Р	1.00	1355	8	2020	Р	1.50	19890
5	2021	Р	2.00	1325	10	2020	Р	1.25	19661
6	2021	Р	2.00	1325	7	2020	C	2.75	19640
7	2021	Р	2.00	1325	1	2021	Č	3.00	19622
8	2021	Р	2.00	1325	8	2020	Č	3.00	19006
9	2021	Р	2.00	1325	10	2020	P	1.75	19000
10	2021	Р	2.00	1325	6	2020	P	1.40	18854
9	2020	С	2.25	1300	1	2020	Ċ	3.50	18842
7	2020	Р	1.00	1179	7	2020	Č	2.30	18712
7	2020	С	2.50	1130	6	2020	P	1.70	18376
6	2020	P	1.55	1088	11	2020	C	4.00	17814
7	2020	Р	1.35	1002	10	2020	P	2.10	17614
10	2020	P	2.00	1000	9	2020	C	3.00	17042
8	2020	C	2.30	994	9 7	2020	C	2.25	17320
7	2020	P	1.80	975		2020	C		17291
6	2020	Р	1.85	926	10 6	2020	P	3.25 1.00	16758
10	2020	Р	1.50	924	4	2020	C	3.00	16416
10	2020	Р	2.10	891					
10	2020	C	3.00	866	10	2020	C P	2.25	16390
7	2020	C	4.00	850	7 8	2020	C	1.25 2.75	15787 15103
8	2020	C	4.00	850		2020			
		C			6	2020	С	2.75	14552
9	2020		4.00	850	9	2020	P	2.00	14327
10	2020	С	4.00	850	3	2021	С	3.50	14243
6	2020	P	1.65	844	9	2020	С	2.25	14242
6	2020	P	1.60	830	6	2020	С	2.30	14203
8	2020	С	2.50	815	3	2021	С	3	14148

Source: CME, Nasdaq, ICE

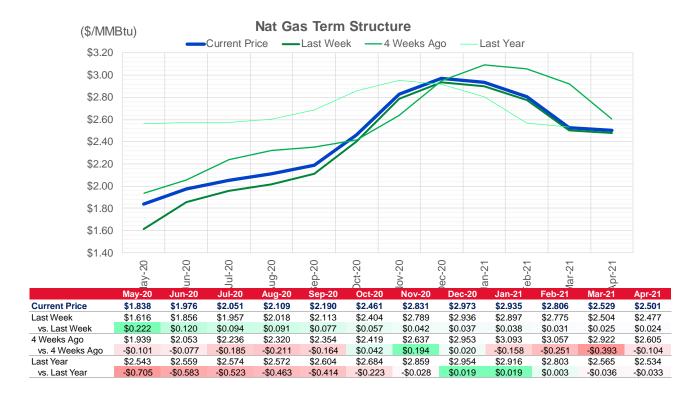
Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry	Hub Futures (1	0,000 MMBt	u)	ICE Henry I	Hub Futures Cor	ntract Equiv	alent (10,000 MI	MNASDAQ H	Henry Hub Future	s (10,000 l	MMBtu)
	Current	Prior	Daily Change		Current	Prior	Daily Change		Current	Prior	Daily Change
JUN 20	56477	79199	-22722	JUN 20	70574	74753	-4179.75	JUN 20	81	81	0
JUL 20	335370	318628	16742	JUL 20	82202	82601	-399	JUL 20	80	80	0
AUG 20	68507	66309	2198	AUG 20	67409	66294	1115	AUG 20	280	280	0
SEP 20	139588	136292	3296	SEP 20	65686	65056	630.5	SEP 20	81	81	0
OCT 20	101854	101064	790	OCT 20	74839	75007	-168.25	OCT 20	760	760	0
NOV 20	43663	43905	-242	NOV 20	57061	56882	178.75	NOV 20	631	631	0
DEC 20	63282	65179	-1897	DEC 20	56950	57165	-214.75	DEC 20	132	132	0
JAN 21	92595	93903	-1308	JAN 21	69803	69402	400.25	JAN 21	151	151	0
FEB 21	33726	34005	-279	FEB 21	43118	43073	45	FEB 21	23	23	0
MAR 21	60088	59944	144	MAR 21	58617	58627	-10	MAR 21	1101	1101	0
APR 21	70534	70608	-74	APR 21	52070	52417	-347	APR 21	775	775	0
MAY 21	26705	26599	106	MAY 21	44424	44134	290.25	MAY 21	41	41	0
JUN 21	17051	17005	46	JUN 21	40627	40455	172.5	JUN 21	40	40	0
JUL 21	12132	12184	-52	JUL 21	42363	42257	106.25	JUL 21	41	41	0
AUG 21	9867	9898	-31	AUG 21	42999	42908	90.75	AUG 21	41	41	0
SEP 21	12361	12163	198	SEP 21	40214	40033	181.25	SEP 21	40	40	0
OCT 21	23546	23169	377	OCT 21	51867	51717	150.25	OCT 21	326	326	0
NOV 21	16375	16355	20	NOV 21	35335	35301	34	NOV 21	405	405	0
DEC 21	13067	13048	19	DEC 21	35986	35986	0.25	DEC 21	5	5	0
JAN 22	11389	11113	276	JAN 22	27277	27298	-20.25	JAN 22	36	36	0
FEB 22	6032	5918	114	FEB 22	24128	24146	-17.75	FEB 22	33	33	0
MAR 22	13294	13316	-22	MAR 22	26452	26289	162.75	MAR 22	900	900	0
APR 22	10902	11573	-671	APR 22	22485	22453	32.25	APR 22	1035	1035	0
MAY 22	4362	4364	-2	MAY 22	20695	20730	-34.75	MAY 22	36	36	0
JUN 22	2050	2050	0	JUN 22	20209	20237	-28	JUN 22	35	35	0
JUL 22	1801	1801	0	JUL 22	21033	21022	11	JUL 22	36	36	0
AUG 22	1255	1255	0	AUG 22	20236	20225	11.5	AUG 22	36	36	0
SEP 22	1320	1320	0	SEP 22	20140	20124	15.5	SEP 22	35	35	0
OCT 22	1890	1901	-11	OCT 22	22623	22634	-11.25	OCT 22	479	479	0
NOV 22	1340	1340	. 0	NOV 22	18434	18442	-7.5	NOV 22	35	35	0

Source: CME, Nasdaq, ICE







	Units	Cash Settled	Prompt Settle	Cash to
4.0 		ı		Prompt
AGT Citygate	\$/MMBtu	1.75	1.57	-0.18
TETCO M3	\$/MMBtu	1.57	1.42	-0.15
FGT Zone 3	\$/MMBtu	1.13	1.87	0.74
Zone 6 NY	\$/MMBtu	1.13	1.51	0.38
Chicago Citygate	\$/MMBtu	1.69	1.78	0.09
Michcon	\$/MMBtu	1.66	1.78	0.12
Columbia TCO Pool	\$/MMBtu	1.60	1.57	-0.03
Ventura	\$/MMBtu	1.65	1.74	0.09
Rockies/Opal	\$/MMBtu	1.60	1.62	0.02
El Paso Permian Basin	\$/MMBtu	1.49	1.56	0.07
Socal Citygate	\$/MMBtu	1.95	1.83	-0.12
Malin	\$/MMBtu	1.58	1.69	0.11
Houston Ship Channel	\$/MMBtu	1.77	1.81	0.04
Henry Hub Cash	\$/MMBtu	1.70	1.74	0.03
AECO Cash	C\$/GJ	1.51	1.54	0.03
Station2 Cash	C\$/GJ	1.38	1.64	0.26
Dawn Cash	C\$/GJ	1.66	1.80	0.14

Source: CME, Bloomberg



					VS	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	VS	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.52	_	0.000	_	0.000	$\overline{}$	-0.082
NatGas Mar/Apr	\$/MMBtu	0.187	_	0.000	_	0.000	$\overline{}$	-0.082
NatGas Oct/Nov	\$/MMBtu	0.28	_	0.024	_	0.069	_	0.226
NatGas Oct/Jan	\$/MMBtu	0.80	_	0.071	_	0.156		0.496
WTI Crude	\$/Bbl	31.82	_	7.680	_	69.450	$\overline{}$	-31.280
Brent Crude	\$/BbI	34.81	_	5.180	_	9.240	$\overline{}$	-37.160
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	A	0.000	_	0.000		0.000
Heating Oil	cents/Gallon	100.64	_	13.770	_	11.860	$\overline{}$	-106.720
Propane, Mt. Bel	cents/Gallon	0.41	_	0.039	_	0.078	$\overline{}$	-0.183
Ethane, Mt. Bel	cents/Gallon	0.24	_	0.032	_	0.115		0.007
Coal, PRB	\$/MTon	12.30	_	0.000	_	0.000	$\overline{}$	-0.050
Coal, ILB	\$/MTon	31.05	_	0.000	_	0.000	$\overline{}$	-10.000