

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.91	▼ \$ (0.00)	▲ \$ 0.10

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 63.72	▼ \$ (1.29)	▲ \$ 0.8

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 67.43	▼ \$ (1.13)	▲ \$ 0.8

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[Lower 48 Component Models](#)

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[Weather Model Storage Projection](#)

[Supply – Demand Trends](#)

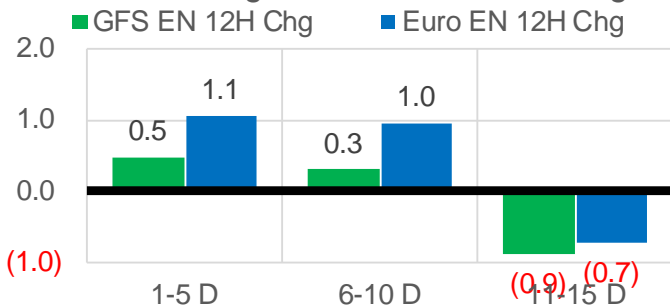
[Nat Gas Options Volume and Open Interest](#)

[Nat Gas Futures Open Interest](#)

[Price Summary](#)

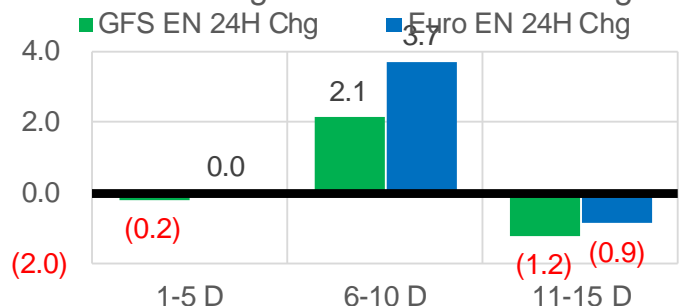
### Vs. 12H Ago

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	89.9	▼ -0.66	▼ -1.04

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	26.5	▼ -2.20	▼ -0.19

	Current	Δ from YD	Δ from 7D Avg
US ResComm	13.9	▲ 1.86	▼ -2.50

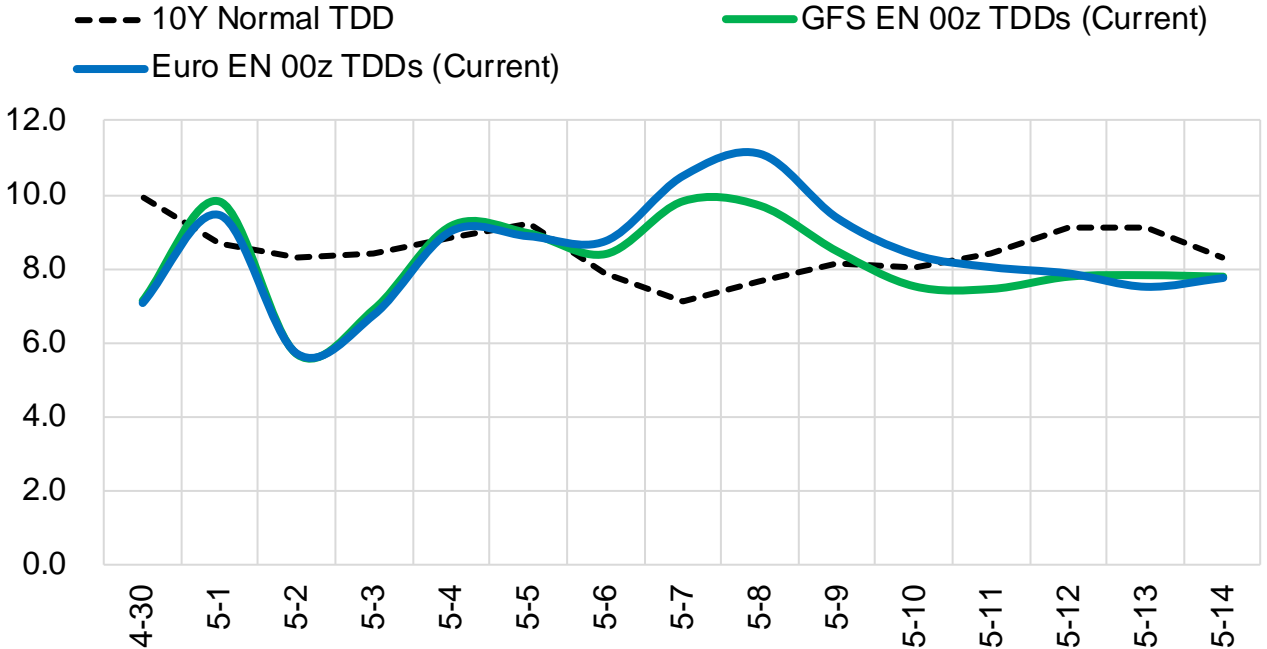
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.8	▼ -0.17	▲ 0.20

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.4	▲ 0.23	▼ 0.00

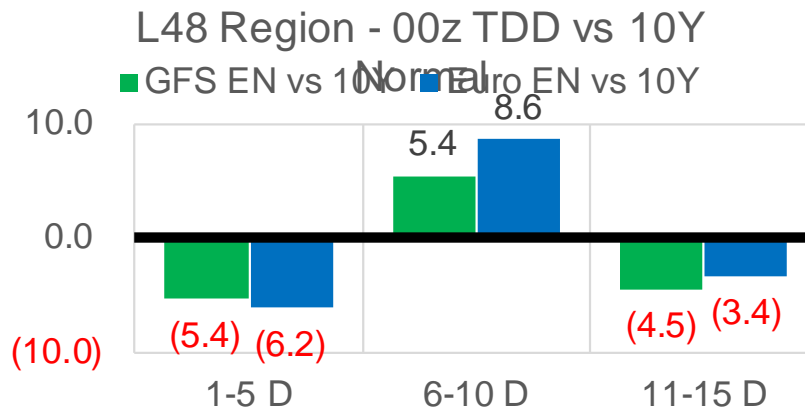
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.8	▼ -0.20	▲ 0.13

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

### L48 Region



## Vs. 10Y Normal



Source: WSI , Bloomberg

## Lower 48 Component Models

### Daily Balances

	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>91.3</b>	<b>91.4</b>	<b>91.3</b>	<b>90.3</b>	<b>90.4</b>	<b>90.6</b>	<b>89.9</b>	▼ -0.7	▼ -1.0
<b>Canadian Imports</b>	<b>4.3</b>	<b>4.5</b>	<b>4.5</b>	<b>4.6</b>	<b>4.8</b>	<b>5.0</b>	<b>4.8</b>	▼ -0.2	▲ 0.2
L48 Power	24.9	25.0	25.8	27.8	29.1	28.7	26.5	▼ -2.2	▼ -0.4
L48 Residential & Commercial	18.3	20.1	18.5	13.0	11.4	12.0	13.9	▲ 1.9	▼ -1.7
L48 Industrial	19.9	20.2	20.2	19.5	19.6	19.6	19.5	▼ -0.1	▼ -0.3
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.0	5.0	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.1	2.2	2.2	2.0	2.0	2.0	2.0	▼ 0.0	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>70.2</b>	<b>72.6</b>	<b>71.7</b>	<b>67.3</b>	<b>67.0</b>	<b>67.3</b>	<b>66.9</b>	▼ -0.5	▼ -2.5
<b>Net LNG Delivered</b>	<b>11.60</b>	<b>11.79</b>	<b>11.60</b>	<b>11.48</b>	<b>10.69</b>	<b>11.18</b>	<b>11.42</b>	▲ 0.2	▲ 0.0
<b>Total Mexican Exports</b>	<b>6.4</b>	<b>6.3</b>	<b>6.4</b>	<b>7.0</b>	<b>7.0</b>	<b>7.0</b>	<b>6.8</b>	▼ -0.2	▲ 0.2
<b>Implied Daily Storage Activity</b>	<b>7.4</b>	<b>5.2</b>	<b>6.1</b>	<b>9.1</b>	<b>10.5</b>	<b>10.0</b>	<b>9.6</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>92.0</b>	<b>92.5</b>	<b>92.0</b>	<b>91.4</b>	<b>90.6</b>	<b>91.0</b>	▲ 0.4	▼ -0.6
<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	24.9	23.2	18.5	18.5	23.9	16.4	▼ -7.5	▼ -4.6
L48 Industrial	20.2	21.2	21.4	21.3	19.6	19.8	▲ 0.2	▼ -1.0
L48 Lease and Plant Fuel	5.1	5.1	5.1	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>76.6</b>	<b>76.4</b>	<b>70.3</b>	<b>71.6</b>	<b>76.8</b>	<b>70.0</b>	▼ -6.8	▼ -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>1.7</b>	<b>2.4</b>	<b>8.3</b>	<b>5.4</b>	<b>0.7</b>	<b>7.4</b>	<b>6.7</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>-0.3</b>	<b>-0.4</b>	<b>-0.5</b>	<b>0.0</b>	<b>-1.5</b>			

### Monthly Balances

	2Yr Ago Apr-19	LY Apr-20	Dec-20	Jan-21	Feb-21	Mar-21	MTD Apr-21	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>89.1</b>	<b>91.9</b>	<b>91.0</b>	<b>90.5</b>	<b>85.1</b>	<b>92.0</b>	<b>91.2</b>	▼ -0.7	▲ 0.7
<b>Canadian Imports</b>	<b>4.6</b>	<b>4.0</b>	<b>5.8</b>	<b>6.3</b>	<b>6.4</b>	<b>4.7</b>	<b>4.6</b>	▼ -0.1	▼ -1.6
L48 Power	24.6	25.6	28.0	28.1	27.8	25.0	25.2	▲ 0.2	▼ -2.9
L48 Residential & Commercial	19.1	20.5	40.0	43.8	47.7	28.3	19.6	▼ -8.7	▼ -24.2
L48 Industrial	21.4	19.8	23.3	23.5	22.1	20.1	20.6	▲ 0.5	▼ -2.9
L48 Lease and Plant Fuel	4.9	5.1	5.0	5.1	4.7	5.1	5.0	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.3	3.1	3.2	3.4	2.5	2.2	▼ -0.3	▼ -1.0
<b>L48 Regional Gas Consumption</b>	<b>72.3</b>	<b>73.2</b>	<b>99.4</b>	<b>103.7</b>	<b>105.7</b>	<b>81.0</b>	<b>72.6</b>	▼ -8.4	▼ -31.1
<b>Net LNG Exports</b>	<b>4.5</b>	<b>8.2</b>	<b>11.0</b>	<b>10.5</b>	<b>8.4</b>	<b>11.1</b>	<b>11.5</b>	▲ 0.3	▲ 1.0
<b>Total Mexican Exports</b>	<b>4.7</b>	<b>4.8</b>	<b>5.8</b>	<b>6.2</b>	<b>5.7</b>	<b>6.5</b>	<b>6.7</b>	▲ 0.2	▲ 0.6
<b>Implied Daily Storage Activity</b>	<b>12.3</b>	<b>9.6</b>	<b>-19.5</b>	<b>-23.5</b>	<b>-28.3</b>	<b>-1.9</b>	<b>5.1</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	7.1	1.2	8.3	58
East	0.4	1.7	2.1	15
Midwest	2.4	0.1	2.6	18
Mountain	3.5	-3.0	0.5	4
South Central	-0.4	2.9	2.5	17
Pacific	1.2	-0.6	0.6	4

\*Adjustment Factor is calculated based on historical regional deltas

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

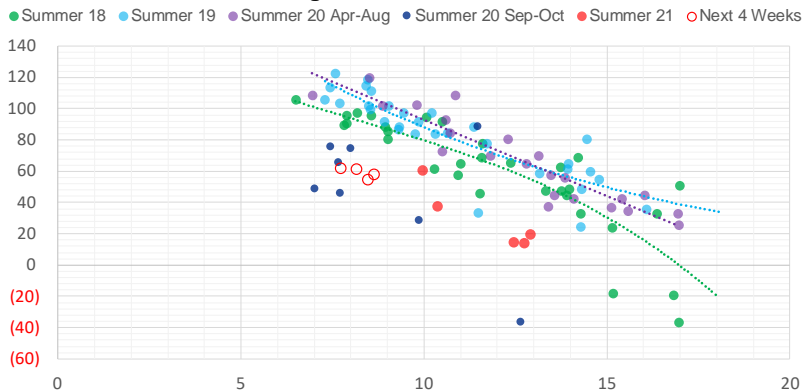


### Weather Model Storage Projection

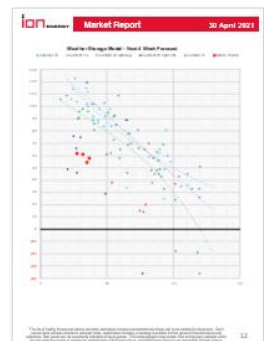
Next report  
and beyond

Week Ending	GWDDs	Week Storage Projection
30-Apr	8.7	58
07-May	8.2	61
14-May	8.5	54
21-May	7.8	61

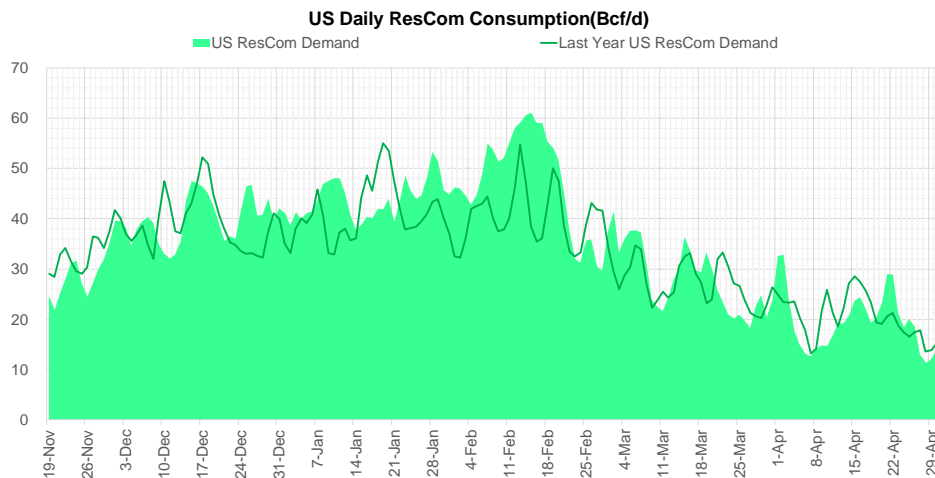
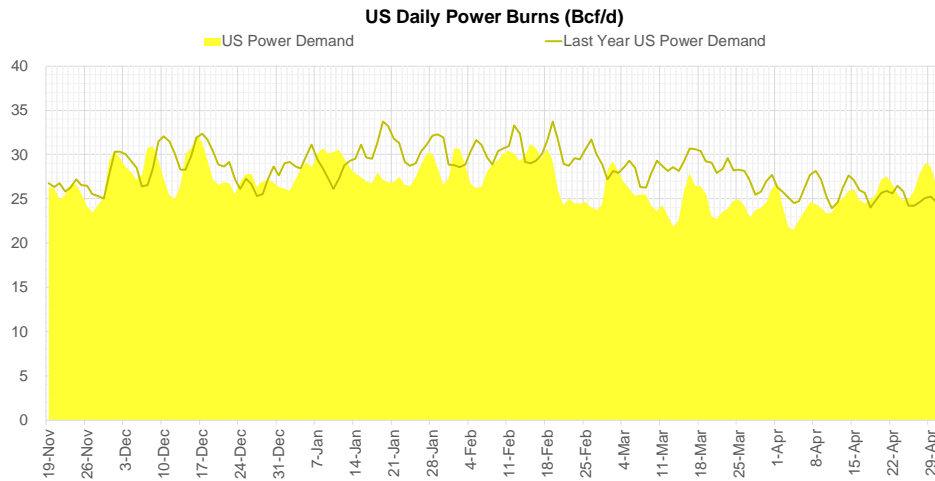
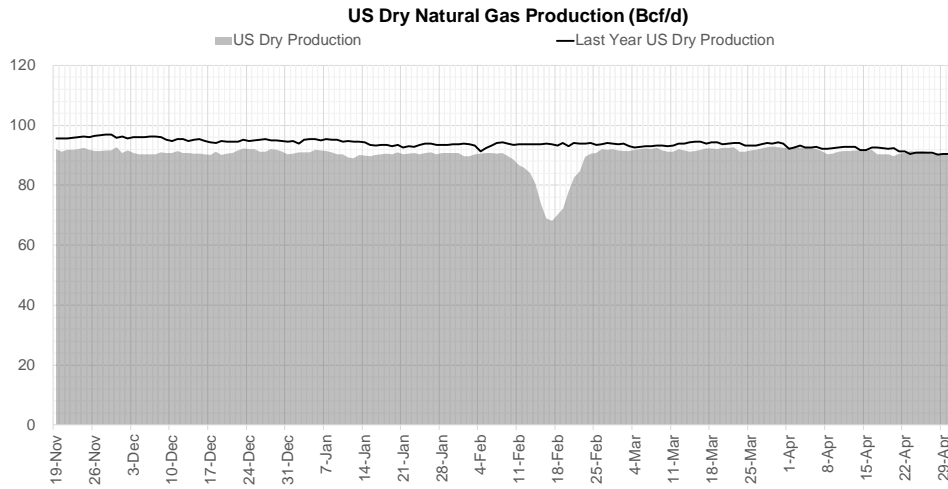
**Weather Storage Model - Next 4 Week Forecast**



Go to larger image



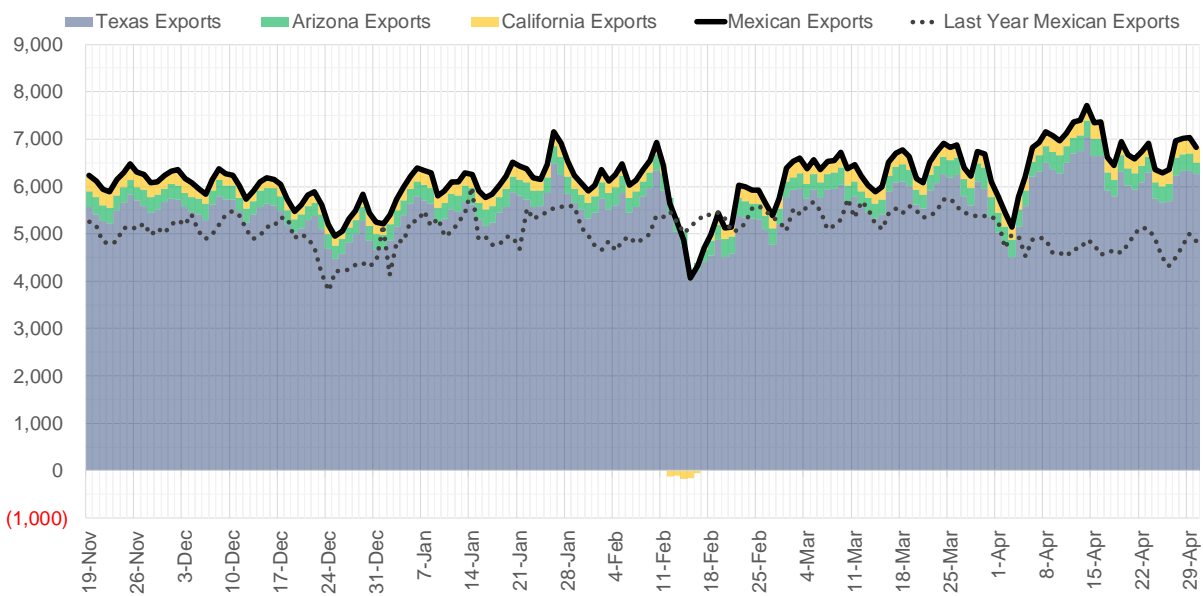
## Supply – Demand Trends



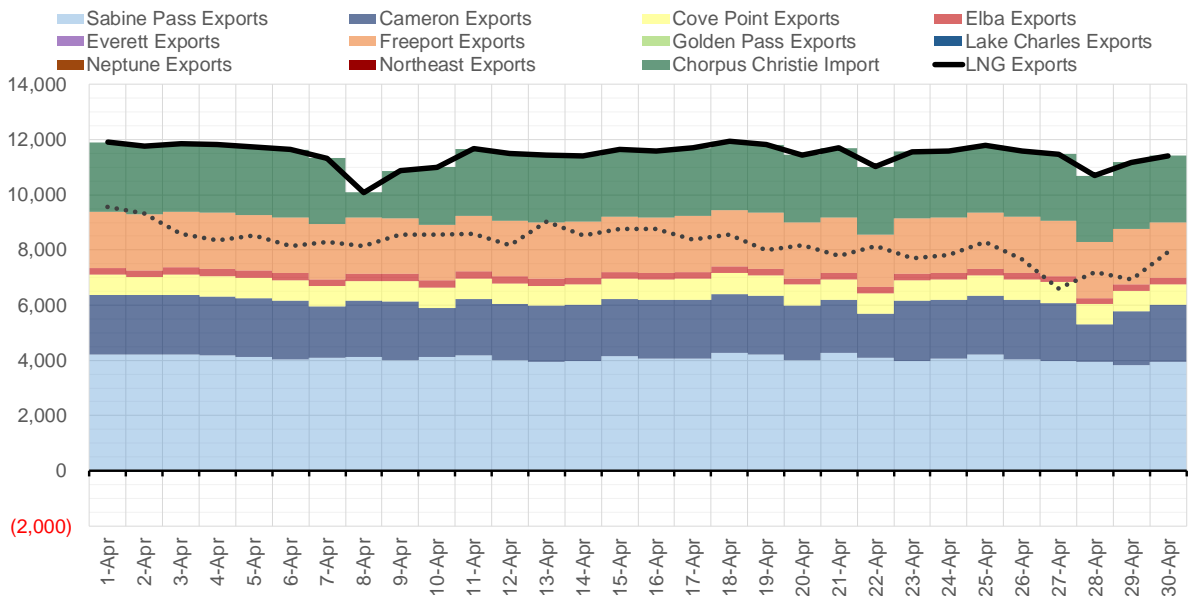
Source: Bloomberg

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

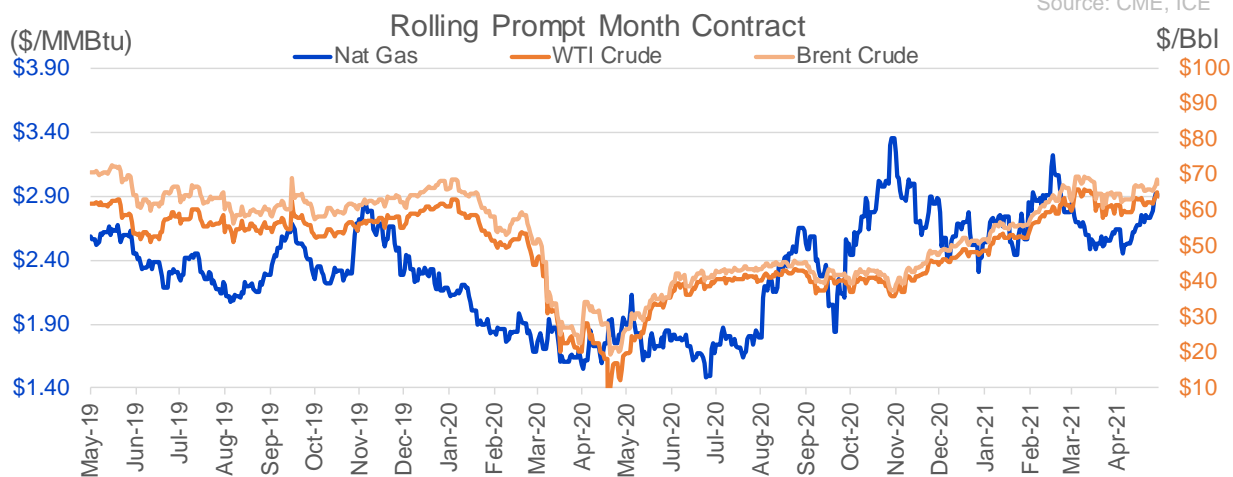
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
6	2021	C	3.25	7449	10	2021	C	4.00	39655
6	2021	C	3.05	4101	8	2021	C	4.00	32479
12	2021	C	4.00	3500	6	2021	C	3.00	32053
8	2021	C	3.25	3302	10	2021	C	3.25	31208
6	2021	P	2.60	3268	6	2021	P	2.50	29441
12	2021	P	2.75	3050	8	2021	C	3.50	28677
6	2021	C	2.90	2832	7	2021	C	4.00	28248
6	2021	P	2.75	2696	6	2021	C	4.00	27949
12	2021	C	3.30	2500	6	2021	C	3.25	27019
8	2021	C	3.50	2462	6	2021	P	2.65	26751
7	2021	C	3.25	2354	10	2021	C	5.00	26619
6	2021	C	3.00	2328	7	2021	C	3.25	25700
7	2021	P	2.75	2021	8	2021	C	3.25	24333
6	2021	P	2.50	1858	10	2021	P	2.50	23523
6	2021	C	3.30	1759	6	2021	C	3.50	22196
6	2021	P	2.80	1704	10	2021	C	3.50	21924
8	2021	C	3.00	1699	9	2021	C	3.50	20741
6	2021	P	2.40	1692	7	2021	C	3.50	20290
8	2021	C	3.75	1666	10	2021	C	3.00	20264
6	2021	C	3.10	1627	8	2021	P	2.50	19580
7	2021	C	3.00	1484	10	2021	P	2.25	19077
6	2021	P	2.65	1324	12	2021	C	4.00	19065
11	2021	P	2.25	1200	6	2021	P	2.25	19055
12	2021	P	2.25	1200	4	2022	C	3.00	18974
6	2021	C	3.15	1194	8	2021	P	2.25	18275
9	2021	C	4.00	1142	7	2021	P	2.50	17854
12	2021	C	3.50	1100	9	2021	P	2.00	17819
8	2021	P	2.75	1045	6	2021	P	2.75	17738
7	2021	P	2.60	1017	9	2021	C	4.00	17668
10	2021	C	4.00	1012	9	2021	C	3.25	17132
7	2021	P	3.00	999	6	2021	P	2.00	17060
8	2021	P	2.60	901	10	2021	P	2.00	17000
6	2021	P	2.70	899	11	2021	C	4.00	16426
10	2021	P	2.60	750	7	2021	P	2.00	16035
9	2021	C	3.25	727	7	2021	C	3.00	15660
6	2021	C	3.50	710	6	2021	C	3.75	15656
7	2021	P	2.50	689	8	2021	P	2.00	15295
11	2021	C	4.00	650	3	2022	C	4.00	15187
6	2021	P	2.85	648	8	2021	C	3.00	14955
9	2021	P	2.60	638	6	2021	C	2.75	14822
8	2021	P	2.20	625	9	2021	P	2.50	14519
6	2021	P	2.90	625	12	2021	P	2.00	14031
3	2022	C	4.00	603	10	2021	C	4.50	13934
7	2021	C	3.50	597	9	2021	P	1.90	13733
10	2021	C	3.50	554	3	2022	C	5.00	13725
7	2021	C	2.95	552	6	2021	P	2.40	13429
10	2021	P	2.75	551	10	2021	C	6.00	13182
10	2021	C	3.25	531	5	2022	C	3.00	13110
12	2021	P	2.50	525	6	2021	P	2.60	13086
					6	2021	P	2.55	12975.5

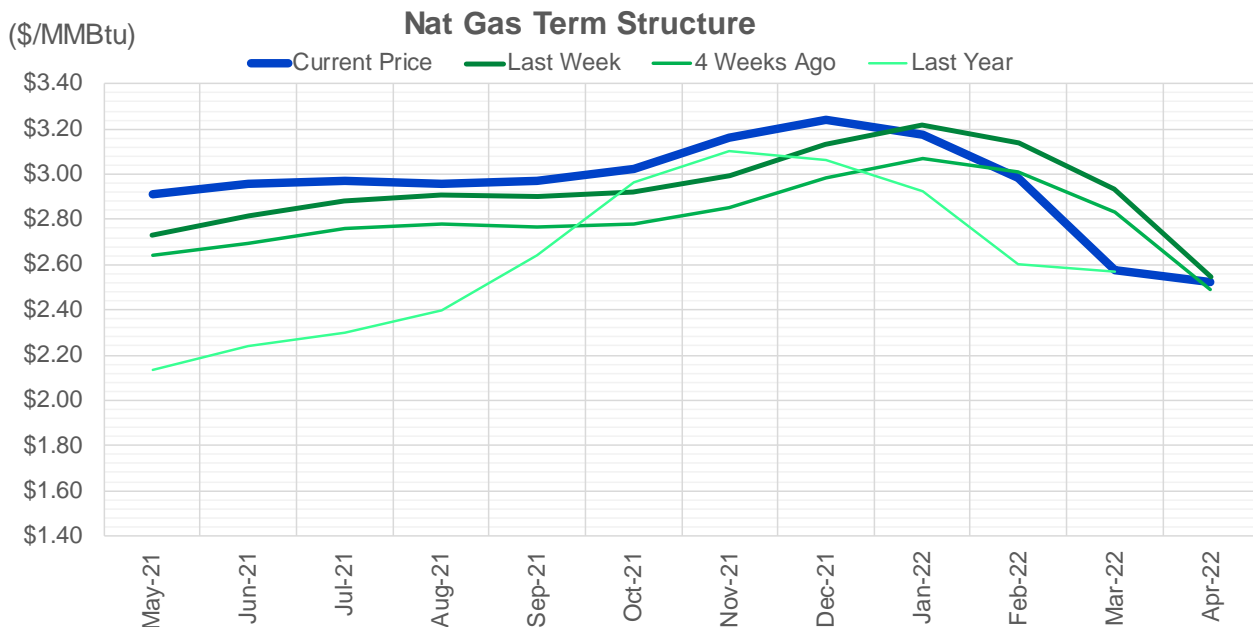
Source: CME, ICE



## 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	203572	204540	-968	JUN 21	87973	87572	402
JUL 21	193985	191903	2082	JUL 21	86995	87064	-69
AUG 21	73677	73396	281	AUG 21	79719	79259	460
SEP 21	109198	110295	-1097	SEP 21	69462	69247	215
OCT 21	127495	128826	-1331	OCT 21	86948	86275	673
NOV 21	66098	65522	576	NOV 21	61236	60798	438
DEC 21	45986	46294	-308	DEC 21	59284	59087	197
JAN 22	72544	71931	613	JAN 22	65548	65478	70
FEB 22	22954	22896	58	FEB 22	47245	47167	78
MAR 22	46702	46164	538	MAR 22	52398	52225	173
APR 22	48466	49052	-586	APR 22	47440	47417	23
MAY 22	28107	27845	262	MAY 22	41924	41877	47
JUN 22	16295	16118	177	JUN 22	40142	40069	73
JUL 22	9926	9717	209	JUL 22	40417	40329	89
AUG 22	8848	8801	47	AUG 22	38877	38822	55
SEP 22	9242	9225	17	SEP 22	39538	39439	99
OCT 22	22101	22187	-86	OCT 22	45988	45817	171
NOV 22	10769	10781	-12	NOV 22	35427	35453	-26
DEC 22	10114	10093	21	DEC 22	39723	39664	60
JAN 23	4997	4995	2	JAN 23	22467	22388	79
FEB 23	2714	2712	2	FEB 23	20897	20847	51
MAR 23	4968	4965	3	MAR 23	22584	22534	50
APR 23	5669	5670	-1	APR 23	18496	18473	24
MAY 23	4412	4412	0	MAY 23	18567	18550	17
JUN 23	957	957	0	JUN 23	16973	16950	23
JUL 23	1079	1079	0	JUL 23	17032	17011	21
AUG 23	753	753	0	AUG 23	17176	17171	4
SEP 23	762	761	1	SEP 23	16581	16558	23
OCT 23	1753	1753	0	OCT 23	17405	17234	171
NOV 23	616	1753	-1137	NOV 23	16780	17234	-454





	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22
<b>Current Price</b>	<b>\$2.909</b>	<b>\$2.958</b>	<b>\$2.971</b>	<b>\$2.956</b>	<b>\$2.970</b>	<b>\$3.026</b>	<b>\$3.164</b>	<b>\$3.240</b>	<b>\$3.177</b>	<b>\$2.981</b>	<b>\$2.577</b>	<b>\$2.523</b>
Last Week	\$2.730	\$2.818	\$2.884	\$2.910	\$2.899	\$2.919	\$2.992	\$3.131	\$3.220	\$3.142	\$2.934	\$2.545
vs. Last Week	\$0.179	\$0.140	\$0.087	\$0.046	\$0.071	\$0.107	\$0.172	\$0.109	-\$0.043	-\$0.161	-\$0.357	-\$0.022
4 Weeks Ago	\$2.639	\$2.697	\$2.761	\$2.782	\$2.769	\$2.783	\$2.855	\$2.982	\$3.070	\$3.011	\$2.835	\$2.489
vs. 4 Weeks Ago	\$0.270	\$0.261	\$0.210	\$0.174	\$0.201	\$0.243	\$0.309	\$0.258	\$0.107	-\$0.030	-\$0.258	\$0.034
Last Year	\$1.890	\$2.134	\$2.242	\$2.302	\$2.396	\$2.643	\$2.965	\$3.104	\$3.063	\$2.925	\$2.604	\$2.569
vs. Last Year	\$1.019	\$0.824	\$0.729	\$0.654	\$0.574	\$0.383	\$0.199	\$0.136	\$0.114	\$0.056	-\$0.027	-\$0.046

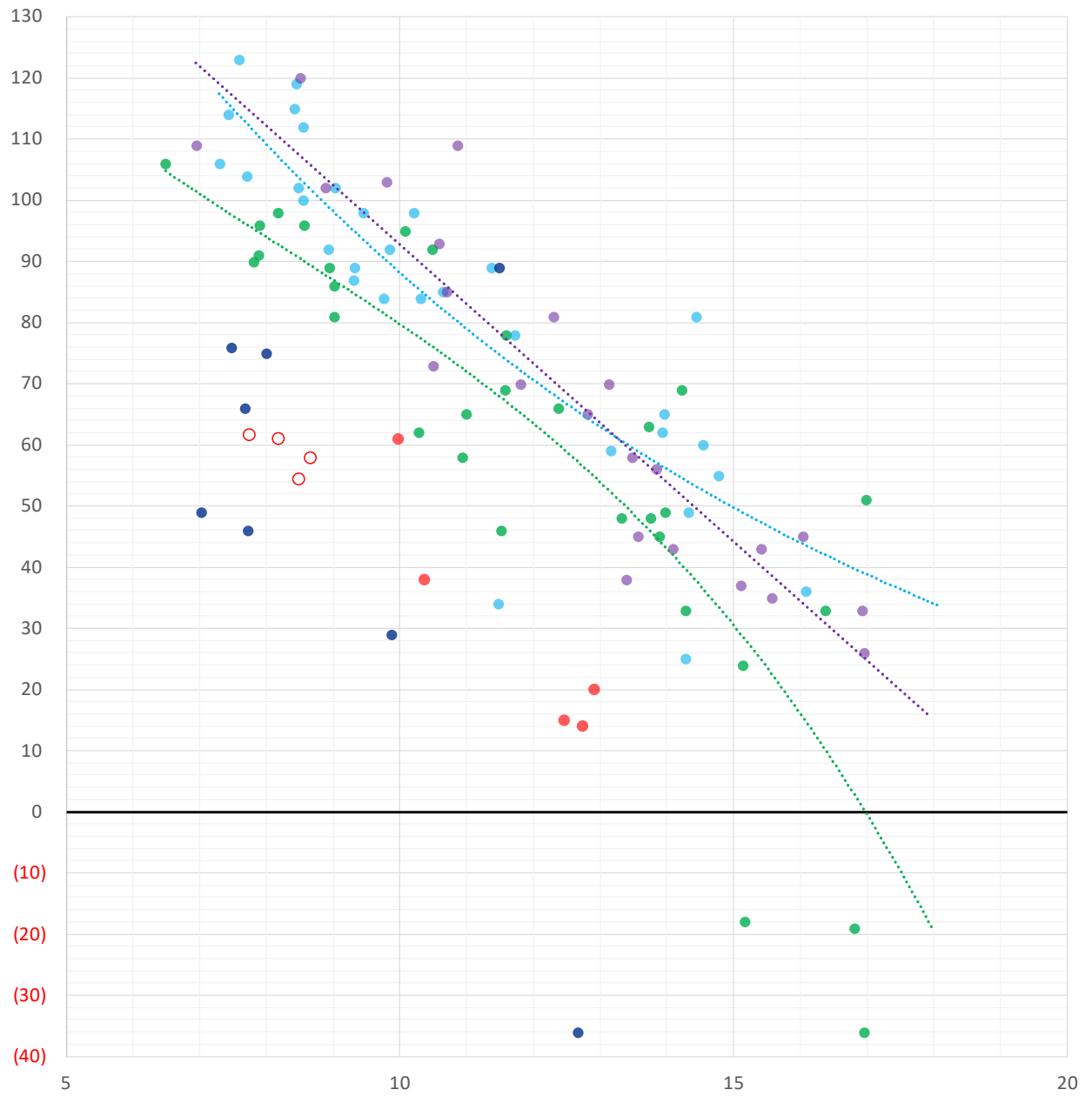
	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.40	2.11	-0.30
TETCO M3	\$/MMBtu	2.34	2.02	-0.32
FGT Zone 3	\$/MMBtu	2.38	2.77	0.39
Zone 6 NY	\$/MMBtu	2.38	1.89	-0.49
Chicago Citygate	\$/MMBtu	2.72	2.66	-0.06
Michcon	\$/MMBtu	2.68	2.61	-0.08
Columbia TCO Pool	\$/MMBtu	2.40	2.20	-0.21
Ventura	\$/MMBtu	2.56	2.58	0.02
Rockies/Opal	\$/MMBtu	2.89	2.51	-0.38
El Paso Permian Basin	\$/MMBtu	2.68	2.56	-0.12
Socal Citygate	\$/MMBtu	3.25	2.89	-0.36
Malin	\$/MMBtu	3.00	2.70	-0.30
Houston Ship Channel	\$/MMBtu	2.84	2.76	-0.08
Henry Hub Cash	\$/MMBtu	2.85	2.59	-0.26
AECO Cash	C\$/GJ	2.39	2.21	-0.18
Station2 Cash	C\$/GJ	2.38	2.56	0.18
Dawn Cash	C\$/GJ	2.69	2.62	-0.07

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.012	▼ -0.023	▼ -0.010	▲ 0.020
NatGas Oct21/Nov21	\$/MMBtu	0.056	▼ -0.017	▼ -0.016	▲ 0.016
NatGas Oct21/Jan22	\$/MMBtu	0.270	▼ -0.031	▼ -0.017	▼ -0.004
NatGas Apr22/Oct22	\$/MMBtu	0.060	▲ 0.027	▲ 0.020	▲ 0.010
WTI Crude	\$/Bbl	63.72	▲ 1.580	▲ 2.270	▲ 43.940
Brent Crude	\$/Bbl	67.43	▲ 1.320	▲ 2.570	▲ 40.990
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	192.91	▲ 5.560	▲ 9.750	▲ 113.300
Propane, Mt. Bel	cents/Gallon	0.82	▲ 0.007	▼ -0.129	▲ 0.492
Ethane, Mt. Bel	cents/Gallon	0.24	▲ 0.003	▲ 0.014	▲ 0.063
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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