

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.97 ▲	\$ 0.01 ▲	\$ 0.04

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 66.33 ▲	\$ 0.64 ▲	\$ 2.1

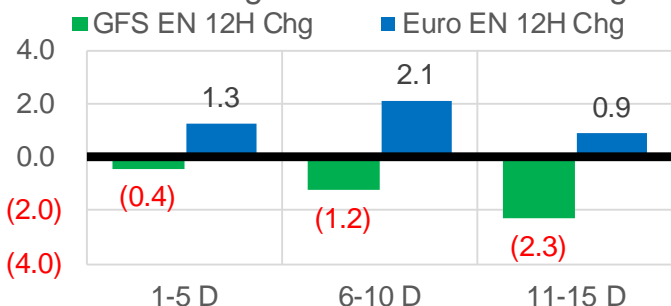
	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 69.61 ▲	\$ 0.73 ▲	\$ 1.9

### Page Menu

- [Short-term Weather Model Outlooks](#)
- [Lower 48 Component Models](#)
- [Regional S/D Models Storage Projection](#)
- [Weather Model Storage Projection](#)
- [Supply – Demand Trends](#)
- [Nat Gas Options Volume and Open Interest](#)
- [Nat Gas Futures Open Interest](#)
- [Price Summary](#)

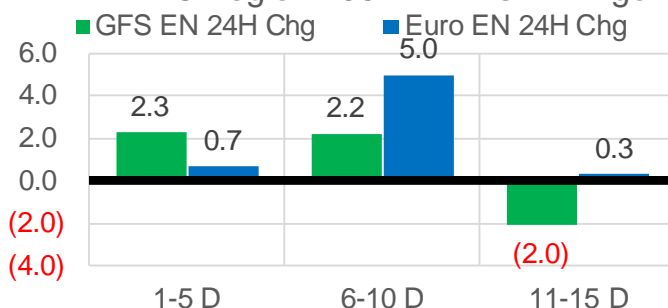
### Vs. 12H Ago

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	88.2 ▼	-1.45 ▼	-2.04

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	28.0 ▼	-0.36 ▼	0.86 ▲

	Current	Δ from YD	Δ from 7D Avg
US ResComm	14.6 ▲	1.17 ▲	2.39

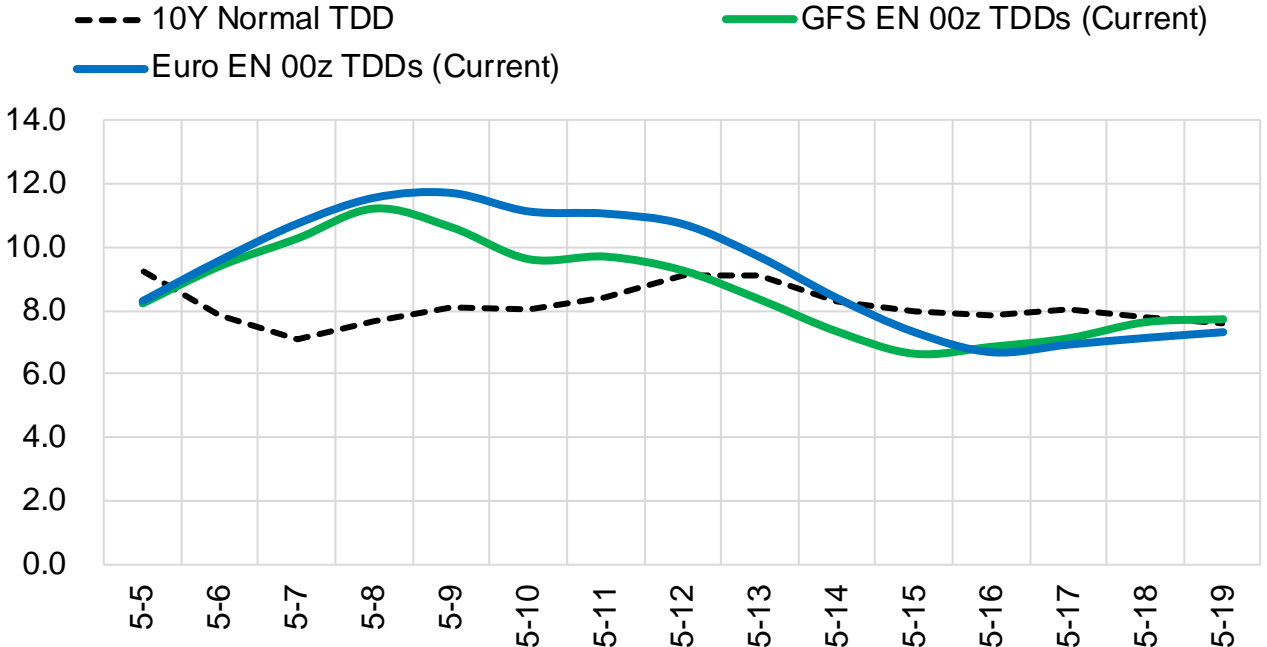
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.0 ▲	0.12 ▲	0.43

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.7 ▲	0.30 ▲	0.56

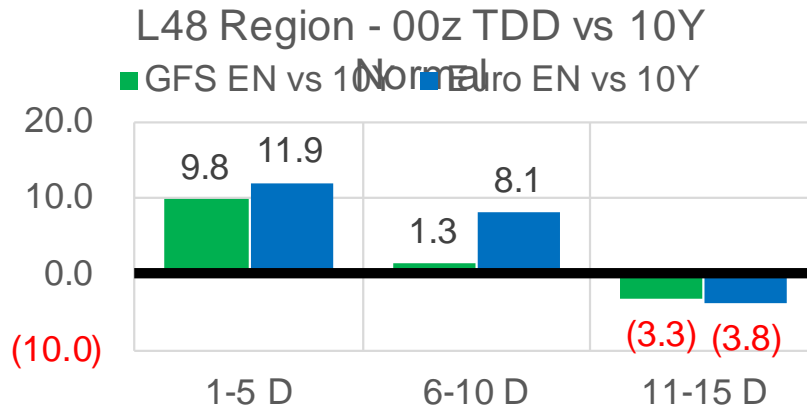
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.8 ▼	-0.33 ▼	0.16 ▲

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

### L48 Region



## Vs. 10Y Normal



Source: WSI , Bloomberg

## Lower 48 Component Models

### Daily Balances

	29-Apr	30-Apr	1-May	2-May	3-May	4-May	5-May	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>90.3</b>	<b>90.7</b>	<b>90.8</b>	<b>89.8</b>	<b>90.3</b>	<b>89.6</b>	<b>88.2</b>	▼ -1.5	▼ -2.1
<b>Canadian Imports</b>	<b>5.0</b>	<b>4.8</b>	<b>4.0</b>	<b>4.0</b>	<b>4.1</b>	<b>4.8</b>	<b>5.0</b>	▲ 0.1	▲ 0.5
L48 Power	28.6	26.3	24.2	25.3	28.2	28.4	28.0	▼ -0.4	▲ 1.2
L48 Residential & Commercial	12.1	15.0	13.1	9.1	11.2	13.4	14.6	▲ 1.2	▲ 2.3
L48 Industrial	19.0	19.8	19.8	19.4	19.1	18.1	16.0	▼ -2.1	▼ -3.2
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.0	4.9	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.0	2.0	1.9	1.8	2.0	2.1	2.2	▲ 0.0	▲ 0.2
<b>L48 Regional Gas Consumption</b>	<b>66.7</b>	<b>68.1</b>	<b>64.0</b>	<b>60.5</b>	<b>65.5</b>	<b>66.9</b>	<b>65.6</b>	▼ -1.3	▲ 0.3
<b>Net LNG Delivered</b>	<b>11.18</b>	<b>11.61</b>	<b>11.65</b>	<b>10.49</b>	<b>10.91</b>	<b>11.40</b>	<b>11.70</b>	▲ 0.3	▲ 0.5
<b>Total Mexican Exports</b>	<b>7.0</b>	<b>6.8</b>	<b>6.5</b>	<b>5.8</b>	<b>6.4</b>	<b>7.2</b>	<b>6.8</b>	▼ -0.3	▲ 0.2
<b>Implied Daily Storage Activity</b>	<b>10.4</b>	<b>9.0</b>	<b>12.6</b>	<b>17.0</b>	<b>11.5</b>	<b>9.0</b>	<b>9.0</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

### EIA Storage Week Balances

	26-Mar	2-Apr	9-Apr	16-Apr	23-Apr	30-Apr	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>90.7</b>	<b>91.5</b>	<b>91.3</b>	<b>90.9</b>	<b>90.3</b>	<b>90.6</b>	▲ 0.4	▼ -0.4
<b>Canadian Imports</b>	<b>4.5</b>	<b>4.5</b>	<b>4.2</b>	<b>4.3</b>	<b>5.3</b>	<b>4.6</b>	▼ -0.7	▲ 0.0
L48 Power	24.0	24.6	23.2	24.6	25.9	26.7	▲ 0.8	▲ 2.1
L48 Residential & Commercial	25.0	23.4	18.6	18.6	24.0	16.5	▼ -7.5	▼ -4.6
L48 Industrial	19.1	20.2	20.6	21.1	19.4	18.7	▼ -0.7	▼ -1.6
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.0	▲ 0.0	▼ 0.0
L48 Pipeline Distribution	2.3	2.3	2.1	2.1	2.5	2.1	▼ -0.3	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>75.5</b>	<b>75.4</b>	<b>69.5</b>	<b>71.4</b>	<b>76.8</b>	<b>69.0</b>	▼ -7.7	▼ -4.2
<b>Net LNG Exports</b>	<b>11.6</b>	<b>11.7</b>	<b>11.5</b>	<b>11.4</b>	<b>11.6</b>	<b>11.4</b>	▼ -0.2	▼ -0.1
<b>Total Mexican Exports</b>	<b>6.6</b>	<b>6.4</b>	<b>6.2</b>	<b>7.3</b>	<b>6.8</b>	<b>6.7</b>	▼ -0.1	▲ 0.0
<b>Implied Daily Storage Activity</b>	<b>1.6</b>	<b>2.4</b>	<b>8.3</b>	<b>5.2</b>	<b>0.5</b>	<b>8.1</b>	<b>7.7</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>2.0</b>	<b>2.9</b>	<b>8.7</b>	<b>5.4</b>	<b>2.1</b>			
<b>Daily Model Error</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-0.3</b>	<b>-1.7</b>			

### Monthly Balances

	2Yr Ago May-19	LY May-20	Jan-21	Feb-21	Mar-21	Apr-21	MTD May-21	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>90.1</b>	<b>86.5</b>	<b>90.3</b>	<b>83.2</b>	<b>90.7</b>	<b>90.8</b>	<b>89.7</b>	▼ -1.1	▲ 6.5
<b>Canadian Imports</b>	<b>4.7</b>	<b>3.9</b>	<b>6.3</b>	<b>6.4</b>	<b>4.8</b>	<b>4.7</b>	<b>4.4</b>	▼ -0.3	▼ -2.0
L48 Power	26.9	26.9	28.2	27.9	25.0	25.2	26.8	▲ 1.6	▼ -1.1
L48 Residential & Commercial	12.8	12.7	43.9	47.9	28.4	19.7	12.3	▼ -7.5	▼ -35.6
L48 Industrial	22.7	18.9	23.1	20.1	18.8	20.0	18.5	▼ -1.6	▼ -1.7
L48 Lease and Plant Fuel	5.0	4.8	5.0	4.7	5.0	5.0	5.0	▼ 0.0	▲ 0.3
L48 Pipeline Distribution	2.1	2.0	3.2	3.3	2.5	2.2	2.0	▼ -0.2	▼ -1.3
<b>L48 Regional Gas Consumption</b>	<b>69.4</b>	<b>65.3</b>	<b>103.4</b>	<b>103.9</b>	<b>79.8</b>	<b>72.1</b>	<b>64.5</b>	▼ -7.6	▼ -39.4
<b>Net LNG Exports</b>	<b>5.6</b>	<b>6.7</b>	<b>10.5</b>	<b>8.4</b>	<b>11.1</b>	<b>11.5</b>	<b>11.2</b>	▼ -0.2	▲ 2.8
<b>Total Mexican Exports</b>	<b>5.0</b>	<b>4.8</b>	<b>6.2</b>	<b>5.7</b>	<b>6.5</b>	<b>6.7</b>	<b>6.6</b>	▼ -0.1	▲ 0.9
<b>Implied Daily Storage Activity</b>	<b>14.8</b>	<b>13.6</b>	<b>-23.5</b>	<b>-28.5</b>	<b>-1.9</b>	<b>5.1</b>	<b>11.8</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

### Regional S/D Models Storage Projection

Week Ending 30-Apr

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	7.8	1.3	9.1	64
East	0.2	2.0	2.3	16
Midwest	2.7	0.1	2.7	19
Mountain	3.6	-3.1	0.5	4
South Central	0.1	2.8	2.9	20
Pacific	1.2	-0.5	0.7	5

\*Adjustment Factor is calculated based on historical regional deltas

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

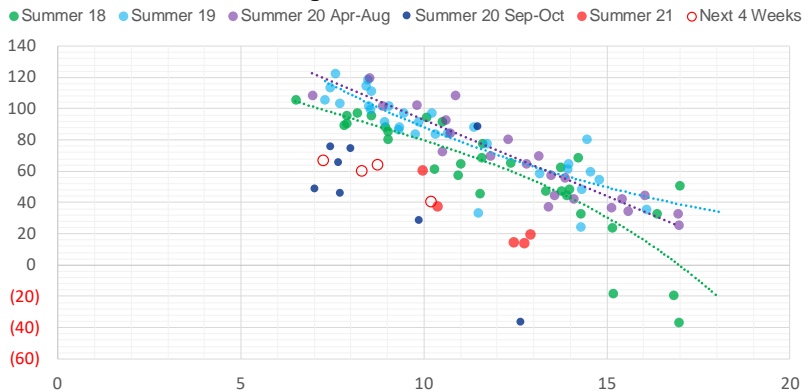


### Weather Model Storage Projection

Next report  
and beyond

Week Ending	GWDDs	Week Storage Projection
30-Apr	8.8	64
07-May	8.3	60
14-May	10.2	40
21-May	7.3	67

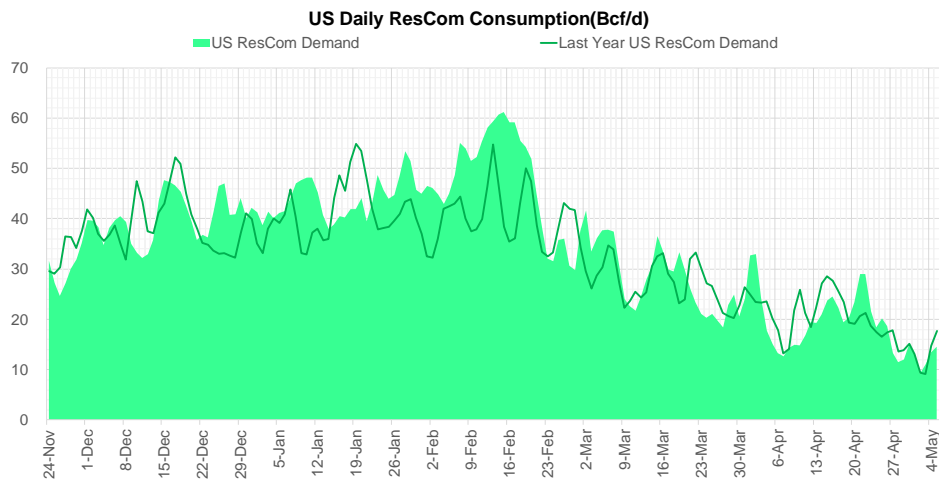
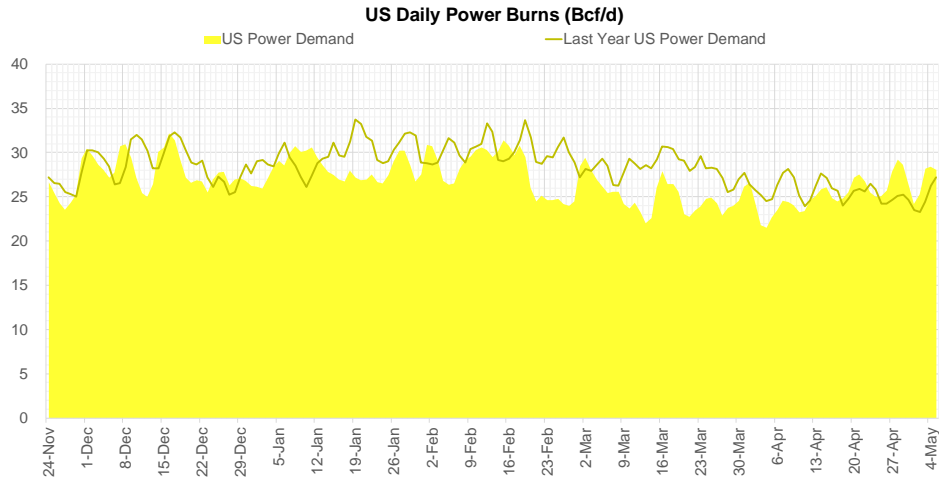
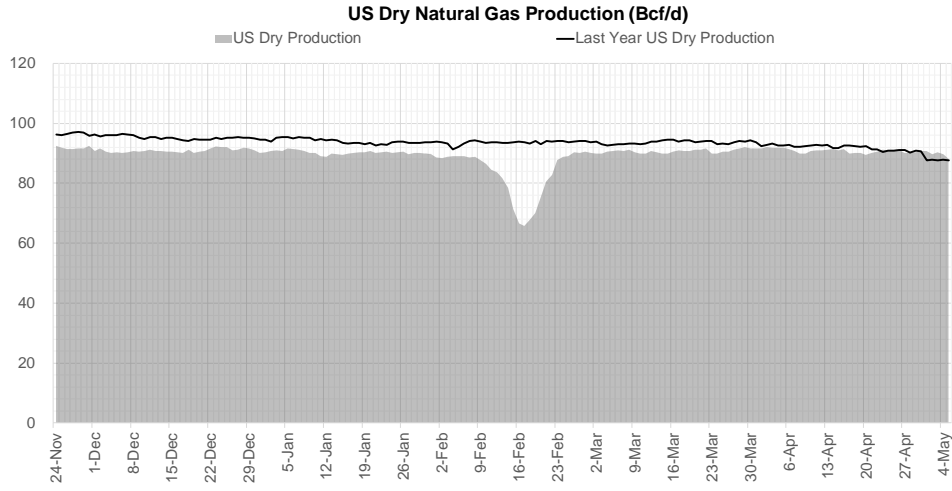
**Weather Storage Model - Next 4 Week Forecast**



Go to larger image



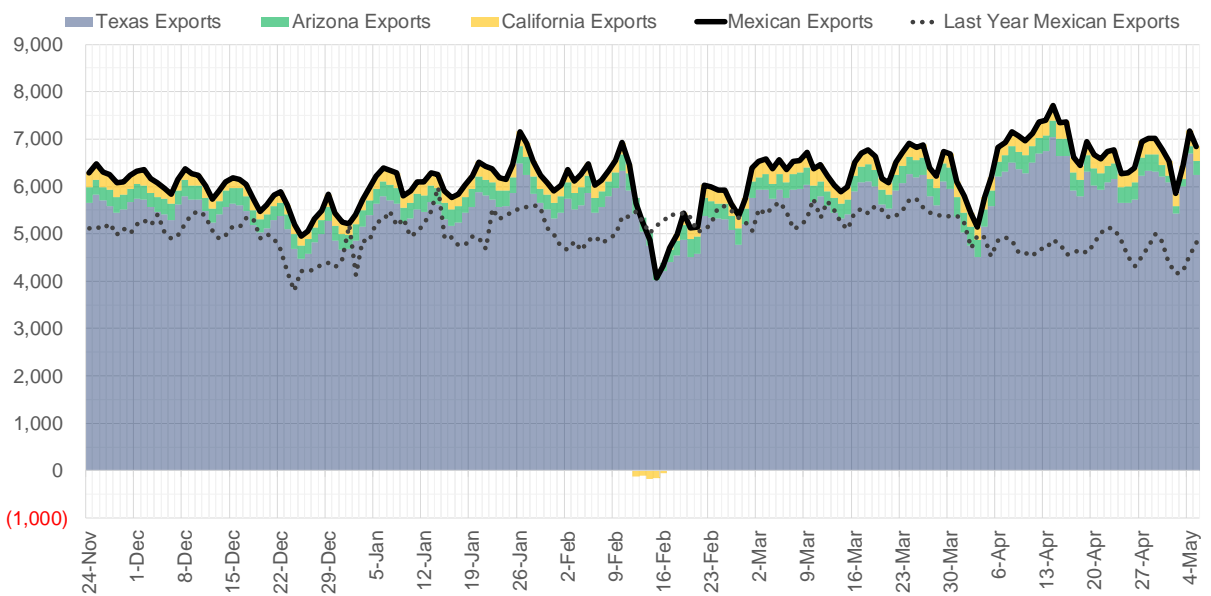
## Supply – Demand Trends



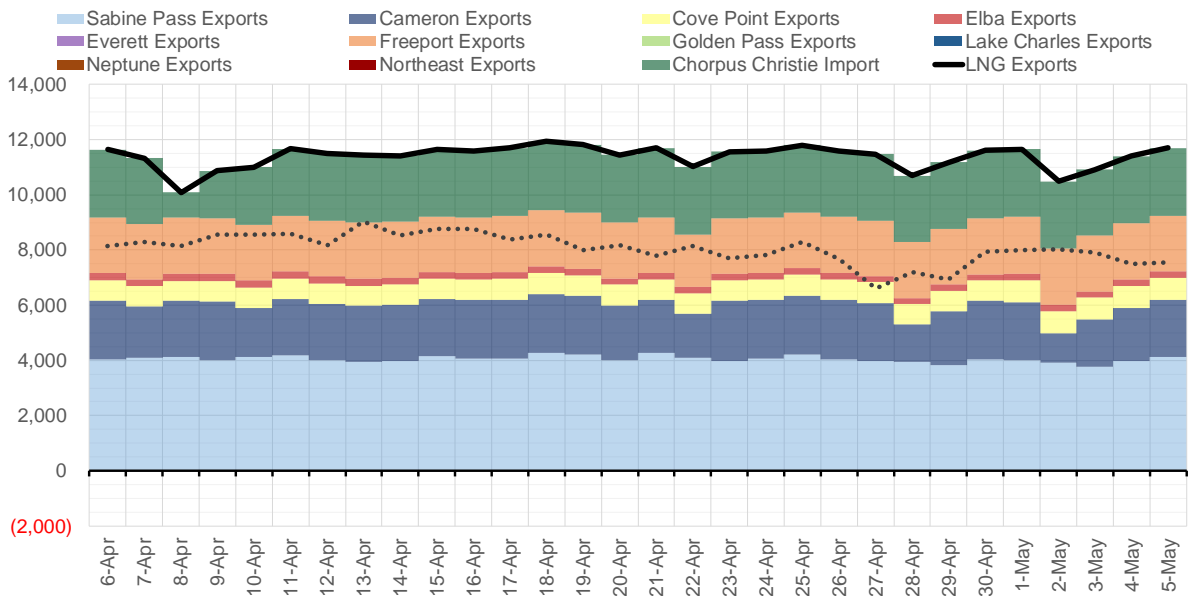
Source: Bloomberg

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

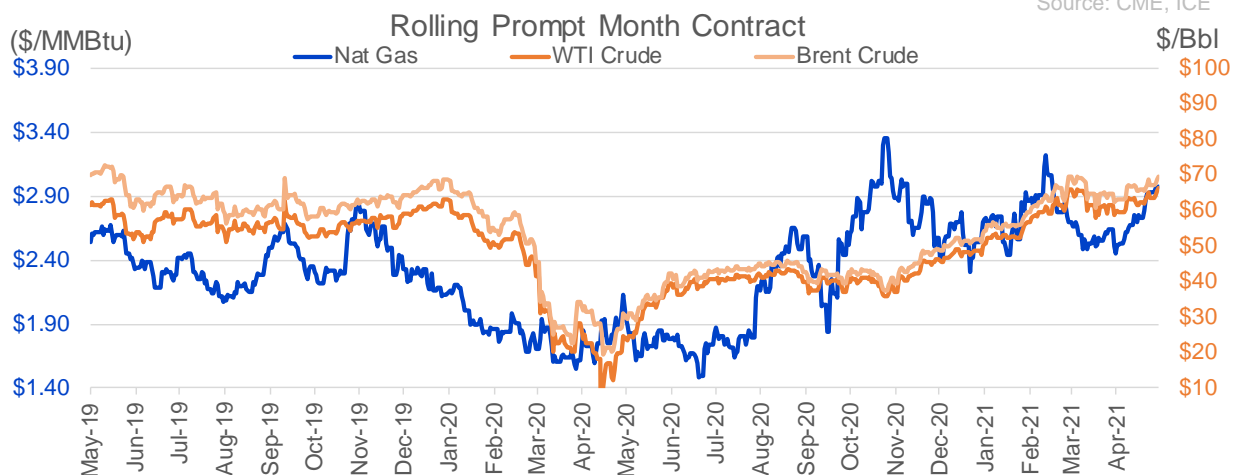
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
7	2021	P	2.50	6716	10	2021	C	4.00	40880
6	2021	C	3.25	5894	8	2021	C	4.00	32589
6	2021	P	2.80	3740	6	2021	C	3.00	31394
6	2021	P	2.70	3307	10	2021	C	3.25	30680
6	2021	C	3.00	3209	6	2021	C	3.25	29815
7	2021	P	2.25	3176	6	2021	P	2.50	29789
6	2021	P	2.75	2916	8	2021	C	3.50	29079
10	2021	C	5.00	2334	7	2021	C	4.00	28468
6	2021	P	2.90	2182	6	2021	P	2.65	27997
7	2021	P	2.75	2086	6	2021	C	4.00	27949
9	2021	C	4.00	2000	8	2021	C	3.25	27144
7	2021	C	3.50	1836	10	2021	C	5.00	26419
10	2021	C	4.00	1578	10	2021	P	2.50	24373
6	2021	P	2.85	1388	7	2021	C	3.25	24298
10	2021	C	3.75	1250	6	2021	C	3.50	24052
8	2021	C	3.50	1225	10	2021	C	3.50	23285
6	2021	P	2.50	1177	9	2021	C	4.00	21431
1	2022	C	5.00	1000	7	2021	C	3.50	21056
8	2021	P	3.00	955	9	2021	C	3.50	20443
7	2021	P	3.00	900	10	2021	C	3.00	19859
7	2021	C	4.00	822	8	2021	P	2.50	19510
8	2021	P	2.75	751	12	2021	C	4.00	19465
7	2021	C	3.00	713	4	2022	C	3.00	19329
6	2021	P	2.65	694	7	2021	P	2.50	19277
7	2021	C	3.25	666	6	2021	P	2.25	19091
6	2021	C	3.05	640	10	2021	P	2.25	19076
8	2021	C	3.00	605	8	2021	P	2.25	18260
9	2021	P	2.00	603	9	2021	P	2.00	18146
6	2021	C	3.15	541	6	2021	P	2.75	18011
9	2021	C	4.40	536	9	2021	C	3.25	17306
6	2021	C	2.60	500	6	2021	P	2.00	17062
10	2021	P	2.30	500	11	2021	C	4.00	16736
6	2021	C	3.75	457	10	2021	P	2.00	16500
10	2021	P	2.75	450	7	2021	P	2.00	16035
7	2021	C	3.75	440	8	2021	P	2.00	15895
10	2021	C	4.50	430	6	2021	C	3.75	15656
8	2021	C	3.75	425	3	2022	C	4.00	15490
10	2021	P	3.00	415	7	2021	C	3.00	15453
9	2021	P	3.00	400	6	2021	C	2.75	14886
6	2021	P	2.95	382	8	2021	C	3.00	14836
8	2021	C	3.25	371	9	2021	P	2.50	14835
6	2021	C	2.95	363	10	2021	C	4.50	14076
7	2021	P	2.70	358	12	2021	P	2.00	14031
10	2021	P	1.75	352	3	2022	C	5.00	13975
6	2021	P	3.00	310	9	2021	P	1.90	13733
6	2021	P	2.60	300	10	2021	C	6.00	13682
9	2021	C	3.00	300	5	2022	C	3.00	13202
6	2021	C	3.20	296	8	2021	C	3.75	13032
6	2021	C	3.10	279	6	2022	C	3.00	12916
					7	2021	C	2.75	12832

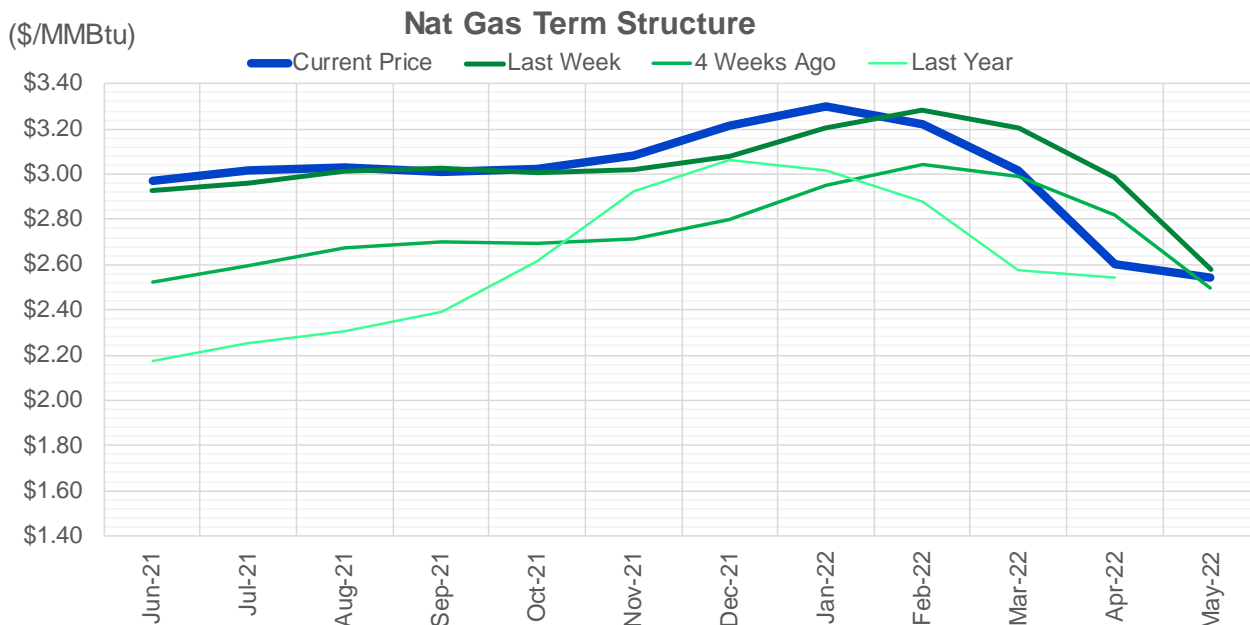
Source: CME, ICE



## 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	FOR JUNE 26	Current	Prior	Daily Change
JUN 21	204225	201050	3175	JUN 21	88788	87618	1170
JUL 21	207346	202390	4956	JUL 21	86035	85666	369
AUG 21	69508	70562	-1054	AUG 21	79369	79223	145
SEP 21	109027	107253	1774	SEP 21	69530	69617	-86
OCT 21	130089	130282	-193	OCT 21	88597	89132	-535
NOV 21	67720	68318	-598	NOV 21	61904	61937	-34
DEC 21	45856	46170	-314	DEC 21	60291	60113	177
JAN 22	76785	76304	481	JAN 22	66512	65990	523
FEB 22	23856	23498	358	FEB 22	48221	47580	641
MAR 22	49018	48460	558	MAR 22	53555	52773	781
APR 22	50098	49937	161	APR 22	48500	47886	614
MAY 22	30268	29752	516	MAY 22	44316	43314	1001
JUN 22	16407	16348	59	JUN 22	41114	40600	515
JUL 22	10168	9999	169	JUL 22	41103	40644	459
AUG 22	8880	8897	-17	AUG 22	39647	39140	508
SEP 22	9349	9372	-23	SEP 22	40614	40017	598
OCT 22	22242	22361	-119	OCT 22	45974	45281	693
NOV 22	10849	11022	-173	NOV 22	36352	35811	541
DEC 22	10045	10063	-18	DEC 22	40276	39756	520
JAN 23	5459	5233	226	JAN 23	22800	22705	95
FEB 23	2510	2547	-37	FEB 23	21307	21199	108
MAR 23	5127	5124	3	MAR 23	22913	22745	168
APR 23	5753	5748	5	APR 23	18603	18577	26
MAY 23	4406	4407	-1	MAY 23	18768	18750	18
JUN 23	963	960	3	JUN 23	17168	17151	18
JUL 23	1052	1077	-25	JUL 23	17332	17255	77
AUG 23	784	754	30	AUG 23	17476	17398	77
SEP 23	768	763	5	SEP 23	16870	16796	74
OCT 23	1754	1754	0	OCT 23	17613	17564	49
NOV 23	609	608	1	NOV 23	17140	16889	252





	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
<b>Current Price</b>	<b>\$2.974</b>	<b>\$3.017</b>	<b>\$3.030</b>	<b>\$3.013</b>	<b>\$3.026</b>	<b>\$3.086</b>	<b>\$3.216</b>	<b>\$3.303</b>	<b>\$3.221</b>	<b>\$3.017</b>	<b>\$2.599</b>	<b>\$2.542</b>
Last Week	\$2.925	\$2.960	\$3.011	\$3.025	\$3.007	\$3.019	\$3.080	\$3.203	\$3.282	\$3.203	\$2.990	\$2.578
vs. Last Week	\$0.049	\$0.057	\$0.019	-\$0.012	\$0.019	\$0.067	\$0.136	\$0.100	-\$0.061	-\$0.186	-\$0.391	-\$0.036
4 Weeks Ago	\$2.520	\$2.597	\$2.674	\$2.703	\$2.695	\$2.714	\$2.800	\$2.951	\$3.044	\$2.989	\$2.818	\$2.494
vs. 4 Weeks Ago	\$0.454	\$0.420	\$0.356	\$0.310	\$0.331	\$0.372	\$0.416	\$0.352	\$0.177	\$0.028	-\$0.219	\$0.048
Last Year	\$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. Last Year	\$1.030	\$0.846	\$0.776	\$0.705	\$0.637	\$0.471	\$0.290	\$0.242	\$0.201	\$0.136	\$0.024	\$0.001

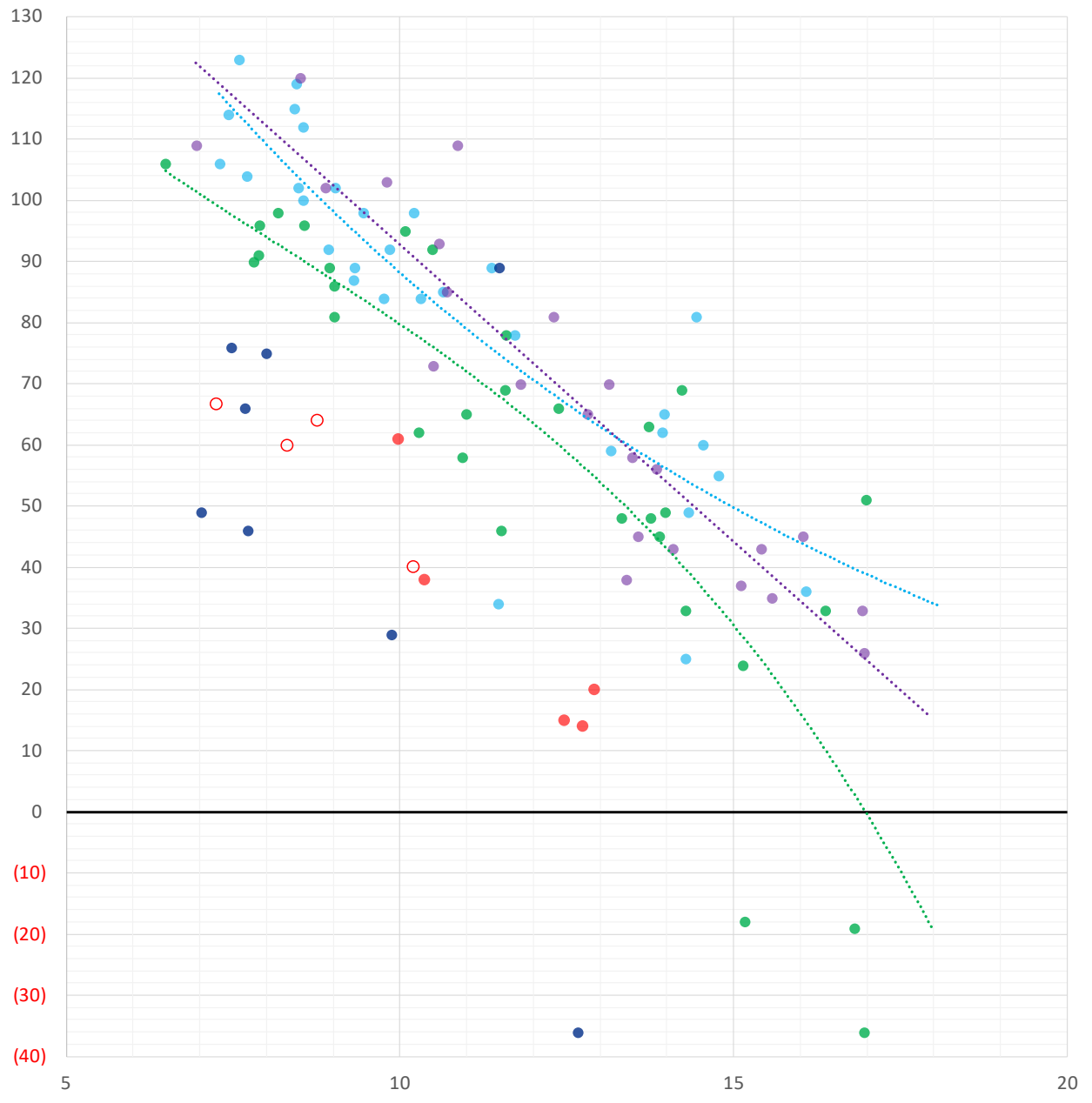
	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.55	2.27	-0.28
TETCO M3	\$/MMBtu	2.39	2.19	-0.20
FGT Zone 3	\$/MMBtu	2.43	2.97	0.54
Zone 6 NY	\$/MMBtu	2.43	2.07	-0.36
Chicago Citygate	\$/MMBtu	2.78	2.83	0.05
Michcon	\$/MMBtu	2.77	2.78	0.01
Columbia TCO Pool	\$/MMBtu	2.52	2.45	-0.07
Ventura	\$/MMBtu	2.56	2.72	0.16
Rockies/Opal	\$/MMBtu	2.77	2.72	-0.05
El Paso Permian Basin	\$/MMBtu	2.70	2.68	-0.02
Socal Citygate	\$/MMBtu	3.48	3.13	-0.35
Malin	\$/MMBtu	2.80	2.91	0.11
Houston Ship Channel	\$/MMBtu	2.98	3.01	0.03
Henry Hub Cash	\$/MMBtu	3.00	2.77	-0.23
AECO Cash	C\$/GJ	2.44	2.30	-0.14
Station2 Cash	C\$/GJ	2.43	2.81	0.38
Dawn Cash	C\$/GJ	2.75	2.80	0.04

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.009	▲ 0.001	▼ -0.031	▲ 0.009
NatGas Oct21/Nov21	\$/MMBtu	0.060	▼ -0.001	▼ -0.026	▲ 0.019
NatGas Oct21/Jan22	\$/MMBtu	0.277	▲ 0.014	▼ -0.053	▼ -0.005
NatGas Apr22/Oct22	\$/MMBtu	0.026	▲ 0.004	▼ -0.009	▼ -0.027
WTI Crude	\$/Bbl	66.33	▲ 2.470	▲ 6.560	▲ 42.340
Brent Crude	\$/Bbl	69.61	▲ 2.340	▲ 6.450	▲ 39.890
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	201.84	▲ 7.980	▲ 21.050	▲ 119.440
Propane, Mt. Bel	cents/Gallon	0.82	▲ 0.002	▼ -0.075	▲ 0.455
Ethane, Mt. Bel	cents/Gallon	0.25	▲ 0.017	▲ 0.029	▲ 0.054
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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