

15 March 2022



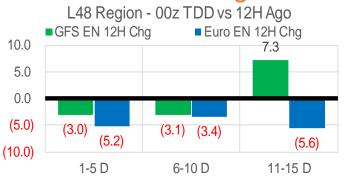
	С	urrent	Δ from YD	Δ from 7D Avg		
WTI Prompt	\$	95.16	\$ (7.85)	\$ (14.8)		

	_	urrent	Δ from YD	Δ from 7D
	urreni	ם וווטווו זם	Avg	
Brent	\$	99.35	\$ (7.55)	* \$ (14.0)
Prompt	•		' (/	. (/

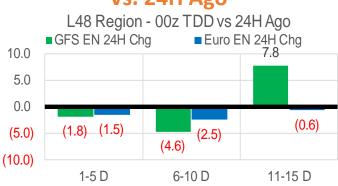
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Short-term Weather Model Outlooks Lower 48 Component Models Regional S/D Models Storage Projection Weather Model Storage Projection Supply - Demand Trends Nat Gas Options Volume and Open Interest Nat Gas Futures Open Interest **Price Summary**

Vs. 12H Ago



Vs. 24H Ago



Δ from YD

-0.70

Current

4.8

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	93.1	- 0.09	- 0.46

	Current	Δ from YD	Δ from 7D		Current	Δ from YD	Δ from 7D
US Dry Production	93.1	- 0.09	- 0.46	US Power Burns	26.0	▼ -0.50	▼ -2.22
	Odrieni	A HOIN 1D	Avg		Odrieni	A HOIII 1D	Avg

Canadian

Imports

	Current	Δ from YD	Δ from 7D Avg		
US ResComm	25.5	▼ -3.92	▼ -13.71		

	Current	Δfr	om YD	Δf	rom 7D Avg
Mex Exp	6.1	•	-0.46	•	-0.55

	Current	Δ from YD	Δ from 7D Avg		
Net LNG Exports	12.2	▼ -0.43	▼ -0.65		

Δ from 7D

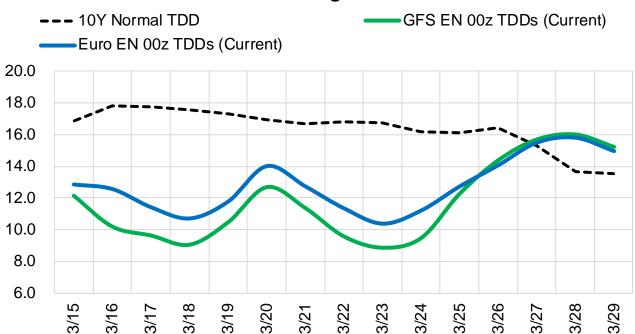
Avg

-0.78

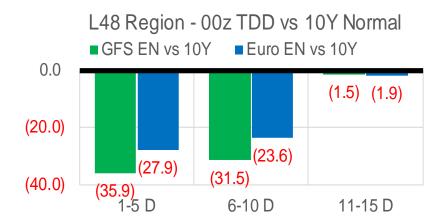


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar	DoD	vs. 7D
Lower 48 Dry Production	94.4	94.3	92.8	93.0	93.6	93.2	93.1	▼ -0.1	▼ -0.4
Canadian Imports	5.7	5.6	5.4	5.8	5.8	5.5	4.8	▼ -0.7	▼ -0.8
L48 Power	29.5	29.1	28.3	28.4	26.9	26.5	26.0	▼-0.5	▼ -2.1
L48 Residential & Commercial	39.5	39.8	39.6	47.4	40.5	29.4	25.5	▼-3.9	-13.9
L48 Industrial	24.1	23.5	23.1	23.3	22.0	20.9	20.5	▼ -0.4	▼ -2.3
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.0	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	3.6	3.6	3.5	4.0	3.5	2.9	2.7	▼ -0.2	▼ -0.8
L48 Regional Gas Consumption	101.9	101.1	99.6	108.1	97.9	84.8	79.8	▼ -5.1	▼ -19.2
Net LNG Delivered	12.63	12.57	12.80	13.40	13.18	12.59	12.17	▼ -0.4	▼ -0.7
Total Mexican Exports	6.8	6.8	6.8	6.3	6.2	6.5	6.1	▼ -0.5	▼ -0.5
Implied Daily Storage Activity	-21.3	-20.6	-21.0	-29.1	-18.0	-5.2	0.0		
EIA Reported Daily Storage Activity Daily Model Error									

EIA Storage Week Balances

	4-Feb	11-Feb	18-Feb	25-Feb	4-Mar	11-Mar	WoW	vs. 4W
Lower 48 Dry Production	93.8	91.5	95.6	94.2	94.1	94.8	0.6	0.9
Canadian Imports	7.1	7.1	6.2	6.4	5.9	5.2	▼ -0.7	▼-1.2
L48 Power	29.7	29.4	26.8	27.3	28.2	26.6	▼ -1.6	▼ -1.3
L48 Residential & Commercial	49.0	45.8	40.3	41.4	38.6	33.5	▼ -5.1	▼-8.0
L48 Industrial	27.0	24.6	26.1	26.2	23.8	23.4	▼ -0.4	▼ -1.8
L48 Lease and Plant Fuel	5.1	5.0	5.2	5.1	5.1	5.2	0.0	0.0
L48 Pipeline Distribution	3.8	3.5	3.2	3.2	3.3	3.1	▼ -0.1	▼ -0.2
L48 Regional Gas Consumption	114.6	108.3	101.6	103.2	99.0	91.8	▼ -7.2	▼-11.2
Net LNG Exports	12.1	12.4	13.0	11.7	12.5	12.8	0.3	0.4
Total Mexican Exports	6.4	6.1	6.1	6.1	6.4	6.5	0.1	0.4
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	-32.2 -31.7 -0.5	-28.2 -27.1 -1.1	-18.9 -18.4 -0.4	-20.5 -19.9 -0.6	-17.9 -17.7 -0.2	-11.1	6.8	

Monthly Balances									
•	2Yr Ago	LY					MTD		
	Mar-20	Mar-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	MoM	vs. LY
Lower 48 Dry Production	94.2	91.3	95.7	96.2	94.3	93.5	94.3	8.0	3.0
Canadian Imports	4.1	4.8	5.3	4.8	6.7	6.6	5.3	▼-1.3	0.6
L48 Power	28.3	24.5	29.2	28.5	30.7	28.2	26.8	▼ -1.3	2.3
L48 Residential & Commercial	27.6	28.9	28.4	33.8	49.1	43.0	34.6	▼-8.4	5.7
L48 Industrial	22.3	19.3	23.0	22.9	26.4	25.6	23.1	▼ -2.5	3.9
L48 Lease and Plant Fuel	5.1	5.0	5.3	5.3	5.2	5.1	5.1	0.0	0.2
L48 Pipeline Distribution	2.9	2.8	2.9	3.2	3.9	3.4	3.2	▼ -0.2	0.4
L48 Regional Gas Consumption	86.2	80.4	88.8	93.7	115.2	105.3	92.9	▼-12.4	▲12.5
Net LNG Exports	8.5	11.1	11.4	12.1	12.4	12.4	12.7	0.3	1.6
Total Mexican Exports	5.4	6.5	6.1	6.2	6.3	6.2	6.5	0.4	▲ 0.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	-1.9	-2.0	-5.3	-11.0	-32.9	-23.8	-12.5		

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	DoD	vs. 7D
NRC Nuclear Daily Output	81.9	81.7	81.2	81.9	81.5	80.3	81.1	0.8	-0.3
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	23.0	23.1	23.7	23.0	23.4	24.6	23.8	-0.8	0.3
NRC % Nuclear Cap Utilization	83.3	83.1	82.5	83.3	82.9	81.6	82.4	8.0	-0.3

Wind Generation Daily Average - MWh (EIA)

	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	DoD	vs. 7D
CALI Wind	1672	1060	2759	2467	802	1237	3389	2151	1722
TEXAS Wind	14560	4680	11044	13224	17888	13743	21867	8125	9344
US Wind	56964	36253	45684	46546	61234	60779	73673	12894	22429

Generation Daily Average - MWh (EIA)

	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	DoD	vs. 7D
US Wind	56964	36253	45684	46546	61234	60779	73673	12894	22429
US Solar	12777	13957	12156	12887	13471	14658	11009	-3648	-2308
US Petroleum	2228	2251	802	822	1089	901	1129	228	-220
US Other	6345	6584	6778	6915	6123	6525	7303	778	758
US Coal	88382	95443	94165	95472	93207	97487	90184	-7303	-3842
US Nuke	85888	85950	85576	86043	85197	84459	84752	293	-766
US Hydro	33734	33965	32368	37038	36295	36432	30252	-6180	-4720
US Gas	140847	166489	165883	155830	151561	156180	135780	-20400	-20352

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Storage Week Average Generation Data

Nuclear Generation Weekly	[,] Average - GWh ((NRC)
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	4-Feb	11-Feb	18-Feb	25-Feb	4-Mar	11-Mar	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	89.5	87.6	88.2	86.9	85.8	82.3	-3.5	0.6
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	15.4	17.3	16.7	18.0	19.1	22.5	3.5	
NRC % Nuclear Cap Utilization	91.0	89.1	89.7	88.3	87.2	83.7	-3.5	

Wind Generation Weekly Average - MWh (EIA)

	4-Feb	11-Feb	18-Feb	25-Feb	4-Mar	11-Mar	WoW	Bcf/d Impact
CALI Wind	1507	999	1900	2049	815	2602	1787	-0.3
TEXAS Wind	12223	9259	16874	13068	6269	14469	8200	-1.5
US Wind	53792	53792	63113	60313	36020	56872	20851	-3.8
								,

Generation Weekly Average - MWh (EIA)

						est.		
	4-Feb	11-Feb	18-Feb	25-Feb	4-Mar	11-Mar	WoW	WoW Bcf/d
								Impact
US Wind	53792	53792	63113	60313	36020	56872	20851	-3.8
US Solar	10459	12287	12313	11899	13919	12410	-1509	0.3
US Petroleum	4672	3554	4126	2961	3130	1754	-1376	0.2
US Other	9661	9373	9134	8211	7510	6473	-1037	0.2
US Coal	124780	113776	101700	99888	103399	86717	-16681	3.0
US Nuke	94661	92640	92758	91458	90165	86461	-3704	0.7
US Hydro	31801	32213	31952	33214	32196	34064	1867	-0.3
US Gas	159394	162266	137939	147276	158687	139916	-18772	3.4

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

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Monthly Average Generation Data

Nuclear	Generation	Monthly	Average -	GWh	(NRC)	

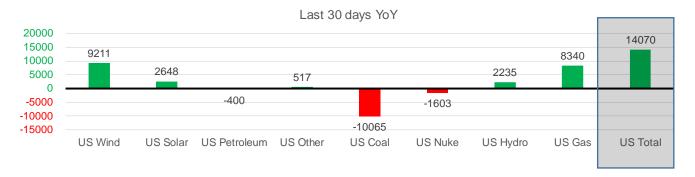
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Dec-21	Jan-22	Feb-22	Mar-22	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	86.1	86.0	90.3	90.2	87.6	82.5	84.8	-5.0	-1.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	18.7	18.9	14.6	14.7	17.3	22.4	20.1	5.0	1.2
NRC % Nuclear Cap Utilization	87.6	87.4	91.8	91.7	89.0	83.9	86.2	-5.1	-1.2

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Dec-21	Jan-22	Feb-22	Mar-22	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	1261	2208	1482	1244	1559	2208	2062	649	-146
TEXAS Wind	10354	11672	12927	11355	12294	14568	13705	2274	2033
US Wind	40945	47261	54708	51045	56538	56577	56471	39	9211

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Dec-21	Jan-22	Feb-22	Mar-22	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	40945	47261	54708	51045	56538	56577	56471	▼ -105.2	9211
US Solar	7152	9885	7375	9476	12088	12804	12533	▼ -270.6	2648
US Petroleum	3230	3011	3135	5021	3449	1782	2610	829	▼ -400
US Other	6623	7062	8222	8792	8831	6658	7579	921	517
US Coal	75151	106997	81462	117971	106587	90528	96932	6404	▼-10065
US Nuke	87145	90724	95449	95259	92275	86517	89120	2603	▼ -1603
US Hydro	34774	30750	30824	34102	32212	33377	32984	▼ -392	2235
US Gas	157570	137889	152639	164023	152048	142468	146229	9989	8340
US Total	410973	431880	433931	485813	464579	433195	445950	20084	14070



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



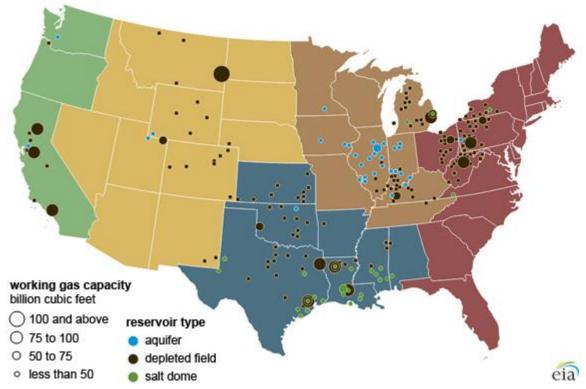
Regional S/D Models Storage Projection

Week Ending 11-Mar

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-10.9	0.3	-10.6	-74
East	-6.1	2.2	-3.9	-28
Midwest	-3.8	-0.3	-4.0	-28
Mountain	2.9	-3.7	-0.7	-5
South Central	-3.2	2.6	-0.6	-4
Pacific	-0.8	-0.5	-1.3	-9

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

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



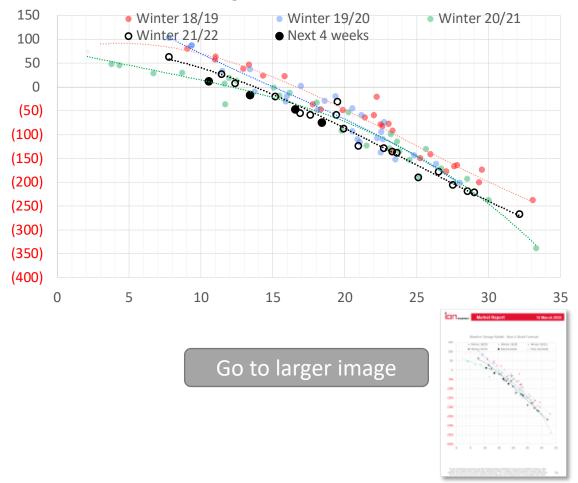


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
11-Mar	18	-74
18-Mar	17	-47
25-Mar	11	12
01-Apr	13	-16

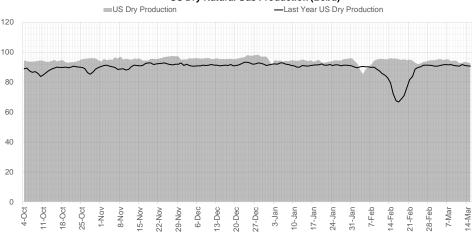
Weather Storage Model - Next 4 Week Forecast



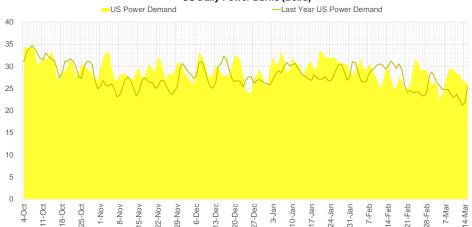


Supply - Demand Trends

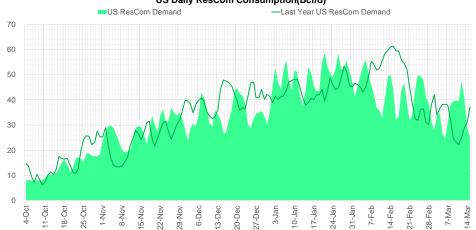
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



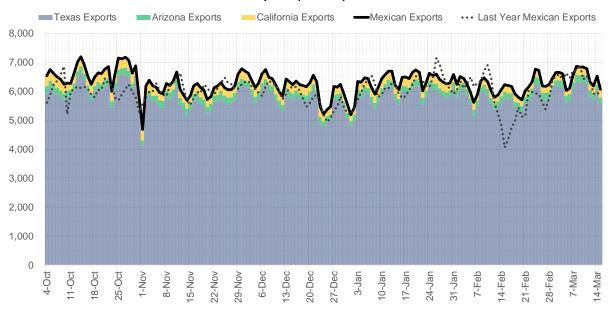
US Daily ResCom Consumption(Bcf/d)

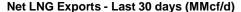


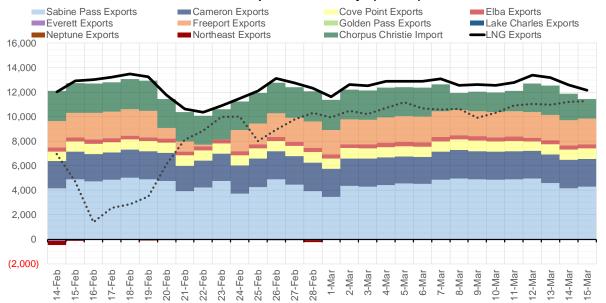
Source: Bloomberg



Mexican Exports (MMcf/d)







Source: Bloomberg



Nat Gas Options Volume and Open Interest CME and ICE Combined

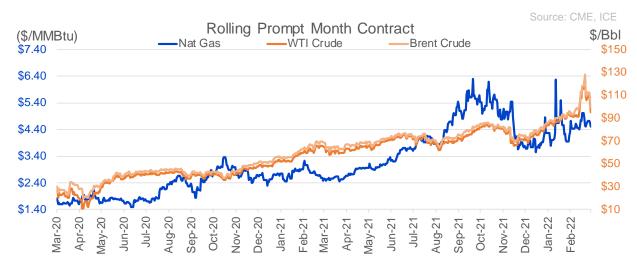
	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE
MONTH	YEAR			VOL
4	2022	С	5.00	5810
12	2022	С	6.25	4000
4	2022	С	5.10	3714
4	2022	Р	4.50	2611
6	2022	С	5.00	2456
5	2022	С	5.00	2218
12	2022	С	6.00	2000
12	2022	С	6.50	2000
4	2022	Р	4.25	1620
5	2022	С	7.00	1566
7	2022	С	7.00	1277
5	2022	Р	4.00	1179
10	2022	Р	4.00	1172
6	2022	Р	4.00	1127
8	2022	С	5.50	1105
7	2022	P	4.00	1079
10	2022	С	5.00	1069
4	2022	Ċ	6.00	1015
3	2023	Č	20.00	1000
4	2022	P	4.00	991
6	2022	C	4.75	971
7	2022	Č	5.00	952
9	2022	C	5.00	901
8	2022	C	5.00	900
4	2022	C		900 851
4		P	5.25	
	2022	-	4.30	831
5	2022	P	3.75	821
12	2022	P	4.50	800
5	2022	P	3.65	751
6	2022	С	7.00	739
8	2022	С	7.00	675
9	2022	С	7.00	675
10	2022	С	7.00	675
10	2022	Р	4.50	650
4	2022	С	5.30	613
4	2022	С	5.50	611
4	2022	С	4.80	589
5	2022	Р	3.50	576
5	2022	С	5.75	537
6	2022	Ċ	5.10	530
5	2022	Č	6.00	526
4	2022	Ċ	5.20	504
5	2022	P	3.25	500
7	2022	Ċ	6.00	500
8	2022	P	3.00	459
4	2022	P	4.60	445
4 5	2022	C	4.60 5.50	445 413
4	2022	C P	4.75	408
5	2022	Р	4.50	359



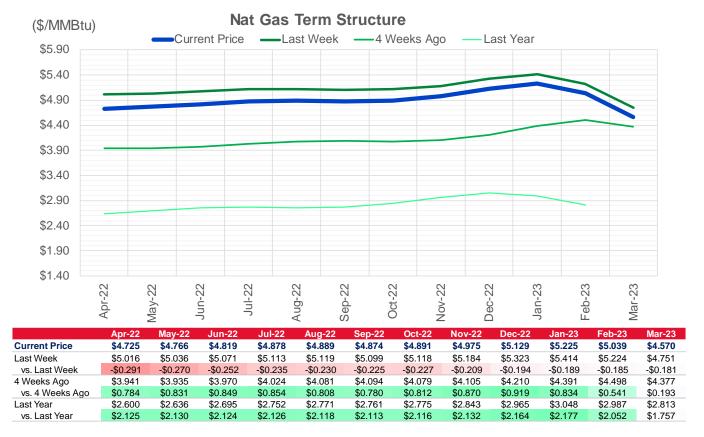
Nat Gas Futures Open Interest

CME and ICE Combined

CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 MM									
	Current	Prior	Daily Change		Current	Prior	Daily Change		
APR 22	79664	85857	-6193	APR 22	75560	76300	-740		
MAY 22	205040	203580	1460	MAY 22	78914	80754	-1840		
JUN 22	70079	70384	-305	JUN 22	70525	72078	-1553		
JUL 22	88041	87158	883	JUL 22	66350	67928	-1578		
AUG 22	42521	42420	101	AUG 22	59945	61399	-1454		
SEP 22	73460	73258	202	SEP 22	63733	65262	-1529		
OCT 22	82426	80606	1820	OCT 22	69413	70114	-701		
NOV 22	43620	43744	-124	NOV 22	54206	55735	-1529		
DEC 22	44899	44659	240	DEC 22	63164	64587	-1423		
JAN 23	58901	58506	395	JAN 23	63729	63575	154		
FEB 23	19668	19560	108	FEB 23	45742	45790	-48		
MAR 23	36862	37547	-685	MAR 23	50796	50758	38		
APR 23	44416	43247	1169	APR 23	49264	49448	-184		
MAY 23	24196	24311	-115	MAY 23	44323	44494	-172		
JUN 23	14371	14259	112	JUN 23	40862	40817	45		
JUL 23	11257	11250	7	JUL 23	40291	40229	62		
AUG 23	9462	9314	148	AUG 23	39747	39905	-158		
SEP 23	12633	12655	-22	SEP 23	39631	39578	52		
OCT 23	24382	23884	498	OCT 23	44312	44390	-79		
NOV 23	10191	10183	8	NOV 23	40795	40876	-81		
DEC 23	14316	14270	46	DEC 23	36237	36317	-81		
JAN 24	18362	18002	360	JAN 24	31701	31238	463		
FEB 24	3431	3436	-5	FEB 24	22150	21753	397		
MAR 24	14123	14431	-308	MAR 24	27011	26834	177		
APR 24	7385	7345	40	APR 24	20436	20385	51		
MAY 24	2271	2271	0	MAY 24	19536	19558	-22		
JUN 24	1111	1107	4	JUN 24	19439	19381	59		
JUL 24	1358	1358	0	JUL 24	19907	19929	-23		
AUG 24	1046	1042	4	AUG 24	20015	19954	61		
SEP 24	1156	1159	-3	SEP 24	19439	19460	-22		







		Cash	Prompt	Cash to	
	Units	Settled	Settle	Prompt	
AGT Citygate	\$/MMBtu	4.35	5.02	0.67	
TETCO M3	\$/MMBtu	4.02	4.25	0.23	
FGT Zone 3	\$/MMBtu	4.02	4.88	0.86	
Zone 6 NY	\$/MMBtu	4.02	4.28	0.26	
Chicago Citygate	\$/MMBtu	4.29	4.65	0.36	
Michcon	\$/MMBtu	4.41	4.64	0.23	
Columbia TCO Pool	\$/MMBtu	3.92 4.27		0.35	
Ventura	\$/MMBtu	4.20	4.60	0.40	
Rockies/Opal	\$/MMBtu	4.24	4.34	0.10	
El Paso Permian Basin	\$/MMBtu	3.87	4.14	0.27	
Socal Citygate	\$/MMBtu	4.42	4.43	0.01	
Malin	\$/MMBtu	4.10	4.42	0.32	
Houston Ship Channel	\$/MMBtu	4.31	4.62	0.31	
Henry Hub Cash	\$/MMBtu	2.71	2.71 4.56		
AECO Cash	C\$/GJ	3.71	3.71	0.00	
Station2 Cash	C\$/GJ	3.66	4.36	0.70	
Dawn Cash	C\$/GJ	4.47	4.69	0.22	

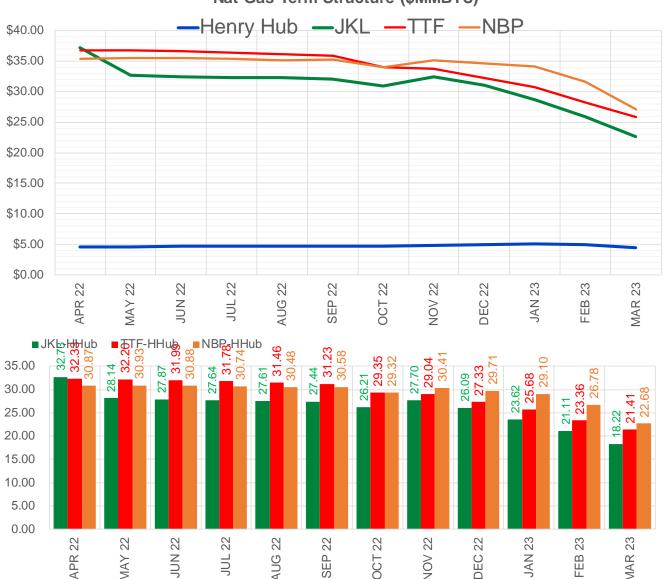
Source: CME, Bloomberg



				vs. 4 Weeks	
	Units	Current Price	vs. Last Week	Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	0.000	0.000	2.200
NatGas Oct21/Nov21	\$/MMBtu	0.361	0.000	0.000	0.286
NatGas Oct21/Jan22	\$/MMBtu	-1.817	0.000	0.000	▼ -2.117
NatGas Apr22/Oct22	\$/MMBtu	0.161	0.033	0.017	0.109
WTI Crude	\$/Bbl	103.01	▼ -16.390	7.550	37.620
Brent Crude	\$/Bbl	106.90	- 16.310	1 0.420	38.020
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	0.000	0.000	0.000
Heating Oil	cents/Gallon	327.63	-64.520	31.450	132.740
Propane, Mt. Bel	cents/Gallon	1.40	- 0.206	0.132	0.449
Ethane, Mt. Bel	cents/Gallon	0.41	- 0.010	0.029	0.198
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			



Nat Gas Term Structure (\$MMBTU)



	APR 22	MAY 22	JUN 22	JUL 22	AUG 22	SEP 22	OCT 22	NOV 22	DEC 22	JAN 23	FEB 23	MAR 23
Henry Hub	\$4.516	\$4.566	\$4.624	\$4.680	\$4.692	\$4.677	\$4.692	\$4.772	\$4.946	\$5.026	\$4.870	\$4.412
JKL	\$37.250	\$32.710	\$32.495	\$32.320	\$32.305	\$32.120	\$30.905	\$32.475	\$31.040	\$28.650	\$25.975	\$22.630
JKL-HHub	\$32.734	\$28.144	\$27.871	\$27.640	\$27.613	\$27.443	\$26.213	\$27.703	\$26.094	\$23.624	\$21.105	\$18.218
TTF	\$36.847	\$36.762	\$36.610	\$36.462	\$36.147	\$35.908	\$34.044	\$33.813	\$32.277	\$30.707	\$28.227	\$25.826
TTF-HHub	\$32.331	\$32.196	\$31.986	\$31.782	\$31.455	\$31.231	\$29.352	\$29.041	\$27.331	\$25.681	\$23.357	\$21.414
NBP	\$35.386	\$35.492	\$35.500	\$35.424	\$35.171	\$35.256	\$34.010	\$35.181	\$34.655	\$34.130	\$31.651	\$27.088
NBP-HHub	\$30.870	\$30.926	\$30.876	\$30.744	\$30.479	\$30.579	\$29.318	\$30.409	\$29.709	\$29.104	\$26.781	\$22.676



Weather Storage Model - Next 4 Week Forecast

