

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 1.82	▲ \$ 0.04	▲ \$ 0.01

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 36.22	▼ \$ (0.59)	▲ \$ 1.2

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 38.91	▼ \$ (0.66)	▲ \$ 2.6

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- [Nat Gas Options Volume and Open Interest](#)
- [Nat Gas Futures Open Interest](#)
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### 00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	2.4	1.7	-4.8	-0.7
24 Hr Chg	1.4	1.5	-7.4	-4.5

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.9	2.5	4.3	7.8
24 Hr Chg	0.5	-3.0	1.3	-1.2

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	83.4	▼ -0.60	▼ -0.95

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	34.2	▲ 1.06	▲ 3.06

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.6	▼ -0.60	▼ -0.84

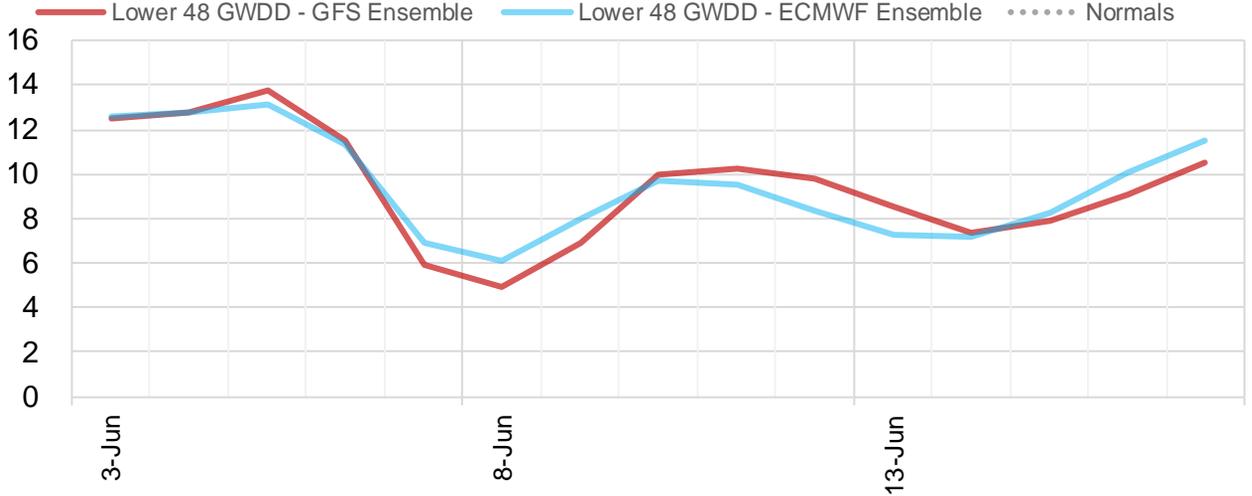
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.2	▲ 0.19	▼ -0.01

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	4.3	▲ 0.58	▼ -1.18

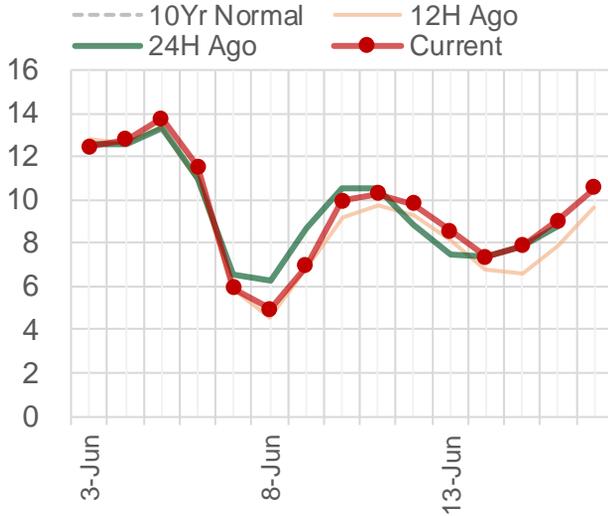
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	5.4	▼ -0.16	▲ 0.16

### Short-term Weather Model Outlooks (00z)

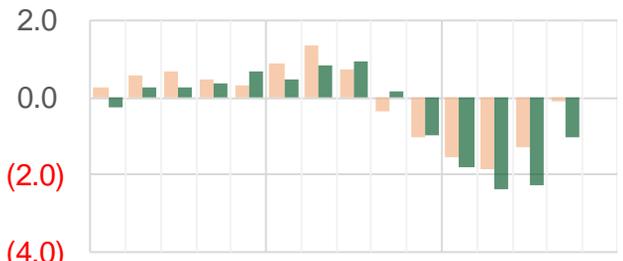
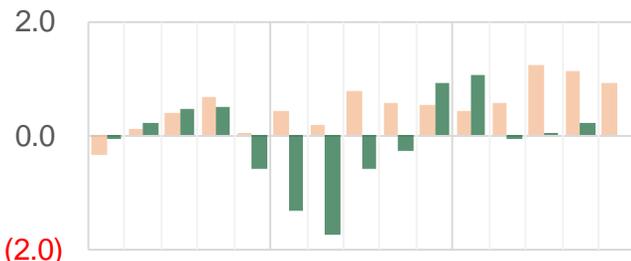
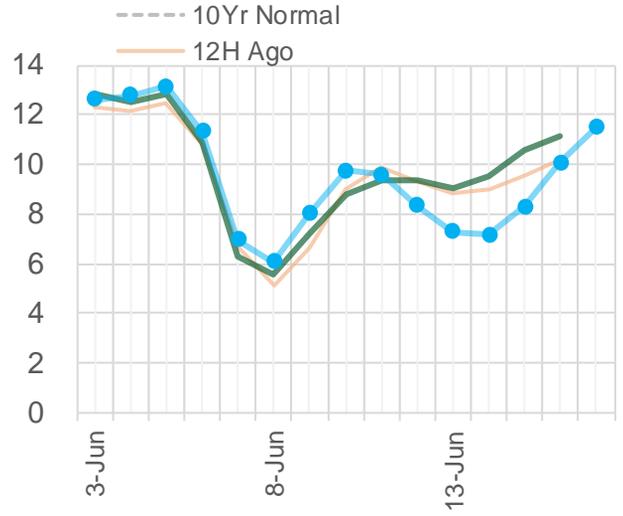
Lower 48 TDD Forecast



Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



Source: WSI, Bloomberg

### Lower 48 Component Models

#### Daily Balances

	28-May	29-May	30-May	31-May	1-Jun	2-Jun	3-Jun	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>83.9</b>	<b>84.8</b>	<b>84.9</b>	<b>84.9</b>	<b>84.1</b>	<b>84.0</b>	<b>83.4</b>	▼ -0.6	▼ -1.0
<b>Canadian Imports</b>	<b>4.8</b>	<b>4.2</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>	<b>4.1</b>	<b>4.2</b>	▲ 0.2	▲ 0.1
L48 Power	33.1	31.8	29.1	27.8	30.2	33.2	34.2	▲ 1.1	▲ 3.4
L48 Residential & Commercial	7.7	7.5	8.3	10.1	9.7	8.2	7.6	▼ -0.6	▼ -0.9
L48 Industrial	18.6	18.4	18.3	18.4	18.3	18.3	18.3	▲ 0.1	▼ 0.0
L48 Lease and Plant Fuel	4.7	4.7	4.8	4.7	4.7	4.7	4.7	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.0	1.9	1.8	1.9	1.9	2.0	2.0	▲ 0.0	▲ 0.1
<b>L48 Regional Gas Consumption</b>	<b>66.1</b>	<b>64.4</b>	<b>62.3</b>	<b>62.9</b>	<b>64.8</b>	<b>66.4</b>	<b>66.9</b>	▲ 0.5	▲ 2.5
<b>Net LNG Exports</b>	<b>6.4</b>	<b>6.1</b>	<b>6.0</b>	<b>6.1</b>	<b>3.6</b>	<b>3.7</b>	<b>4.3</b>	▲ 0.6	▼ -1.0
<b>Total Mexican Exports</b>	<b>5.2</b>	<b>5.5</b>	<b>5.1</b>	<b>4.7</b>	<b>5.5</b>	<b>5.5</b>	<b>5.4</b>	▼ -0.2	▲ 0.1
Implied Daily Storage Activity	10.9	13.1	15.5	15.1	14.3	12.4	11.1		
EIA Reported Daily Storage Activity									
Daily Model Error									

#### EIA Storage Week Balances

	24-Apr	1-May	8-May	15-May	22-May	29-May	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>91.1</b>	<b>89.9</b>	<b>87.0</b>	<b>86.5</b>	<b>83.9</b>	<b>83.9</b>	▲ 0.0	▼ -2.9
<b>Canadian Imports</b>	<b>3.9</b>	<b>3.4</b>	<b>3.6</b>	<b>4.0</b>	<b>4.1</b>	<b>4.1</b>	▲ 0.0	▲ 0.3
L48 Power	25.3	24.8	24.6	25.0	26.7	30.1	▲ 3.4	▲ 4.8
L48 Residential & Commercial	22.4	16.8	14.5	19.3	10.8	8.2	▼ -2.6	▼ -7.2
L48 Industrial	18.7	18.4	18.7	17.3	18.8	18.4	▼ -0.4	▲ 0.1
L48 Lease and Plant Fuel	5.1	5.1	4.9	4.8	4.7	4.7	▲ 0.0	▼ -0.2
L48 Pipeline Distribution	2.3	2.0	1.9	2.2	1.9	1.9	▲ 0.0	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>73.9</b>	<b>67.0</b>	<b>64.6</b>	<b>68.6</b>	<b>62.8</b>	<b>63.2</b>	▲ 0.4	▼ -2.6
<b>Net LNG Exports</b>	<b>8.1</b>	<b>7.5</b>	<b>7.7</b>	<b>6.9</b>	<b>6.3</b>	<b>6.1</b>	▼ -0.2	▼ -1.0
<b>Total Mexican Exports</b>	<b>5.0</b>	<b>4.8</b>	<b>4.7</b>	<b>4.7</b>	<b>5.2</b>	<b>5.0</b>	▼ -0.2	▲ 0.1
Implied Daily Storage Activity	8.0	13.9	13.5	10.3	13.8	13.8	0.0	
EIA Reported Daily Storage Activity	10.0	15.6	14.7	11.6	15.6			
Daily Model Error	-2.0	-1.6	-1.2	-1.3	-1.8			

#### Monthly Balances

	2Yr Ago Jun-18	LY Jun-19	Feb-20	Mar-20	Apr-20	May-20	MTD Jun-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>81.6</b>	<b>89.6</b>	<b>91.8</b>	<b>92.2</b>	<b>91.2</b>	<b>85.3</b>	<b>83.8</b>	▼ -1.5	▼ -5.7
<b>Canadian Imports</b>	<b>5.6</b>	<b>4.7</b>	<b>5.2</b>	<b>4.1</b>	<b>3.9</b>	<b>3.9</b>	<b>4.1</b>	▲ 0.2	▼ -0.6
L48 Power	31.8	33.0	30.0	28.3	25.7	26.9	32.5	▲ 5.6	▼ -0.5
L48 Residential & Commercial	8.6	9.0	39.9	27.7	21.6	12.8	8.5	▼ -4.2	▼ -0.5
L48 Industrial	21.3	21.4	24.3	21.6	18.8	18.3	18.3	▼ 0.0	▼ -3.1
L48 Lease and Plant Fuel	4.5	5.0	5.2	5.2	5.2	4.8	4.7	▼ 0.0	▼ -0.3
L48 Pipeline Distribution	1.9	2.0	3.0	2.5	2.3	2.0	2.0	▲ 0.0	▼ 0.0
<b>L48 Regional Gas Consumption</b>	<b>68.2</b>	<b>70.4</b>	<b>102.3</b>	<b>85.4</b>	<b>73.5</b>	<b>64.7</b>	<b>66.0</b>	▲ 1.4	▼ -4.3
<b>Net LNG Exports</b>	<b>3.2</b>	<b>5.5</b>	<b>8.5</b>	<b>8.5</b>	<b>8.2</b>	<b>6.7</b>	<b>3.8</b>	▼ -2.8	▼ -1.7
<b>Total Mexican Exports</b>	<b>4.5</b>	<b>5.3</b>	<b>5.3</b>	<b>5.6</b>	<b>4.9</b>	<b>4.9</b>	<b>5.5</b>	▲ 0.6	▲ 0.2
Implied Daily Storage Activity	11.3	13.1	-19.0	-3.1	8.4	13.0	12.6		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

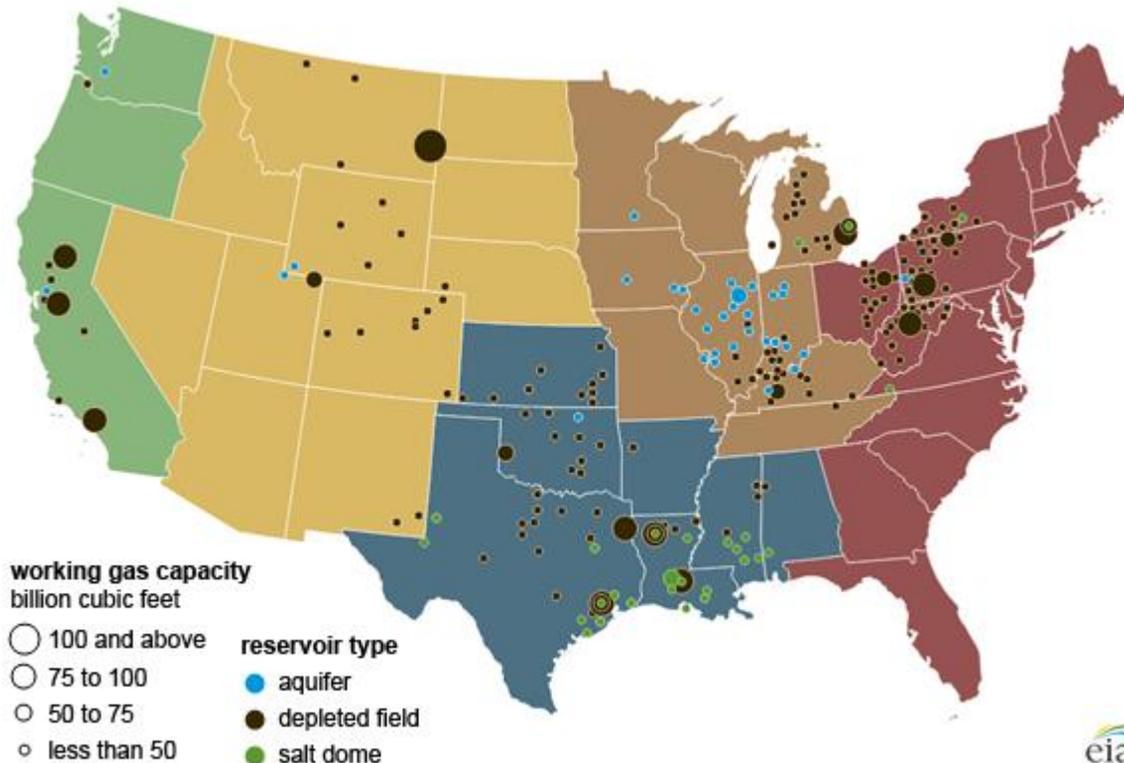
### Regional S/D Models Storage Projection

Week Ending 29-May

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	13.5	1.8	15.3	107
East	3.0	2.8	5.8	41
Midwest	3.8	0.7	4.5	31
Mountain	3.3	-2.0	1.3	9
South Central	1.8	0.9	2.7	19
Pacific	1.7	-0.7	1.0	7

\*Adjustment Factor is calculated based on historical regional deltas

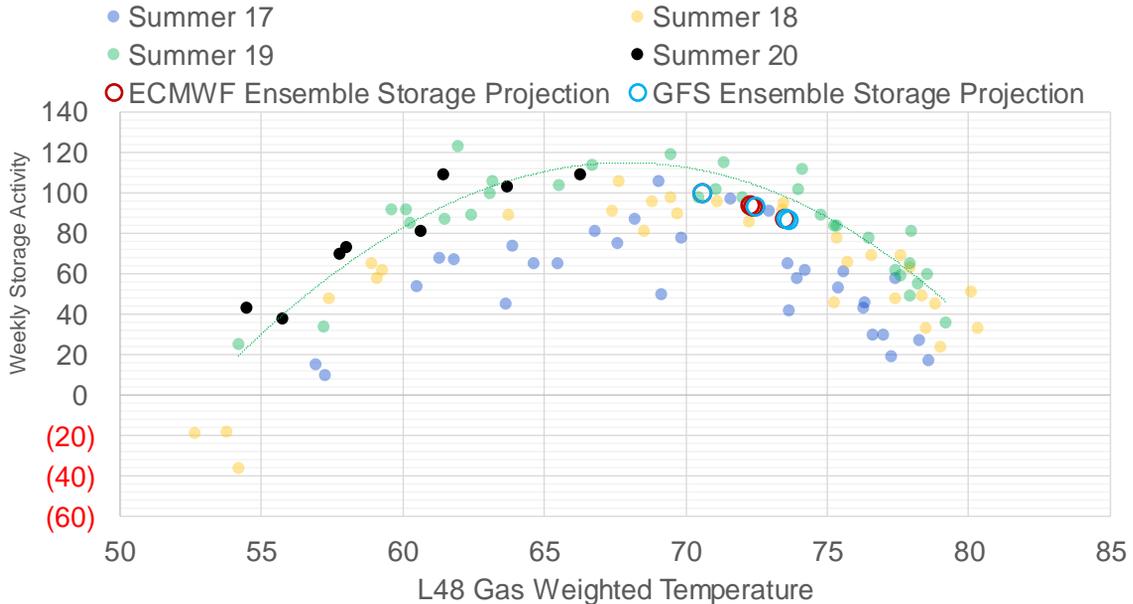
U.S. underground natural gas storage facilities by type (July 2015)



### Weather Model Storage Projection

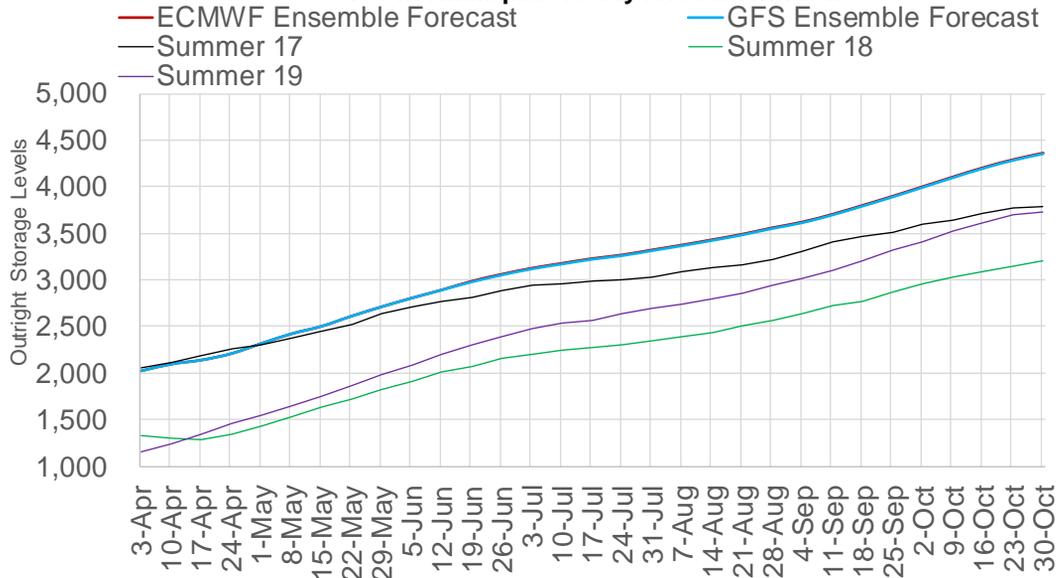
Week Ending	Week Storage Projection
29-May	100
5-Jun	93
12-Jun	87
19-Jun	90

### Weather Storage Model - Next 4 Week Forecast



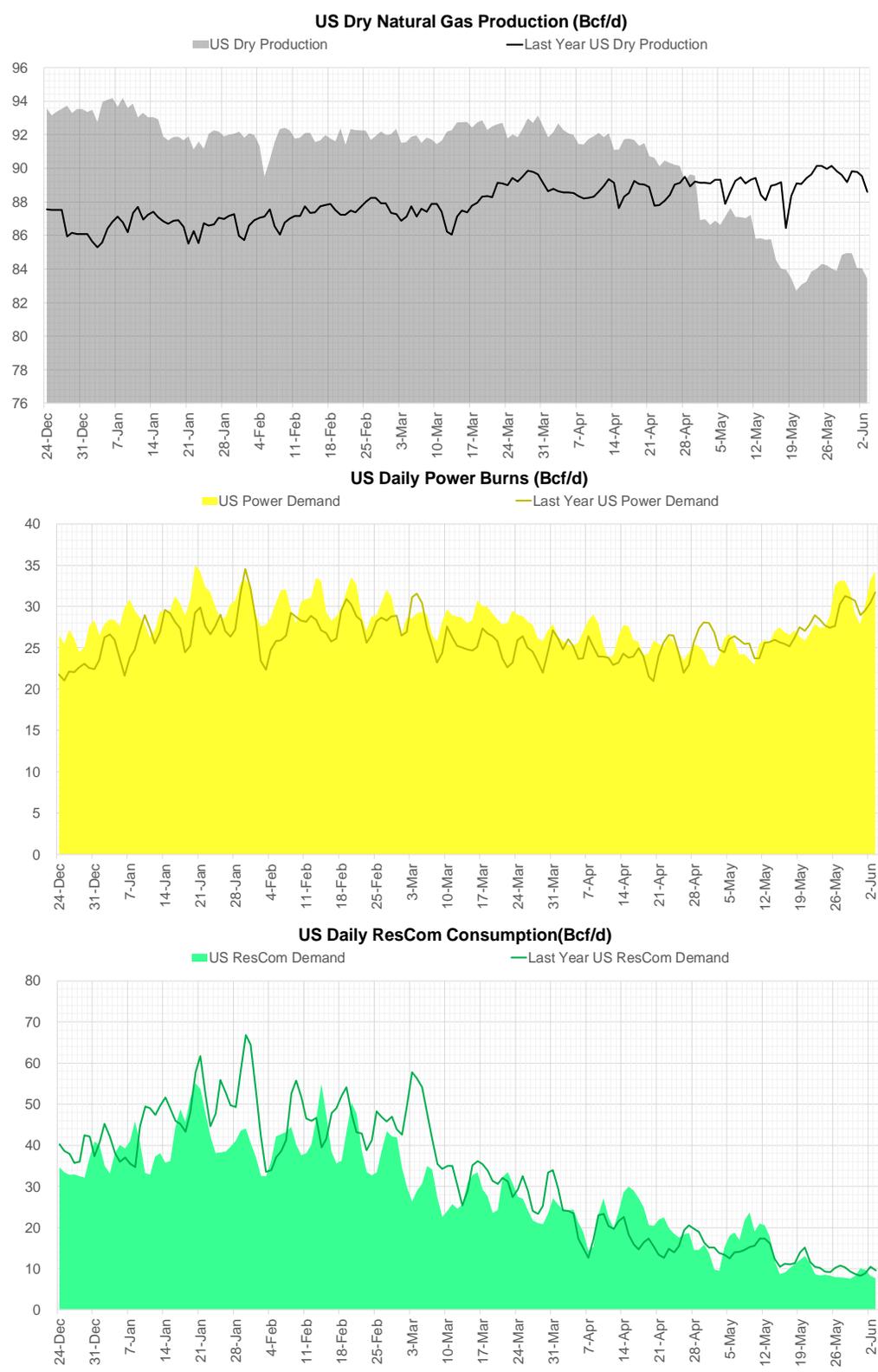
### Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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.

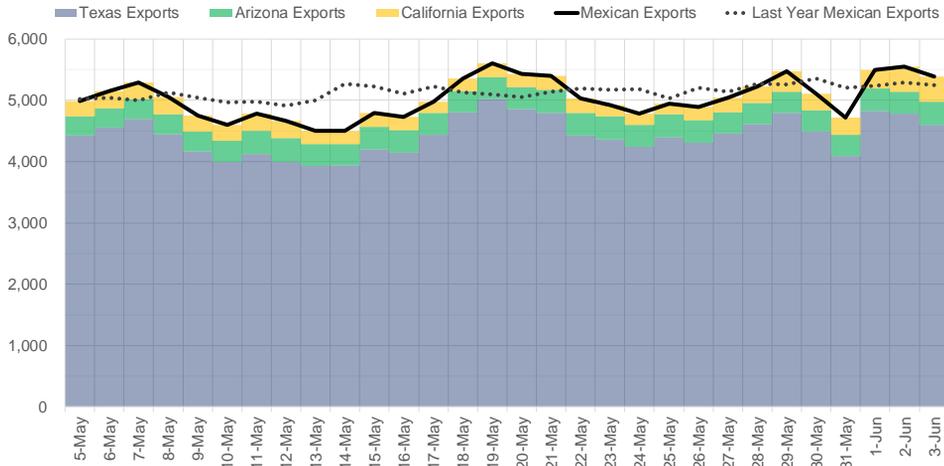
### Supply – Demand Trends



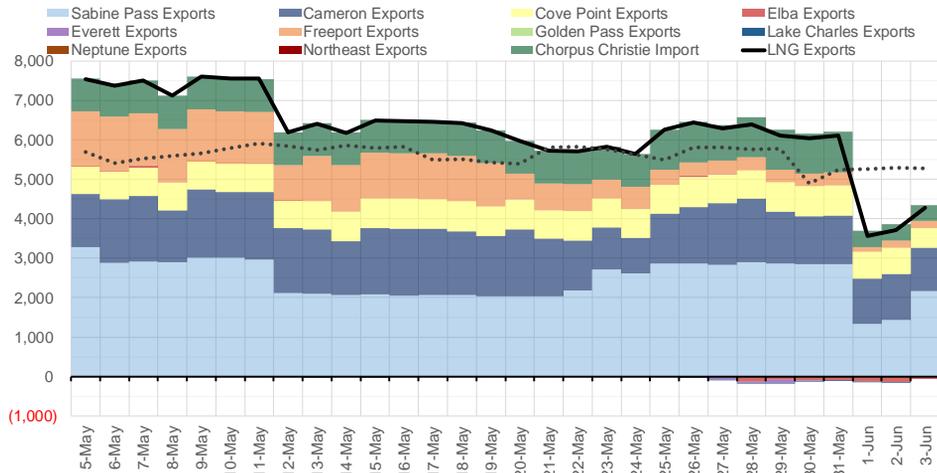
Source: Bloomberg

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**Mexican Exports - Last 30 days (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

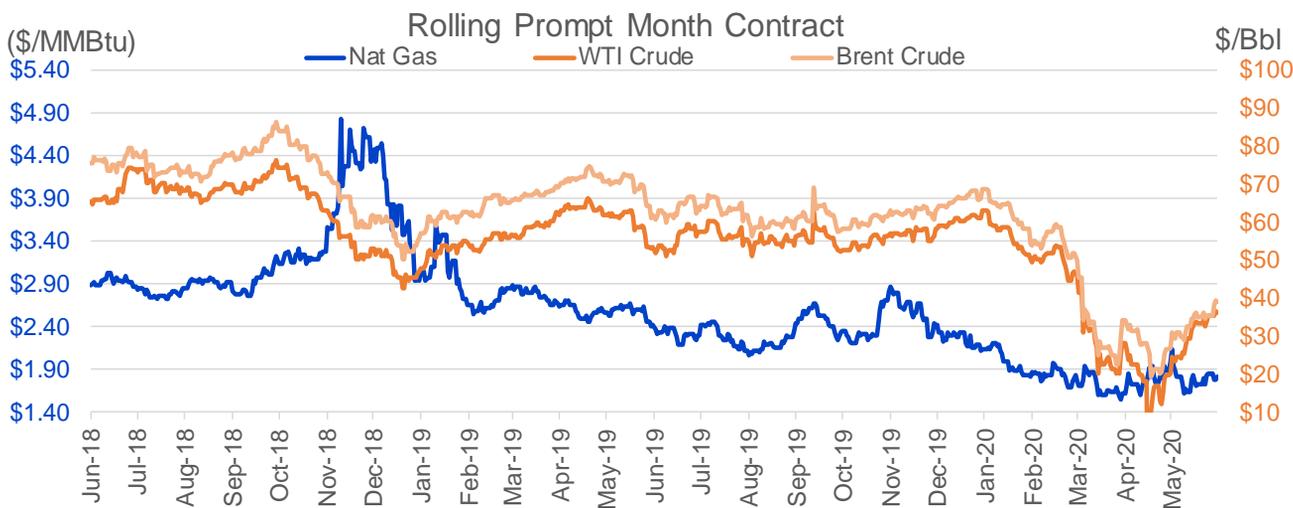
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
9	2020	P	1.00	9215	10	2020	P	1.50	35250
9	2020	P	0.50	7100	10	2020	C	3.00	33331
7	2020	P	1.50	5186	3	2021	P	2.00	32653
7	2020	C	2.00	3897	7	2020	P	1.75	30961
10	2020	P	1.00	3710	10	2020	P	1.60	30332
7	2020	P	1.60	3127	7	2020	P	1.50	30249
7	2020	C	1.90	3082	10	2020	C	2.75	30072
8	2020	C	2.50	2753	10	2020	P	2.00	27451
7	2020	P	1.20	2695	9	2020	C	2.50	25383
8	2020	P	1.00	2266	10	2020	C	2.50	25180
10	2020	P	1.25	2000	7	2020	C	2.50	24110
8	2020	P	1.50	1803	10	2020	P	1.25	23646
7	2020	P	1.70	1792	9	2020	P	1.50	21735
7	2020	C	1.95	1660	8	2020	P	1.50	21074
7	2020	P	1.40	1658	9	2020	C	2.75	20651
8	2020	P	1.60	1655	7	2020	P	2.00	20229
3	2021	C	9.00	1500	8	2020	C	2.50	20212
7	2020	C	2.25	1228	10	2020	P	1.75	20149
7	2020	C	2.20	1168	7	2020	C	2.25	20083
8	2020	P	1.40	1084	7	2020	C	3.00	19521
8	2020	P	1.25	1083	1	2021	C	3.50	17985
10	2020	P	1.40	1010	10	2020	P	2.10	17913
9	2020	P	1.40	1005	11	2020	C	4.00	17864
10	2020	P	0.50	1000	7	2020	C	2.30	17750
7	2020	P	1.55	986	7	2020	C	2.00	17722
7	2020	C	2.50	819	1	2021	C	3.00	17598
10	2020	C	2.50	762	10	2020	C	2.25	17134
11	2020	C	2.50	750	10	2020	C	3.25	16647
3	2021	C	6.00	750	7	2020	C	2.75	16485
8	2020	C	2.75	731	7	2020	P	1.25	16476
7	2020	P	1.75	711	9	2020	P	1.75	16301
11	2020	P	1.75	666	7	2020	P	1.60	16060
10	2020	P	2.00	650	8	2020	P	1.00	15789
12	2020	P	2.75	600	10	2020	P	1.00	15344
4	2021	C	3.25	600	3	2021	C	3.00	15107
4	2021	C	4.00	600	9	2020	C	2.25	15045
5	2021	C	3.25	600	4	2021	C	3.00	14639
5	2021	C	4.00	600	7	2020	P	1.00	14520
6	2021	C	3.25	600	7	2020	C	2.35	14397
6	2021	C	4.00	600	8	2020	P	1.25	14392
7	2021	C	3.25	600	8	2020	C	2.75	14364
7	2021	C	4.00	600	8	2020	C	3.00	13906
8	2021	C	3.25	600	9	2020	P	2.00	13770
8	2021	C	4.00	600	9	2020	C	3.00	13247
9	2021	C	3.25	600	8	2020	C	2.25	13182
9	2021	C	4.00	600	3	2021	C	7.00	12881
10	2021	C	3.25	600	3	2021	C	3.50	12585
10	2021	C	4.00	600	1	2021	P	2.50	12551
8	2020	P	1.70	597	8	2020	P	1.75	12380
					1	2021	C	4.5	12352

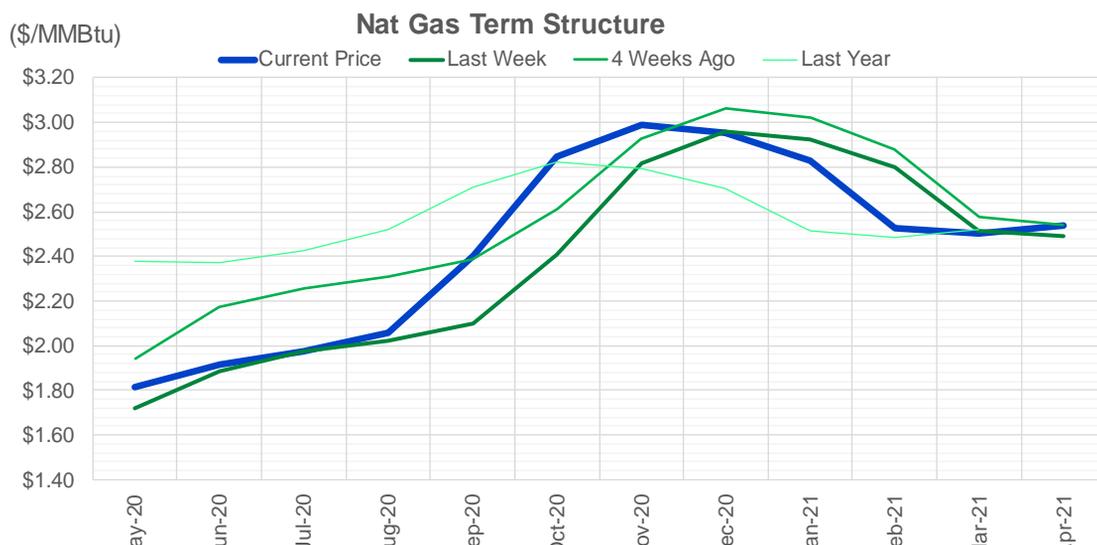
Source: CME, Nasdaq, ICE

### Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM)				NASDAQ Henry Hub Futures (10,000 MMBtu)			
	Current	Prior	Daily Change		Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 20	368877	364883	3994	JUL 20	85839	87149	-1309.75	JUL 20			
AUG 20	85661	81817	3844	AUG 20	72171	69946	2224.5	AUG 20			
SEP 20	155284	153635	1649	SEP 20	69079	66485	2594.75	SEP 20			
OCT 20	116865	115827	1038	OCT 20	80529	79258	1271	OCT 20			
NOV 20	49256	48093	1163	NOV 20	60442	60300	142	NOV 20			
DEC 20	57259	57560	-301	DEC 20	58257	57960	297.25	DEC 20			
JAN 21	106928	104529	2399	JAN 21	71280	71179	101	JAN 21			
FEB 21	37993	37199	794	FEB 21	44365	44132	233.75	FEB 21			
MAR 21	64420	63406	1014	MAR 21	60829	60775	54	MAR 21			
APR 21	71042	70236	806	APR 21	51596	51453	143	APR 21			
MAY 21	25500	25575	-75	MAY 21	44563	44390	173	MAY 21			
JUN 21	16473	16518	-45	JUN 21	42254	41988	266.5	JUN 21			
JUL 21	12813	12788	25	JUL 21	43209	43126	83	JUL 21			
AUG 21	10674	10690	-16	AUG 21	43974	43808	166.5	AUG 21			
SEP 21	11870	11701	169	SEP 21	41553	41316	236.25	SEP 21			
OCT 21	25920	25435	485	OCT 21	52967	52769	198	OCT 21			
NOV 21	16799	16702	97	NOV 21	35955	35827	128	NOV 21			
DEC 21	13853	13645	208	DEC 21	36380	36204	175.75	DEC 21			
JAN 22	11759	11668	91	JAN 22	28269	28036	233.5	JAN 22			
FEB 22	8123	8156	-33	FEB 22	25068	24907	161	FEB 22			
MAR 22	13665	13729	-64	MAR 22	26768	26605	163.5	MAR 22			
APR 22	10680	10827	-147	APR 22	23543	23379	164	APR 22			
MAY 22	4641	4403	238	MAY 22	21067	20945	122.25	MAY 22			
JUN 22	2076	2075	1	JUN 22	20606	20434	171.5	JUN 22			
JUL 22	1812	1812	0	JUL 22	21260	21086	174.25	JUL 22			
AUG 22	1281	1273	8	AUG 22	20879	20718	161.5	AUG 22			
SEP 22	1337	1336	1	SEP 22	20712	20540	171.5	SEP 22			
OCT 22	1908	1908	0	OCT 22	23528	23399	129.25	OCT 22			
NOV 22	1373	1373	0	NOV 22	18639	18504	135	NOV 22			
DEC 22	1288	1288	0	DEC 22	19702	19562	139.5	DEC 22			

Source: CME, Nasdaq, ICE





	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21
<b>Current Price</b>	<b>\$1.815</b>	<b>\$1.913</b>	<b>\$1.972</b>	<b>\$2.058</b>	<b>\$2.403</b>	<b>\$2.847</b>	<b>\$2.990</b>	<b>\$2.953</b>	<b>\$2.828</b>	<b>\$2.529</b>	<b>\$2.500</b>	<b>\$2.538</b>
Last Week	\$1.722	\$1.886	\$1.972	\$2.024	\$2.102	\$2.410	\$2.814	\$2.956	\$2.921	\$2.797	\$2.515	\$2.489
vs. Last Week	\$0.093	\$0.027	\$0.000	\$0.034	\$0.301	\$0.437	\$0.176	-\$0.003	-\$0.093	-\$0.268	-\$0.015	\$0.049
4 Weeks Ago	\$1.944	\$2.171	\$2.254	\$2.308	\$2.389	\$2.615	\$2.926	\$3.061	\$3.020	\$2.881	\$2.575	\$2.541
vs. 4 Weeks Ago	-\$0.129	-\$0.258	-\$0.282	-\$0.250	\$0.014	\$0.232	\$0.064	-\$0.108	-\$0.192	-\$0.352	-\$0.075	-\$0.003
Last Year	\$2.378	\$2.380	\$2.372	\$2.425	\$2.518	\$2.711	\$2.823	\$2.791	\$2.705	\$2.514	\$2.487	\$2.521
vs. Last Year	-\$0.563	-\$0.467	-\$0.400	-\$0.367	-\$0.115	\$0.136	\$0.167	\$0.162	\$0.123	\$0.015	\$0.013	\$0.017

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.55	1.39	-0.16
TETCO M3	\$/MMBtu	1.35	1.31	-0.04
FGT Zone 3	\$/MMBtu	1.34	1.72	0.38
Zone 6 NY	\$/MMBtu	1.34	1.30	-0.04
Chicago Citygate	\$/MMBtu	1.53	1.59	0.06
Michcon	\$/MMBtu	1.53	1.58	0.05
Columbia TCO Pool	\$/MMBtu	1.36	1.45	0.09
Ventura	\$/MMBtu	1.51	1.59	0.08
Rockies/Opal	\$/MMBtu	1.48	1.46	-0.02
El Paso Permian Basin	\$/MMBtu	1.38	1.39	0.01
Socal Citygate	\$/MMBtu	2.11	1.64	-0.47
Malin	\$/MMBtu	1.54	1.53	-0.01
Houston Ship Channel	\$/MMBtu	1.53	1.67	0.14
Henry Hub Cash	\$/MMBtu	1.52	1.57	0.05
AECO Cash	C\$/GJ	1.41	1.45	0.04
Station2 Cash	C\$/GJ	1.41	1.51	0.10
Dawn Cash	C\$/GJ	1.52	1.62	0.10

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.52	▲ 0.000	▲ 0.000	▼ -0.190	
NatGas Mar/Apr	\$/MMBtu	0.187	▲ 0.000	▲ 0.000	▼ -0.011	
NatGas Oct/Nov	\$/MMBtu	0.34	▲ 0.023	▲ 0.108	▲ 0.274	
NatGas Oct/Jan	\$/MMBtu	0.92	▲ 0.059	▲ 0.254	▲ 0.592	
WTI Crude	\$/Bbl	35.44	▲ 2.190	▲ 15.050	▼ -17.810	
Brent Crude	\$/Bbl	38.32	▲ 2.790	▲ 11.120	▼ -22.960	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	102.90	▲ 4.700	▲ 22.590	▼ -77.750	
Propane, Mt. Bel	cents/Gallon	0.48	▲ 0.071	▲ 0.142	▲ 0.006	
Ethane, Mt. Bel	cents/Gallon	0.24	▲ 0.022	▲ 0.047	▲ 0.021	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▼ -0.150	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -9.500	