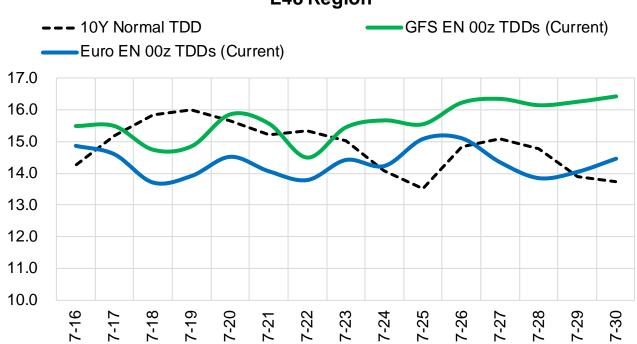


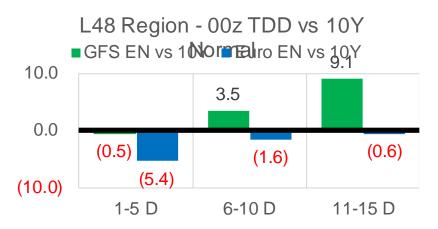


Short-term Weather Model Outlooks (00z)



L48 Region

Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

16 July 2021

Daily Balances

	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	DoD	vs.7D
Lower 48 Dry Production	92.5	92.4	92.0	91.7	92.0	91.8	90.9	-0.9	▼ -1.2
Canadian Imports	4.8	4.9	5.1	5.5	5.7	5.3	4.8	-0.4	v -0.4
L48 Power	36.0	36.2	39.4	40.0	40.0	41.0	39.2	T -1.8	a 0.5
L48 Residential & Commercial	7.8	7.8	8.4	8.2	8.4	8.4	8.3	T -0.1	0.2
L48 Industrial	19.9	19.8	19.8	19.6	19.5	19.5	19.5	0.0	▼ -0.2
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.0	▼ -0.1	T -0.1
L48 Pipeline Distribution	2.1	2.1	2.3	2.3	2.3	2.3	2.2	T -0.1	a 0.0
L48 Regional Gas Consumption	70.9	71.1	75.0	75.2	75.3	76.3	74.3	-2.0	0.4
Net LNG Delivered	10.84	10.55	10.49	10.87	11.08	11.02	11.00	▼ 0.0	0.2
Total Mexican Exports	7.0	6.8	7.2	7.1	7.3	7.2	7.0	-0.2	T-0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	8.6	8.9	4.4	4.0	4.0	2.6	3.4		

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	91.7	92.2	0.5	▼-0.2
Canadian Imports	4.8	5.1	4.7	5.2	5.1	5.2	0.1	0.2
L48 Power	34.4	34.8	34.6	39.9	37.3	38.7	1 .4	2 .0
L48 Residential & Commercial	8.5	8.2	8.4	8.3	7.9	8.2	a 0.2	T -0.1
L48 Industrial	21.5	22.4	19.9	21.3	19.8	19.8	T -0.1	T -1.1
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	73.9	1.6	0.9
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	9.9	2.0	6.4	5.5	-0.9	
EIA Reported Daily Storage Activity	2.3	7.9	10.9	2.3	7.9			
Daily Model Error	6.9	-0.2	-0.9	-0.3	-1.4			

Monthly Balances

	2Yr Ago	LY					MTD		
	Jul-19	Jul-20	Mar-21	Apr-21	May-21	Jun-21	Jul-21	МоМ	vs. LY
Lower 48 Dry Production	91.9	89.1	91.5	92.3	92.2	92.7	91.7	T -1.0	2.7
Canadian Imports	5.0	4.4	4.8	4.7	4.5	4.9	5.1	0.3	0.8
L48 Power	40.8	43.6	24.3	25.1	27.0	35.4	38.1	2 .7	▼ -5.5
L48 Residential & Commercial	8.0	7.9	29.3	19.7	13.3	8.4	8.1	T -0.3	a 0.2
L48 Industrial	21.6	20.4	19.4	21.2	19.2	21.0	19.8	▼ -1.2	V -0.6
L48 Lease and Plant Fuel	5.0	4.9	5.0	5.1	5.1	5.1	5.1	▼ 0.0	— 0.1
L48 Pipeline Distribution	2.3	2.4	2.5	2.3	2.1	2.2	2.2	▲ 0.0	V -0.3
L48 Regional Gas Consumption	77.8	79.4	80.6	73.3	66.7	72.0	73.3	1.2	V -6.1
Net LNG Exports	6.0	3.3	11.1	11.5	10.8	10.2	10.9	0.8	7.7
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	5.6		
Daily Model Error									

Source: Bloomberg, analytix.ai



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	89.3	89.3	90.9	91.7	91.8	91.8	91.8	0.0	1.0
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	15.6	15.6	14.0	13.1	13.1	13.1	13.1	0.0	-1.0
NRC % Nuclear Cap Utilization	90.8	90.8	92.4	93.3	93.3	93.3	93.3	0.0	1.0

Wind Generation Daily Average - MWh (Genscape)

	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	DoD	vs. 7D
CAISO Wind	4583	4583	4583	4583	4583	4583	4583	0	0
ERCOT	13533	6601	10291	17483	19158	19042	10199	-8843	-4152
Genscape US Wind	37831	33303	21281	34970	50202	50202	50202	0	12237

Generation Daily Average - MWh (Genscape)

	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	DoD	vs.7D
Genscape US Wind	37831	33303	21281	34970	50202	50202	50202	0	12237
Genscape US Solar	19737	22172	22066	17888	21335	21335	21335	0	580
Genscape US Other	4846	5321	5101	4734	5599	5599	5599	0	399
Genscape US Coal	117914	118248	129278	127561	131601	131601	131601	0	5567
Genscape US Nuke	92877	94143	94773	95651	95679	95679	95679	0	878
Genscape US Hydro	22377	22571	23103	23321	22848	22848	22848	0	3
Genscape US Gas	209884	211432	236598	233274	223498	223498	223498	0	467

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	37786	13423	-2.3

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	37786	13423	-2.3
Genscape US Solar	15643	7817	12070	24039	15619	20711	5092	-0.9
Genscape US Other	5942	5201	4746	4728	4754	5172	418	-0.1
Genscape US Coal	118938	120230	118888	132762	121436	125775	4339	-0.7
Genscape US Nuke	92667	90822	93987	93205	93419	94573	1154	-0.2
Genscape US Hydro	32469	29459	30022	24181	23145	22854	-291	0.0
Genscape US Gas	212241	210769	202074	238370	218250	223283	5033	

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

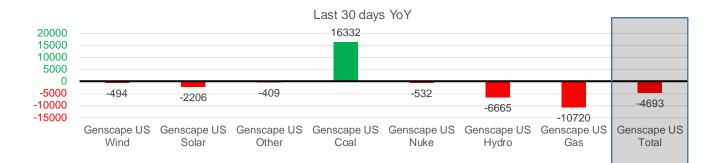
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-21	May-21	Jun-21	Jul-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	94.8	91.9	75.9	81.8	88.7	90.1	89.7	1.3	-2.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	10.1	13.0	29.0	23.1	16.2	14.8	15.1	-1.3	2.2
NRC % Nuclear Cap Utilization	96.4	93.5	77.1	83.2	90.2	91.6	91.3	1.4	-2.2

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	3662	3342	4009	3984	3994	4583	4254	589	912
ERCOT	10460	14716	13820	15379	12995	9999	11584	-2996	-3132
Genscape US Wind	29236	35814	50942	46211	36758	31615	35320	-5144	-494

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	29236	35814	50942	46211	36758	31615	35320	▲ 3705.4	-494
Genscape US Solar	20941	20055	11261	15499	14357	18625	17848	-777	T -2206
Genscape US Other	5091	5283	4512	5256	5178	4974	4874	T -100	-409
Genscape US Coal	131933	108418	73683	87336	119945	124943	124750	T -193	A 16332
Genscape US Nuke	97062	94314	79842	85659	92805	94037	93782	-255	T -532
Genscape US Hydro	32697	31836	27386	27514	29334	23025	25172	a 2147	▼ -6665
Genscape US Gas	218837	231007	152976	160888	212447	221768	220287	4 9604	T-10720
Genscape US Total	535797	526727	400602	428362	510825	518987	522034	4 15502	▼ -4693



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

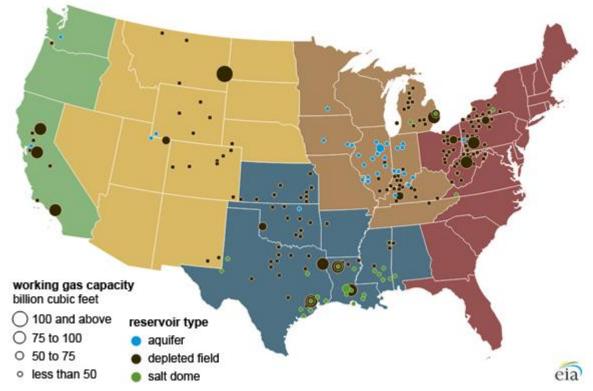


Regional S/D Models Storage Projection

Week Ending	16-Jul			
			Daily	
			Average	Weekly
		Daily	Storage	Adjusted
	Daily Raw	Adjustment	Activity	Storage
	Storage	Factor	(Adjusted) *	Activity
L48	5.2	1.4	6.6	46
East	1.5	1.5	3.0	21
Midwest	3.6	-0.2	3.4	24
Mountain	4.6	-4.1	0.6	4
South Central	-4.3	4.0	-0.3	-2
Pacific	-0.2	0.1	-0.1	0

*Adjustment Factor is calcuated based on historical regional deltas

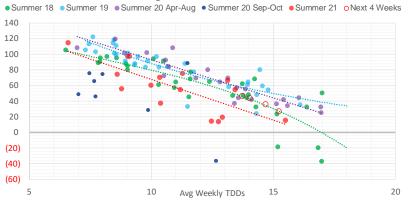
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
16-Jul	13.7	46
23-Jul	14.7	36
30-Jul	15.2	27
06-Aug	14.1	43

Weather Storage Model - Next 4 Week Forecast



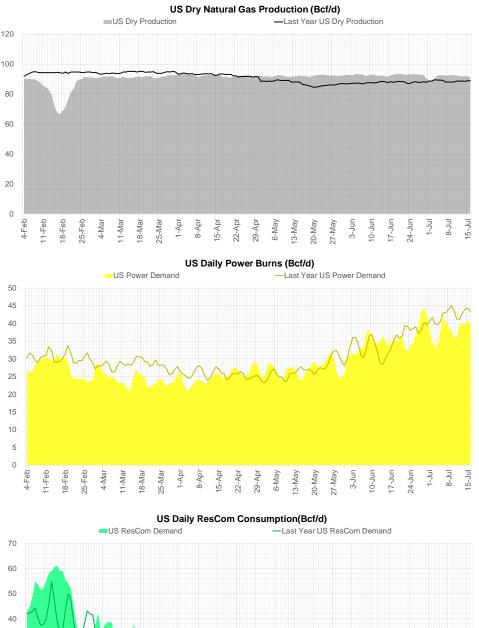
Go to larger image



4-Mar

11-Mar 18-Mar 25-Mar 1-Apr 8-Apr





Source: Bloomberg

1-Jul 8-Jul 15-Jul

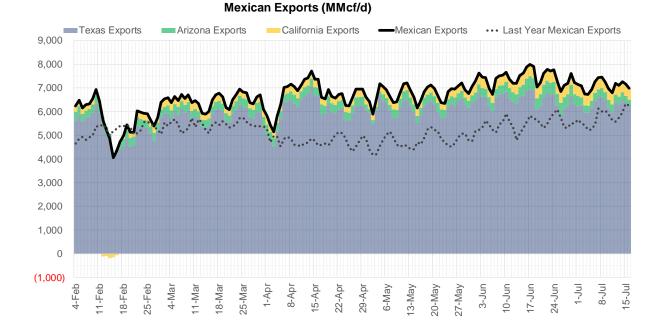
10-Jun 17-Jun 24-Jun

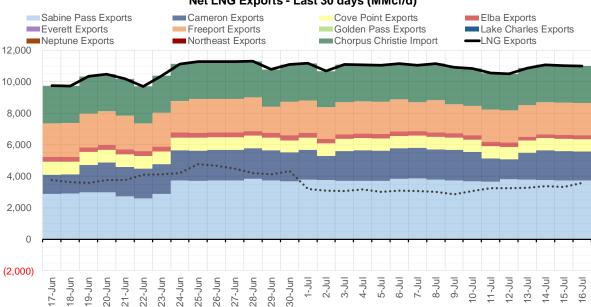
The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are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

15-Apr 22-Apr 29-Apr

6-May

13-May 20-May 27-May 3-Jun





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

Source: Bloomberg

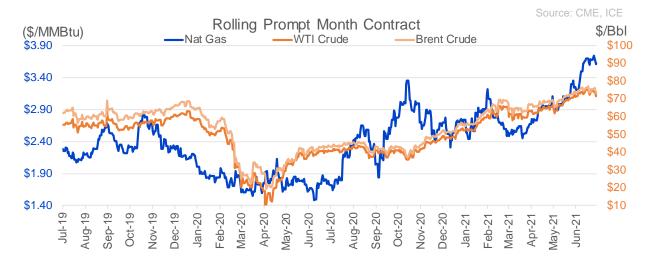


Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE	С	ONTRACT	CONTRACT	PUT/CALL	STRIKE	CUMULATIVE OI
MONTH	YEAR			VOL		MONTH	YEAR			
8	2021	С	4.00	6642		8	2021	С	4.00	48735
9	2021	c	4.00	6271		10	2021	č	4.00	43878
8	2021	P	3.40	4664		8	2021	c	3.50	40606
8	2021	C	3.75	3994		9	2021	C	4.00	37212
9	2021	c	4.75	3365		10	2021	c	3.50	34096
8	2021	c	3.90	2945		10	2021	C	5.00	32761
9	2021	c	4.25	2765		10	2021	P	2.50	32175
8	2021	P	3.50	2307		8	2021	Р	2.50	29351
8	2021	P	2.90	2150		10	2021	С	3.25	28364
1	2022	C	10.00	2002		8	2021	Р	3.00	27625
1	2022	c	8.00	2002		10	2021	Р	2.00	26294
2	2022	c	8.00	2000		10	2021	Р	2.75	26176
2	2022	c	10.00	2000		8	2021	С	3.75	25258
3	2022	c	5.00	2000		8	2021	Р	3.25	24851
3	2022	c	8.00	2000		10	2021	С	4.50	24696
3	2022	c	10.00	2000		8	2021	C	3.25	23627
8						11	2021	С	4.00	23617
	2021	C P	4.25	1950		9	2021	С	3.50	23573
3	2022	P	3.00	1710		8	2021	C	4.50	23504
1	2022	P	3.00	1700		9	2021	P	2.50	23267
1	2022		3.50	1700		10	2021	Р	3.00	22077
1	2022	С	5.50	1620		12	2021	С	4.00	21935
12	2021	Р	3.00	1600		9	2021	P	3.00	20546
2	2022	P	3.00	1600		9	2021	Р	2.00	20427
2	2022	С	5.50	1520		10	2021	P	2.25	19713
11	2021	С	5.50	1500		4	2022	С	3.00	19685
12	2021	С	5.50	1500		8	2021	P	2.00	19668
3	2022	С	5.50	1500		8	2021	Р	2.90	19603
2	2022	P	3.50	1350		8	2021	Р	2.25	19478
3	2022	P	3.50	1350		8	2021	Р	3.50	19421
8	2021	Р	3.30	1323		9	2021	С	3.25	19002
8	2021	С	4.35	1252		10	2021	С	3.00	18500
12	2021	Р	3.50	1250		8	2021	Р	2.75	18483
8	2021	С	3.85	1222		10	2021	С	6.00	16898
9	2021	С	3.75	1194		10	2021	С	3.75	16686
9	2021	С	4.50	1170		9	2021	С	4.50	16387
10	2021	С	4.25	1128		3	2022	С	5.00	15937
11	2021	С	4.30	1000		8	2021	С	3.00	15826
12	2021	С	4.30	1000		9	2021	Р	2.75	15772
1	2022	С	4.30	1000		11	2021	Р	3.00	15739
2	2022	С	4.30	1000		9	2021	С	5.00	15511
3	2022	С	4.30	1000		8	2021	С	3.30	15351
8	2021	Р	3.35	951		11	2021	C	3.75	15327
3	2022	Р	2.50	912		9	2021	C	4.25	14796
8	2021	С	3.80	829		10	2021	P	3.50	14716
9	2021	С	3.90	810		1	2022	C	4.00	14498
10	2021	Р	3.00	805		3	2022	c	3.00	14448
8	2021	С	3.30	800		8	2021	P	3.40	14291
10	2021	С	4.50	795		8	2021	С	4.25	14179
8	2021	P	3.45	757		3	2022	C	4	14001
								Source	: CME, ICE	

Nat Gas Futures Open Interest CME, and ICE Combined

Civile, and ICE Combined								
CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 M								
	Current	Prior	Daily Change		Current	Prior	Daily Change	
AUG 21	113118	125481	-12363	AUG 21	95884	94452	1432	
SEP 21	306238	297159	9079	SEP 21	86159	86184	-25	
OCT 21	155324	156238	-914	OCT 21	100587	101116	-529	
NOV 21	106723	106938	-215	NOV 21	73259	72892	367	
DEC 21	69894	69392	502	DEC 21	70562	70267	296	
JAN 22	119500	121368	-1868	JAN 22	78477	78444	33	
FEB 22	47624	47212	412	FEB 22	66894	66608	287	
MAR 22	97829	95490	2339	MAR 22	68247	67935	312	
APR 22	97613	97184	429	APR 22	64865	64646	219	
MAY 22	84878	84332	546	MAY 22	67239	67184	55	
JUN 22	27497	27399	98	JUN 22	55459	55458	2	
JUL 22	21965	21930	35	JUL 22	54024	54308	-284	
AUG 22	23028	23003	25	AUG 22	55254	55523	-269	
SEP 22	23088	22957	131	SEP 22	54922	55232	-311	
OCT 22	60909	60357	552	OCT 22	59035	59670	-635	
NOV 22	24783	24789	-6	NOV 22	47450	47600	-151	
DEC 22	20376	20370	6	DEC 22	50042	50204	-162	
JAN 23	13493	13391	102	JAN 23	29218	29164	54	
FEB 23	4971	4564	407	FEB 23	25124	25117	7	
MAR 23	7840	7829	11	MAR 23	27659	27512	147	
APR 23	8815	8714	101	APR 23	22036	21978	58	
MAY 23	5590	5464	126	MAY 23	22396	22367	29	
JUN 23	2269	2267	2	JUN 23	20886	20851	35	
JUL 23	2366	2265	101	JUL 23	20966	20929	37	
AUG 23	1500	1400	100	AUG 23	20884	20831	53	
SEP 23	1863	1763	100	SEP 23	20528	20485	43	
OCT 23	2401	2401	0	OCT 23	21856	21802	54	
NOV 23	1109	1109	0	NOV 23	19761	19781	-20	
DEC 23	1758	1758	0	DEC 23	21321	21349	-28	
JAN 24	793	793	0	JAN 24	12484	12478	6	



vs. Last Year

\$1.882

\$1.830

Market Report

\$1.355

\$1.738

\$1.069

\$1.011

\$0.830

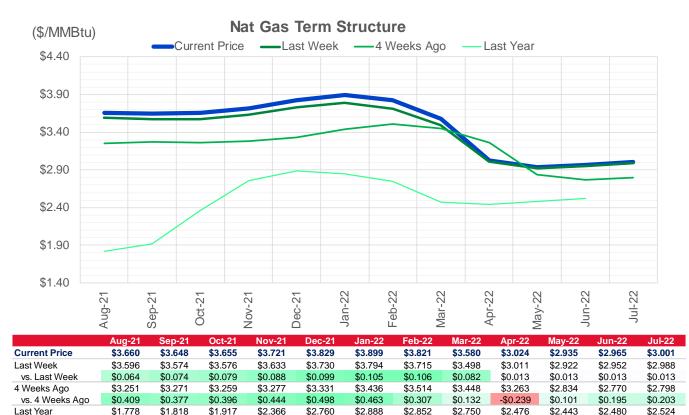
\$0.969

\$0.548

\$0.485

\$0.477

\$0.492



		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.70	3.40	-0.31
TETCO M3	\$/MMBtu	3.40	3.22	-0.18
FGT Zone 3	\$/MMBtu	3.67	3.78	0.11
Zone 6 NY	\$/MMBtu	3.67	3.20	-0.47
Chicago Citygate	\$/MMBtu	3.47	3.52	0.05
Michcon	\$/MMBtu	3.54	3.47	-0.07
Columbia TCO Pool	\$/MMBtu	3.22	3.01	-0.22
Ventura	\$/MMBtu	3.47	3.46	-0.01
Rockies/Opal	\$/MMBtu	3.45	3.40	-0.05
El Paso Permian Basin	\$/MMBtu	3.33	3.54	0.21
Socal Citygate	\$/MMBtu	6.44	5.01	-1.43
Malin	\$/MMBtu	3.57	4.04	0.47
Houston Ship Channel	\$/MMBtu	3.54	3.67	0.13
Henry Hub Cash	\$/MMBtu	3.69	3.45	-0.24
AECO Cash	C\$/GJ	3.11	2.81	-0.30
Station2 Cash	C\$/GJ	2.99	3.84	0.85
Dawn Cash	C\$/GJ	3.51	3.51	0.00

Source: CME, Bloomberg

П	ENERGY

					vs	. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	vs	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	-0.007		-0.058	▼	-0.031	▼	-0.024
NatGas Oct21/Nov21	\$/MMBtu	0.070		0.016		0.017		0.023
NatGas Oct21/Jan22	\$/MMBtu	0.251		0.044		0.019	▼	-0.027
NatGas Apr22/Oct22	\$/MMBtu	-0.001		0.013		-0.025	▼	-0.064
WTI Crude	\$/Bbl	71.65		-1.290		0.610		30.900
Brent Crude	\$/Bbl	73.47		-0.650		0.390		30.100
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	211.26		-0.780		4.580		88.470
Propane, Mt. Bel	cents/Gallon	1.10		0.011		0.153		0.621
Ethane, Mt. Bel	cents/Gallon	0.31		0.002		0.028		0.088
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						





Summer 18

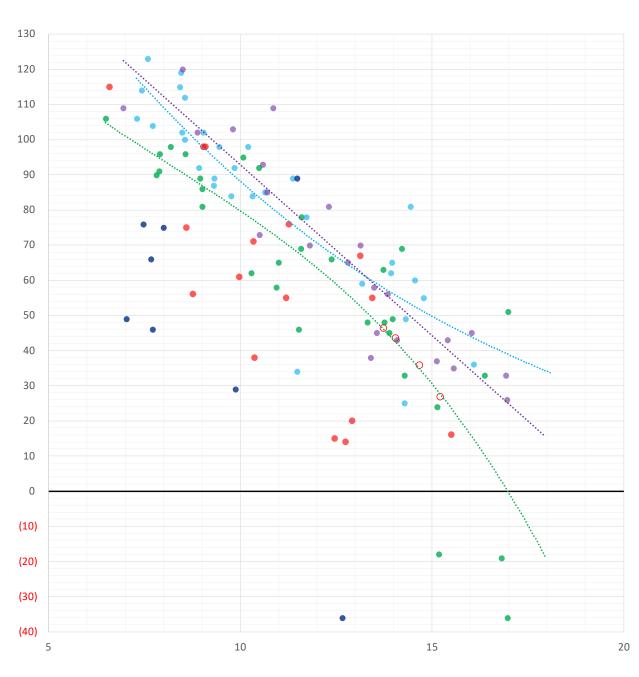
Summer 19

• Summer 20 Apr-Aug

Summer 20 Sept-Oct

t • Summer 21

ONext 4 Weeks



Market Report

ENERGY

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