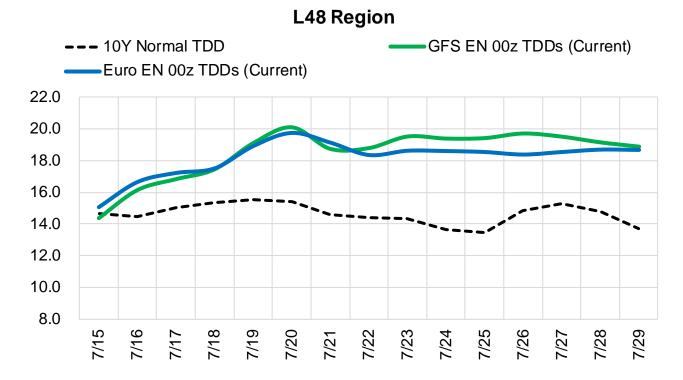
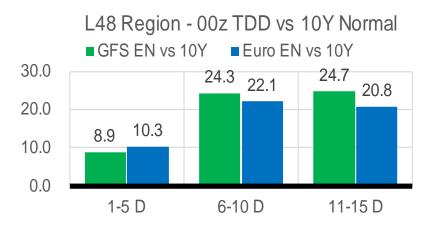




Short-term Weather Model Outlooks (00z)



Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

Daily Balances

	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	DoD	vs. 7D
Lower 48 Dry Production	96.4	96.6	96.5	95.3	95.5	96.4	96.2	-0.2	0.1
Canadian Imports	5.5	5.6	5.8	6.3	6.5	6.4	6.3	-0.1	0.3
L48 Power	39.2	38.5	43.5	45.2	44.7	44.5	41.5	▼ -3.0	T -1.1
L48 Residential & Commercial	8.0	8.0	8.4	8.6	8.7	8.7	8.5	▼ -0.2	a 0.1
L48 Industrial	19.6	19.5	19.7	19.9	20.5	21.2	21.8	A 0.7	1.8
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.2	5.2	5.2	5.2	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.5	2.5	2.8	2.9	2.8	2.8	2.7	▼ -0.2	▼ -0.1
L48 Regional Gas Consumption	74.4	73.7	79.6	81.8	81.9	82.4	79.7	▼ -2.7	0.7
Net LNG Delivered	11.06	10.85	11.00	11.01	11.25	11.50	11.38	T -0.1	0.3
Total Mexican Exports	6.6	6.6	6.9	7.2	7.5	7.3	7.3	-0.1	0.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	9.8	11.0	4.9	1.6	1.4	1.6	4.2		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	WoW	vs. 4W
Lower 48 Dry Production	96.9	96.7	96.7	97.0	96.9	96.3	▼ -0.7	-0.6
Canadian Imports	5.5	6.1	5.6	5.7	5.6	6.0	0.4	0.3
L48 Power	32.3	37.8	37.7	40.2	41.3	42.7	1.5	A 3.5
L48 Residential & Commercial	8.6	8.3	8.7	8.2	8.3	8.4	0.1	0 .0
L48 Industrial	21.3	21.5	20.1	20.0	21.0	20.0	T -1.0	V -0.7
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.3	5.3	5.2	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.5	2.5	2.6	2.6	2.7	0.1	a 0.1
L48 Regional Gas Consumption	69.7	75.3	74.2	76.3	78.5	79.0	0.6	3.0
Net LNG Exports	12.3	10.7	10.6	10.6	11.2	11.1	T -0.1	0.3
Total Mexican Exports	7.1	7.2	7.0	7.0	6.8	7.0	0.2	▲ 0.0
Implied Daily Storage Activity	13.2	9.6	10.5	8.8	6.2	5.1	-1.0	
EIA Reported Daily Storage Activity	13.1	10.6	11.7	8.6	8.3			
Daily Model Error	0.1	-1.0	-1.2	0.2	-2.1			

Monthly Balances

	2Yr Ago Jul-20	LY Jul-21	Mar-22	Apr-22	May-22	Jun-22	MTD Jul-22	МоМ	vs. LY
Lower 48 Dry Production	89.0	93.5	93.4	95.2	96.2	96.8	96.6	v -0.2	▲ 3.1
Canadian Imports	4.4	5.2	5.2	5.8	5.1	5.7	5.8	0.2	0.7
L48 Power	43.8	39.7	25.4	24.7	28.8	36.8	42.0	▲ 5.2	2 .3
L48 Residential & Commercial	7.9	8.1	31.5	22.5	12.3	8.5	8.3	▼-0.2	a 0.2
L48 Industrial	20.1	20.8	19.7	21.5	21.1	20.8	20.0	▼-0.8	V -0.8
L48 Lease and Plant Fuel	4.9	5.1	5.2	5.2	5.2	5.2	5.2	0 .0	A 0.2
L48 Pipeline Distribution	2.6	2.5	2.9	2.6	2.3	2.5	2.7	A 0.2	A 0.1
L48 Regional Gas Consumption	79.3	76.2	84.7	76.6	69.8	73.8	78.2	4.5	2.1
Net LNG Exports	3.3	10.8	12.9	12.3	12.5	11.2	11.2	▼ 0.0	0.4
Total Mexican Exports	5.9	7.1	6.5	6.7	7.0	7.1	6.9	-0.2	-0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	4.9	4.6	-5.4	5.4	12.0	10.5	6.1		

Source: Bloomberg, analytix.ai

Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	DoD	vs. 7D
NRC Nuclear Daily Output	91.4	91.8	91.0	91.3	91.8	91.6	90.2	-1.4	-1.3
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	13.5	13.1	13.8	13.6	13.1	13.3	14.7	1.4	1.3
NRC % Nuclear Cap Utilization	92.9	93.4	92.6	92.8	93.4	93.2	91.7	-1.4	-1.3

Wind Generation Daily Average - MWh (EIA)

	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	DoD	vs.7D
CALI Wind	2048	2048	2048	2048	2048	2048	2048	0	0
TEXAS Wind	22879	22879	22879	22879	22879	22879	22879	0	0
US Wind	63443	63443	63443	63443	63443	63443	63443	0	0

Generation Daily Average - MWh (EIA)

EIA 930 data is not being updated. EIA experiencing some issues.

	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	DoD	vs.7D
Genscape Wind	30219	30526	28862	35417	42460	36689	26663	-10026	-7366
US Solar	19728	19728	19728	19728	19728	19728	19728	0	0
US Petroleum	1333	1333	1333	1333	1333	1333	1333	0	0
US Other	9775	9775	9775	9775	9775	9775	9775	0	0
US Coal	119543	119543	119543	119543	119543	119543	119543	0	0
US Nuke	90696	90696	90696	90696	90696	90696	90696	0	0
US Hydro	39690	39690	39690	39690	39690	39690	39690	0	0
US Gas	220700	220700	220700	220700	220700	220700	220700	0	0

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	88.3	88.2	89.0	88.9	90.6	91.2	0.5	-0.1
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	16.6	16.7	15.9	16.0	14.2	13.7	-0.5	
NRC % Nuclear Cap Utilization	89.8	89.7	90.5	90.4	92.2	92.7	0.5	

Wind Generation Weekly Average - MWh (EIA)

	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	WoW	WoW Bcf/d Impact
CALI Wind	3842	3032	2048	2048	2048	2048	0	0.0
TEXAS Wind	12449	20462	22879	22879	22879	22879	0	0.0
US Wind	37417	57090	63443	63443	63443	63443	0	0.0
							0%	

Gen

Generation Weekly Average - M	EIA 93 update							
				l		some issue	es.	loW
	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	WoW	Bcf/d
								Impact
Genscape Wind	38198	57792	50581	45558	42730	32469	-10261	1.8
US Solar	18807	18731	19728	19728	19728	19728	0	0.0
US Petroleum	968	1244	1333	1333	1333	1333	0	0.0
US Other	8001	8688	9775	9775	9775	9775	0	0.0
US Coal	95415	106566	119543	119543	119543	119543	0	0.0
US Nuke	91641	91235	90696	90696	90696	90696	0	0.0
US Hydro	36328	37495	39690	39690	39690	39690	0	0.0
US Gas	178204	201845	220700	220700	220700	220700	0	0.0

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

0.0



Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

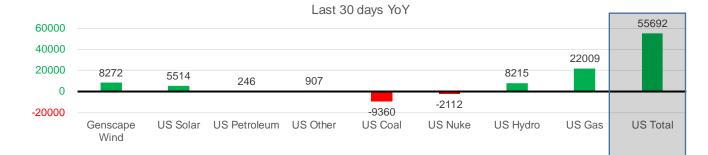
	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-22	May-22	Jun-22	Jul-22	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	91.9	89.6	73.4	81.7	88.5	90.9	89.9	2.3	0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	13.0	15.3	31.5	23.2	16.3	14.0	15.0	-2.3	-0.2
NRC % Nuclear Cap Utilization	93.4	91.1	74.6	83.0	90.0	92.4	91.4	2.3	0.2

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 S days	Same 30 days	Apr-22	May-22	Jun-22	Jul-22	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	2639	2617	3218	3361	2724	2048	2048	-676	-569
TEXAS Wind	11957	8951	16384	16756	19072	22879	22879	3807	13928
US Wind	35510	34972	64240	56462	54014	63443	63443	9428	28470

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Apr-22	May-22	Jun-22	Jul-22	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
Genscape Wind	36654	34585	63684	56803	47280	36870	42857	▲ 5986.5	8272
US Solar	12340	14214	16265	18186	19216	19728	19728	0 .0	5514
US Petroleum	1322	1087	979	518	1204	1333	1333	 0	246
US Other	9470	8868	7373	7724	8994	9775	9775	 0	907
US Coal	106059	128903	77400	85273	109706	119543	119543	 0	▼ -9360
US Nuke	94876	92808	77317	85496	91073	90696	90696	 0	T -2112
US Hydro	35540	31475	28877	31369	38153	39690	39690	 0	A 8215
US Gas	211675	198690	132665	157565	204668	220700	220700	5986	A 22009
US Total	505082	511276	405650	443965	530484	566968	566968	5986	55692



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

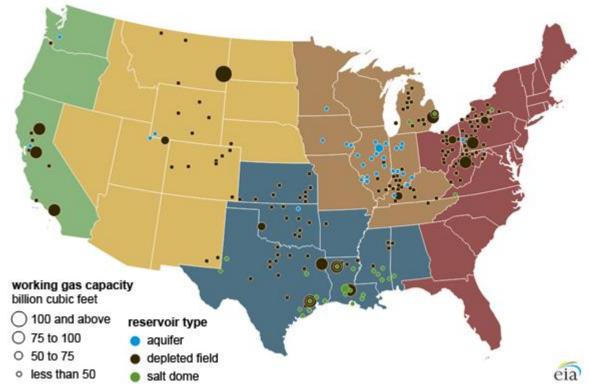


Regional S/D Models Storage Projection

Week Ending	15-Jul			
			Daily	
			Average	Weekly
		Daily	Storage	Adjusted
	Daily Raw	Adjustment	Activity	Storage
	Storage	Factor	(Adjusted) *	Activity
L48	6.3	-0.2	6.1	42
East	1.0	1.9	2.9	21
Midwest	3.8	-0.7	3.1	22
Mountain	4.4	-4.0	0.4	3
South Central	-4.3	3.4	-0.9	-6
Pacific	1.4	-0.9	0.5	3

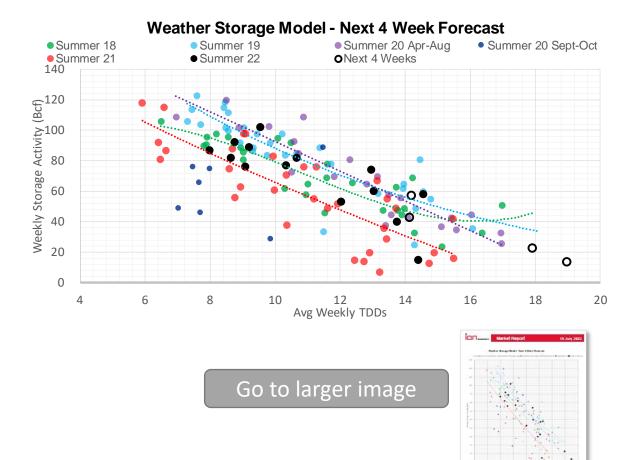
*Adjustment Factor is calcuated based on historical regional deltas

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

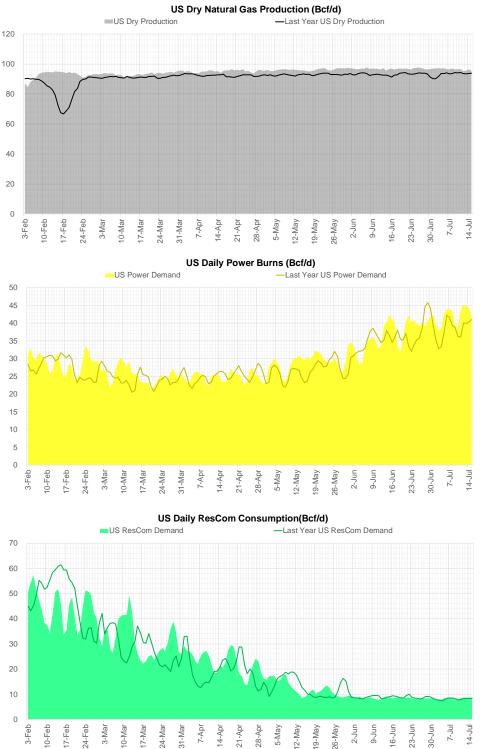


Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
15-Jul	14.1	42
22-Jul	17.9	23
29-Jul	19.0	14
05-Aug	14.2	57

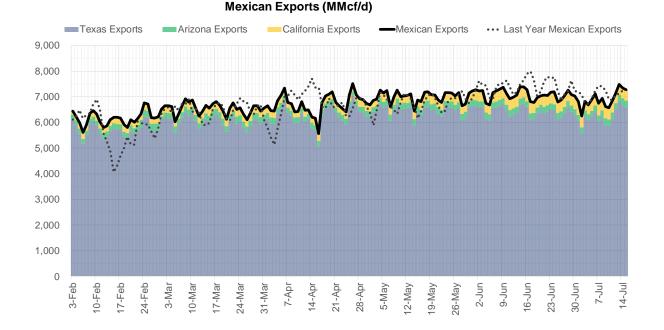


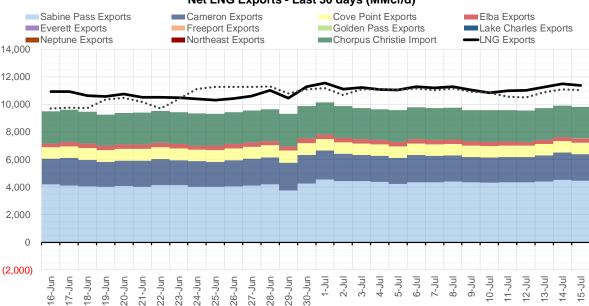




Source: Bloomberg







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

Source: Bloomberg

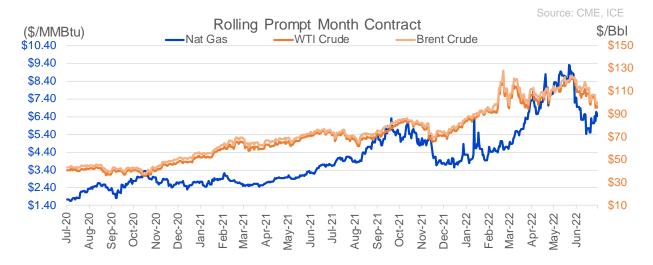


Nat Gas Options Volume and Open Interest CME and ICE Combined

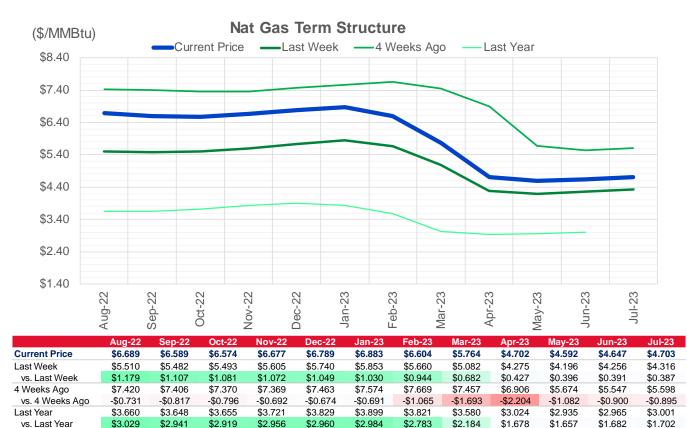
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
8	2022	С	7.50	9906	8	2022	С	10.00	41711
8	2022	С	9.00	9641	8	2022	С	12.00	37935
8	2022	С	8.00	7028	10	2022	С	6.00	35979
8	2022	С	7.00	6873	10	2022	Р	3.00	32035
8	2022	С	8.90	6000	8	2022	С	10.50	31608
9	2022	Р	5.00	4669	8	2022	С	7.00	29666
8	2022	С	8.50	3877	10	2022	Р	2.50	28387
8	2022	Р	6.00	3619	9	2022	С	6.00	24423
8	2022	Р	5.00	3088	10	2022	Р	6.00	24030
8	2022	Р	5.50	2492	10	2022	С	5.00	23368
9	2022	Р	4.00	1846	9	2022	С	10.00	23033
10	2022	С	10.00	1759	8	2022	С	12.10	22001
9	2022	Р	4.50	1600	10	2022	Р	3.50	21121
8	2022	С	6.50	1579	8	2022	С	9.00	21067
8	2022	С	10.00	1537	5	2023	Р	2.00	21027
5	2023	Р	3.50	1275	9	2022	P	4.00	20507
10	2023	Р	3.50	1275	8	2022	C P	6.00	20066
8	2022	С	9.50	1247	8 9	2022	P C	6.00	19413
10	2022	С	8.00	1160	9 8	2022 2022	C	7.00 8.00	19346
1	2023	Р	3.00	1147	8 1	2022 2023	c		19172 18788
8	2022	Р	5.75	1145		2023	c	10.00	
8	2022	Р	6.25	1105	12 10	2022	c	5.00 10.00	18218 18217
1	2023	Р	2.75	1100	3	2022	c	10.00	18066
10	2022	Р	4.00	1046	3 10	2023	P	5.00	17773
10	2022	Р	4.50	1016	10	2022	C	8.00	17594
10	2022	Р	5.00	1012	10	2022	P	4.00	17591
8	2022	Р	6.50	890	8	2022	P	7.00	17326
4	2023	Р	4.00	875	8	2022	P	5.00	16724
9	2022	С	7.25	850	10	2022	P	2.00	16679
8	2022	С	10.50	809	3	2023	P	3.00	16388
10	2022	Р	2.50	804	2	2023	c	10.00	16055
4	2023	С	5.00	801	9	2022	P	3.00	16008
9	2022	С	15.00	800	9	2022	C	4.00	15970
10	2022	С	9.00	795	8	2022	P	4.00	15898
4	2023	Р	2.50	725	12	2022	P	5.00	15689
5	2023	Р	4.00	725	10	2023	Р	2.00	15504
6	2023	Р	4.00	725	9	2022	Р	2.50	15475
7	2023	Р	4.00	725	8	2022	Р	3.00	15408
8	2023	Р	4.00	725	10	2022	С	7.00	15261
9	2023	Р	4.00	725	8	2022	Р	5.50	14924
10	2023	Р	4.00	725	9	2022	Р	2.75	14887
9	2022	С	8.00	724	9	2022	С	9.00	14492
10	2022	Р	3.50	718	8	2022	С	7.50	14281
5	2023	С	5.00	700	12	2022	С	6.00	14037
6	2023	С	5.00	700	10	2022	Р	3.25	14016
7	2023	С	5.00	700	10	2023	Р	2.50	13990
8	2023	С	5.00	700	11	2022	Р	4.00	13557
9	2023	С	5.00	700	8	2022	С	7.10	13488
10	2023	С	5.00	700	9	2022	P Source	e: CME, ICE	13405.25

Nat Gas Futures Open Interest CME and ICE Combined

CME Henry H	lub Futures (10			ICE Henry	Hub Futures Cont		alent (10,000 MM		
	Current	Prior	Daily Change		Current	Prior	Daily Change		
AUG 22	56481	64724	-8243	AUG 22	80011	78762	1249		
SEP 22	148323	147265	1058	SEP 22	78986	79009	-23		
OCT 22	90926	90919	7	OCT 22	74393	75930	-1538		
NOV 22	67887	66196	1691	NOV 22	62071	62038	33		
DEC 22	50786	51524	-738	DEC 22	64462	64988	-526		
JAN 23	72368	70959	1409	JAN 23	63000	63601	-602		
FEB 23	33974	33578	396	FEB 23	55645	55389	257		
MAR 23	48009	47813	196	MAR 23	50449	50872	-423		
APR 23	67081	65832	1249	APR 23	51197	50744	453		
MAY 23	55499	55447	52	MAY 23	50021	50004	17		
JUN 23	21031	20582	449	JUN 23	44301	44319	-18		
JUL 23	19789	19830	-41	JUL 23	43357	43332	26		
AUG 23	17836	17619	217	AUG 23	42444	42674	-231		
SEP 23	15520	15586	-66	SEP 23	41267	41493	-227		
OCT 23	41272	40969	303	OCT 23	48406	48302	104		
NOV 23	12313	12289	24	NOV 23	44427	44376	51		
DEC 23	11782	11844	-62	DEC 23	39903	39845	57		
JAN 24	17937	17997	-60	JAN 24	38975	39421	-447		
FEB 24	7604	7664	-60	FEB 24	28541	28698	-158		
MAR 24	16484	16424	60	MAR 24	33579	33514	66		
APR 24	13779	13553	226	APR 24	27440	27421	19		
MAY 24	6561	6449	112	MAY 24	26623	26627	-4		
JUN 24	2406	2386	20	JUN 24	23654	23658	-4		
JUL 24	2162	2108	54	JUL 24	23399	23403	-4		
AUG 24	3166	3112	54	AUG 24	23721	23725	-4		
SEP 24	1765	1711	54	SEP 24	23169	23173	-4		
OCT 24	8439	8455	-16	OCT 24	26480	26465	15		
NOV 24	4707	4707	0	NOV 24	24209	24179	31		
DEC 24	7127	7127	0	DEC 24	27290	27258	32		
JAN 25	14764	14764	0	JAN 25	19670	19669	2		



Market Report

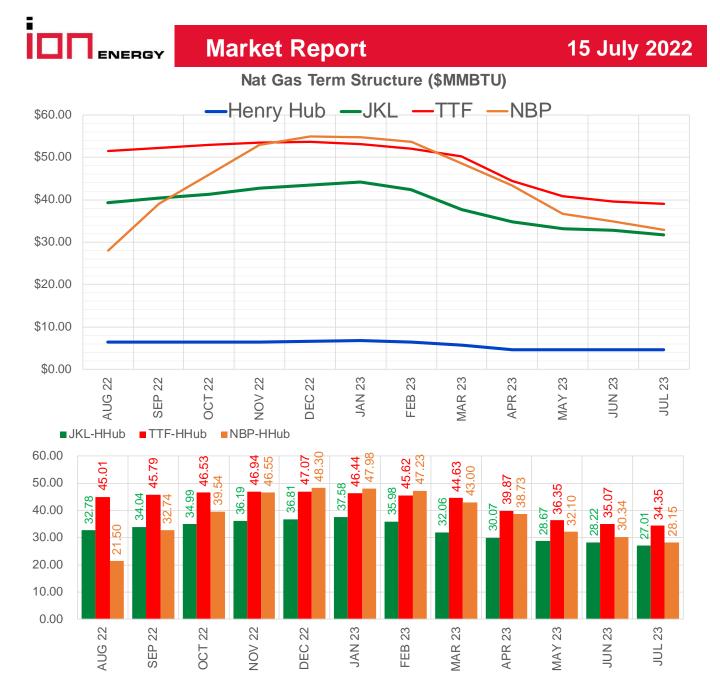


		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	6.12	6.15	0.02
TETCO M3	\$/MMBtu	6.18	5.78	-0.40
FGT Zone 3	\$/MMBtu	6.05	7.83	1.78
Zone 6 NY	\$/MMBtu	6.05	5.70	-0.35
Chicago Citygate	\$/MMBtu	6.55	6.01	-0.54
Michcon	\$/MMBtu	6.53	5.97	-0.56
Columbia TCO Pool	\$/MMBtu	6.00	5.56	-0.44
Ventura	\$/MMBtu	5.95	5.89	-0.06
Rockies/Opal	\$/MMBtu	6.30	5.80	-0.50
El Paso Permian Basin	\$/MMBtu	6.37	5.61	-0.76
Socal Citygate	\$/MMBtu	8.11	7.13	-0.98
Malin	\$/MMBtu	6.56	6.26	-0.30
Houston Ship Channel	\$/MMBtu	6.65	6.02	-0.63
Henry Hub Cash	\$/MMBtu	6.86	5.90	-0.96
AECO Cash	C\$/GJ	4.51	4.11	-0.40
Station2 Cash	C\$/GJ	4.43	6.00	1.57
Dawn Cash	C\$/GJ	6.64	6.00	-0.64

Source: CME, Bloomberg

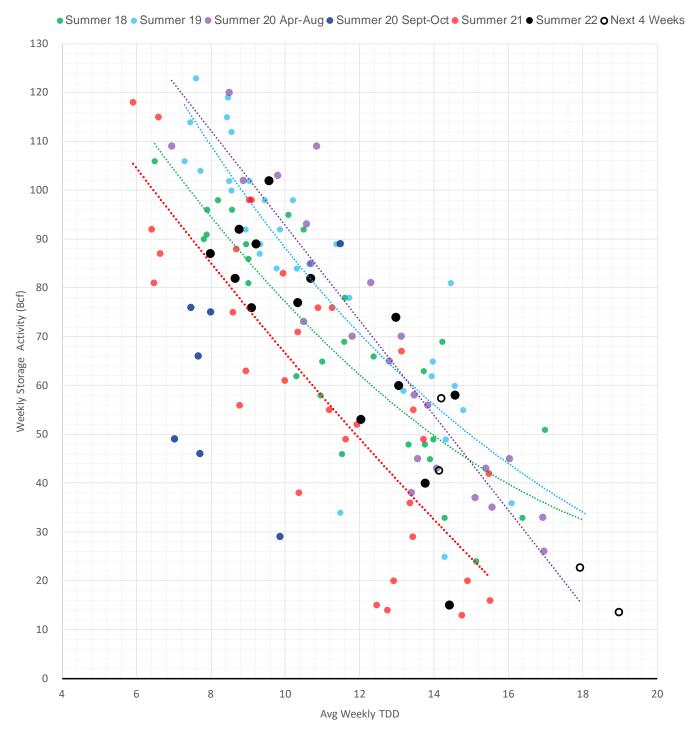


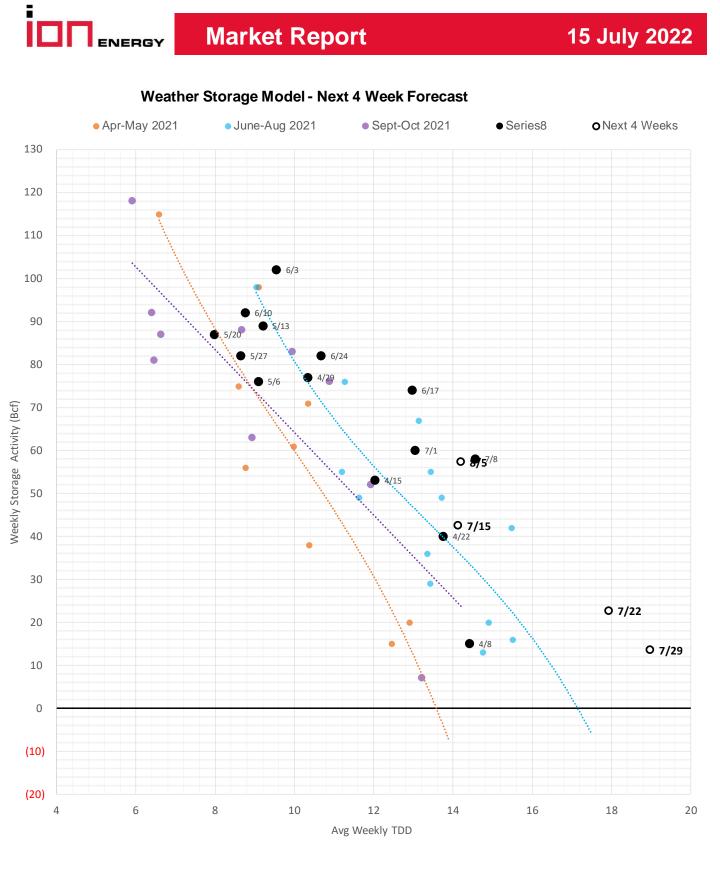
				vs. 4 Weeks	
	Units	Current Price	vs. Last Weel	c Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	a 0.000	a 0.000	a 2.231
NatGas Oct21/Nov21	\$/MMBtu	0.361	a 0.000	0.000	a 0.291
NatGas Oct21/Jan22	\$/MMBtu	-1.817	a 0.000	a 0.000	-2.068
NatGas Apr22/Oct22	\$/MMBtu	1.168	a 0.251	-0.879	1.169
WTI Crude	\$/Bbl	95.78	-6.950	- 21.810	4 24.130
Brent Crude	\$/Bbl	99.10	-5.550	-20.710	25.630
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	a 0.000	a 0.000	▲ 0.000
Heating Oil	cents/Gallon	364.94	-2.450	-92.190	1 53.680
Propane, Mt. Bel	cents/Gallon	1.14	-0.043	-0.082	0.038
Ethane, Mt. Bel	cents/Gallon	0.54	a 0.046	-0.123	a 0.231
Coal, PRB	\$/MTon	12.30	a 0.000	a 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			



	AUG 22	SEP 22	OCT 22	NOV 22	DEC 22	JAN 23	FEB 23	MAR 23	APR 23	MAY 23	JUN 23	JUL 23
Henry Hub	\$6.435	\$6.366	\$6.364	\$6.468	\$6.586	\$6.690	\$6.429	\$5.612	\$4.624	\$4.522	\$4.581	\$4.642
JKL	\$39.215	\$40.405	\$41.350	\$42.655	\$43.400	\$44.265	\$42.405	\$37.675	\$34.695	\$33.195	\$32.805	\$31.655
JKL-HHub	\$32.780	\$34.039	\$34.986	\$36.187	\$36.814	\$37.575	\$35.976	\$32.063	\$30.071	\$28.673	\$28.224	\$27.013
TTF	\$51.444	\$52.155	\$52.896	\$53.408	\$53.658	\$53.129	\$52.047	\$50.237	\$44.498	\$40.870	\$39.655	\$38.990
TTF-HHub	\$45.009	\$45.789	\$46.532	\$46.940	\$47.072	\$46.439	\$45.618	\$44.625	\$39.874	\$36.348	\$35.074	\$34.348
NBP	\$27.936	\$39.102	\$45.903	\$53.013	\$54.881	\$54.668	\$53.658	\$48.608	\$43.358	\$36.624	\$34.918	\$32.794
NBP-HHub	\$21.501	\$32.736	\$39.539	\$46.545	\$48.295	\$47.978	\$47.229	\$42.996	\$38.734	\$32.102	\$30.337	\$28.152

Weather Storage Model - Next 4 Week Forecast





Market Report

ENERGY

15 July 2022

