

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 1.79	▲ \$ 0.06	▲ \$ 0.17

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 26.83	▲ \$ 0.75	▲ \$ 1.5

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 33.93	▲ \$ 0.88	▲ \$ 3.5

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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	-2.8	-2.3	-4.4	-9.4
24 Hr Chg	-0.9	-1.5	2.5	0.1

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	-1.0	-1.4	2.4	0.0
24 Hr Chg	-2.1	3.3	2.4	3.6

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	89.9	▼ -1.49	▼ -1.78

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	28.6	▲ 2.24	▲ 2.99

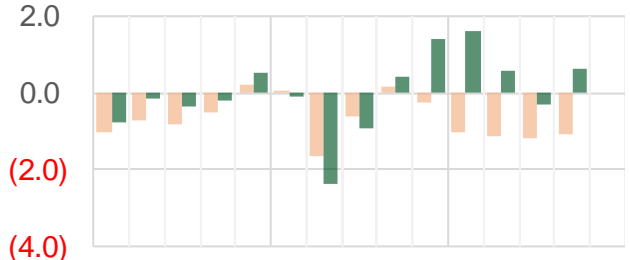
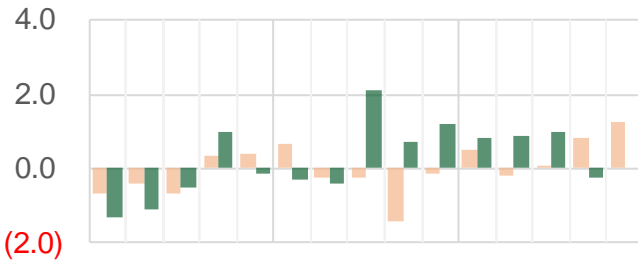
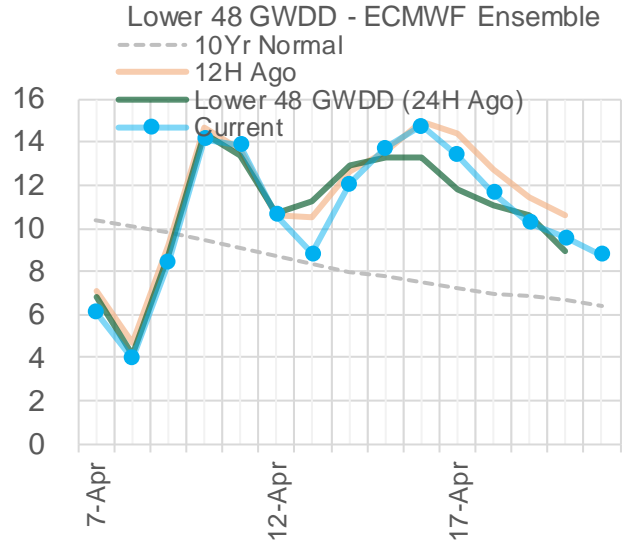
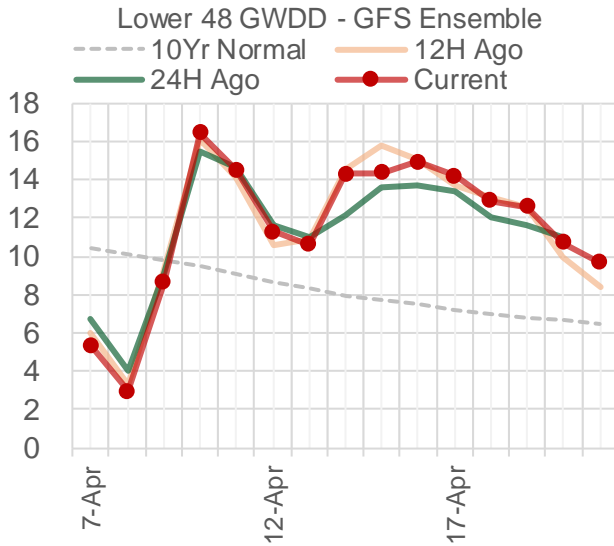
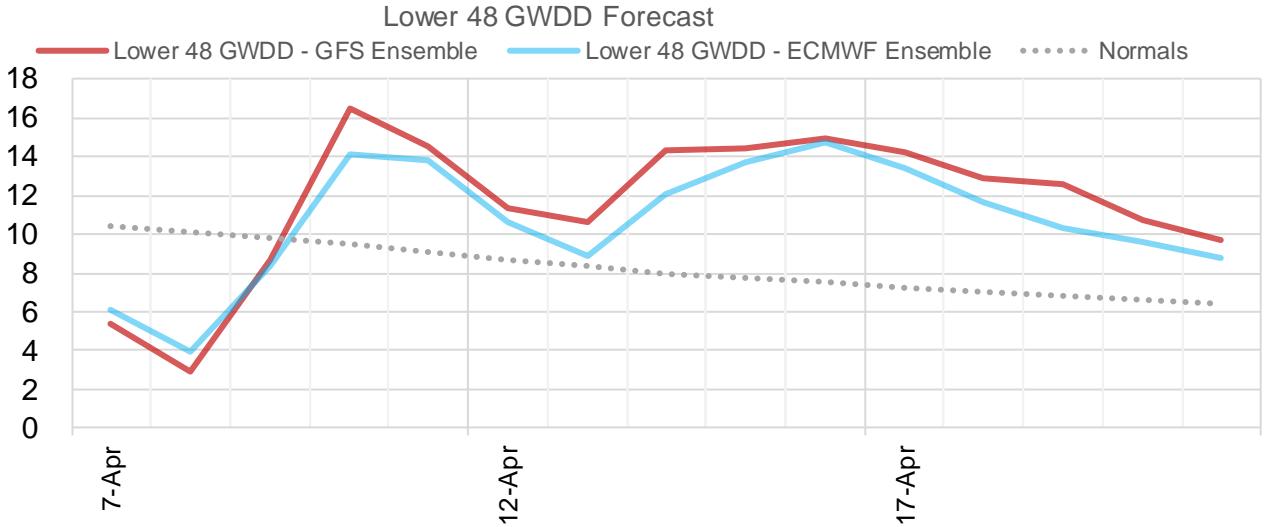
	Current	Δ from YD	Δ from 7D Avg
US ResComm	16.8	▼ -3.01	▼ -7.56

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.8	▲ 1.38	▲ 0.98

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	8.3	▲ 0.25	▼ -0.46

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	5.2	▲ 0.19	▼ -0.04

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



Source: WSI, Bloomberg

### Lower 48 Component Models

#### Daily Balances

	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>91.2</b>	<b>91.5</b>	<b>91.8</b>	<b>91.4</b>	<b>91.2</b>	<b>91.1</b>	<b>89.6</b>	▼ -1.5	▼ -1.7
<b>Canadian Imports</b>	<b>4.7</b>	<b>4.3</b>	<b>3.6</b>	<b>3.4</b>	<b>3.4</b>	<b>3.4</b>	<b>4.8</b>	▲ 1.4	▲ 1.0
L48 Power	25.5	25.3	24.6	24.7	24.9	26.3	28.6	▲ 2.2	▲ 3.4
L48 Residential & Commercial	26.1	24.8	24.7	25.1	21.9	19.8	16.8	▼ -3.0	▼ -7.0
L48 Industrial	22.5	22.2	22.1	22.4	22.0	21.7	21.3	▼ -0.4	▼ -0.9
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.0	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.3	2.2	2.2	2.2	2.1	2.1	2.1	▼ 0.0	▼ -0.1
<b>L48 Regional Gas Consumption</b>	<b>81.4</b>	<b>79.5</b>	<b>78.8</b>	<b>79.5</b>	<b>76.0</b>	<b>74.9</b>	<b>73.7</b>	▼ -1.3	▼ -4.7
<b>Net LNG Exports</b>	<b>9.3</b>	<b>9.2</b>	<b>8.5</b>	<b>8.3</b>	<b>8.5</b>	<b>8.1</b>	<b>8.3</b>	▲ 0.3	▼ -0.3
<b>Total Mexican Exports</b>	<b>5.6</b>	<b>5.6</b>	<b>5.1</b>	<b>5.1</b>	<b>4.7</b>	<b>5.0</b>	<b>5.2</b>	▲ 0.2	▲ 0.0
Implied Daily Storage Activity	-0.5	1.4	3.0	2.0	5.5	6.5	7.3		
EIA Reported Daily Storage Activity									
Daily Model Error									

#### EIA Storage Week Balances

	28-Feb	6-Mar	13-Mar	20-Mar	27-Mar	3-Apr	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>91.5</b>	<b>91.2</b>	<b>90.9</b>	<b>91.9</b>	<b>91.5</b>	<b>91.8</b>	▲ 0.3	▲ 0.4
<b>Canadian Imports</b>	<b>5.0</b>	<b>4.5</b>	<b>3.8</b>	<b>4.1</b>	<b>4.5</b>	<b>3.8</b>	▼ -0.7	▼ -0.4
L48 Power	29.5	27.9	27.2	29.1	28.6	26.2	▼ -2.4	▼ -2.0
L48 Residential & Commercial	39.4	34.4	28.6	29.9	29.3	24.1	▼ -5.2	▼ -6.4
L48 Industrial	24.8	23.8	23.1	23.1	22.9	22.2	▼ -0.7	▼ -1.0
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▲ 0.0	▲ 0.0
L48 Pipeline Distribution	2.9	2.7	2.5	2.6	2.5	2.3	▼ -0.3	▼ -0.3
<b>L48 Regional Gas Consumption</b>	<b>101.7</b>	<b>93.8</b>	<b>86.4</b>	<b>89.8</b>	<b>88.5</b>	<b>79.9</b>	▼ -8.5	▼ -9.7
<b>Net LNG Exports</b>	<b>8.8</b>	<b>7.8</b>	<b>8.0</b>	<b>7.9</b>	<b>9.3</b>	<b>9.4</b>	▲ 0.1	▲ 1.1
<b>Total Mexican Exports</b>	<b>5.5</b>	<b>5.6</b>	<b>5.6</b>	<b>5.6</b>	<b>5.7</b>	<b>5.6</b>	▼ -0.1	▼ 0.0
Implied Daily Storage Activity	-19.4	-11.6	-5.3	-7.2	-7.3	0.8	8.1	
EIA Reported Daily Storage Activity	-15.6	-6.9	-1.3	-4.1	-2.7			
Daily Model Error	-3.8	-4.7	-4.0	-3.0	-4.6			

#### Monthly Balances

	2Yr Ago Apr-18	LY Apr-19	Dec-19	Jan-20	Feb-20	Mar-20	MTD Apr-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>80.5</b>	<b>88.6</b>	<b>93.4</b>	<b>92.3</b>	<b>91.3</b>	<b>91.5</b>	<b>91.1</b>	▼ -0.3	▲ 2.5
<b>Canadian Imports</b>	<b>5.6</b>	<b>4.6</b>	<b>4.5</b>	<b>4.8</b>	<b>5.3</b>	<b>4.1</b>	<b>4.0</b>	▼ -0.1	▼ -0.6
L48 Power	23.5	24.1	28.8	29.9	29.8	27.9	25.7	▼ -2.2	▲ 1.6
L48 Residential & Commercial	24.3	17.5	38.8	41.6	41.4	28.6	22.7	▼ -5.9	▲ 5.2
L48 Industrial	22.3	21.9	24.8	25.2	24.9	23.0	22.0	▼ -1.0	▲ 0.1
L48 Lease and Plant Fuel	4.6	4.9	5.2	5.1	5.1	5.1	5.1	▼ 0.0	▲ 0.1
L48 Pipeline Distribution	1.9	1.9	2.9	3.0	3.0	2.5	2.2	▼ -0.3	▲ 0.3
<b>L48 Regional Gas Consumption</b>	<b>76.5</b>	<b>70.3</b>	<b>100.5</b>	<b>104.8</b>	<b>104.1</b>	<b>87.0</b>	<b>77.7</b>	▼ -9.3	▲ 7.4
<b>Net LNG Exports</b>	<b>3.5</b>	<b>4.4</b>	<b>7.8</b>	<b>8.3</b>	<b>8.5</b>	<b>8.4</b>	<b>8.6</b>	▲ 0.2	▲ 4.1
<b>Total Mexican Exports</b>	<b>4.3</b>	<b>4.8</b>	<b>5.0</b>	<b>5.2</b>	<b>5.3</b>	<b>5.6</b>	<b>5.2</b>	▼ -0.4	▲ 0.4
Implied Daily Storage Activity	1.8	13.7	-15.3	-21.2	-21.3	-5.5	3.6		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

### Regional S/D Models Storage Projection

Week Ending 3-Apr

	Daily Raw Storage	Daily Adjustment Factor	Daily Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	0.8	4.1	4.8	34
East	-2.6	2.4	-0.2	-1.6
Midwest	-1.2	1.4	0.2	1.2
Mountain	2.1	-1.8	0.3	1.8
South Central	1.8	1.9	3.7	25.9
Pacific	0.7	0.2	0.9	6.6

\*Adjustment Factor is calculated based on historical regional deltas

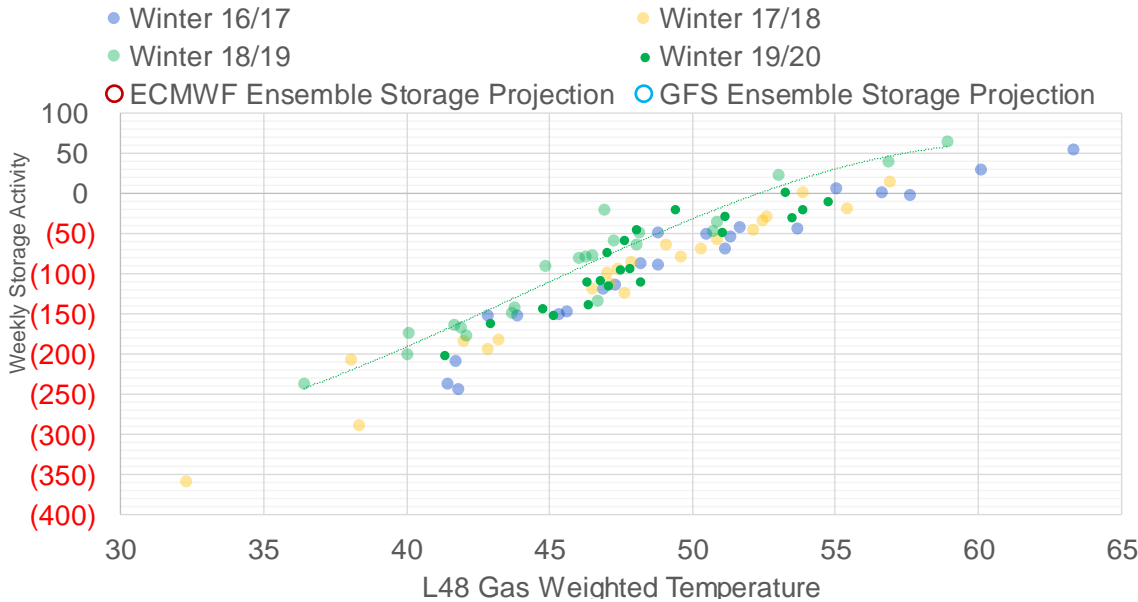
U.S. underground natural gas storage facilities by type (July 2015)



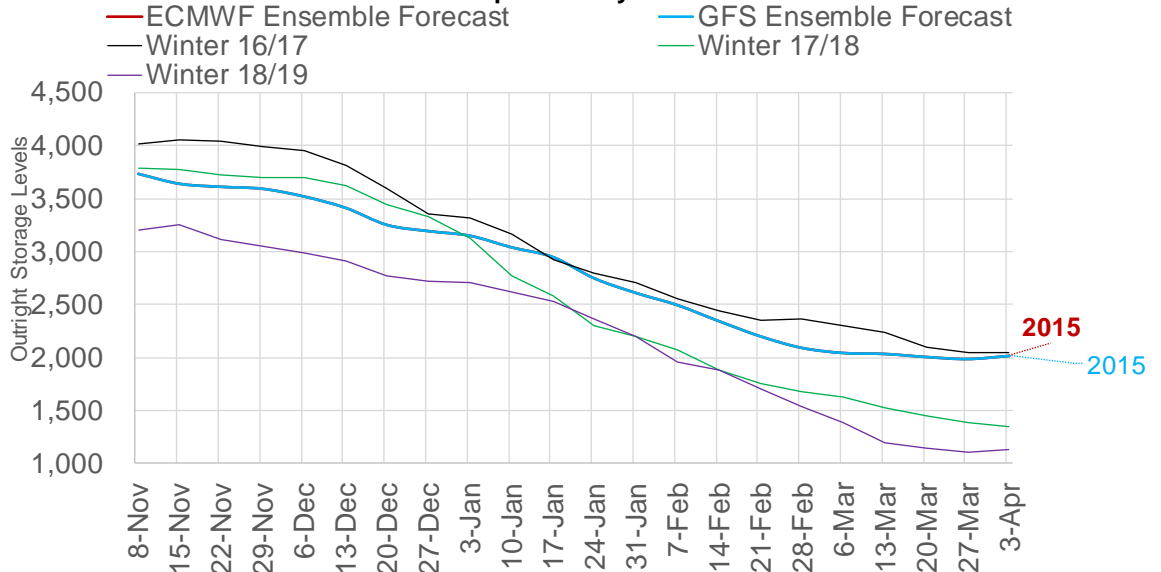
### Weather Model Storage Projection

Week Ending	ECMWF Forecast	ECMWF Ensemble Storage Projection	GFS Forecast	GFS Ensemble Storage Projection
3-Apr	55.8	29	55.8	29
10-Apr	40.1	38	38.2	41
17-Apr				
24-Apr				

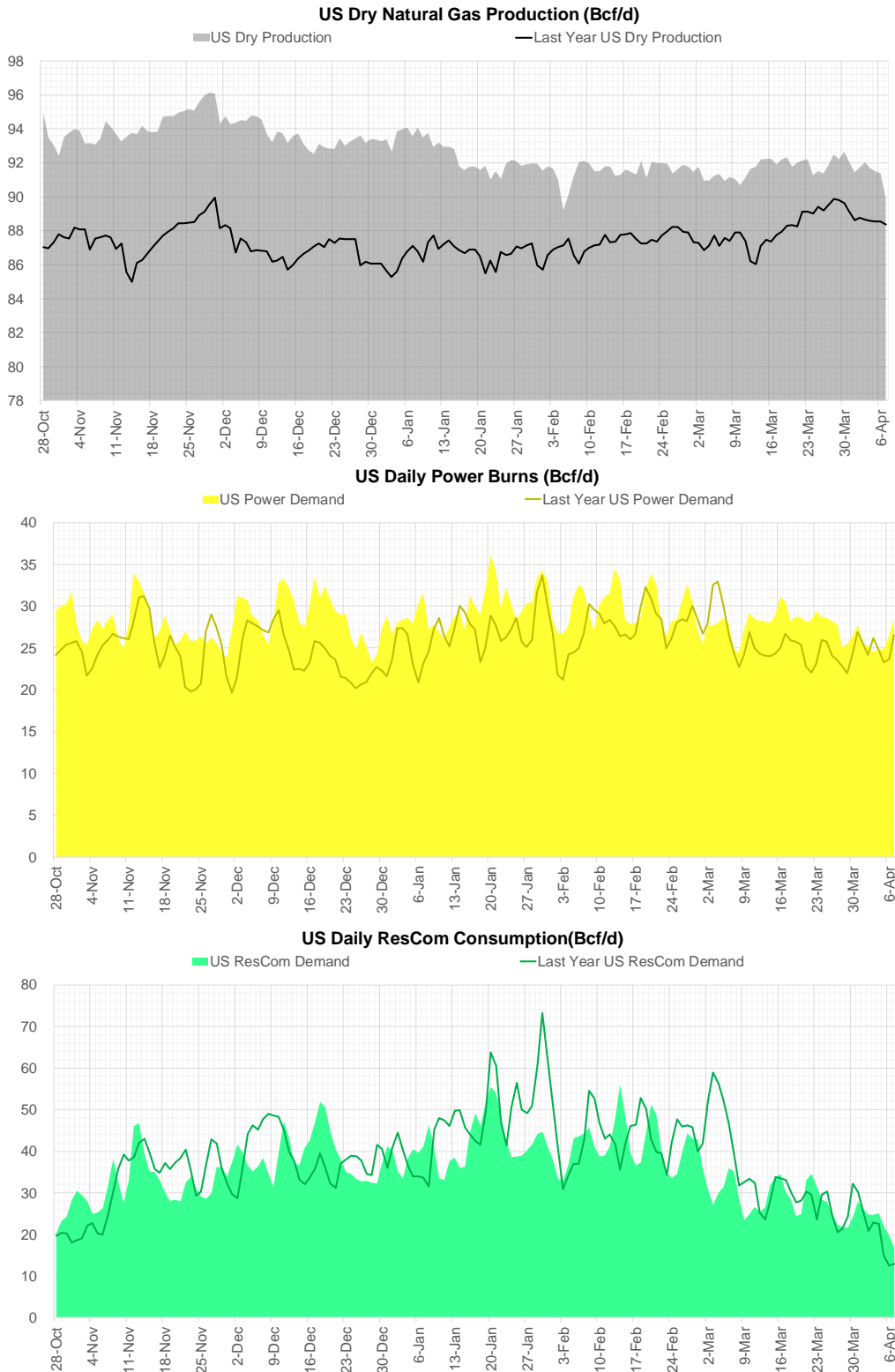
#### Weather Storage Model - Next 4 Week Forecast



#### Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window



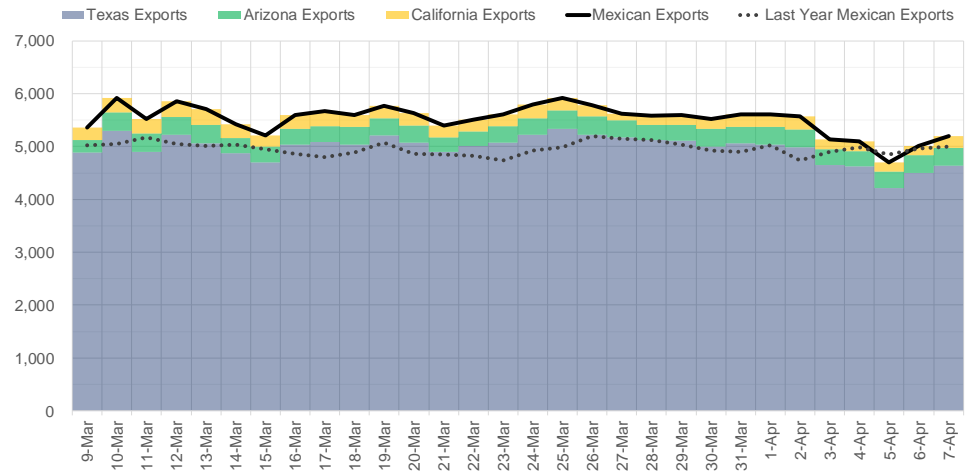
## Supply – Demand Trends



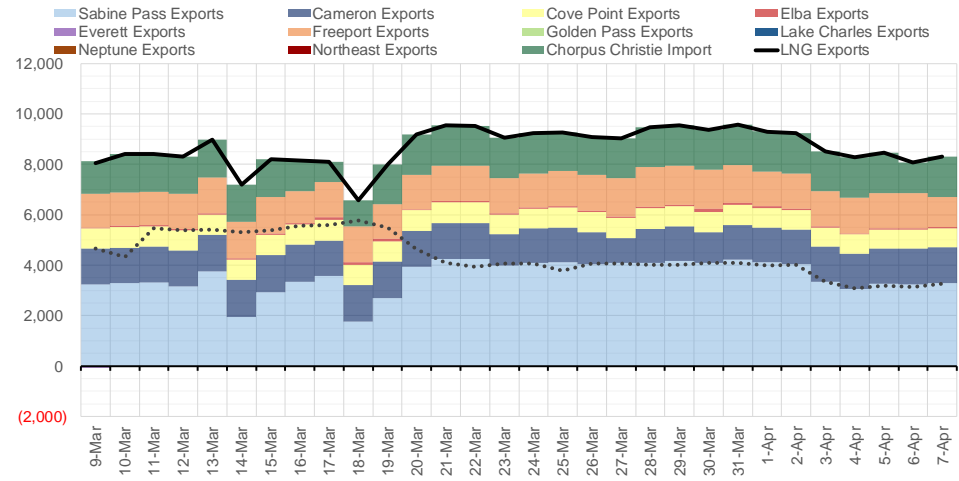
Source: Bloomberg

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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
5	2020	P	1.50	18939	5	2020	P	1.50	53886
6	2020	P	1.25	10003	6	2020	P	1.25	51482
6	2020	P	1.50	9083	10	2020	P	1.60	41938
5	2020	P	1.25	8453	10	2020	P	1.50	41349
5	2020	C	1.85	7000	5	2020	P	1.40	37819
5	2020	C	2.00	5628	5	2020	C	2.00	37767
5	2020	P	1.70	4946	3	2021	P	2.00	33323
5	2020	P	1.55	4308	5	2020	P	1.60	30428
7	2020	P	1.75	3794	5	2020	P	1.75	30128
10	2020	P	1.75	3550	5	2020	P	1.25	30050
5	2020	P	1.60	3206	6	2020	C	2.50	26076
6	2020	C	2.00	2973	5	2020	P	1.00	24982
5	2020	P	1.40	2833	10	2020	C	3.00	24277
6	2020	P	1.75	2768	5	2020	C	2.25	23841
6	2020	P	1.60	2617	6	2020	P	2.00	23697
5	2020	P	1.65	2174	7	2020	C	3.00	23570
7	2020	P	1.25	2030	5	2020	C	2.50	22967
9	2020	P	1.60	1992	7	2020	C	2.50	22955
6	2020	P	1.70	1909	7	2020	P	1.25	22919
5	2020	C	1.80	1870	7	2020	P	1.50	22469
5	2020	P	1.45	1869	6	2020	C	2.00	22411
5	2020	C	1.70	1783	6	2020	P	1.50	21201
7	2020	P	1.50	1753	5	2020	C	2.75	21083
5	2020	P	1.30	1396	9	2020	C	2.50	21065
6	2020	P	1.65	1349	7	2020	C	2.75	21043
5	2020	C	1.90	1288	5	2020	C	3.00	20857
5	2020	C	2.10	1255	7	2020	P	2.00	20547
6	2020	P	1.55	1238	5	2020	P	1.70	20523
5	2020	C	1.60	1234	1	2021	C	3.00	20430
6	2020	P	1.80	1138	10	2020	C	2.75	20190
6	2020	C	1.85	1137	5	2020	P	2.00	19621
8	2020	P	1.60	1109	9	2020	P	1.50	19567
9	2020	P	2.00	1102	5	2020	C	2.15	19321
7	2020	C	2.35	1091	8	2020	P	1.50	18775
5	2020	C	1.95	1082	6	2020	P	1.75	18383
10	2020	P	1.50	1075	10	2020	P	2.00	18287
6	2020	C	1.90	1001	5	2020	P	1.80	18113
11	2020	C	3.50	1000	9	2020	C	3.00	17844
10	2020	P	2.00	972	10	2020	P	1.25	17692
8	2020	P	2.00	909	10	2020	C	2.50	17464
6	2020	P	1.30	875	8	2020	C	3.00	17330
5	2020	C	2.15	850	6	2020	P	1.60	16250
10	2020	C	3.25	850	7	2020	P	1.75	16175
7	2020	C	2.00	827	6	2020	C	2.25	15754
7	2020	C	2.50	795	6	2020	C	3.00	15743
6	2020	P	1.00	768	9	2020	P	1.25	15010
10	2020	P	1.60	765	1	2021	P	2.00	14833
7	2020	C	2.75	757	3	2021	C	3.00	14803
6	2020	P	1.45	754	3	2021	C	3.50	14687
					7	2020	C	2.25	14681

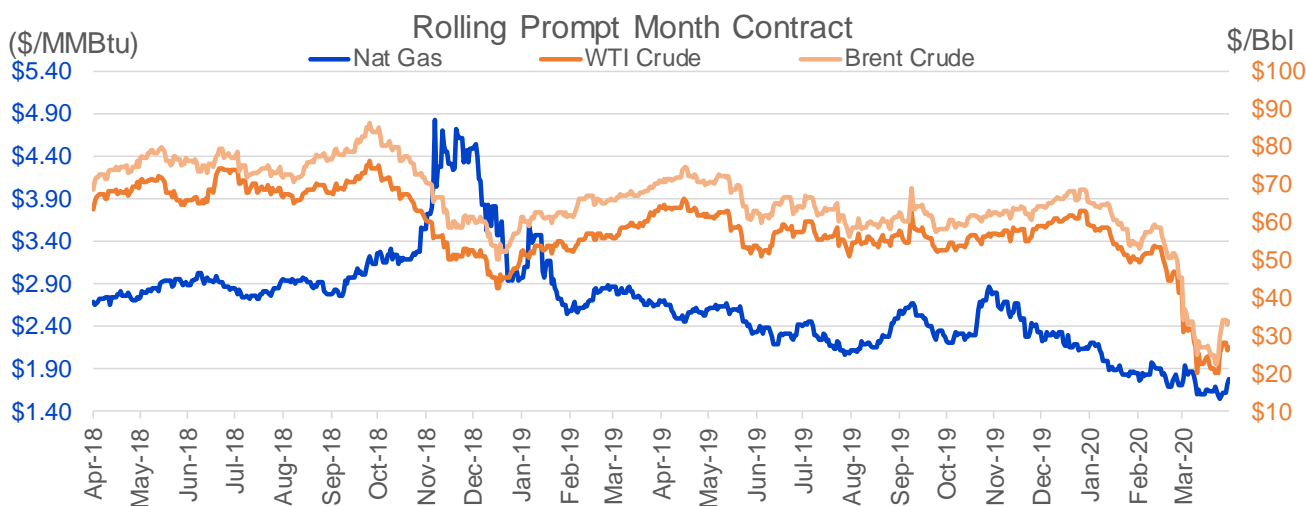
Source: CME, Nasdaq, ICE



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

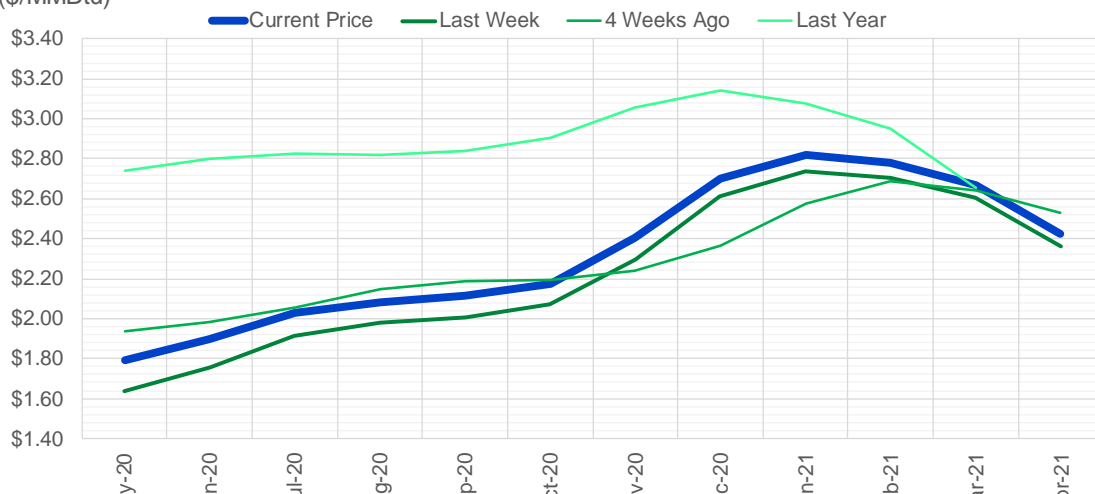
CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM)				NASDAQ Henry Hub Futures (10,000 MMBtu)			
	Current	Prior	Daily Change		Current	Prior	Daily Change		Current	Prior	Daily Change
MAY 20	340331	351155	-10824	MAY 20	91345	92716	-1371	MAY 20	551	551	0
JUN 20	112444	104680	7764	JUN 20	61190	60499	690.5	JUN 20	1367	1367	0
JUL 20	131665	134875	-3210	JUL 20	65912	66493	-580.5	JUL 20	2871	2871	0
AUG 20	54408	54908	-500	AUG 20	57790	57767	22.25	AUG 20	549	549	0
SEP 20	100940	101876	-936	SEP 20	59440	59843	-402.25	SEP 20	161	161	0
OCT 20	100124	101765	-1641	OCT 20	70551	71780	-1228.75	OCT 20	1010	1010	0
NOV 20	33992	33354	638	NOV 20	50378	50039	339	NOV 20	741	741	0
DEC 20	37341	37625	-284	DEC 20	54811	54280	530.25	DEC 20	242	242	0
JAN 21	67627	68954	-1327	JAN 21	60356	59859	497.25	JAN 21	336	336	0
FEB 21	29500	28075	1425	FEB 21	38497	38240	257.5	FEB 21	33	33	0
MAR 21	47152	46981	171	MAR 21	46278	45989	289.5	MAR 21	1106	1106	0
APR 21	54923	54427	496	APR 21	44963	44096	867.25	APR 21	775	775	0
MAY 21	16026	16002	24	MAY 21	35672	35209	462.75	MAY 21	46	46	0
JUN 21	12251	11623	628	JUN 21	33684	33298	386	JUN 21	45	45	0
JUL 21	8870	8787	83	JUL 21	35651	35336	315	JUL 21	46	46	0
AUG 21	9021	9125	-104	AUG 21	36163	35907	255.5	AUG 21	46	46	0
SEP 21	8963	8819	144	SEP 21	32921	32539	382.75	SEP 21	45	45	0
OCT 21	18194	18124	70	OCT 21	39558	38654	904.25	OCT 21	571	571	0
NOV 21	13083	13058	25	NOV 21	29818	29734	84.5	NOV 21	430	430	0
DEC 21	8390	8451	-61	DEC 21	31342	31182	160	DEC 21	30	30	0
JAN 22	6353	6265	88	JAN 22	23536	23422	114	JAN 22	36	36	0
FEB 22	3737	4173	-436	FEB 22	20903	20803	99.5	FEB 22	33	33	0
MAR 22	7912	7909	3	MAR 22	22352	22251	101.75	MAR 22	900	900	0
APR 22	8438	8165	273	APR 22	19585	19270	315.25	APR 22	1050	1050	0
MAY 22	3225	3249	-24	MAY 22	18604	18437	167.25	MAY 22	51	51	0
JUN 22	1237	1217	20	JUN 22	18071	17768	303	JUN 22	50	50	0
JUL 22	1269	1235	34	JUL 22	18442	17881	561	JUL 22	51	51	0
AUG 22	904	870	34	AUG 22	18140	17812	327.5	AUG 22	51	51	0
SEP 22	969	930	39	SEP 22	18070	17767	303	SEP 22	50	50	0
OCT 22	1288	1287	1	OCT 22	19250	19067	183.25	OCT 22	515	515	0

Source: CME, Nasdaq, ICE



(\$/MMBtu)

### Nat Gas Term Structure



	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>\$1.790</b>	<b>\$1.897</b>	<b>\$2.026</b>	<b>\$2.083</b>	<b>\$2.115</b>	<b>\$2.176</b>	<b>\$2.405</b>	<b>\$2.701</b>	<b>\$2.816</b>	<b>\$2.778</b>	<b>\$2.669</b>	<b>\$2.422</b>
Last Week	\$1.640	\$1.756	\$1.912	\$1.978	\$2.006	\$2.070	\$2.295	\$2.615	\$2.739	\$2.706	\$2.604	\$2.359
vs. Last Week	\$0.150	\$0.141	\$0.114	\$0.105	\$0.109	\$0.106	\$0.110	\$0.086	\$0.077	\$0.072	\$0.065	\$0.063
4 Weeks Ago	\$1.936	\$1.985	\$2.055	\$2.146	\$2.184	\$2.194	\$2.237	\$2.363	\$2.577	\$2.687	\$2.644	\$2.531
vs. 4 Weeks Ago	-\$0.146	-\$0.088	-\$0.029	-\$0.063	-\$0.069	-\$0.018	\$0.168	\$0.338	\$0.239	\$0.091	\$0.025	-\$0.109
Last Year	\$2.699	\$2.739	\$2.798	\$2.826	\$2.821	\$2.841	\$2.905	\$3.058	\$3.140	\$3.078	\$2.953	\$2.653
vs. Last Year	-\$0.909	-\$0.842	-\$0.772	-\$0.743	-\$0.706	-\$0.665	-\$0.500	-\$0.357	-\$0.324	-\$0.300	-\$0.284	-\$0.231

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.40	1.48	0.08
TETCO M3	\$/MMBtu	1.34	1.26	-0.09
FGT Zone 3	\$/MMBtu	1.34	1.64	0.30
Zone 6 NY	\$/MMBtu	1.34	1.27	-0.07
Chicago Citygate	\$/MMBtu	1.42	1.46	0.04
Michcon	\$/MMBtu	1.46	1.48	0.02
Columbia TCO Pool	\$/MMBtu	1.31	1.34	0.03
Ventura	\$/MMBtu	1.35	1.37	0.02
Rockies/Opal	\$/MMBtu	1.26	1.26	0.00
El Paso Permian Basin	\$/MMBtu	0.03	0.38	0.35
Socal Citygate	\$/MMBtu	1.46	1.31	-0.15
Malin	\$/MMBtu	1.35	1.34	-0.01
Houston Ship Channel	\$/MMBtu	1.46	1.59	0.13
Henry Hub Cash	\$/MMBtu	1.50	1.43	-0.07
AECO Cash	C\$/GJ	1.30	1.24	-0.06
Station2 Cash	C\$/GJ	1.30	1.37	0.07
Dawn Cash	C\$/GJ	1.46	1.49	0.03

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks	
				Ago	vs. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.52	▲ 0.000	▼ -0.074	▼ -0.056
NatGas Mar/Apr	\$/MMBtu	0.187	▲ 0.000	▲ 0.074	▼ -0.101
NatGas Oct/Nov	\$/MMBtu	0.25	▲ 0.023	▲ 0.109	▲ 0.204
NatGas Oct/Jan	\$/MMBtu	0.71	▲ 0.056	▲ 0.230	▲ 0.392
WTI Crude	\$/Bbl	28.34	▲ 6.830	▼ -12.940	▼ -34.740
Brent Crude	\$/Bbl	34.11	▲ 9.180	▼ -11.160	▼ -36.230
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	107.06	▲ 0.210	▼ -31.460	▼ -97.180
Propane, Mt. Bel	cents/Gallon	0.30	▲ 0.005	▼ -0.070	▼ -0.323
Ethane, Mt. Bel	cents/Gallon	0.10	▼ -0.024	▼ -0.040	▼ -0.117
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▼ -0.250
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -12.000