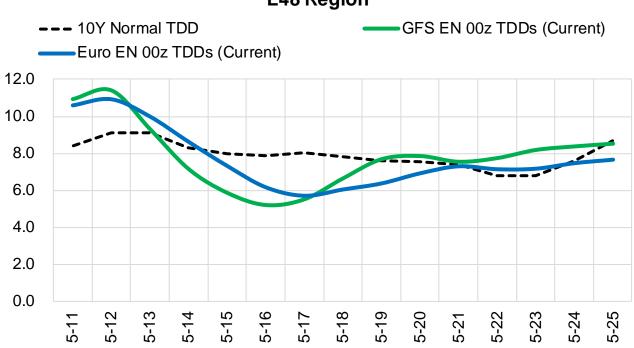


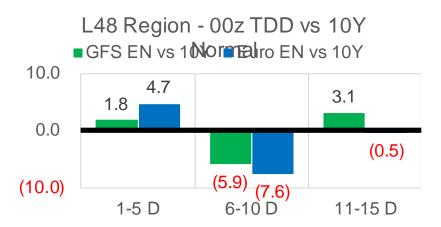


Short-term Weather Model Outlooks (00z)



L48 Region

Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

Daily Balances

	5-May	6-May	7-May	8-May	9-May	10-May	11-May	DoD	vs. 7D
Lower 48 Dry Production	90.1	90.7	91.0	91.0	90.4	90.0	89.1	-0.9	▼-1.4
Canadian Imports	5.0	5.1	4.8	4.6	4.6	4.7	4.9	0.2	0.1
L48 Power	28.0	26.7	24.5	23.4	24.9	26.9	27.4	a 0.5	1.6
L48 Residential & Commercial	16.4	17.2	17.9	18.8	18.0	18.8	18.6	▼ -0.2	0.7
L48 Industrial	18.5	18.6	18.6	18.8	18.3	17.4	15.8	T -1.6	▼ -2.6
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.0	4.9	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.3	2.2	2.2	2.2	2.2	2.3	2.3	0 .0	A 0.1
L48 Regional Gas Consumption	70.2	69.8	68.2	68.2	68.4	70.4	69.0	▼ -1.4	T-0.2
Net LNG Delivered	11.58	11.81	11.60	11.61	11.48	11.33	11.36	▲ 0.0	-0.2
Total Mexican Exports	7.1	6.9	6.9	6.4	6.3	6.6	7.0	0.3	0.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity	6.2	7.2	9.2	9.4	8.9	6.4	6.7		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	2-Apr	9-Apr	16-Apr	23-Apr	30-Apr	7-May	WoW	vs. 4W
Lower 48 Dry Production	91.5	91.4	90.8	90.1	90.8	90.7	-0.1	T-0.1
Canadian Imports	4.5	4.2	4.3	5.3	4.6	4.6	T -0.1	▼ 0.0
L48 Power	24.6	23.2	24.6	25.9	26.7	26.7	a 0.1	1 .6
L48 Residential & Commercial	23.4	18.6	18.6	24.0	16.5	13.7	▼ -2.8	T -5.8
L48 Industrial	20.3	20.6	20.1	19.0	19.7	18.6	🔽 -1.1	🔽 -1.3
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.0	▲ 0.0	▲ 0.0
L48 Pipeline Distribution	2.3	2.1	2.1	2.5	2.1	2.1	T -0.1	T -0.1
L48 Regional Gas Consumption	75.6	69.6	70.4	76.3	70.0	66.1	▼ -4.0	🔽 -5.5
Net LNG Exports	11.7	11.5	11.4	11.6	11.4	11.3	T -0.1	▼-0.2
Total Mexican Exports	6.4	6.2	7.3	6.8	6.7	6.7	▲ 0.0	T-0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	2.4 2.9 -0.5	8.3 8.7 -0.4	6.1 5.4 0.7	0.8 2.1 -1.3	7.3 8.6 -1.3	11.3	3.9	

Monthly Balances

-	2Yr Ago	LY					MTD		
	May-19	May-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	MoM	vs. LY
Lower 48 Dry Production	90.1	86.5	90.3	83.2	90.7	90.8	90.5	-0.3	7.3
Canadian Imports	4.7	3.9	6.3	6.4	4.8	4.7	4.6	▼ 0.0	▼-1.8
L48 Power	26.9	26.9	28.2	27.9	25.0	25.2	26.2	1 .0	T -1.8
L48 Residential & Commercial	12.8	12.7	43.9	47.9	28.4	19.7	15.7	- 4.0	▼-32.2
L48 Industrial	22.7	18.9	23.1	20.2	18.8	19.9	18.1	▼ -1.8	-2.0
L48 Lease and Plant Fuel	5.0	4.8	5.0	4.7	5.0	5.0	5.0	▲ 0.0	a 0.3
L48 Pipeline Distribution	2.1	2.0	3.2	3.3	2.5	2.2	2.1	T -0.1	▼-1.1
L48 Regional Gas Consumption	69.4	65.3	103.4	103.9	79.8	72.0	67.1	▼ -4.9	▼-36.8
Net LNG Exports	5.6	6.7	10.5	8.4	11.1	11.5	11.4	▼ -0.1	2.9
Total Mexican Exports	5.0	4.8	6.2	5.7	6.5	6.7	6.6	▼ -0.1	0.9
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	14.8	13.6	-23.5	-28.5	-1.9	5.3	10.0		

Source: Bloomberg, analytix.ai

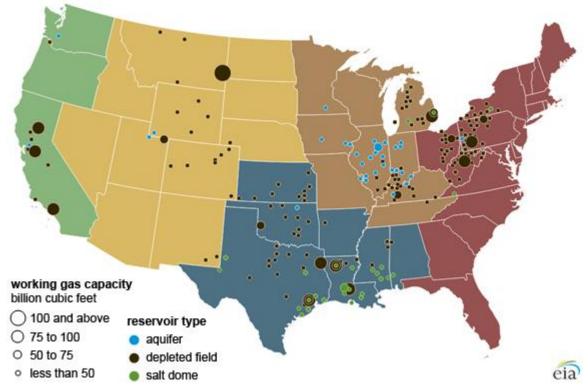


Regional S/D Models Storage Projection

Week Ending	7-May			
	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	10.9	1.1	12.0	84
East	0.8	1.9	2.7	19
Midwest	2.9	-0.3	2.6	18
Mountain	4.3	-3.0	1.4	9
South Central	1.0	2.8	3.8	27
Pacific	1.9	-0.3	1.5	11

*Adjustment Factor is calcuated based on historical regional deltas

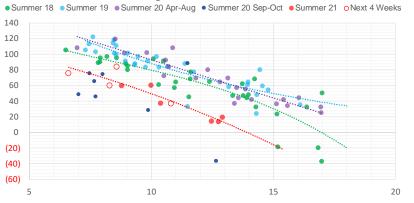
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
07-May	8.6	84
14-May	10.8	37
21-May	6.6	76
28-May	8.3	60

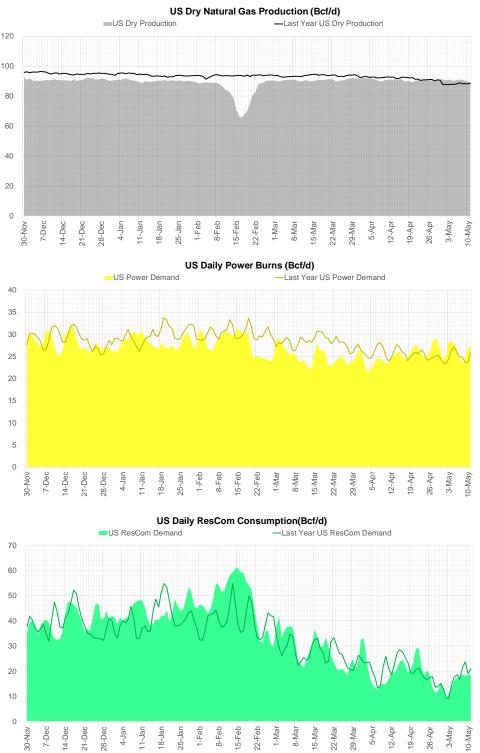
Weather Storage Model - Next 4 Week Forecast



Go to larger image

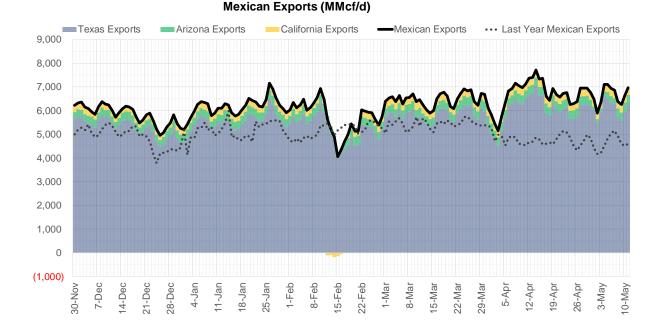


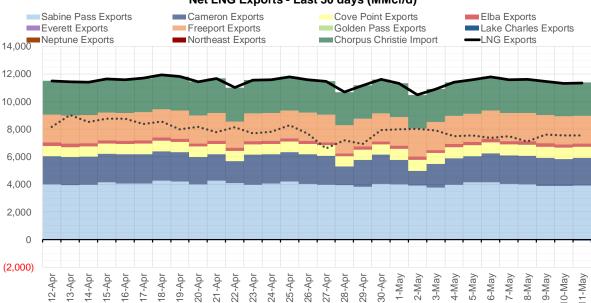




Source: Bloomberg







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

Source: Bloomberg



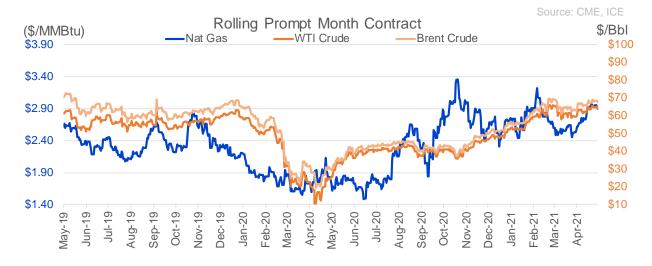
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	CONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE OI
MONTH	YEAR			VOL	MONTH	YEAR			
6	2021	Р	2.70	6796	10	2021	С	4.00	42046
7	2021	С	3.50	5900	8	2021	С	3.50	33791
6	2021	P	2.75	4759	8	2021	С	4.00	31474
7	2021	Р	2.70	3923	9	2021	С	4.00	31238
6	2021	Р	2.65	3601	6	2021	Р	2.50	30491
6	2021	С	3.00	2836	6	2021	С	3.25	30298
8	2021	С	3.75	2412	10	2021	С	3.25	29426
7	2021	Р	2.50	2181	6	2021	С	4.00	27949
6	2021	Р	2.85	2167	6	2021	С	3.00	27901
8	2021	С	3.50	2100	7	2021	С	4.00	27533
6	2021	Р	2.80	2028	6	2021	Р	2.65	26375
6	2021	Р	2.90	1788	8	2021	С	3.25	25834
10	2021	Р	2.00	1500	10	2021	С	3.50	25546
6	2021	С	3.15	1313	9	2021	С	3.50	25427
8	2021	Р	2.25	1119	10	2021	С	5.00	25130
10	2021	Р	2.50	1102	10	2021	P	2.50	24744
6	2021	С	3.10	1074	6	2021	С	3.50	23414
6	2021	С	3.40	1001	7	2021	P	2.50	23017
6	2021	С	3.20	1000	7	2021	C P	3.50	22607
9	2021	С	3.65	1000	6	2021		2.75	22607
2	2022	С	5.50	1000	7	2021	C P	3.25	21051
10	2021	С	3.00	900	6	2021	P C	2.90	20705
7	2021	Р	2.60	896	10 8	2021 2021	P	3.00 2.50	20433 19915
7	2021	С	3.25	873	8 12	2021	P C	2.50 4.00	19915
6	2021	С	3.05	826	4	2021	c	3.00	19715
8	2021	С	3.00	751	6	2022	P	2.25	19090
7	2021	С	3.00	729	9	2021	P	2.23	19090
9	2021	Р	2.60	621	10	2021	P	2.00	18960
9	2021	Р	2.40	620	8	2021	P	2.25	18286
9	2021	С	4.00	600	6	2021	P	2.70	17950
12	2021	Р	2.25	600	10	2021	P	2.00	17854
12	2021	Р	2.75	600	11	2021	C	4.00	17189
6	2021	С	2.95	587	6	2021	P	2.00	17062
10	2021	С	3.75	500	3	2022	C	4.00	16655
3	2022	Р	2.50	500	7	2021	P	2.00	16035
9	2021	С	3.50	445	7	2021	С	3.00	16001
6	2021	Р	2.95	419	8	2021	Р	2.00	15895
7	2021	Р	3.00	411	6	2021	С	3.75	15823
6	2021	С	3.25	408	8	2021	С	3.00	15630
3	2022	С	3.00	401	9	2021	Р	2.50	15550
6	2021	С	3.50	392	9	2021	С	3.25	15506
7	2021	С	3.80	360	7	2021	Р	2.75	15455
12	2021	С	4.50	350	6	2021	С	2.75	15036
12	2021	Р	2.50	350	8	2021	С	3.75	14998
4	2022	Р	2.50	330	3	2022	С	5.00	14200
5	2022	Р	2.50	330	10	2021	С	4.50	14041
6	2022	Р	2.50	330	12	2021	Р	2.00	14034
7	2022	Р	2.50	330	10	2021	С	6.00	13994
8	2022	Р	2.50	330	9	2021	P Source	: CME, ICE	13733

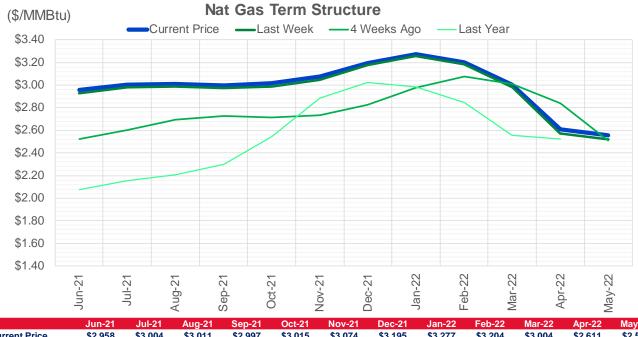
ENERGY

Nat Gas Futures Open Interest CME, and ICE Combined

Civie, and ice Combined									
CME Henry H	Hub Futures (1)						lent (10,000 MM		
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change		
JUN 21	179361	190702	-11341	JUN 21	90004	88151	1853		
JUL 21	228383	221166	7217	JUL 21	93223	87892	5331		
AUG 21	71779	72962	-1183	AUG 21	79677	80464	-787		
SEP 21	108155	108277	-122	SEP 21	69680	69579	101		
OCT 21	129479	129042	437	OCT 21	88482	88919	-437		
NOV 21	71241	70160	1081	NOV 21	62365	62354	12		
DEC 21	45457	45082	375	DEC 21	60770	60848	-78		
JAN 22	79205	78365	840	JAN 22	68047	67595	452		
FEB 22	26494	23645	2849	FEB 22	52100	48804	3296		
MAR 22	54602	51180	3422	MAR 22	57431	54435	2996		
APR 22	53989	54102	-113	APR 22	48992	48868	124		
MAY 22	31266	30628	638	MAY 22	44678	44430	247		
JUN 22	18779	17977	802	JUN 22	41385	41199	187		
JUL 22	10894	10656	238	JUL 22	41610	41508	102		
AUG 22	9188	9235	-47	AUG 22	40104	40005	99		
SEP 22	9623	9656	-33	SEP 22	40790	40546	244		
OCT 22	22612	22505	107	OCT 22	44928	44829	100		
NOV 22	10624	10628	-4	NOV 22	36974	36830	144		
DEC 22	10190	10182	8	DEC 22	40612	40606	6		
JAN 23	5496	5491	5	JAN 23	23390	23331	59		
FEB 23	2531	2530	1	FEB 23	21803	21749	54		
MAR 23	5142	5142	0	MAR 23	23363	23341	22		
APR 23	5606	5606	0	APR 23	19108	19039	70		
MAY 23	4556	4556	0	MAY 23	19144	19066	78		
JUN 23	968	968	0	JUN 23	17599	17520	79		
JUL 23	1033	1033	0	JUL 23	17678	17627	51		
AUG 23	795	795	0	AUG 23	17822	17771	52		
SEP 23	768	768	0	SEP 23	17195	17158	38		
OCT 23	1755	1755	0	OCT 23	18093	18004	89		
NOV 23	609	609	0	NOV 23	17518	17449	69		



Market Report



	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Current Price	\$2.958	\$3.004	\$3.011	\$2.997	\$3.015	\$3.074	\$3.195	\$3.277	\$3.204	\$3.004	\$2.611	\$2.557
Last Week	\$2.931	\$2.978	\$2.989	\$2.972	\$2.987	\$3.048	\$3.175	\$3.259	\$3.184	\$2.980	\$2.574	\$2.521
vs. Last Week	\$0.027	\$0.026	\$0.022	\$0.025	\$0.028	\$0.026	\$0.020	\$0.018	\$0.020	\$0.024	\$0.037	\$0.036
4 Weeks Ago	\$2.526	\$2.605	\$2.691	\$2.724	\$2.715	\$2.735	\$2.823	\$2.980	\$3.073	\$3.013	\$2.837	\$2.511
vs. 4 Weeks Ago	\$0.432	\$0.399	\$0.320	\$0.273	\$0.300	\$0.339	\$0.372	\$0.297	\$0.131	-\$0.009	-\$0.226	\$0.046
Last Year	\$1.823	\$2.077	\$2.153	\$2.207	\$2.296	\$2.544	\$2.882	\$3.022	\$2.983	\$2.847	\$2.553	\$2.521
vs. Last Year	\$1.135	\$0.927	\$0.858	\$0.790	\$0.719	\$0.530	\$0.313	\$0.255	\$0.221	\$0.157	\$0.058	\$0.036

		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	2.75	2.37	-0.38
TETCO M3	\$/MMBtu	2.35	2.25	-0.10
FGT Zone 3	\$/MMBtu	2.40	3.01	0.61
Zone 6 NY	\$/MMBtu	2.40	2.30	-0.11
Chicago Citygate	\$/MMBtu	2.73	2.80	0.07
Michcon	\$/MMBtu	2.74	2.75	0.00
Columbia TCO Pool	\$/MMBtu	2.47	2.38	-0.09
Ventura	\$/MMBtu	2.56	2.75	0.19
Rockies/Opal	\$/MMBtu	2.69	2.74	0.06
El Paso Permian Basin	\$/MMBtu	2.58	2.86	0.28
Socal Citygate	\$/MMBtu	3.23	3.55	0.32
Malin	\$/MMBtu	2.70	3.07	0.37
Houston Ship Channel	\$/MMBtu	2.94	3.03	0.09
Henry Hub Cash	\$/MMBtu	2.90	2.79	-0.11
AECO Cash	C\$/GJ	2.51	2.39	-0.12
Station2 Cash	C\$/GJ	2.46	2.85	0.39
Dawn Cash	C\$/GJ	2.72	2.76	0.04

Source: CME, Bloomberg

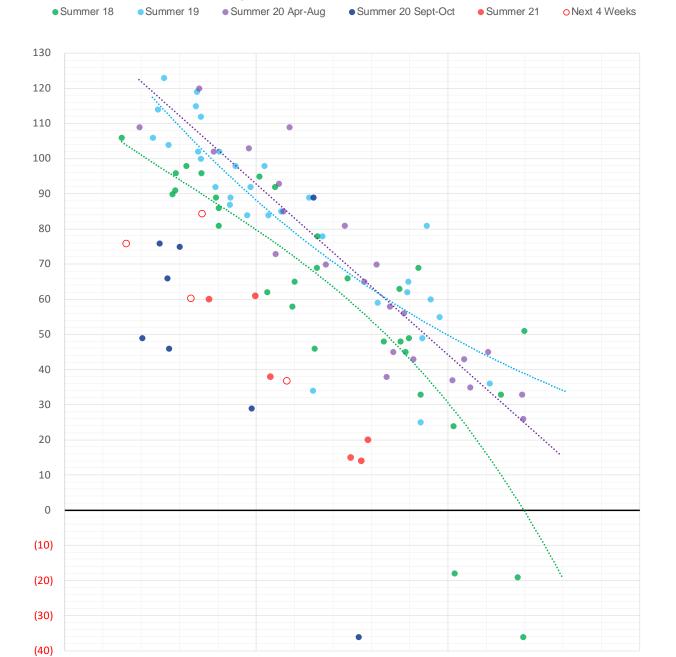


		vs. 4 Weeks						
	Units	Current Price	vs. L	ast Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.011	(0.002		-0.033		0.004
NatGas Oct21/Nov21	\$/MMBtu	0.059	-(0.002		-0.029		0.014
NatGas Oct21/Jan22	\$/MMBtu	0.262	-(0.010		-0.076	▼	-0.028
NatGas Apr22/Oct22	\$/MMBtu	0.020	-(0.002		-0.014	▼	-0.030
WTI Crude	\$/Bbl	64.90	🔺 1	1.320		5.580		40.160
Brent Crude	\$/Bbl	68.28	A 1	1.030		5.330		37.310
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	(0.000		0.000		0.000
Heating Oil	cents/Gallon	201.06	٤ 🔺	8.950		20.300		111.130
Propane, Mt. Bel	cents/Gallon	0.80	-(0.018		-0.046		0.428
Ethane, Mt. Bel	cents/Gallon	0.26	(0.019		0.028		0.051
Coal, PRB	\$/MTon	12.30	🔺 (0.000		0.000		0.000
Coal, PRB	\$/MMBtu	0.70						
Coal, ILB	\$/MTon	31.05	(0.000		0.000		0.000
Coal, ILB	\$/MMBtu	1.32						



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Weather Storage Model - Next 4 Week Forecast



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