

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.95 ▲	\$ 0.01 ▲	\$ 0.01 ▲

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 65.23 ▼	\$ (0.40) ▲	\$ 0.7 ▲

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 68.60 ▼	\$ (0.36) ▲	\$ 0.6 ▲

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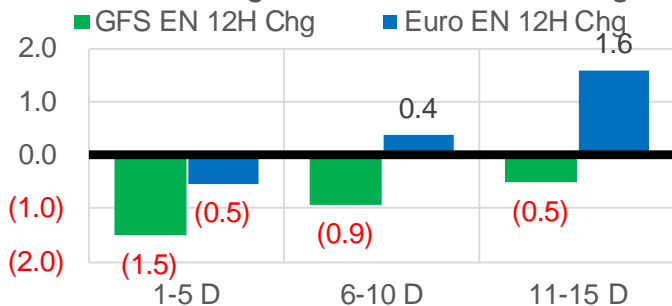
[Nat Gas Options Volume and Open Interest](#)

[Nat Gas Futures Open Interest](#)

[Price Summary](#)

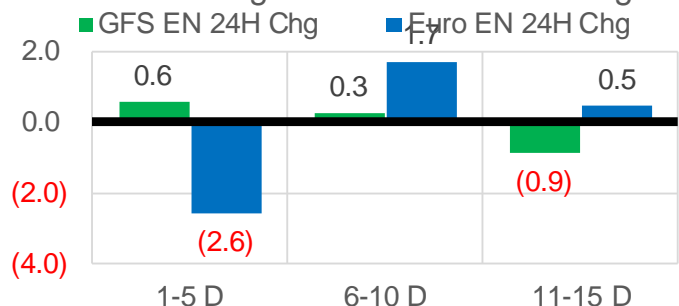
### Vs. 12H Ago

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	88.6 ▼	-0.78 ▼	-1.65 ▼

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	26.5 ▼	-1.34 ▼	-0.46 ▼

	Current	Δ from YD	Δ from 7D Avg
US ResComm	16.2 ▲	0.13 ▲	3.36 ▲

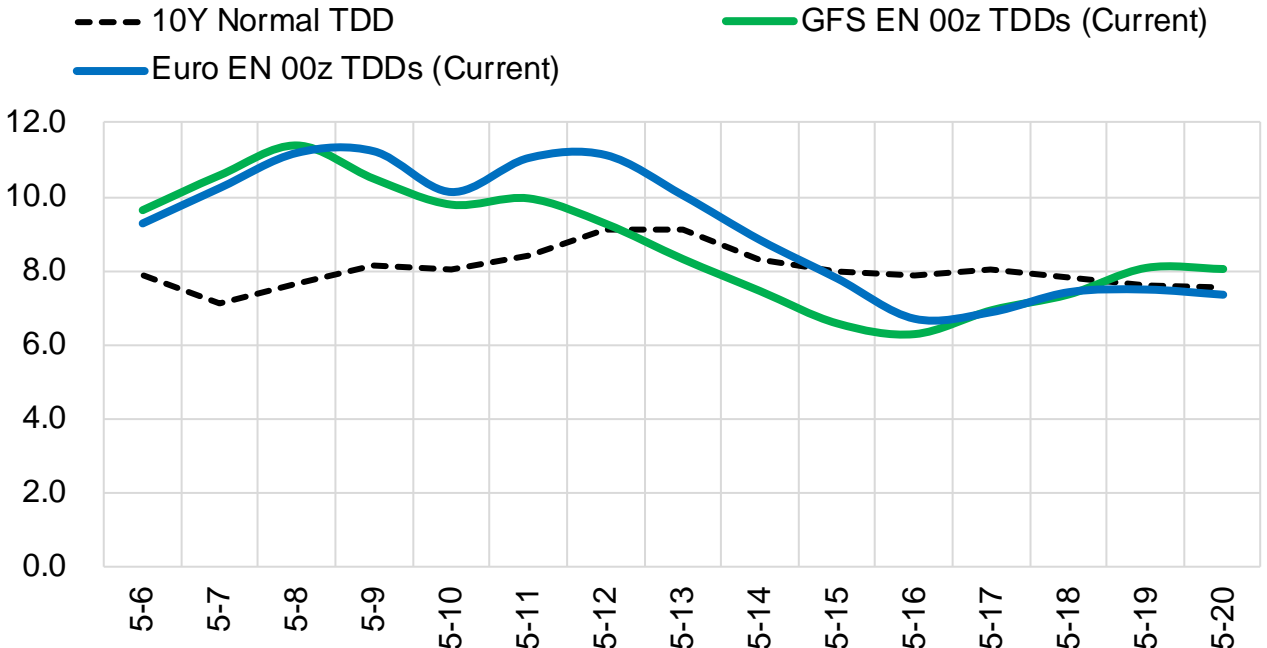
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.9 ▼	-0.11 ▲	0.35 ▲

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.7 ▲	0.11 ▲	0.43 ▲

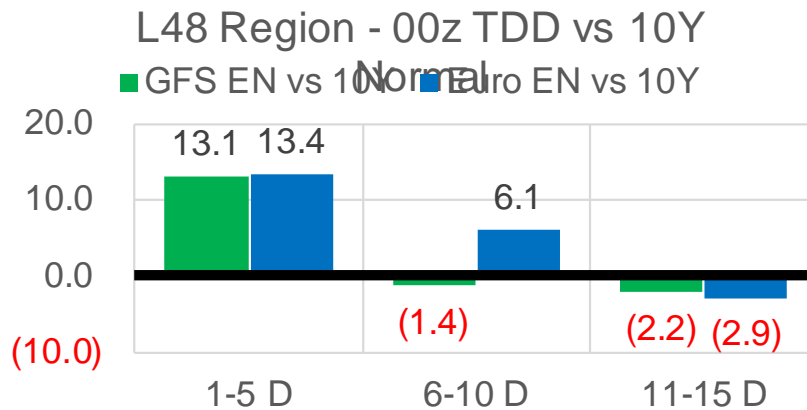
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.2 ▲	0.07 ▲	0.53 ▲

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

#### L48 Region



### Vs. 10Y Normal



Source: WSI, Bloomberg

## Lower 48 Component Models

### Daily Balances

	30-Apr	1-May	2-May	3-May	4-May	5-May	6-May	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>90.8</b>	<b>90.9</b>	<b>90.0</b>	<b>90.3</b>	<b>89.8</b>	<b>89.3</b>	<b>88.6</b>	▼ -0.8	▼ -1.6
<b>Canadian Imports</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>	<b>4.9</b>	▼ -0.1	▲ 0.4
L48 Power	26.3	24.1	25.3	28.2	28.4	27.8	26.5	▼ -1.3	▼ -0.2
L48 Residential & Commercial	15.0	13.1	9.2	11.2	13.4	16.1	16.2	▲ 0.1	▲ 3.2
L48 Industrial	20.2	20.2	19.8	19.5	18.4	16.3	13.6	▼ -2.8	▼ -5.5
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	4.9	4.9	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.0	1.9	1.8	2.0	2.1	2.2	2.2	▼ -0.1	▲ 0.2
<b>L48 Regional Gas Consumption</b>	<b>68.6</b>	<b>64.3</b>	<b>61.0</b>	<b>65.8</b>	<b>67.4</b>	<b>67.5</b>	<b>63.4</b>	▼ -4.1	▼ -2.4
<b>Net LNG Delivered</b>	<b>11.61</b>	<b>11.65</b>	<b>10.49</b>	<b>10.91</b>	<b>11.40</b>	<b>11.58</b>	<b>11.69</b>	▲ 0.1	▲ 0.4
<b>Total Mexican Exports</b>	<b>6.8</b>	<b>6.5</b>	<b>5.8</b>	<b>6.4</b>	<b>7.1</b>	<b>7.1</b>	<b>7.2</b>	▲ 0.1	▲ 0.6
<b>Implied Daily Storage Activity</b>	<b>8.7</b>	<b>12.4</b>	<b>16.8</b>	<b>11.3</b>	<b>8.7</b>	<b>8.2</b>	<b>11.2</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>91.4</b>	<b>90.9</b>	<b>90.2</b>	<b>90.7</b>	▲ 0.5	▼ -0.3
<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	24.1	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	20.1	20.6	20.3	19.4	19.1	▼ -0.3	▼ -1.1
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>70.6</b>	<b>76.7</b>	<b>69.4</b>	▼ -7.4	▼ -3.7
<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>2.5</b>	<b>8.4</b>	<b>5.9</b>	<b>0.5</b>	<b>7.9</b>	<b>7.4</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>0.5</b>	<b>-1.6</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>89.8</b>	▼ -1.0	▲ 6.6
<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>4.5</b>	▼ -0.2	▼ -1.9
L48 Power	26.9	26.9	28.2	27.9	25.0	25.2	26.7	▲ 1.5	▼ -1.2
L48 Residential & Commercial	12.8	12.7	43.9	47.9	28.4	19.7	13.2	▼ -6.5	▼ -34.7
L48 Industrial	22.7	18.9	23.1	20.2	18.8	19.9	18.0	▼ -2.0	▼ -2.2
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	▼ -1.2
<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>72.0</b>	<b>64.9</b>	▼ -7.2	▼ -39.0
<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>11.3</b>	▼ -0.2	▲ 2.9
<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>6.7</b>	▼ 0.0	▲ 1.0
<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>5.3</b>	<b>11.4</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

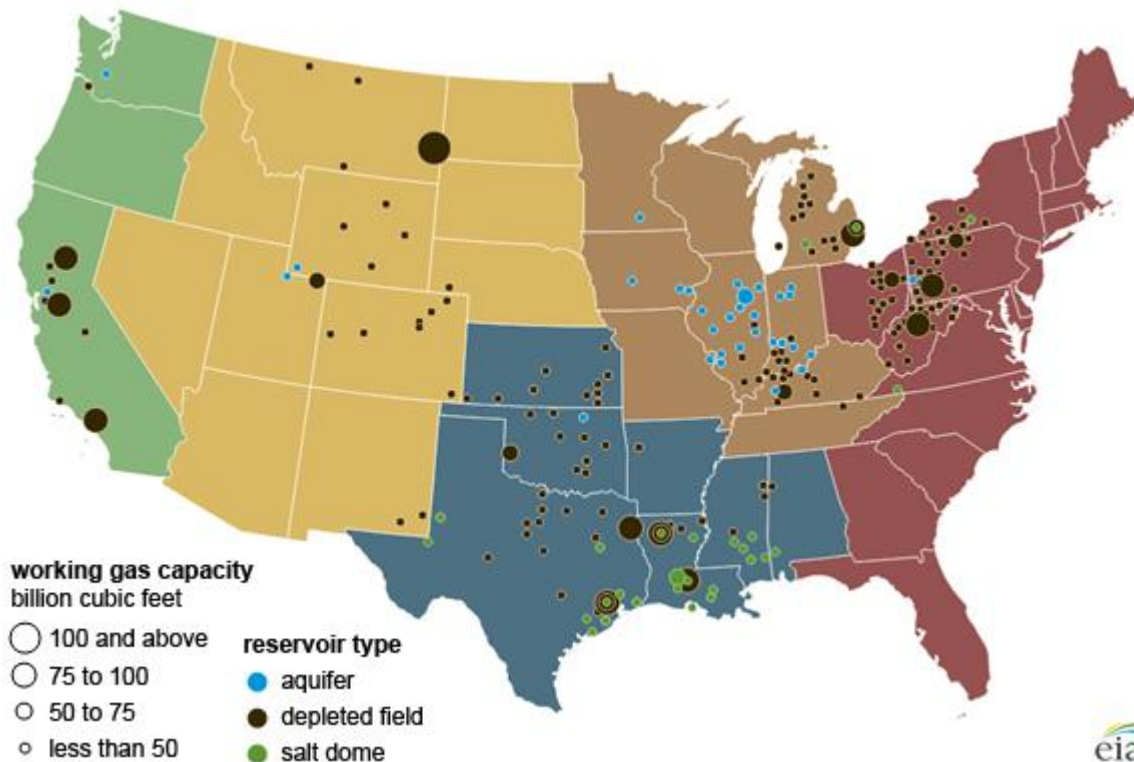
### Regional S/D Models Storage Projection

Week Ending 30-Apr

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	7.6	1.1	8.7	61
East	0.2	2.0	2.2	15
Midwest	2.6	0.0	2.6	18
Mountain	3.6	-3.1	0.5	4
South Central	0.0	2.7	2.7	19
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)

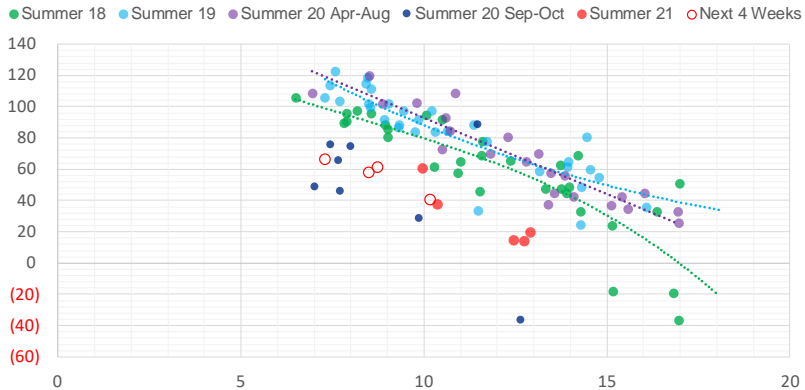


### Weather Model Storage Projection

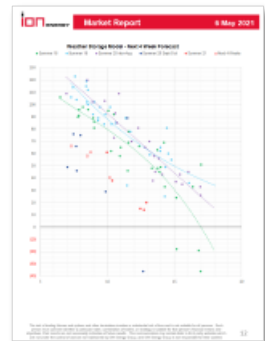
Next report  
and beyond

Week Ending	GWDDs	Week Storage Projection
30-Apr	8.8	61
07-May	8.5	58
14-May	10.2	40
21-May	7.3	66

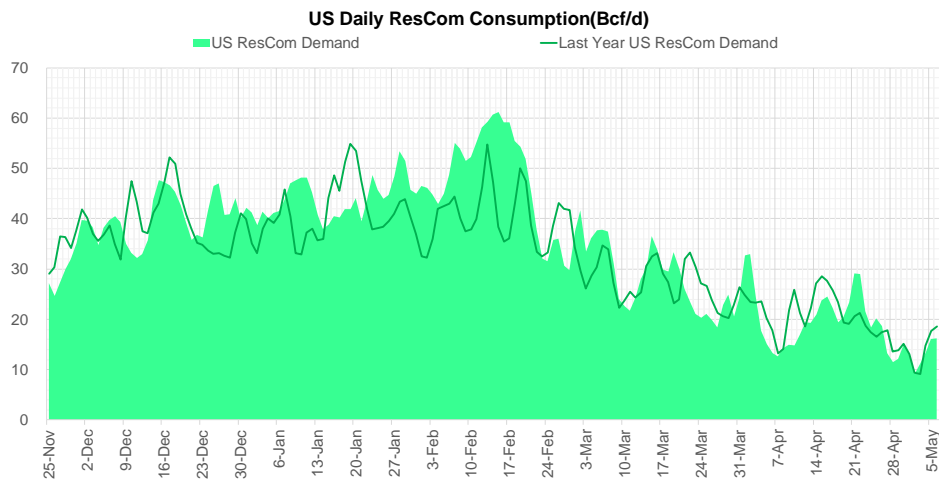
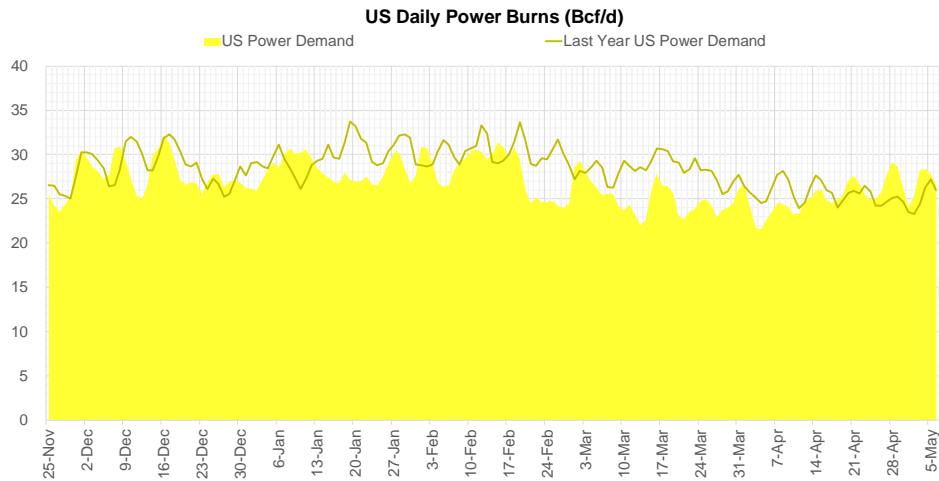
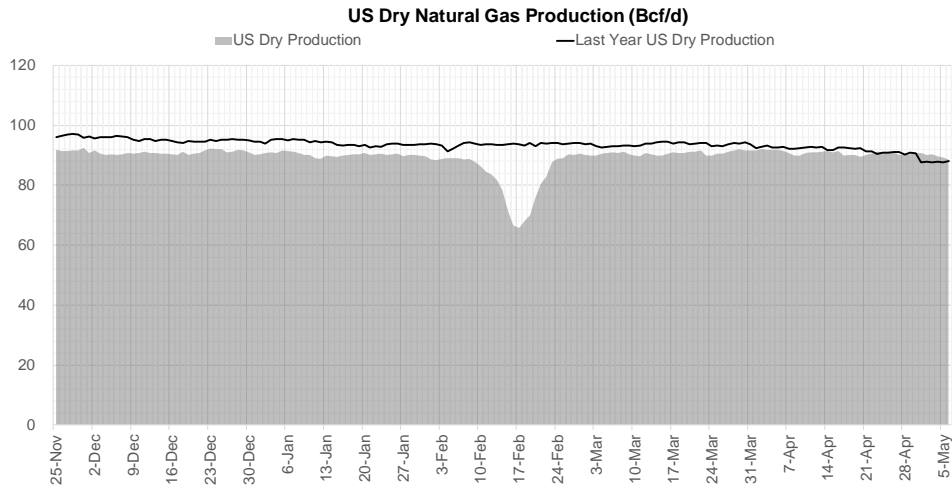
**Weather Storage Model - Next 4 Week Forecast**



Go to larger image



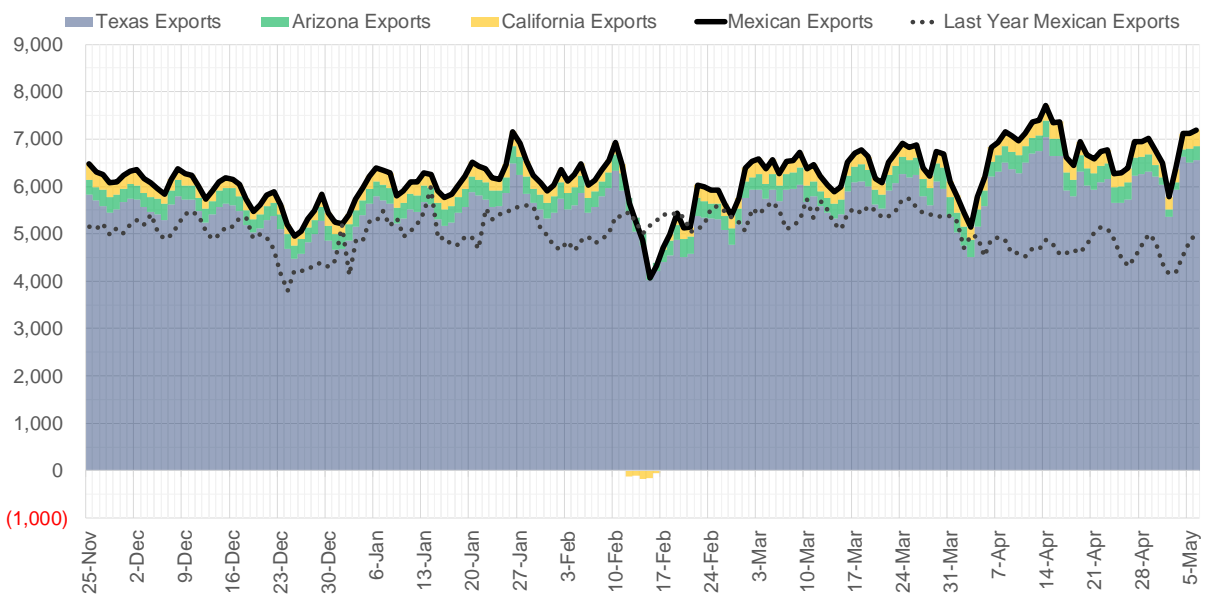
## Supply – Demand Trends



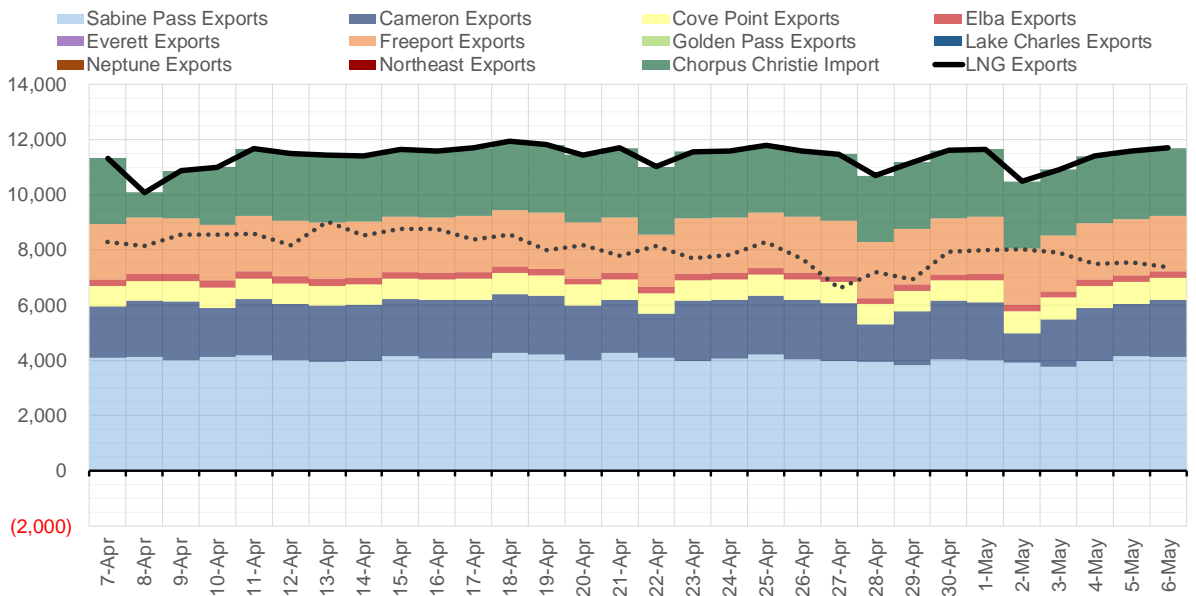
Source: Bloomberg

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

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.

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

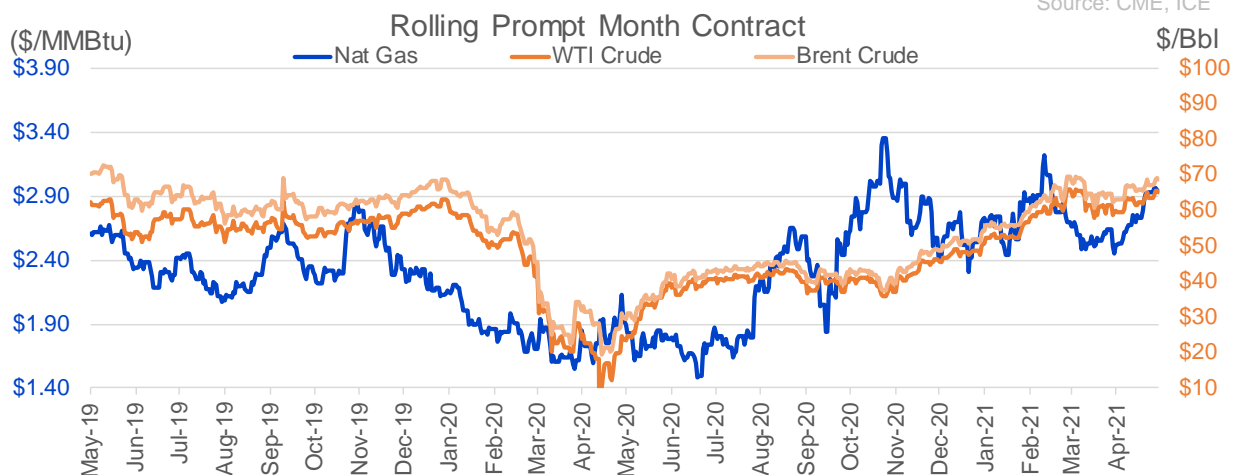
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
6	2021	P	2.75	6764	10	2021	C	4.00	42489
6	2021	C	3.00	5747	8	2021	C	4.00	32589
6	2021	C	3.25	4903	8	2021	C	3.50	30643
7	2021	C	3.50	4228	10	2021	C	3.25	30082
8	2021	C	3.50	4100	6	2021	P	2.50	29755
10	2021	C	3.50	3904	6	2021	C	3.00	29204
6	2021	P	2.90	3777	6	2021	C	3.25	28899
7	2021	C	3.25	3470	7	2021	C	4.00	28640
7	2021	P	2.75	3394	6	2021	C	4.00	27949
6	2021	P	2.80	3190	6	2021	P	2.65	27466
6	2021	C	3.50	2974	8	2021	C	3.25	27002
7	2021	C	4.00	2860	10	2021	C	5.00	25130
9	2021	C	4.00	2727	6	2021	C	3.50	24052
6	2021	P	2.70	2567	10	2021	P	2.50	24023
10	2021	C	4.00	2010	7	2021	C	3.25	23669
7	2021	P	2.50	1848	10	2021	C	3.50	23300
7	2021	P	2.25	1750	7	2021	C	3.50	22763
8	2021	P	2.25	1701	9	2021	C	4.00	22756
10	2021	C	3.25	1700	7	2021	P	2.50	21271
9	2021	C	3.50	1607	6	2021	P	2.75	21257
8	2021	C	4.00	1500	9	2021	C	3.50	21144
9	2021	P	2.25	1500	10	2021	C	3.00	19759
8	2021	C	3.25	1400	4	2022	C	3.00	19629
7	2021	C	3.60	1310	8	2021	P	2.50	19539
8	2021	C	3.60	1200	12	2021	C	4.00	19465
9	2021	C	3.25	1200	6	2021	P	2.25	19091
9	2021	C	3.60	1200	10	2021	P	2.25	18951
10	2021	C	3.60	1200	9	2021	P	2.00	18679
6	2021	C	3.20	1194	8	2021	P	2.25	18336
6	2021	P	2.65	1178	6	2021	P	2.00	17062
6	2021	P	2.40	1043	11	2021	C	4.00	16786
6	2021	P	2.50	1033	9	2021	C	3.25	16706
7	2021	C	3.30	1006	10	2021	P	2.00	16505
6	2021	P	2.60	953	7	2021	P	2.00	16035
6	2021	C	3.15	938	8	2021	P	2.00	15895
6	2021	P	2.85	928	6	2021	C	3.75	15823
6	2021	C	3.10	882	3	2022	C	4.00	15510
7	2021	P	2.60	858	7	2021	C	3.00	15381
8	2021	C	3.30	850	6	2021	C	2.75	15036
8	2021	C	3.70	803	9	2021	P	2.50	14937
9	2021	C	3.30	800	8	2021	C	3.00	14697
9	2021	C	3.70	800	10	2021	C	4.50	14038
10	2021	C	3.30	800	12	2021	P	2.00	14034
10	2021	C	3.70	800	3	2022	C	5.00	13975
6	2021	P	2.55	759	7	2021	P	2.75	13815
10	2021	C	3.00	733	9	2021	P	1.90	13733
7	2021	C	3.00	727	10	2021	C	6.00	13682
8	2021	C	3.00	712	8	2021	C	3.75	13398
6	2021	C	3.35	548	5	2022	C	3.00	13202
					6	2022	C	3	12916

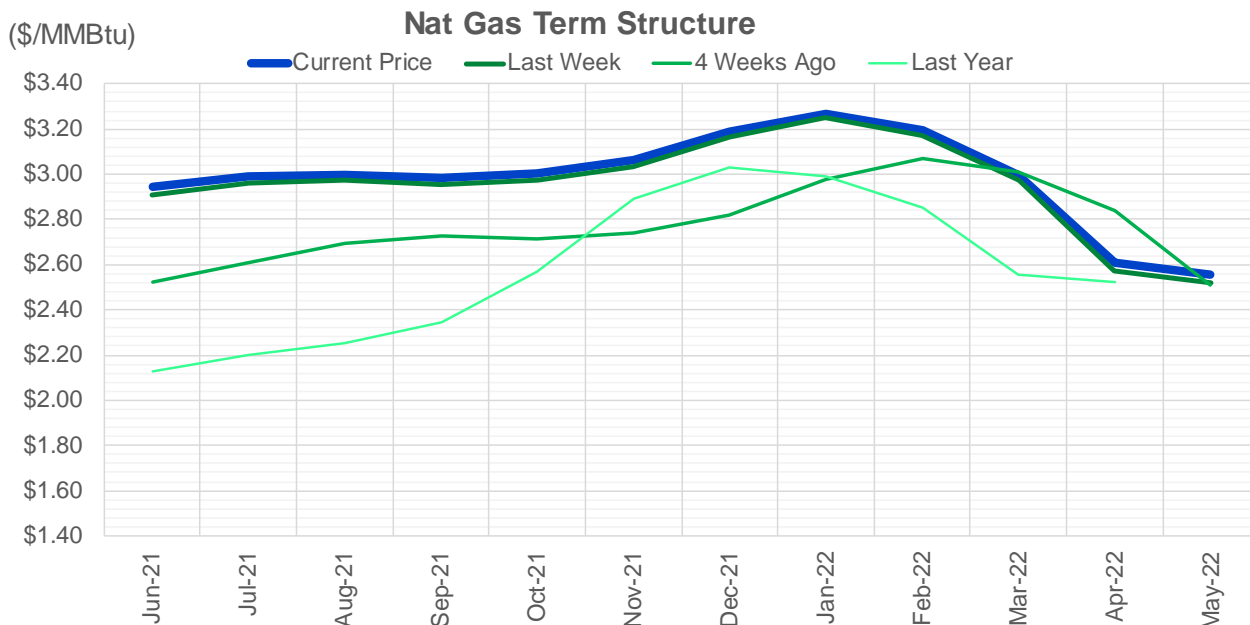
Source: CME, ICE



## 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	202185	204216	-2031	JUN 21	87642	88788	-1146
JUL 21	208988	207344	1644	JUL 21	86751	86035	716
AUG 21	73621	69508	4113	AUG 21	80101	79369	733
SEP 21	109508	109027	481	SEP 21	69624	69530	94
OCT 21	131157	130089	1068	OCT 21	88942	88597	345
NOV 21	68545	67720	825	NOV 21	61838	61904	-66
DEC 21	45752	45855	-103	DEC 21	60632	60291	341
JAN 22	75464	76785	-1321	JAN 22	66669	66512	157
FEB 22	23608	23856	-248	FEB 22	48313	48221	93
MAR 22	49608	49018	590	MAR 22	53721	53555	167
APR 22	49977	50098	-121	APR 22	48574	48500	74
MAY 22	30181	30268	-87	MAY 22	44383	44316	68
JUN 22	16732	16407	325	JUN 22	41180	41114	66
JUL 22	10313	10168	145	JUL 22	41056	41103	-46
AUG 22	9207	8880	327	AUG 22	39692	39647	45
SEP 22	9319	9349	-30	SEP 22	40657	40614	43
OCT 22	22281	22242	39	OCT 22	46056	45974	82
NOV 22	10763	10849	-86	NOV 22	36435	36352	83
DEC 22	10072	10045	27	DEC 22	40276	40276	1
JAN 23	5470	5459	11	JAN 23	22942	22800	142
FEB 23	2507	2510	-3	FEB 23	21421	21307	115
MAR 23	5133	5127	6	MAR 23	23100	22913	187
APR 23	5753	5753	0	APR 23	18784	18603	181
MAY 23	4405	4406	-1	MAY 23	18909	18768	142
JUN 23	964	963	1	JUN 23	17305	17168	137
JUL 23	1053	1052	1	JUL 23	17495	17332	163
AUG 23	785	784	1	AUG 23	17638	17476	163
SEP 23	768	768	0	SEP 23	17028	16870	158
OCT 23	1755	1754	1	OCT 23	17755	17613	141
NOV 23	609	609	0	NOV 23	17239	17140	99





	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>\$2.946</b>	<b>\$2.990</b>	<b>\$3.000</b>	<b>\$2.987</b>	<b>\$3.002</b>	<b>\$3.060</b>	<b>\$3.190</b>	<b>\$3.270</b>	<b>\$3.198</b>	<b>\$2.995</b>	<b>\$2.607</b>	<b>\$2.553</b>
Last Week	\$2.911	\$2.961	\$2.973	\$2.957	\$2.971	\$3.034	\$3.166	\$3.248	\$3.174	\$2.974	\$2.573	\$2.521
vs. Last Week	\$0.035	\$0.029	\$0.027	\$0.030	\$0.031	\$0.026	\$0.024	\$0.022	\$0.024	\$0.021	\$0.034	\$0.032
4 Weeks Ago	\$2.522	\$2.607	\$2.691	\$2.724	\$2.717	\$2.737	\$2.822	\$2.976	\$3.069	\$3.012	\$2.836	\$2.512
vs. 4 Weeks Ago	\$0.424	\$0.383	\$0.309	\$0.263	\$0.285	\$0.323	\$0.368	\$0.294	\$0.129	-\$0.017	-\$0.229	\$0.041
Last Year	\$1.894	\$2.127	\$2.202	\$2.256	\$2.342	\$2.572	\$2.893	\$3.031	\$2.991	\$2.854	\$2.559	\$2.526
vs. Last Year	\$1.052	\$0.863	\$0.798	\$0.731	\$0.660	\$0.488	\$0.297	\$0.239	\$0.207	\$0.141	\$0.048	\$0.027

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	3.06	2.36	-0.70
TETCO M3	\$/MMBtu	2.37	2.23	-0.14
FGT Zone 3	\$/MMBtu	2.43	2.97	0.54
Zone 6 NY	\$/MMBtu	2.43	2.29	-0.14
Chicago Citygate	\$/MMBtu	2.76	2.78	0.02
Michcon	\$/MMBtu	2.74	2.71	-0.03
Columbia TCO Pool	\$/MMBtu	2.49	2.34	-0.15
Ventura	\$/MMBtu	2.56	2.72	0.16
Rockies/Opal	\$/MMBtu	2.80	2.72	-0.08
El Paso Permian Basin	\$/MMBtu	2.66	2.83	0.17
Socal Citygate	\$/MMBtu	3.81	3.60	-0.21
Malin	\$/MMBtu	2.80	3.03	0.23
Houston Ship Channel	\$/MMBtu	3.11	3.00	-0.11
Henry Hub Cash	\$/MMBtu	2.98	2.76	-0.22
AECO Cash	C\$/GJ	2.47	2.37	-0.10
Station2 Cash	C\$/GJ	2.46	2.84	0.38
Dawn Cash	C\$/GJ	2.73	2.73	0.00

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.012	▲ 0.002	▼ -0.034	▲ 0.011
NatGas Oct21/Nov21	\$/MMBtu	0.058	▼ -0.005	▼ -0.027	▲ 0.015
NatGas Oct21/Jan22	\$/MMBtu	0.268	▼ -0.009	▼ -0.064	▼ -0.016
NatGas Apr22/Oct22	\$/MMBtu	0.019	▼ -0.006	▼ -0.013	▼ -0.035
WTI Crude	\$/Bbl	65.23	▲ 0.220	▲ 5.630	▲ 41.680
Brent Crude	\$/Bbl	68.60	▲ 0.040	▲ 5.400	▲ 39.140
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	199.00	▲ 2.860	▲ 18.020	▲ 115.290
Propane, Mt. Bel	cents/Gallon	0.82	▲ 0.004	▼ -0.047	▲ 0.453
Ethane, Mt. Bel	cents/Gallon	0.26	▲ 0.020	▲ 0.030	▲ 0.055
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

