

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 3.32	▼ \$ (0.01)	▲ \$ 0.08

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 72.84	▼ \$ (0.24)	▲ \$ 0.6

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 74.98	▼ \$ (0.21)	▲ \$ 0.9

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[Supply – Demand Trends](#)

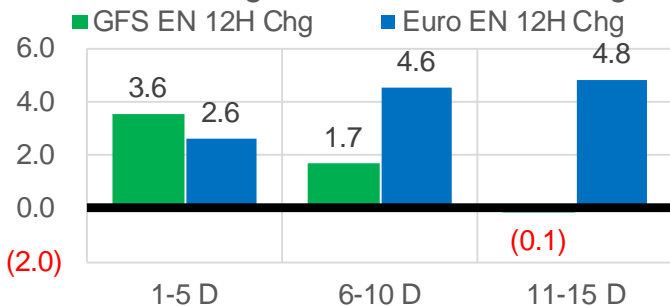
[Nat Gas Options Volume and Open Interest](#)

[Nat Gas Futures Open Interest](#)

[Price Summary](#)

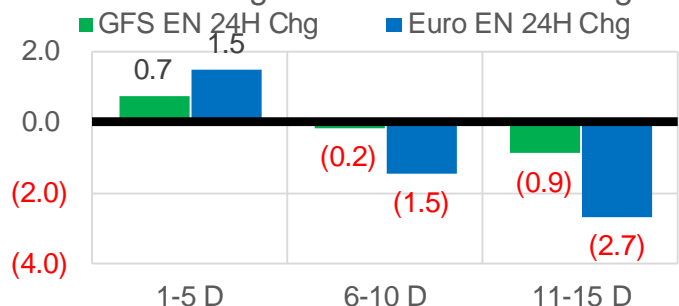
Vs. 12H Ago

L48 Region - 00z TDD vs 12H Ago



Vs. 24H Ago

L48 Region - 00z TDD vs 24H Ago



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	91.6	▼ -0.72	▼ -1.00

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	32.5	▲ 0.26	▼ -2.19

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.8	▼ -0.53	▼ -0.54

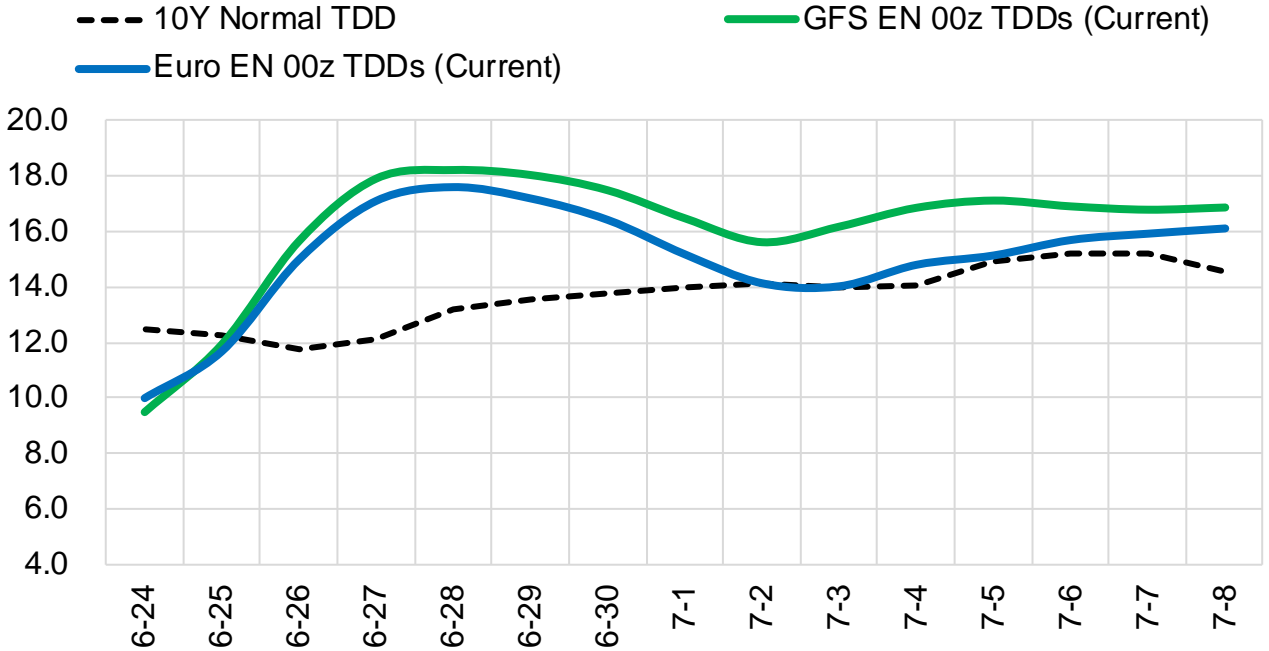
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.1	▼ -0.40	▼ -0.75

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.0	▲ 0.60	▲ 0.90

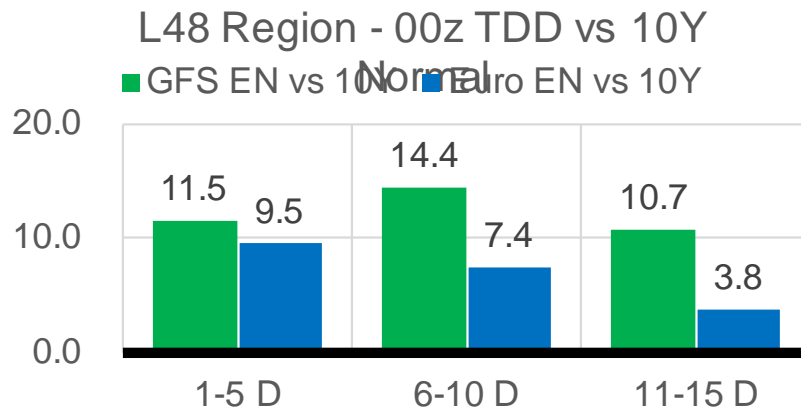
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.5	▼ -0.20	▼ -0.05

Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI , Bloomberg

Lower 48 Component Models

Daily Balances

	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	DoD	vs. 7D
Lower 48 Dry Production	92.4	92.8	93.2	93.0	92.3	92.3	91.6	▼ -0.7	▼ -1.1
Canadian Imports	5.1	4.6	4.8	4.9	4.7	4.5	4.1	▼ -0.4	▼ -0.7
L48 Power	36.1	34.7	35.5	36.7	33.2	32.3	32.5	▲ 0.3	▼ -2.2
L48 Residential & Commercial	8.1	7.7	7.9	8.7	9.4	8.4	7.8	▼ -0.5	▼ -0.5
L48 Industrial	21.0	20.0	19.8	19.7	19.7	19.5	19.5	▲ 0.0	▼ -0.4
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.1	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.2	2.1	2.1	2.2	2.1	2.0	2.0	▼ 0.0	▼ -0.1
L48 Regional Gas Consumption	72.5	69.7	70.5	72.4	69.4	67.3	67.0	▼ -0.3	▼ -3.3
Net LNG Delivered	9.73	10.34	10.48	10.19	9.71	10.37	10.98	▲ 0.6	▲ 0.8
Total Mexican Exports	7.9	7.2	7.0	7.5	7.8	7.7	7.5	▼ -0.2	▲ 0.0
Implied Daily Storage Activity	7.4	10.3	10.0	7.8	10.1	11.4	10.2		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	14-May	21-May	28-May	4-Jun	11-Jun	18-Jun	WoW	vs. 4W
Lower 48 Dry Production	91.8	91.7	92.4	92.2	92.6	91.9	▼ -0.7	▼ -0.3
Canadian Imports	4.8	4.6	4.5	3.9	4.8	5.1	▲ 0.3	▲ 0.7
L48 Power	26.1	26.5	29.5	27.8	34.4	34.8	▲ 0.4	▲ 5.3
L48 Residential & Commercial	18.2	10.5	9.4	11.7	8.4	8.2	▼ -0.2	▼ -1.9
L48 Industrial	18.0	20.0	20.1	18.0	21.0	21.5	▲ 0.5	▲ 1.7
L48 Lease and Plant Fuel	5.0	5.0	5.1	5.1	5.1	5.1	▼ 0.0	▲ 0.0
L48 Pipeline Distribution	2.3	1.9	2.0	2.0	2.1	2.1	▲ 0.0	▲ 0.1
L48 Regional Gas Consumption	69.5	63.9	66.0	64.6	71.0	71.7	▲ 0.6	▲ 5.3
Net LNG Exports	11.0	10.4	10.5	11.0	9.4	9.6	▲ 0.1	▼ -0.8
Total Mexican Exports	6.8	6.8	6.7	7.2	7.3	7.5	▲ 0.2	▲ 0.5
Implied Daily Storage Activity	9.3	15.2	13.6	13.3	9.6	8.3	-1.3	
EIA Reported Daily Storage Activity	10.1	16.4	14.0	14.0	2.3			
Daily Model Error	-0.8	-1.2	-0.4	-0.7	7.3			

Monthly Balances

	2Yr Ago Jun-19	LY Jun-20	Feb-21	Mar-21	Apr-21	May-21	MTD Jun-21	MoM	vs. LY
Lower 48 Dry Production	91.5	87.7	85.2	91.8	91.7	91.9	92.4	▲ 0.5	▲ 0.6
Canadian Imports	4.7	4.0	6.3	4.8	4.7	4.5	4.8	▲ 0.3	▲ 0.0
L48 Power	33.1	35.0	27.8	24.2	25.0	27.0	34.1	▲ 7.1	▲ 9.9
L48 Residential & Commercial	9.0	8.8	47.1	29.3	20.0	13.1	8.3	▼ -4.8	▼ -21.0
L48 Industrial	22.5	19.9	21.3	19.7	20.5	19.3	20.5	▲ 1.2	▲ 0.7
L48 Lease and Plant Fuel	5.0	4.8	4.7	5.0	5.0	5.0	5.1	▲ 0.1	▲ 0.1
L48 Pipeline Distribution	2.1	2.2	3.3	2.5	2.2	2.1	2.1	▲ 0.0	▼ -0.5
L48 Regional Gas Consumption	71.7	70.7	104.1	80.9	72.8	66.4	70.1	▲ 3.6	▼ -10.8
Net LNG Exports	5.5	4.0	8.6	11.1	11.5	10.8	9.9	▼ -0.9	▼ -1.2
Total Mexican Exports	5.2	5.5	5.8	6.5	6.7	6.8	7.5	▲ 0.7	▲ 1.0
Implied Daily Storage Activity	13.8	11.5	-27.0	-2.0	5.4	12.4	9.7		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

Daily Average Generation Data (MWh)

Nuclear Generation Daily Average - MWh (NRC)

	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	DoD	vs. 7D
NRC Nuclear Daily Output	87.9	89.5	91.4	90.4	90.9	89.7	89.7	0.0	-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	17.0	15.4	13.4	14.5	14.0	15.2	15.2	0.0	0.3
NRC % Nuclear Cap Utilization	89.3	91.0	93.0	91.9	92.4	91.2	#N/A	#N/A	#N/A

Wind Generation Daily Average - MWh (Genscape)

	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	DoD	vs. 7D
CAISO Wind	3298	3685	3886	2901	2711	2573	2650	77	-526
ERCOT	14373	19004	16557	13043	14560	19543	17489	-2054	1309
Genscape US Wind	41008	41307	56111	53868	36052	#N/A	#N/A	#N/A	#N/A

Generation Daily Average - MWh (Genscape)

	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	DoD	vs. 7D
Genscape US Wind	41008	41307	56111	53868	36052	#N/A	#N/A	#N/A	#N/A
Genscape US Renewables	78778	81965	98658	104440	78876	#N/A	#N/A	#N/A	#N/A
Genscape Other Renewables	37770	40657	42547	50572	42824	#N/A	#N/A	#N/A	#N/A
Genscape US Other	5298	4809	4765	4989	4456	#N/A	#N/A	#N/A	#N/A
Genscape US Coal	124869	119246	115386	126074	117475	#N/A	#N/A	#N/A	#N/A
Genscape US Nuke	91915	93559	95558	94479	95029	#N/A	#N/A	#N/A	#N/A
Genscape US Hydro	31959	29973	29488	30954	29814	#N/A	#N/A	#N/A	#N/A
Genscape US Gas	218556	204132	205529	221074	183524	#N/A	#N/A	#N/A	#N/A

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data (MWh)

Nuclear Generation Weekly Average - MWh (NRC)

	14-May	21-May	28-May	4-Jun	11-Jun	18-Jun	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	77.2	82.6	87.0	89.7	88.0	86.9	-1.2	0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	27.7	22.2	17.8	15.2	16.8	18.0	1.2	
NRC % Nuclear Cap Utilization	78.5	84.0	88.5	91.2	89.5	88.3	-1.2	

Wind Generation Weekly Average - MWh (Genscape)

	14-May	21-May	28-May	4-Jun	11-Jun	18-Jun	WoW	WoW Bcf/d Impact
CAISO Wind	3577	4303	4299	3966	4643	3483	-1160	0.2
ERCOT	15312	15322	17441	8357	18783	10078	-8705	1.5
Genscape US Wind	42667	45974	52639	27881	44665	31422	-13243	2.2

Generation Weekly Average - MWh (Genscape)

	14-May	21-May	28-May	4-Jun	11-Jun	18-Jun	WoW	WoW Bcf/d Impact
Genscape US Wind	42667	45974	52639	27881	44665	31422	-13243	2.2
Genscape US Renewables	88651	86848	93154	72022	91622	69251	-22371	3.8
Genscape Other Renewables	45985	40874	40514	44141	46957	37829	-9128	1.5
Genscape US Other	5007	5424	5562	5511	5860	5208	-653	0.1
Genscape US Coal	80933	89538	101466	93076	120883	121355	472	-0.1
Genscape US Nuke	81048	86440	90918	93635	92135	90958	-1177	0.2
Genscape US Hydro	30010	28660	26797	29040	32339	29571	-2768	0.5
Genscape US Gas	154940	158381	176347	171345	214293	212844	-1449	

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

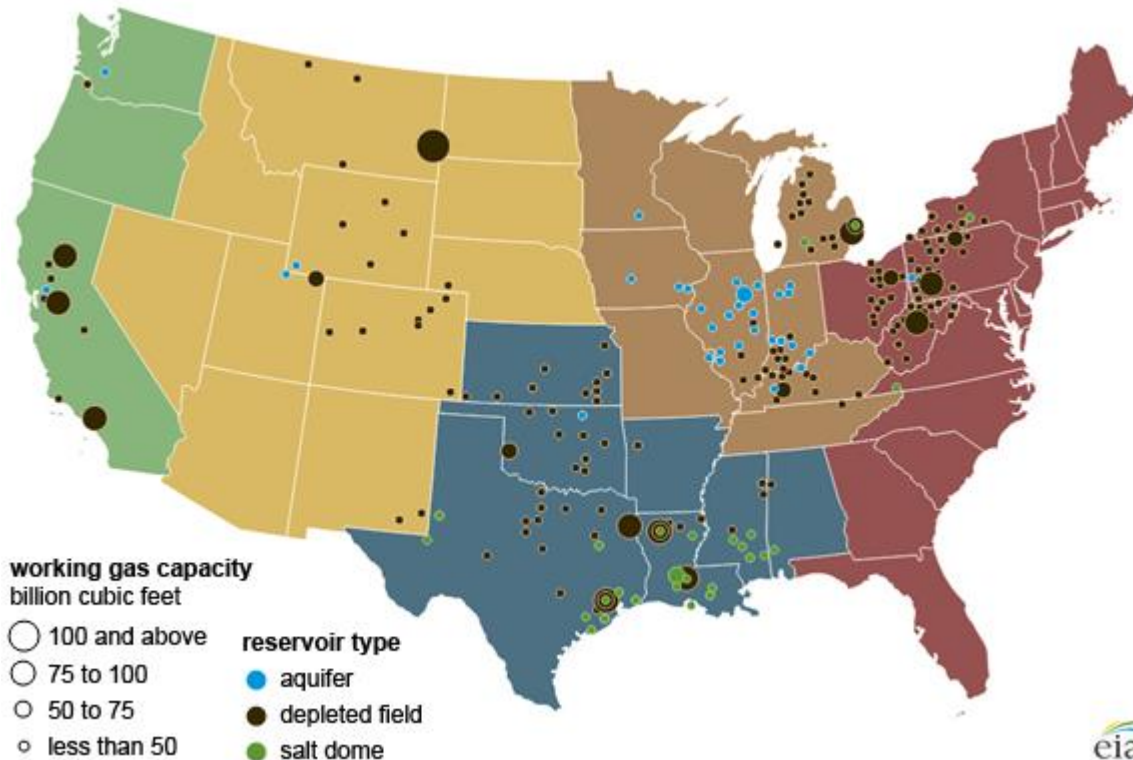
Regional S/D Models Storage Projection

Week Ending 18-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	7.9	0.6	8.6	60
East	3.5	0.7	4.1	29
Midwest	3.9	-0.8	3.1	21
Mountain	4.7	-3.7	1.0	7
South Central	-4.8	4.6	-0.2	-1
Pacific	0.7	-0.1	0.6	4

*Adjustment Factor is calculated based on historical regional deltas

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

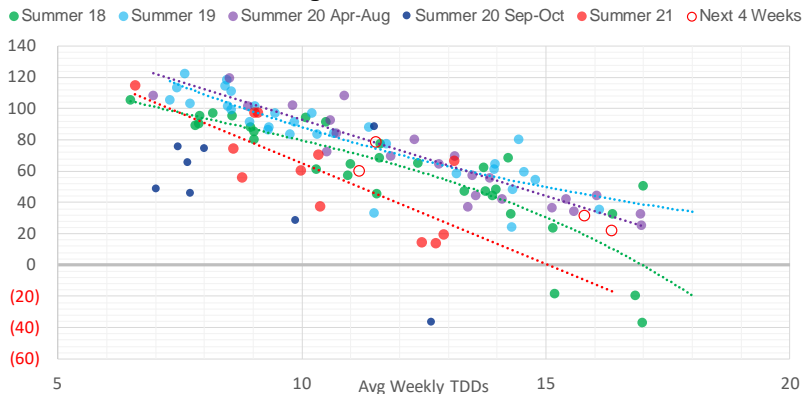


Weather Model Storage Projection

Next report
and beyond

Week Ending	GWDDs	Week Storage Projection
18-Jun	11.2	60
25-Jun	11.5	79
02-Jul	16.4	22
09-Jul	15.8	31

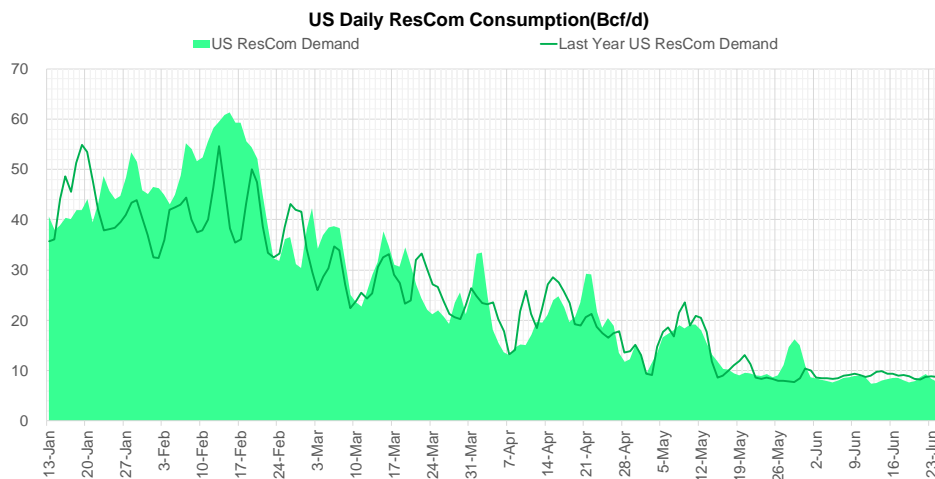
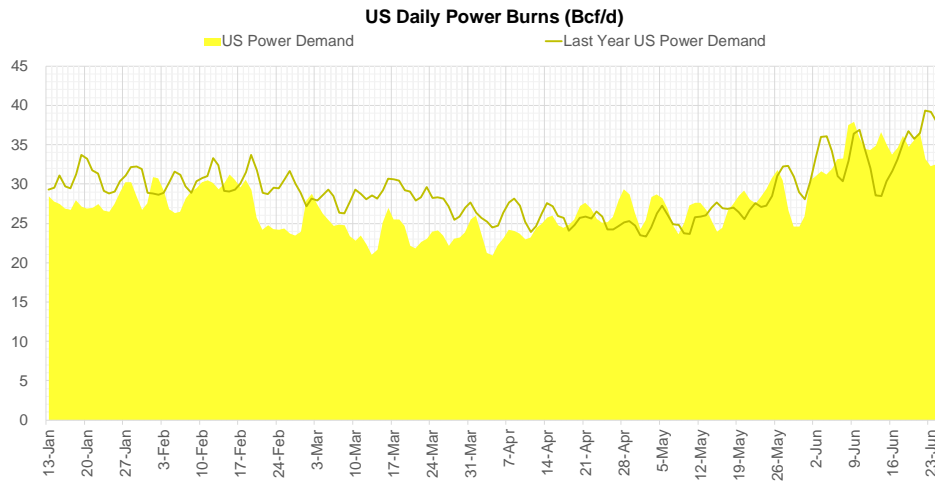
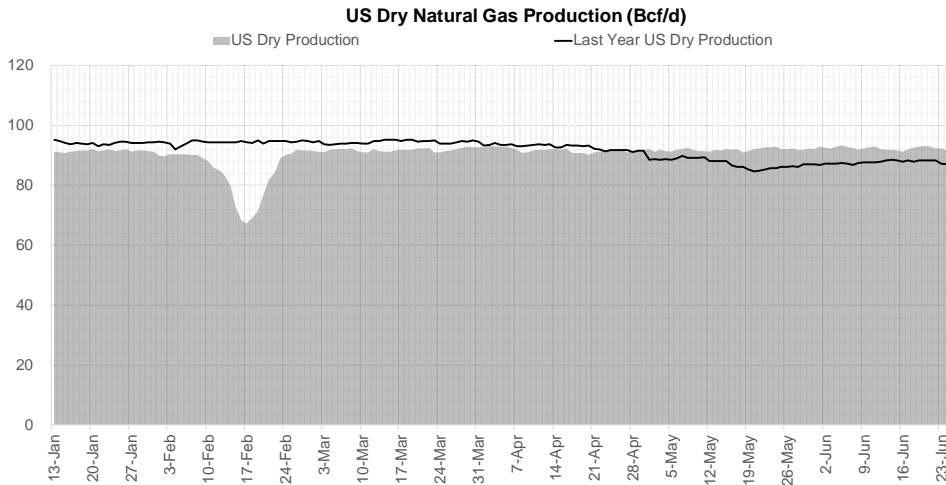
Weather Storage Model - Next 4 Week Forecast



Go to larger image



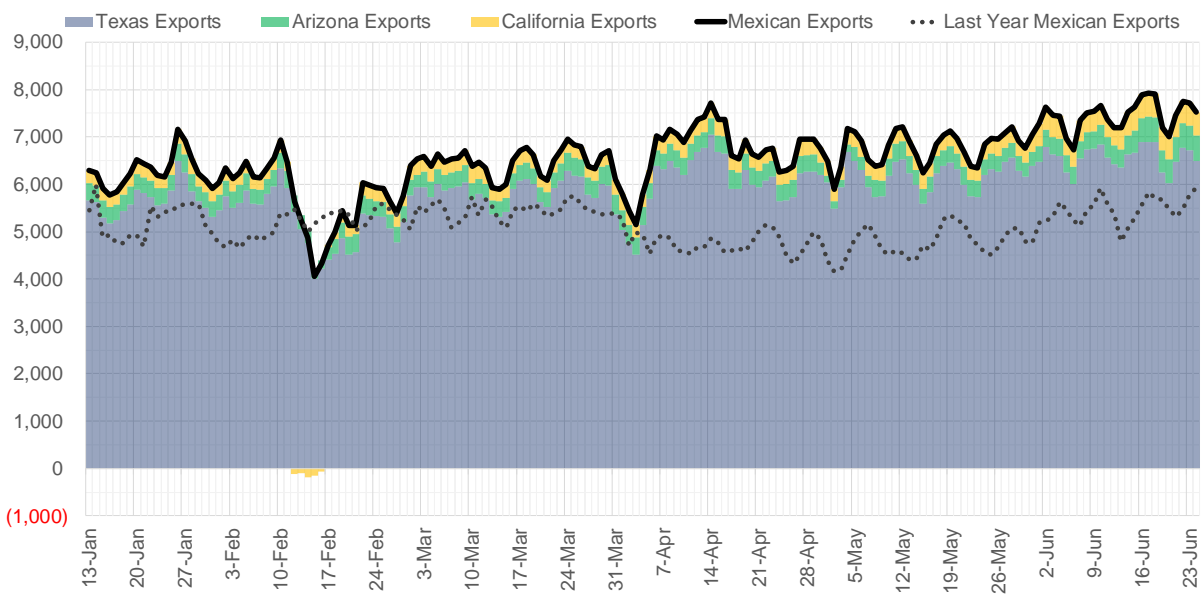
Supply – Demand Trends



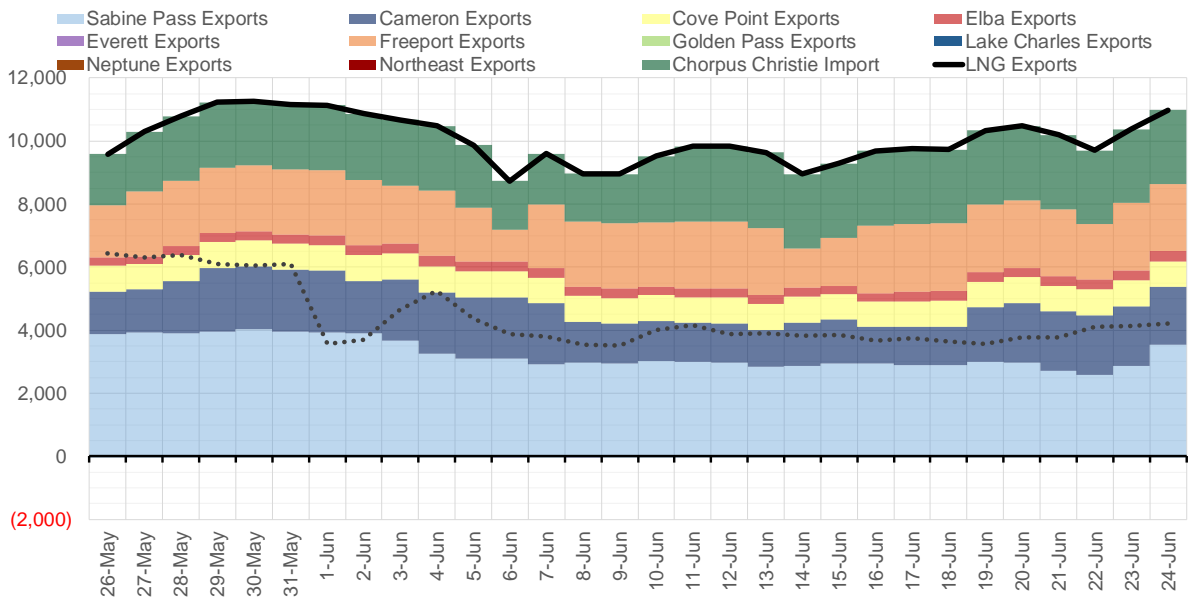
Source: Bloomberg

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.

Mexican Exports (MMcf/d)



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



Source: Bloomberg

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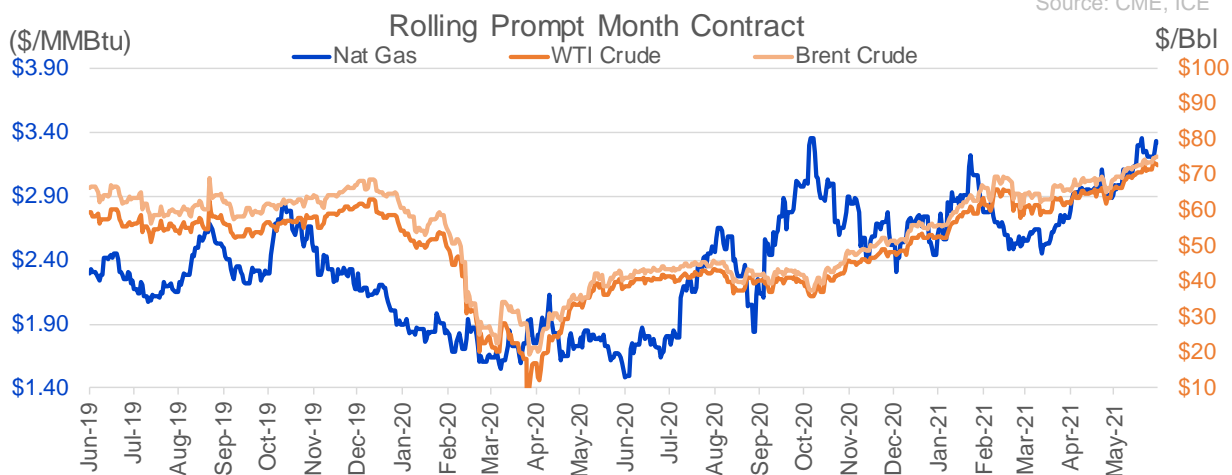
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

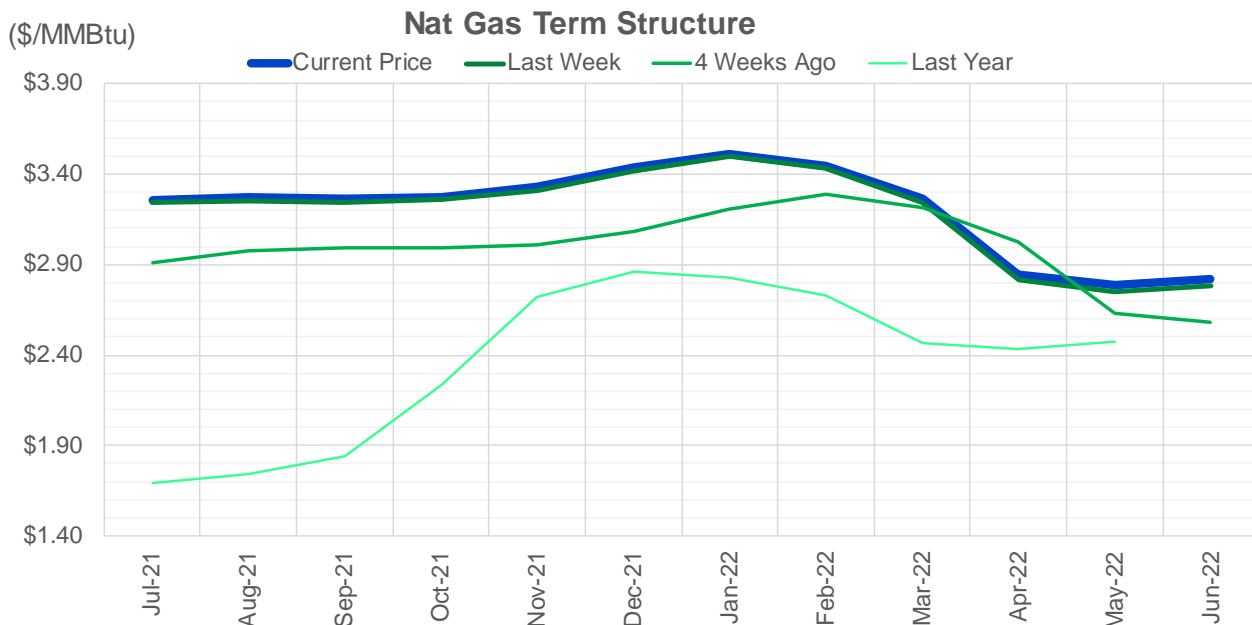
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
7	2021	C	3.40	6389	10	2021	C	4.00	46000
8	2021	C	3.75	5241	8	2021	C	3.50	42391
7	2021	C	3.50	4881	8	2021	C	4.00	41441
9	2021	C	3.75	4510	9	2021	C	4.00	40560
7	2021	P	3.25	4476	7	2021	C	3.50	35489
8	2021	P	2.90	4167	10	2021	C	3.50	34365
8	2021	C	3.50	3408	10	2021	P	2.50	32521
8	2021	P	3.00	3090	8	2021	C	3.75	31551
10	2021	C	3.75	2950	8	2021	P	3.00	30167
8	2021	C	4.00	2807	7	2021	P	2.90	29482
8	2021	C	3.35	2393	8	2021	P	2.50	29301
7	2021	C	3.60	2334	7	2021	C	3.25	28878
11	2021	C	4.00	2275	10	2021	C	3.25	28811
9	2021	C	3.50	2028	7	2021	P	2.50	28794
10	2021	C	4.00	2006	7	2021	C	4.00	28471
7	2021	C	3.30	1635	10	2021	C	5.00	27915
9	2021	C	4.25	1600	9	2021	C	3.50	26714
7	2021	C	3.25	1436	7	2021	P	2.75	26180
7	2021	C	3.55	1413	8	2021	C	3.25	24915
10	2021	P	3.25	1320	10	2021	P	2.75	24894
11	2021	C	3.50	1320	8	2021	P	2.90	24149
8	2021	P	3.15	1259	10	2021	P	2.00	23689
8	2021	P	3.25	1252	7	2021	P	2.85	23679
7	2021	C	3.35	1247	9	2021	P	2.50	23558
7	2021	C	3.65	1154	7	2021	P	3.00	23497
8	2021	C	3.30	1025	7	2021	P	2.80	23462
10	2021	C	4.25	1000	12	2021	C	4.00	23298
12	2021	P	3.15	1000	7	2021	C	3.75	21846
7	2021	P	3.30	992	7	2021	C	3.00	21278
8	2021	C	4.20	987	8	2021	P	2.75	20489
8	2021	P	2.85	906	9	2021	P	2.00	20423
8	2021	P	3.20	871	9	2021	C	3.25	20343
1	2022	C	7.00	850	10	2021	C	4.50	20050
10	2021	C	5.50	831	10	2021	P	2.25	19741
10	2021	P	2.75	810	8	2021	P	2.00	19664
7	2021	C	3.45	793	4	2022	C	3.00	19623
7	2021	C	3.70	791	8	2021	P	2.25	19478
8	2021	C	4.45	782	10	2021	C	3.00	18010
2	2022	C	4.00	700	11	2021	C	4.00	17906
3	2022	C	4.00	700	3	2022	C	4.00	16956
7	2021	P	3.15	687	8	2021	C	3.00	16076
7	2021	P	3.10	679	7	2021	P	2.00	16035
8	2021	C	3.60	676	10	2021	C	6.00	15848
8	2021	C	3.25	668	8	2021	C	3.30	15822
7	2021	P	3.20	662	11	2021	P	2.50	15470
4	2022	P	2.75	660	7	2021	P	2.70	15368
10	2022	P	2.75	660	10	2021	C	3.75	15215
8	2021	P	3.05	621	3	2022	C	3.00	15043
3	2022	C	8.00	619	1	2022	C	4.00	14373
					3	2022	C	5	14016

Source: CME, ICE

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
JUL 21	24578	41940	-17362	JUL 21	87460	86354	1107
AUG 21	215149	205399	9750	AUG 21	85038	81915	3123
SEP 21	204327	204569	-242	SEP 21	85668	85517	151
OCT 21	145608	144254	1354	OCT 21	97265	97456	-191
NOV 21	92545	91509	1036	NOV 21	71553	71044	510
DEC 21	65369	63833	1536	DEC 21	68331	68129	202
JAN 22	100385	95170	5215	JAN 22	84699	84584	115
FEB 22	38003	38087	-84	FEB 22	65649	65682	-33
MAR 22	38333	82267	1066	MAR 22	64911	64533	378
APR 22	75821	74699	1122	APR 22	59186	58690	496
MAY 22	53753	51309	2444	MAY 22	55588	54818	770
JUN 22	24824	23748	1076	JUN 22	51761	51231	530
JUL 22	17900	17121	779	JUL 22	49969	49276	693
AUG 22	17745	17331	414	AUG 22	50381	49686	695
SEP 22	15762	15325	437	SEP 22	50478	49798	680
OCT 22	49284	47870	1414	OCT 22	57004	56360	644
NOV 22	20138	18975	1163	NOV 22	44270	43678	592
DEC 22	14608	13429	1179	DEC 22	47102	46870	233
JAN 23	9379	8375	1004	JAN 23	26527	25990	537
FEB 23	2910	2844	66	FEB 23	24197	23726	471
MAR 23	7576	7111	465	MAR 23	27352	26835	517
APR 23	8654	8332	322	APR 23	21705	21258	447
MAY 23	4686	4529	157	MAY 23	21941	21493	447
JUN 23	1177	1086	91	JUN 23	20462	20014	448
JUL 23	1885	1785	100	JUL 23	20314	19869	446
AUG 23	969	881	88	AUG 23	20308	19854	453
SEP 23	1364	1014	350	SEP 23	19929	19407	523
OCT 23	2307	2318	-11	OCT 23	20881	20426	455
NOV 23	816	806	10	NOV 23	19559	19243	316
DEC 23	1133	1133	0	DEC 23	19927	19601	326





	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Current Price	\$3.258	\$3.277	\$3.262	\$3.276	\$3.332	\$3.436	\$3.512	\$3.442	\$3.261	\$2.847	\$2.786	\$2.816
Last Week	\$3.240	\$3.256	\$3.244	\$3.259	\$3.314	\$3.421	\$3.499	\$3.432	\$3.247	\$2.817	\$2.754	\$2.780
vs. Last Week	\$0.018	\$0.021	\$0.018	\$0.017	\$0.018	\$0.015	\$0.013	\$0.010	\$0.014	\$0.030	\$0.032	\$0.036
4 Weeks Ago	\$2.913	\$2.974	\$2.993	\$2.990	\$3.009	\$3.081	\$3.207	\$3.287	\$3.217	\$3.025	\$2.631	\$2.581
vs. 4 Weeks Ago	\$0.345	\$0.303	\$0.269	\$0.286	\$0.323	\$0.355	\$0.305	\$0.155	\$0.044	-\$0.178	\$0.155	\$0.235
Last Year	\$1.637	\$1.691	\$1.740	\$1.839	\$2.234	\$2.725	\$2.862	\$2.831	\$2.729	\$2.464	\$2.436	\$2.475
vs. Last Year	\$1.621	\$1.586	\$1.522	\$1.437	\$1.098	\$0.711	\$0.650	\$0.611	\$0.532	\$0.383	\$0.350	\$0.341

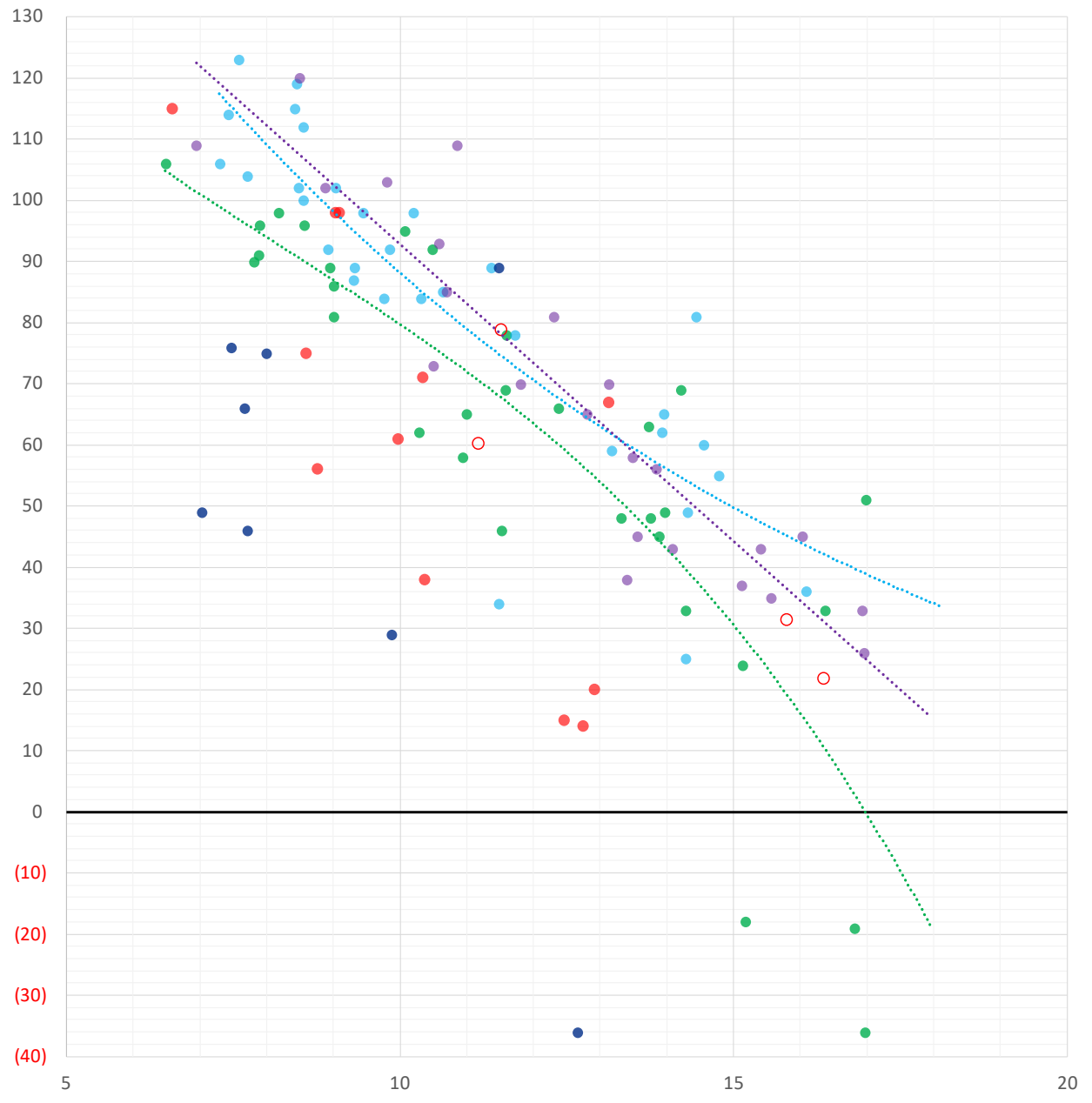
	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.75	2.84	0.09
TETCO M3	\$/MMBtu	2.51	2.72	0.21
FGT Zone 3	\$/MMBtu	2.60	3.33	0.73
Zone 6 NY	\$/MMBtu	2.60	2.63	0.03
Chicago Citygate	\$/MMBtu	3.14	3.16	0.02
Michcon	\$/MMBtu	3.16	3.09	-0.07
Columbia TCO Pool	\$/MMBtu	2.76	2.68	-0.08
Ventura	\$/MMBtu	2.66	3.09	0.43
Rockies/Opal	\$/MMBtu	3.47	3.13	-0.34
El Paso Permian Basin	\$/MMBtu	2.62	3.26	0.64
Socal Citygate	\$/MMBtu	4.07	4.62	0.55
Malin	\$/MMBtu	3.37	3.58	0.21
Houston Ship Channel	\$/MMBtu	3.33	3.33	0.00
Henry Hub Cash	\$/MMBtu	3.33	3.13	-0.21
AECO Cash	C\$/GJ	2.76	2.67	-0.09
Station2 Cash	C\$/GJ	2.69	3.43	0.74
Dawn Cash	C\$/GJ	3.17	3.09	-0.08

Source: CME, Bloomberg

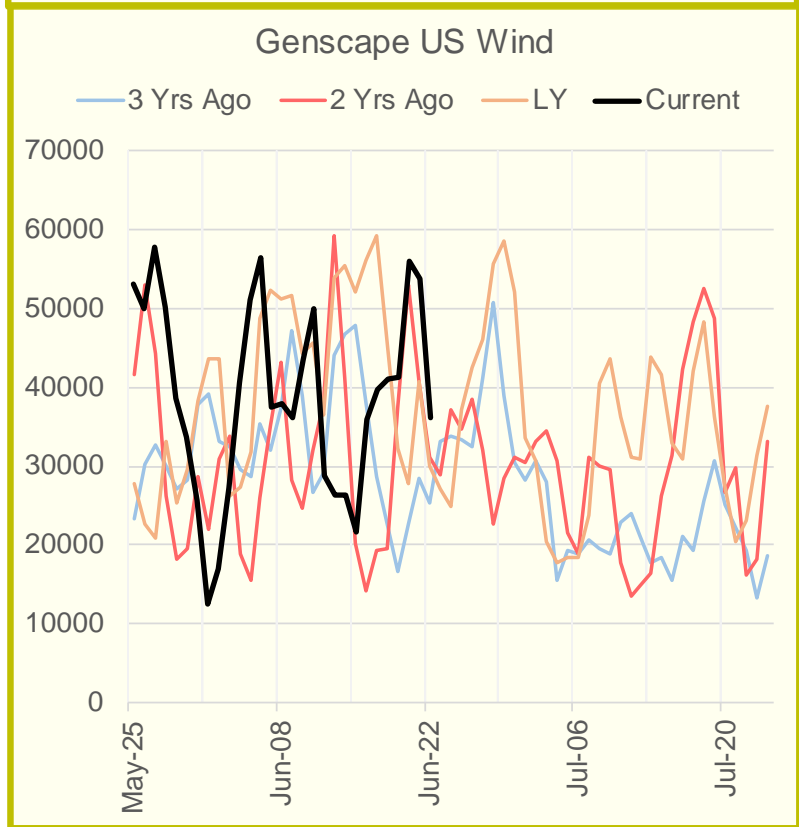
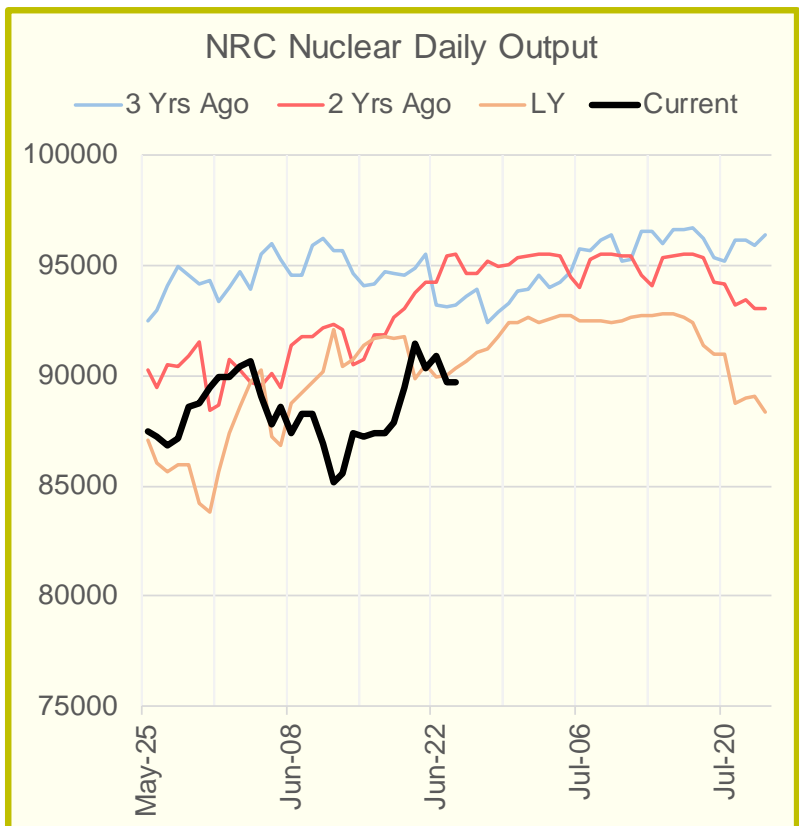
	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.010	▼ -0.016	▼ -0.020	▼ -0.004
NatGas Oct21/Nov21	\$/MMBtu	0.051	▼ -0.003	▼ -0.014	▲ 0.003
NatGas Oct21/Jan22	\$/MMBtu	0.222	▼ -0.015	▼ -0.040	▼ -0.063
NatGas Apr22/Oct22	\$/MMBtu	0.021	▲ 0.003	▼ -0.012	▼ -0.031
WTI Crude	\$/Bbl	73.08	▲ 0.930	▲ 6.870	▲ 35.070
Brent Crude	\$/Bbl	75.19	▲ 0.800	▲ 6.320	▲ 34.880
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	215.94	▲ 5.600	▲ 11.420	▲ 100.860
Propane, Mt. Bel	cents/Gallon	0.96	▲ 0.017	▲ 0.140	▲ 0.464
Ethane, Mt. Bel	cents/Gallon	0.28	▼ -0.002	▲ 0.016	▲ 0.056
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			

Weather Storage Model - Next 4 Week Forecast

● Summer 18
 ● Summer 19
 ● Summer 20 Apr-Aug
 ● Summer 20 Sept-Oct
 ● Summer 21
 ○ Next 4 Weeks



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