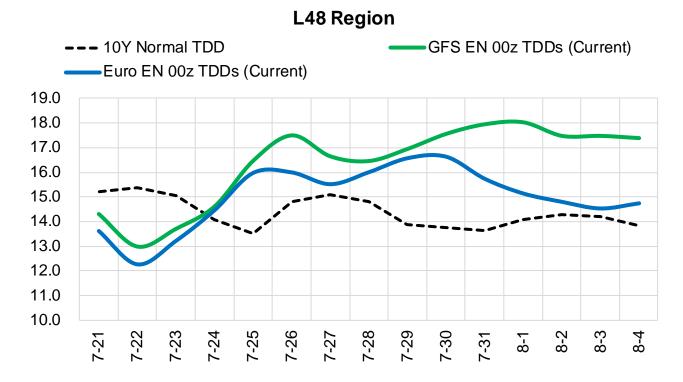
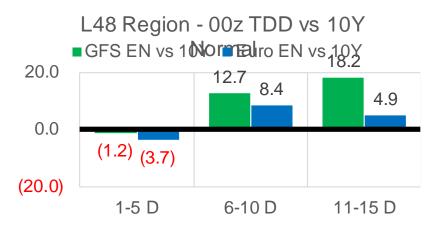




Short-term Weather Model Outlooks (00z)



Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

21 July 2021

Daily Balances

	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	DoD	vs. 7D
Lower 48 Dry Production	92.1	92.0	92.4	92.1	92.4	92.2	90.3	-1.9	▼ -1.9
Canadian Imports	5.3	4.9	4.7	4.8	5.0	5.4	5.1	-0.3	▲ 0.0
L48 Power	41.2	40.7	38.5	38.3	40.3	41.0	39.4	T -1.5	V -0.6
L48 Residential & Commercial	8.5	8.4	7.9	7.9	8.3	8.5	8.4	▼ 0.0	a 0.2
L48 Industrial	20.0	20.1	20.2	20.2	20.3	20.0	19.8	T -0.2	V -0.3
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.0	T -0.1	V -0.1
L48 Pipeline Distribution	2.3	2.3	2.2	2.2	2.3	2.3	2.3	T -0.1	▼ 0.0
L48 Regional Gas Consumption	77.1	76.6	73.9	73.7	76.2	76.9	75.0	T -1.9	▼ -0.7
Net LNG Delivered	11.02	11.03	10.67	10.52	10.21	10.30	9.57	-0.7	▼-1.1
Total Mexican Exports	7.2	7.1	6.8	6.6	7.0	7.4	7.3	▼ -0.2	0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity	2.0	2.2	5.7	6.1	4.0	3.0	3.6		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	WoW	vs. 4W
Lower 48 Dry Production	92.9	92.3	93.2	92.2	91.8	92.3	0.5	▼-0.1
Canadian Imports	4.8	5.1	4.7	5.2	5.1	5.2	0.1	0.2
L48 Power	34.6	34.8	34.4	39.7	37.1	38.7	1.6	2 .2
L48 Residential & Commercial	8.5	8.3	8.4	8.3	8.0	8.2	a 0.3	▲ 0.0
L48 Industrial	21.4	22.4	20.0	21.5	20.0	20.1	A 0.1	- 0.9
L48 Lease and Plant Fuel	5.1	5.1	5.2	5.1	5.1	5.1	▲ 0.0	▲ 0.0
L48 Pipeline Distribution	2.1	2.1	2.1	2.4	2.1	2.2	0.1	▲ 0.0
L48 Regional Gas Consumption	71.8	72.7	70.1	77.0	72.3	74.3	2.0	1.3
Net LNG Exports	9.4	9.6	10.3	11.2	11.0	10.8	-0.2	0.3
Total Mexican Exports	7.3	7.5	7.6	7.2	7.1	7.1	▲ 0.0	▼-0.2
Implied Daily Storage Activity	9.1	7.6	10.0	2.0	6.5	5.2	-1.2	
EIA Reported Daily Storage Activity	2.3	7.9	10.9	2.3	7.9			
Daily Model Error	6.8	-0.2	-0.9	-0.3	-1.4			

Monthly Balances

	2Yr Ago Jul-19	LY Jul-20	Mar-21	Apr 21	May 21	Jun-21	MTD Jul-21	МоМ	vs. LY
	Jul-19	Jul-20		Apr-21	May-21	Jun-21	Jui-2 i		VS.LT
Lower 48 Dry Production	91.9	89.1	91.5	92.3	92.2	92.7	91.9	V -0.9	2.8
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.1	0.3	0.7
L48 Power	40.8	43.7	24.3	25.0	27.1	35.3	38.4	A 3.1	T -5.3
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.4	8.4	8.1	T -0.3	a 0.2
L48 Industrial	21.6	20.4	19.3	21.2	19.2	21.0	20.1	▼ -1.0	T -0.3
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.1	5.1	5.1	▼ 0.0	a 0.2
L48 Pipeline Distribution	2.3	2.4	2.5	2.3	2.1	2.2	2.2	▲ 0.0	V -0.2
L48 Regional Gas Consumption	77.8	79.4	80.6	73.3	66.7	72.0	73.9	1.9	▼ -5.4
Net LNG Exports	6.0	3.3	11.1	11.5	10.8	10.2	10.8	0.6	7.5
Total Mexican Exports	5.3	5.9	6.5	6.7	6.8	7.4	7.1	▼ -0.3	1.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity	7.8	5.0	-2.0	5.5	12.4	8.0	5.2		
Daily Model Error									

Source: Bloomberg, analytix.ai



21 July 2021

Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	DoD	vs.7D
NRC Nuclear Daily Output	91.8	90.9	90.9	91.2	91.7	91.8	91.8	0.0	0.4
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	13.1	13.9	14.0	13.7	13.2	13.1	13.1	0.0	-0.4
NRC % Nuclear Cap Utilization	93.3	92.5	92.4	92.7	93.3	93.3	93.3	0.0	0.4

Wind Generation Daily Average - MWh (Genscape)

	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	19042	16685	11149	7936	6045	5997	1836	-4161	-9306
Genscape US Wind	42372	32921	29310	16924	15127	15127	15127	0	-10170

Generation Daily Average - MWh (Genscape)

	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	DoD	vs. 7D
Genscape US Wind	42372	32921	29310	16924	15127	15127	15127	0	-10170
Genscape US Solar	24390	30812	25902	16136	18472	18472	18472	0	-3892
Genscape US Other	5447	5808	5101	4893	4842	4842	4842	0	-314
Genscape US Coal	136413	138617	130998	127904	133411	133411	133411	0	-48
Genscape US Nuke	95660	94882	94804	95153	95642	95642	95642	0	345
Genscape US Hydro	22947	23439	23676	23882	23987	23987	23987	0	334
Genscape US Gas	244181	244961	228724	225334	229350	229350	229350	0	-4300

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	88.6	86.7	89.9	89.1	89.5	90.6	1.1	-0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	16.3	18.1	15.0	15.7	15.4	14.3	-1.1	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (Genscape)

	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	WoW	WoW Bcf/d Impact
CAISO Wind	4607	3723	3254	4655	4583	4583	0	0.0
ERCOT	17072	10749	16549	10225	6583	13940	7357	-1.2
Genscape US Wind	43337	32707	50972	25398	24364	36668	12304	-2.1

Generation Weekly Average - MWh (Genscape)

								VVOVV
	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	WoW	Bcf/d
								Impact
Genscape US Wind	43337	32707	50972	25398	24364	36668	12304	-2.1
Genscape US Solar	15643	7817	12070	24039	15619	21148	5528	-0.9
Genscape US Other	5942	5201	4746	4728	4754	5151	397	-0.1
Genscape US Coal	118938	120230	118888	132762	121436	126462	5026	-0.8
Genscape US Nuke	92667	90822	93987	93205	93419	94570	1151	-0.2
Genscape US Hydro	32469	29459	30022	24181	23145	22869	-277	0.0
Genscape US Gas	212241	210769	202074	238370	218250	227817	9568	

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

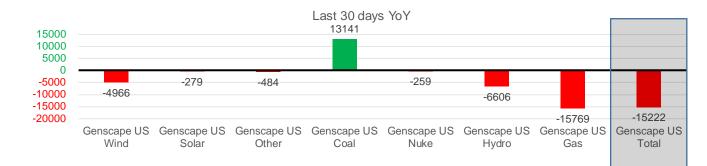
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	95.0	91.9	75.9	81.8	88.7	90.4	90.1	1.6	-1.8
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	9.9	13.0	29.0	23.1	16.2	14.5	14.8	-1.6	1.8
NRC % Nuclear Cap Utilization	96.6	93.4	77.1	83.2	90.2	91.9	91.6	1.7	-1.8

Wind Generation Monthly Average - MWh (Genscape)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CAISO Wind	3516	3388	4009	3984	3994	4583	4442	589	1053
ERCOT	10456	13994	13820	15379	12995	9497	10592	-3498	-3402
Genscape US Wind	30425	34768	50942	46211	36758	27254	29802	-9504	-4966

Generation Monthly Average - MWh (Genscape)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
Genscape US Wind	30425	34768	50942	46211	36758	27254	29802	▲ 2547.6	▼ -4966
Genscape US Solar	21555	19920	11261	15499	14357	19428	19641	213	-279
Genscape US Other	4964	5355	4512	5256	5178	4960	4871	-89	-484
Genscape US Coal	138264	113826	73683	87336	119945	127146	126967	T -178	A 13141
Genscape US Nuke	97116	94343	79842	85659	92805	94317	94084	-233	-259
Genscape US Hydro	32551	30676	27386	27514	29334	23267	24070	& 803	▼ -6606
Genscape US Gas	226721	240522	152976	160888	212447	225886	224753	6627	T -15769
Genscape US Total	551596	539409	400602	428362	510825	522258	524187	4 10705	▼-15222



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

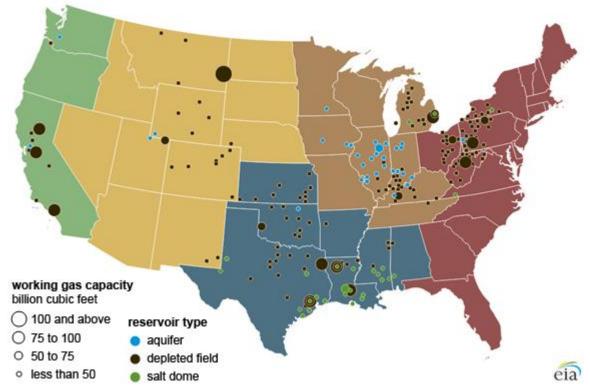


Regional S/D Models Storage Projection

Week Ending	16-Jul			
			Daily	
			Average	Weekly
		Daily	Storage	Adjusted
	Daily Raw Storage	Adjustment Factor	Activity (Adjusted) *	Storage Activity
	Storage	T actor	(Aujusteu)	Activity
L48	4.9	1.4	6.3	44
East	1.5	1.6	3.0	21
Midwest	3.5	-0.2	3.3	23
Mountain	4.6	-4.1	0.5	4
South Central	-4.4	3.9	-0.5	-3
Pacific	-0.3	0.1	-0.1	-1

*Adjustment Factor is calcuated based on historical regional deltas

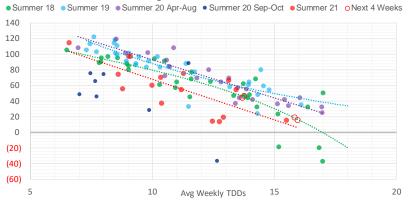
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
16-Jul	13.7	44
23-Jul	13.8	46
30-Jul	16.0	15
06-Aug	15.8	19

Weather Storage Model - Next 4 Week Forecast



Go to larger image

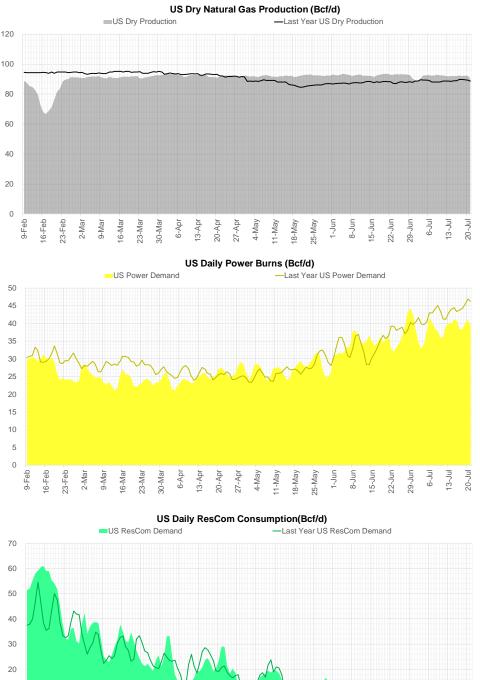


9-Feb - 0 16-Feb - 23-Feb - 23

2-Mar 9-Mar 23-Mar 30-Mar 6-Apr

16-Mar





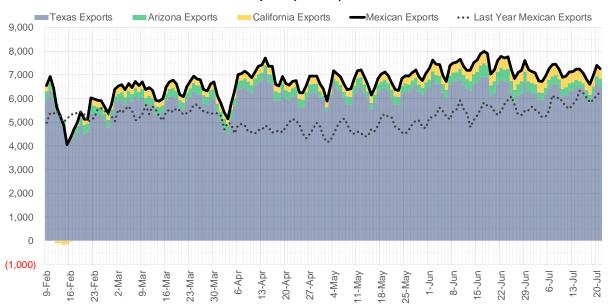
Source: Bloomberg The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. 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.

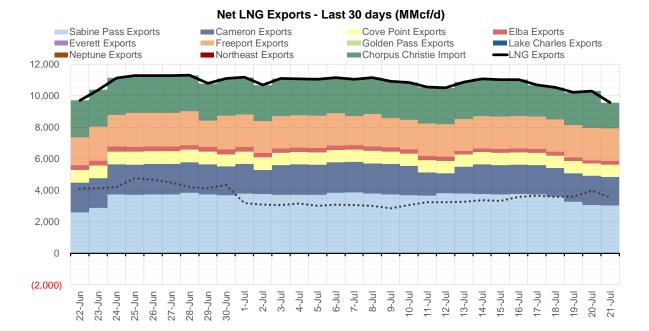
13-Apr 20-Apr 27-Apr 11-May 18-May 25-May 1-Jun 8-Jun

4-May

15-Jun 22-Jun 29-Jun 20-Jul

6-Jul 13-Jul





Mexican Exports (MMcf/d)

Source: Bloomberg

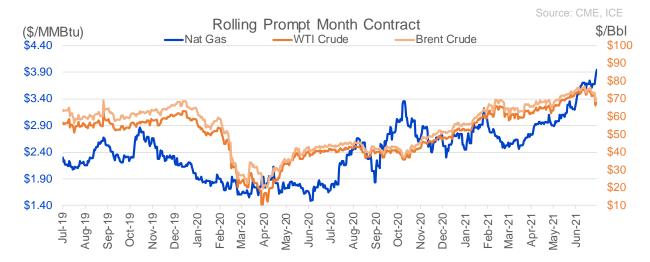


Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	c	CONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE OI
MONTH	YEAR			VOL		MONTH	YEAR			
8	2021	С	4.00	10402		8	2021	С	4.00	48767
8	2021	c	4.25	8069		10	2021	č	4.00	43241
10	2021	P	3.50	5822		8	2021	C	3.50	40947
8	2021	c	5.00	5609		9	2021	C	4.00	35177
8	2021	c	4.50	5315		10	2021	С	5.00	34299
8	2021	P	3.60	5020		10	2021	С	3.50	34019
8	2021	P	3.50	4164		10	2021	Р	2.50	31774
9	2021	c	4.00	3899		8	2021	Р	2.50	29351
9	2021	c	4.50	3896		10	2021	С	3.25	28363
8	2021	č	4.75	3810		8	2021	Р	3.00	27650
10	2021	P	3.25	3309		10	2021	Р	2.75	26798
8	2021	C	3.90	3233		10	2021	Р	2.00	26294
10	2021	č	4.50	3141		10	2021	С	4.50	25435
10	2021	c	4.00	3078		8	2021	Р	3.25	24828
8	2021	č	3.85	2965		8	2021	С	3.75	24746
8	2021	c	3.95	2932		9	2021	Р	2.50	23377
8	2021	c	3.75	2907		9	2021	С	3.50	23349
8	2021	P	3.75	2816		11	2021	С	4.00	23157
9	2021	C	4.25	2594		8	2021	С	3.25	23036
8	2021	P	4.25 3.65	2594 2557		8	2021	С	4.50	22864
8 9	2021	P	3.05	2550		10	2021	Р	3.00	22719
						12	2021	С	4.00	21943
8	2021	P	3.80	2505		8	2021	Р	3.50	21068
8	2021	С	4.40	2438		9	2021	Р	3.00	21026
8	2021	С	4.10	2433		9	2021	Р	2.00	20427
9	2021	Р	3.60	2097		10	2021	Р	2.25	19875
8	2021	Р	3.70	2087		4	2022	С	3.00	19785
9	2021	С	3.85	2058		8	2021	Р	2.00	19668
12	2021	P	3.50	1800		8	2021	Р	2.90	19603
9	2021	Р	3.50	1790		8	2021	Р	2.25	19478
9	2021	С	4.75	1602		9	2021	С	3.25	18993
1	2023	С	5.00	1600		10	2021	С	3.00	18500
1	2023	С	6.00	1600		8	2021	Р	2.75	18483
2	2023	С	5.00	1600		8	2021	Р	3.40	17577
2	2023	С	6.00	1600		10	2021	Р	3.50	16989
3	2023	С	5.00	1600		9	2021	С	4.50	16981
3	2023	С	6.00	1600		10	2021	С	3.75	16824
4	2023	С	5.00	1600		11	2021	Р	3.00	16615
4	2023	С	6.00	1600		9	2021	С	4.25	16499
5	2023	С	5.00	1600		3	2022	С	5.00	15937
5	2023	С	6.00	1600		10	2021	С	6.00	15903
6	2023	С	5.00	1600		8	2021	C	3.00	15835
6	2023	С	6.00	1600		9	2021	P	2.75	15821
7	2023	С	5.00	1600		8	2021	C	3.30	15351
7	2023	С	6.00	1600		11	2021	c	3.75	15342
8	2023	С	5.00	1600		1	2022	c	4.00	14948
8	2023	С	6.00	1600		3	2022	c	3.00	14448
9	2023	C	5.00	1600		9	2021	č	5.00	13935
9	2023	C	6.00	1600		12	2021	P	2.00	13884
10	2023	C	5.00	1600		1	2022	-		
								Source	: CME, ICE	

Nat Gas Futures Open Interest CME, and ICE Combined

Civie, and ICE Combined							
CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 I						lent (10,000 MM	
	Current	Prior	Daily Change		Current	Prior	Daily Change
AUG 21	74027	85355	-11328	AUG 21	85177	90123	-4946
SEP 21	316462	311648	4814	SEP 21	88304	87872	432
OCT 21	157726	156040	1686	OCT 21	101766	100098	1668
NOV 21	107896	106752	1144	NOV 21	72145	73394	-1249
DEC 21	70435	70407	28	DEC 21	70907	70624	284
JAN 22	118467	119029	-562	JAN 22	77570	78363	-793
FEB 22	47889	47777	112	FEB 22	66796	67067	-271
MAR 22	98174	98885	-711	MAR 22	67866	68389	-523
APR 22	98941	98156	785	APR 22	64884	64922	-38
MAY 22	86773	85178	1595	MAY 22	67760	67459	300
JUN 22	27148	27471	-323	JUN 22	55546	55609	-63
JUL 22	21845	21738	107	JUL 22	54019	54161	-142
AUG 22	23631	23781	-150	AUG 22	55452	55407	45
SEP 22	23692	22911	781	SEP 22	55132	55107	25
OCT 22	60937	61347	-410	OCT 22	58707	59228	-521
NOV 22	25096	25119	-23	NOV 22	47708	47505	204
DEC 22	20998	20527	471	DEC 22	50210	50120	90
JAN 23	14254	13861	393	JAN 23	30207	29850	356
FEB 23	5463	5089	374	FEB 23	25494	25258	236
MAR 23	7573	7774	-201	MAR 23	28273	27863	411
APR 23	8926	8753	173	APR 23	22036	21689	347
MAY 23	5862	5796	66	MAY 23	23183	22761	423
JUN 23	2314	2285	29	JUN 23	21462	21046	417
JUL 23	2593	2460	133	JUL 23	21563	21139	425
AUG 23	1760	1585	175	AUG 23	21502	21056	446
SEP 23	1992	1940	52	SEP 23	21142	20703	439
OCT 23	2510	2412	98	OCT 23	22451	22013	438
NOV 23	1109	1109	0	NOV 23	20342	19913	429
DEC 23	1758	1758	0	DEC 23	21705	21325	380
JAN 24	793	793	0	JAN 24	12693	12506	187



vs. Last Year

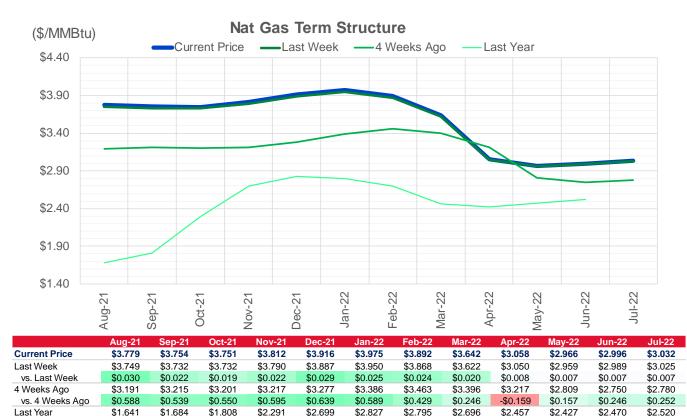
\$2.138

\$1.943

\$1.521

\$2.070

Market Report



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.43	3.40	-0.03
TETCO M3	\$/MMBtu	3.40	3.29	-0.11
FGT Zone 3	\$/MMBtu	3.30	3.77	0.47
Zone 6 NY	\$/MMBtu	3.30	3.25	-0.05
Chicago Citygate	\$/MMBtu	3.66	3.52	-0.14
Michcon	\$/MMBtu	3.66	3.47	-0.19
Columbia TCO Pool	\$/MMBtu	3.30	3.05	-0.25
Ventura	\$/MMBtu	3.62	3.46	-0.16
Rockies/Opal	\$/MMBtu	3.75	3.44	-0.31
El Paso Permian Basin	\$/MMBtu	3.60	3.56	-0.04
Socal Citygate	\$/MMBtu	7.11	5.02	-2.09
Malin	\$/MMBtu	3.90	4.04	0.14
Houston Ship Channel	\$/MMBtu	3.79	3.68	-0.11
Henry Hub Cash	\$/MMBtu	3.82	3.47	-0.35
AECO Cash	C\$/GJ	3.19	2.81	-0.38
Station2 Cash	C\$/GJ	3.08	3.86	0.78
Dawn Cash	C\$/GJ	3.69	3.50	-0.19

\$1.148

\$1.097

\$1.217

\$0.946

\$0.601

\$0.539

\$0.512

\$0.526

Source: CME, Bloomberg



				vs. 4 Weeks	
	Units	Current Price	vs. Last Week	Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.232	a 0.165	a 0.214	a 0.214
NatGas Oct21/Nov21	\$/MMBtu	0.055	-0.009	-0.001	0.003
NatGas Oct21/Jan22	\$/MMBtu	0.207	-0.028	-0.029	-0.077
NatGas Apr22/Oct22	\$/MMBtu	-0.016	-0.009	-0.042	-0.083
WTI Crude	\$/Bbl	67.42	-7.830	-5.640	25.460
Brent Crude	\$/Bbl	69.35	- 7.140	-5.460	2 5.030
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	a 0.000	0.000	0.000
Heating Oil	cents/Gallon	201.27	- 17.170	- 13.830	A 73.270
Propane, Mt. Bel	cents/Gallon	1.08	-0.022	a 0.120	a 0.584
Ethane, Mt. Bel	cents/Gallon	0.31	a 0.006	a 0.036	a 0.100
Coal, PRB	\$/MTon	12.30	0.000	0.000	0.000
Coal, PRB	\$/MMBtu	0.70			
Coal, ILB	\$/MTon	31.05	a 0.000	0.000	0.000
Coal, ILB	\$/MMBtu	1.32			





Summer 18

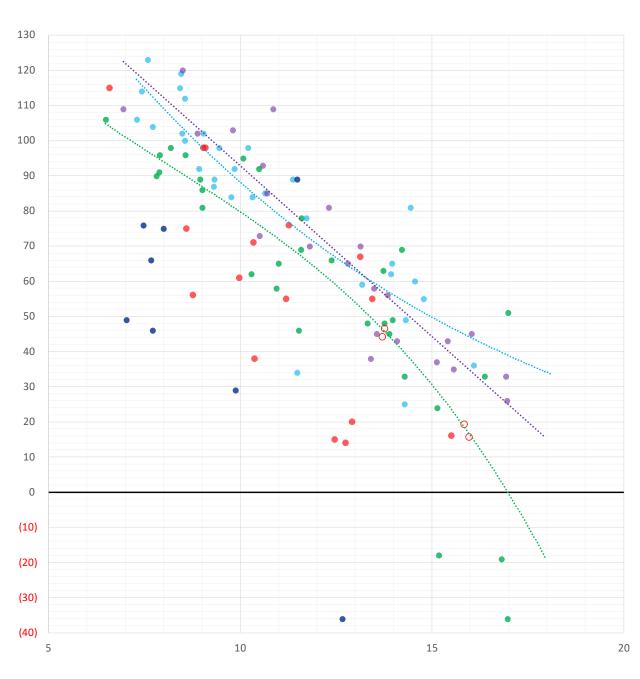
Summer 19

• Summer 20 Apr-Aug

Summer 20 Sept-Oct

t • Summer 21

ONext 4 Weeks



Market Report

ENERGY

21 July 2021

