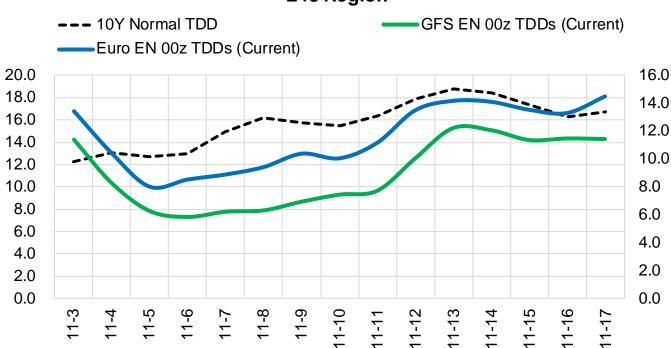




Short-term Weather Model Outlooks (00z)



L48 Region

Source: WSI, Bloomberg

3 November 2020

Daily Balances

	28-Oct	29-Oct	30-Oct	31-Oct	1-Nov	2-Nov	3-Nov	DoD	vs.7D
Lower 48 Dry Production	85.2	86.7	88.3	89.4	90.8	91.5	90.2	▼ -1.3	1.5
Canadian Imports	5.3	5.6	5.4	5.0	5.2	5.6	4.8	▼ -0.7	▼ -0.5
L48 Power	29.4	28.5	26.3	23.3	23.9	26.2	0.0	▼-26.2	▼-26.3
L48 Residential & Commercial	23.4	24.2	28.4	26.2	26.0	28.2	0.0	▼-28.2	▼-26.1
L48 Industrial	25.0	25.3	25.9	25.8	25.9	26.0	0.0	▼-26.0	▼-25.6
L48 Lease and Plant Fuel	4.7	4.8	4.9	4.9	5.0	5.0	0.0	▼ -5.0	V -4.9
L48 Pipeline Distribution	2.6	2.6	2.7	2.4	2.3	2.5	0.0	- 2.5	- 2.5
L48 Regional Gas Consumption	85.1	85.4	88.2	82.6	83.1	87.9	0.0	▼-87.9	▼-85.4
Net LNG Delivered	9.28	9.52	9.87	10.41	10.05	10.24	10.07	-0.2	0.2
Total Mexican Exports	6.3	6.4	6.1	5.8	5.8	5.9	6.5	0.6	0.4
Implied Daily Storage Activity EIA Reported Daily Storage Activity	-10.1	-9.0	-10.4	-4.3	-3.0	-7.0	78.5		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	25-Sep	2-Oct	9-Oct	16-Oct	23-Oct	30-Oct	WoW	vs. 4W
Lower 48 Dry Production	87.8	88.2	88.1	86.7	90.0	88.2	▼ -1.8	T-0.1
Canadian Imports	3.6	3.9	4.5	4.0	3.6	4.8	1.2	0.8
L48 Power	30.8	30.7	31.0	30.5	28.6	28.1	- 0.5	▼ -2.1
L48 Residential & Commercial	9.7	9.3	13.4	11.4	16.8	23.3	6 .4	10.5
L48 Industrial	22.3	23.2	22.5	22.9	23.6	25.1	1.5	2 .0
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.9	4.8	V -0.1	• 0.0
L48 Pipeline Distribution	2.0	2.0	2.2	2.1	2.2	2.5	a 0.3	a 0.4
L48 Regional Gas Consumption	69.5	70.1	73.9	71.6	76.2	83.8	7.6	10.9
Net LNG Exports	5.8	6.8	7.5	6.9	8.0	9.2	1.2	1.9
Total Mexican Exports	6.4	6.3	6.2	6.2	6.3	6.2	▼ -0.2	▼-0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	9.6 10.9 -1.2	9.0 10.7 -1.8	5.1 6.6 -1.5	6.0 7.0 -1.0	3.0 4.1 -1.1	-6.2	-9.2	

Monthly Balances

	2Yr Ago	LY					MTD		
	Nov-18	Nov-19	Jul-20	Aug-20	Sep-20	Oct-20	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	5.2	A 0.9	0.7
L48 Power	25.4	27.5	43.7	40.7	33.3	29.3	16.7	▼-12.6	▼-10.8
L48 Residential & Commercial	32.9	32.8	7.9	7.7	8.5	16.8	18.1	1.2	▼-14.7
L48 Industrial	25.1	25.1	19.8	21.3	22.1	23.6	17.3	T -6.3	V -7.8
L48 Lease and Plant Fuel	5.0	5.3	4.9	5.0	4.9	4.9	3.3	T -1.5	T -1.9
L48 Pipeline Distribution	2.6	2.8	2.4	2.4	2.1	2.3	1.6	- 0.6	▼ -1.2
L48 Regional Gas Consumption	91.0	93.5	78.8	77.0	70.7	76.8	57.0	▼-19.8	▼-36.5
Net LNG Exports	4.3	7.2	3.3	4.0	5.9	8.0	10.1	2.1	2.9
Total Mexican Exports	4.8	5.3	6.1	6.3	6.4	6.2	6.1	▼-0.1	0.8
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	-7.8	-6.2	4.4	6.2	9.4	1.5	22.8		

Source: Bloomberg, analytix.ai

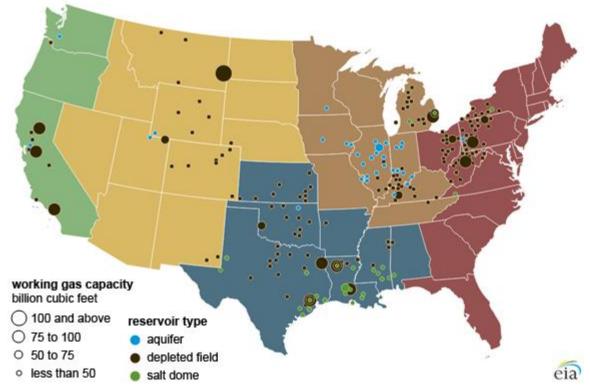


Regional S/D Models Storage Projection

Week Ending	30-Oct			
			Daily	
			Average	Weekly
		Daily	Storage	Adjusted
	Daily Raw	Adjustment	Activity	Storage
	Storage	Factor	(Adjusted) *	Activity
L48	-6.5	1.6	-4.9	-34
East	-1.4	2.2	0.8	6
Midwest	-1.4	1.4	-0.1	0
Mountain	2.1	-3.2	-1.1	-8
South Central	-4.8	1.2	-3.6	-25
Pacific	-0.9	0.0	-0.9	-7

*Adjustment Factor is calcuated based on historical regional deltas

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

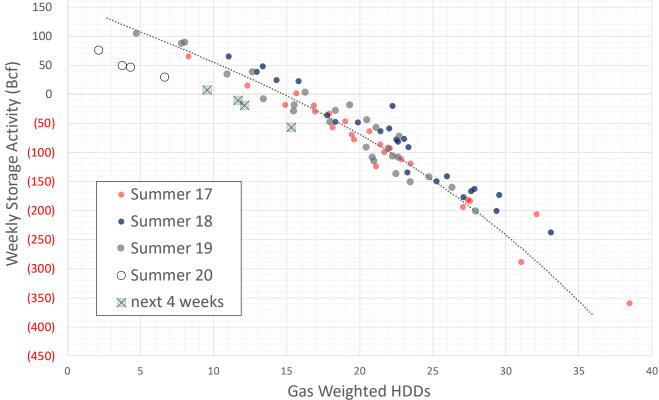


200

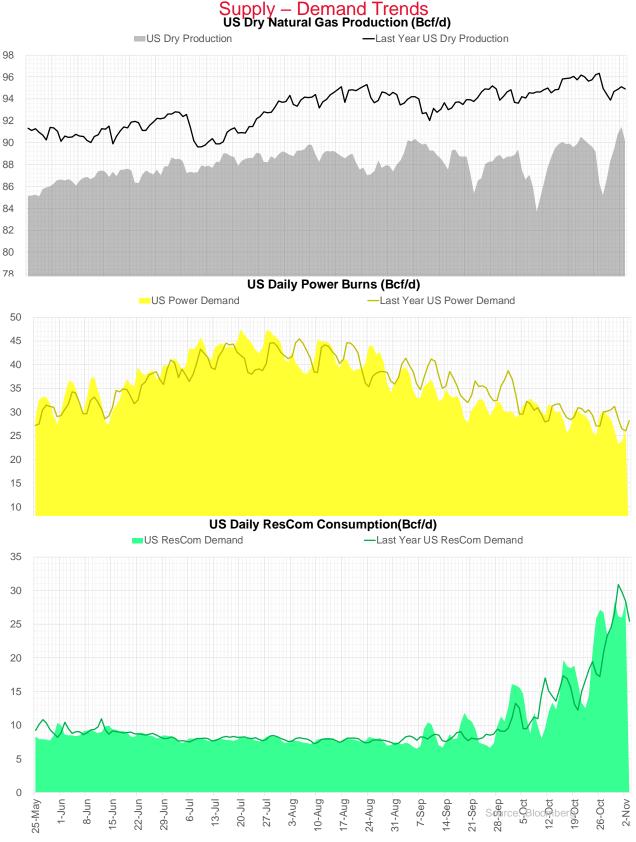
Weather Model Storage Projection

Next report and beyond		
		Week Storage
Week Ending	Temp	Projection
06-Nov	12.1	-19
13-Nov	9.5	7
20-Nov	15.3	-57

Winter Storage Forecast

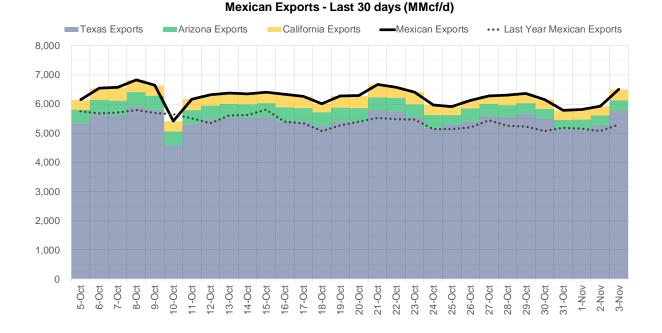


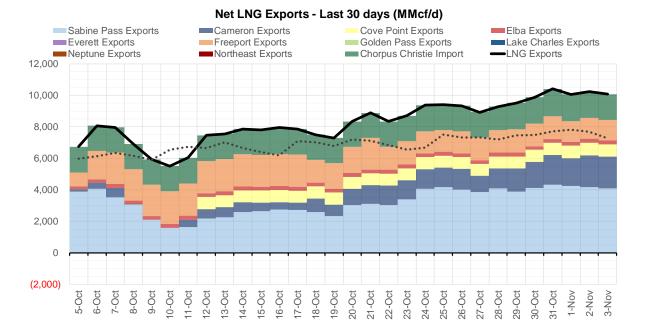
ENERGY



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NERGY





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	CUMULATIVE OI
12	2020	С	4.00	10214	3	2021	Р	2.00	38310
12	2020	C	3.75	5700	12	2020	Р	2.00	33054
1	2021	c	5.00	4461	3	2021	С	6.00	31936
1	2021	C	6.00	4138	1	2021	С	4.50	30223
12	2020	C	4.50	3149	3	2021	С	3.25	29811
1	2021	C	4.00	1936	10	2021	С	4.00	28890
1	2021	C	7.00	1882	3	2021	С	5.00	27967
12	2020	P	2.75	1679	3	2021	С	4.00	27854
12	2020	P	2.50	1672	10	2021	С	3.25	27270
1	2021	C	4.50	1525	4	2021	С	5.00	27122
3	2021	P	2.50	1500	1	2021	С	3.50	26710
3	2021	P	3.00	1500	3	2021	С	7.00	25476
12	2020	C	5.00	1481	12	2020	Р	2.50	25459
12	2020	P	3.00	1439	12	2020	С	4.00	25233
12	2020	C	3.50	1414	4	2021	С	4.00	23768
7	2021	P	2.25	1155	12	2020	С	4.50	23681
8	2021	P	2.25	1155	1	2021	С	6.00	22359
9	2021	P	2.25	1155	3	2021	С	3.50	21703
1	2021	P	3.00	1144	12	2020	С	3.75	21600
4	2021	P	3.00	1135	3	2021	С	3.00	21545
4	2021	P	2.25	1125	1	2021	Р	2.50	20903
5	2021	P	2.25	1125	3	2021	С	4.50	20834
6	2021	P	2.25	1125	2	2021	Р	2.25	20507
10	2021	P	2.25	1125	12	2020	С	3.50	20467
10	2021	P	3.00	1125	8	2021	С	4.00	19799
1	2021	P	2.75	970	2	2021	С	5.00	19796
12	2021	P	2.75	950	1	2021	С	5.00	18900
12	2020	C	4.25	884	12	2020	Р	2.75	18667
3	2020	c	5.00	845	1	2021	Р	2.25	18556
12	2020	P	3.25	840	1	2021	С	3.75	18005
2	2020	C	4.00	777	3	2021	Р	2.50	17939
2 3	2021	c	4.00	748	8	2021	Р	2.25	17742
4	2021	c	4.75	675	1	2021	С	3.00	17132
2	2021	c	4.00	652	12	2020	С	5.00	17105
4	2021	c	4.50 3.50	630	2	2021	С	3.50	17066
4 5	2021	P	3.00	625	12	2020	Р	3.00	16864
6	2021	P	3.00	625	10	2021	С	5.00	16853
6 7	2021	P	3.00	625	2	2021	Р	2.50	16066
8	2021	P	3.00	625	1	2021	С	7.00	15198
9	2021	P	3.00	625	1	2021	С	4.00	15116
9 1	2021	F C	3.50	613	2	2021	С	4.00	14814
10		c			12	2020	С	4.25	14510
5	2021 2021	c	3.50 3.50	555 530	12	2020	P	1.50	14450
5	2021	c	3.50 3.50	530 530	4	2021	С	3.00	14185
6 7	2021	c	3.50 3.50	530 530	10	2021	C P	3.00	13866
8	2021 2021	c	3.50 3.50	530 530	4	2021		2.00	13722
8	2021	c	3.50 3.50	530	1	2021	P	2.00	13562
9 4	2021	c	3.50	530 510	12 5	2020 2021	C C	3.25	13470 13436
4 12	2021	c	3.00 4.75	504	5 1	2021	C	3.00	13436
12	2020	U U	4.75	504	1	2021	Source	3.25 CME, ICE	13170



3 November 2020

Nat Gas Futures Open Interest

CME H	lenry Hub Futures	CMF (10 000 MMBt		n mbined ICE Henry H	lub Futures Co	otract Equiva	alent (10,000 MM
	Current			FOR JUNE 26		Prior	Daily Change
DEC 2			-2655	DEC 20	82874	81414	1460.25
JAN 21			279	JAN 21	91311	90613	697.75
FEB 2		85175	1849	FEB 21	65024	64927	96.75
MAR 2			2153	MAR 21	91163	88927	2236
APR 2	1 76788	74552	2236	APR 21	67932	67943	-11.25
MAY 2	1 53265	51633	1632	MAY 21	68307	67171	1135.25
JUN 21	I 34803	34517	286	JUN 21	57696	57792	-96.25
JUL 21	28015	27294	721	JUL 21	60005	59865	139.5
AUG 2	1 29304	29293	11	AUG 21	63378	63484	-106
SEP 2	1 40597	40842	-245	SEP 21	57988	57883	105.25
OCT 2		95787	474	OCT 21	66876	66664	212.5
NOV 2		34261	18	NOV 21	52937	52649	288
DEC 2		29657	353	DEC 21	47744	47651	93
JAN 22		31662	169	JAN 22	45298	44951	347.25
FEB 22		22237	-481	FEB 22	36856	36515	341.5
MAR 2		23349	161	MAR 22	39656	39293	362.75
APR 2		22941	1043	APR 22	40567	39453	1113.5
MAY 2		10192	1	MAY 22	29714	29424	290
JUN 22		5296	19	JUN 22	28877	28478	398.5
JUL 22		4556	39	JUL 22	30598	30459	138.25
AUG 2		3392	141	AUG 22	28827	28558	268.25
SEP 22 OCT 2		3404 4484	-8 91	SEP 22 OCT 22	28703 32729	28312 32255	391 473.5
NOV 2		4484 3802	91 19	NOV 22	28747	28512	235.5
DEC 2		4465	19	DEC 22	31003	30757	235.5
JAN 23		4317	-6	JAN 23	14820	14740	79.75
FEB 2		944	80	FEB 23	13843	13770	72.75
MAR 2		2310	0	MAR 23	13899	13835	64.25
APR 2		1548	-6	APR 23	12926	12864	62.5
MAY 2		382	59	MAY 23	11447	11459	-12.75
	/MMBtu)	R	olling Prompt	Month Contr	act		\$/Bbl
	5.40	Nat Gas	-WTI	Crude -	Brent Crude		\$100
\$4	1.90						\$90
	1.40 Nh						\$80
	3.90	human		-00			\$70
		" how we have	man	"how were	~		\$60
	3.40	here we have a second s	- where I		×h		\$50
	2.90	man and	-	Ma	٩ ،	hours	\$40
	2.40	. ward	when w	- "homen	1. C. M	-	\$30
\$1	1.90		- *	h	martin	a and	\$20
\$´	1.40					<u>·</u> V ·	\$10
	Nov-18 Dec-18 Jan-19 Feb-19	Mar-19 Apr-19 May-19 Jun-19	Jul-19 Aug-19 Sep-19 Oct-19	Nov-19 Dec-19 Jan-20	Mar-20 Apr-20 May-20	Jul-20 Aug-20 Sep-20	Oct-20
	Nov Dec Jar Feb	Ma Ap May Jur	Ju Auç Ser	Nov Dec Jar	Ma Ap May	Ju Ju Sep	ő

vs. Last Year

\$0.318

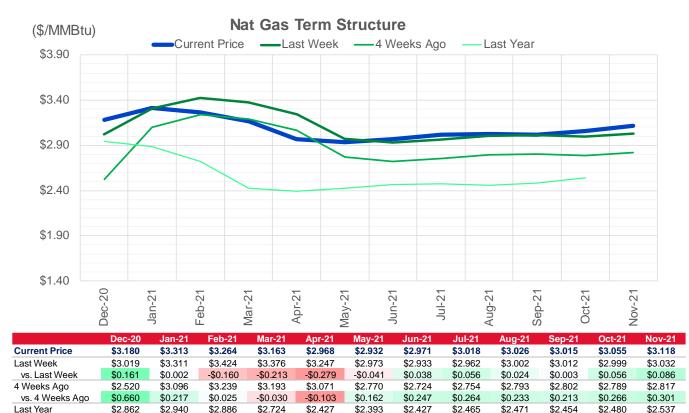
\$0.373

\$0.378

\$0.439

\$0.541

Market Report



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.40	3.33	-0.07
TETCO M3	\$/MMBtu	2.42	2.14	-0.28
FGT Zone 3	\$/MMBtu	2.50	3.06	0.56
Zone 6 NY	\$/MMBtu	2.50	2.40	-0.10
Chicago Citygate	\$/MMBtu	2.93	2.91	-0.02
Michcon	\$/MMBtu	2.96	2.75	-0.21
Columbia TCO Pool	\$/MMBtu	2.32	2.30	-0.02
Ventura	\$/MMBtu	2.88	2.91	0.03
Rockies/Opal	\$/MMBtu	2.95	2.83	-0.12
El Paso Permian Basin	\$/MMBtu	2.45	1.75	-0.70
Socal Citygate	\$/MMBtu	3.47	3.36	-0.12
Malin	\$/MMBtu	3.05	3.29	0.24
Houston Ship Channel	\$/MMBtu	3.04	2.99	-0.05
Henry Hub Cash	\$/MMBtu	3.03	2.80	-0.23
AECO Cash	C\$/GJ	2.51	2.40	-0.11
Station2 Cash	C\$/GJ	2.49	3.85	1.36
Dawn Cash	C\$/GJ	2.91	2.84	-0.07

\$0.539

\$0.544

\$0.553

Source: CME, Bloomberg

\$0.555

\$0.561

\$0.575

\$0.581



		vs. 4 Weeks						
	Units	Current Price	vs.	Last Week		Ago	vs	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.35		0.106		0.124		0.127
NatGas Mar/Apr	\$/MMBtu	-0.195		0.079		-0.496	▼	-0.488
NatGas Oct/Nov	\$/MMBtu	0.90		-0.023		0.476		0.838
NatGas Oct/Jan	\$/MMBtu	1.21	▼	-0.111		0.074		0.878
WTICrude	\$/Bbl	38.03		-1.540		-2.640	▼	-19.200
Brent Crude	\$/Bbl	40.15	\bullet	-1.050		-2.500	▼	-22.810
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03		0.000		0.000		0.000
Heating Oil	cents/Gallon	113.34	\bullet	-2.430		-5.520	▼	-82.320
Propane, Mt. Bel	cents/Gallon	0.55		0.026		0.038		0.029
Ethane, Mt. Bel	cents/Gallon	0.22		0.009		0.021		0.019
Coal, PRB	\$/MTon	12.30		0.000		0.000		0.050
Coal, ILB	\$/MTon	31.05		0.000		0.000		-4.500