

#### 5 June 2020

	Cu	ırrent	Δ1	roi	m YD	Δ1	_	m 7D vg
Nat Gas Prompt	\$	1.83	_	\$	0.00	_	\$	0.00

	С	urrent	Δ1	fro	m YD	Δ	fror A\	n 7D /g
WTI Prompt	\$	38.40	_	\$	0.99	_	\$	2.2

	_	urront	Λf	Δ from YD		∆ fro	Δ from 7D		
	Current		ם ווטווו זם			Avg			
Brent Prompt	\$	41.30	_	\$	1.31	<b>\$</b>	3.6		

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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	0.9	1.2	-1.2	1.0
24 Hr Chg	0.1	-0.8	-3.6	-4.3
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day 1.4	6-10 Day 3.8	11-15 Day -1.9	Total 3.2

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	83.9	<b>▼</b> -0.49	▼ -0.65

	Current	Δf	rom YD	Δf	rom 7D Avg
US ResComm	7.9		0.03	~	-0.61

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	5.0	▼ -0.24	▼ -0.05

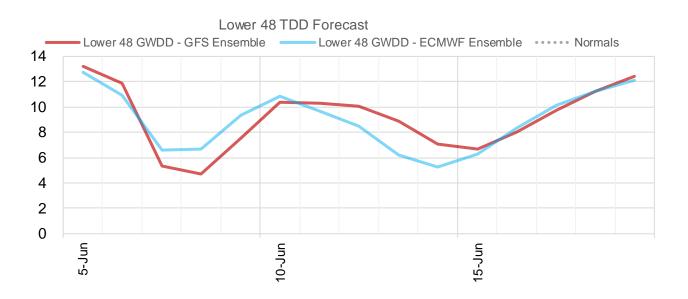
	Current	Δf	rom YD	Δf	rom 7D Avg
US Power Burns	35.2		0.66	<b>^</b>	3.46

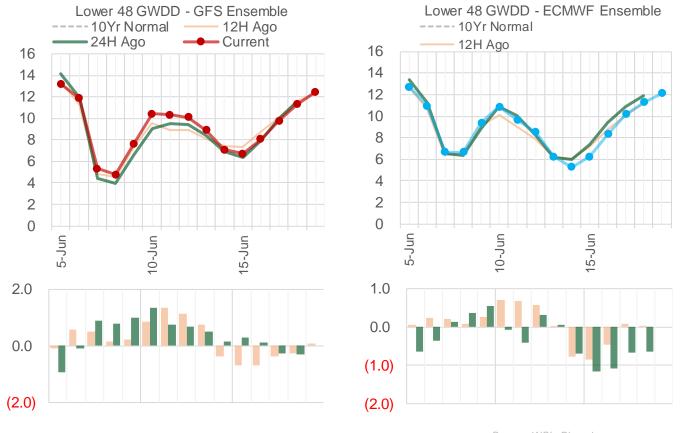
		Current	Δf	rom YD	Δf	rom 7D Avg
Can	adian orts	4.3	ightharpoons	-0.27	_	0.13

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	5.4	▼ -0.20	▲ 0.08



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





Source: WSI, Bloomberg



### Lower 48 Component Models

#### **Daily Balances**

	30-May	31-May	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	DoD	vs.7D
Lower 48 Dry Production	84.9	84.9	84.1	84.2	84.4	84.4	83.9	<b>▽</b> -0.5	<b>▽ -0.6</b>
Canadian Imports	4.0	4.0	4.0	4.1	4.5	4.6	4.3	<b>▽ -0.3</b>	<b>△ 0.1</b>
L48 Power	29.0	27.7	30.0	33.4	35.7	34.5	35.2	<b>0.7</b>	<b>3.5</b>
L48 Residential & Commercial	8.2	10.0	9.7	8.2	8.0	7.9	7.9	<b>△</b> 0.0	▼ -0.8
L48 Industrial	19.0	19.0	18.7	18.5	18.3	18.2	18.2	<b>△</b> 0.0	▼ -0.4
L48 Lease and Plant Fuel	4.8	4.7	4.7	4.7	4.8	4.8	4.7	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	1.8	1.9	1.9	2.0	2.1	2.0	2.1	<b>△</b> 0.0	<b>0.1</b>
L48 Regional Gas Consumption	62.7	63.4	65.0	66.8	68.8	67.3	68.1	<b>0.7</b>	<b>2.4</b>
Net LNG Exports	6.1	6.1	3.6	3.7	4.6	5.2	5.0	<b>▽ -0.2</b>	<b>△</b> 0.1
Total Mexican Exports	5.1	4.7	5.5	5.6	5.5	5.6	5.4	<b>▽ -0.2</b>	<b>△ 0.1</b>
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	15.0	14.7	14.0	12.2	9.9	10.7	9.7		

	1-May	8-May	15-May	22-May	29-May	5-Jun	WoW	vs. 4W
Lower 48 Dry Production	89.9	87.0	86.5	83.9	83.9	84.5	<b>△</b> 0.6	▼ -0.8
Canadian Imports	3.4	3.6	4.0	4.1	4.1	4.2	<b>△</b> 0.1	<b>△</b> 0.2
L48 Power	24.8	24.7	25.0	26.7	30.0	31.7	<b>1.7</b>	<b>▲</b> 5.1
L48 Residential & Commercial	16.8	14.5	19.3	10.8	8.2	8.5	<b>0.3</b>	▼ -4.7
L48 Industrial	18.3	18.7	17.3	18.9	19.3	18.7	▼ -0.7	<b>a</b> 0.1
L48 Lease and Plant Fuel	5.1	4.9	4.8	4.7	4.7	4.7	<b>△</b> 0.1	▼ 0.0
L48 Pipeline Distribution	2.0	1.9	2.2	1.8	1.9	2.0	<b>△</b> 0.1	▼ 0.0
L48 Regional Gas Consumption	67.0	64.6	68.7	62.9	64.0	65.6	<b>1.5</b>	<b>0.5</b>
Net LNG Exports	7.5	7.7	6.9	6.3	6.1	5.1	▼ -1.0	▼ -1.7
Total Mexican Exports	4.8	4.7	4.7	5.2	5.0	5.4	<b>0.4</b>	<b>△</b> 0.5
Implied Daily Storage Activity	14.0	13.5	10.2	13.7	12.9	12.7	-0.2	
EIA Reported Daily Storage Activity	15.6	14.7	11.6	15.6	14.6			
Daily Model Error	-1.6	-1.2	-1.4	-1.8	-1.6			

Wonthi	y Balan	ices
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monuny Zalances	2Yr Ago	LY					MTD		
	Jun-18	Jun-19	Feb-20	Mar-20	Apr-20	May-20	Jun-20	MoM	vs. LY
Lower 48 Dry Production	81.6	89.6	91.8	92.2	91.2	85.3	84.2	▼ -1.1	▼ -5.4
Canadian Imports	5.6	4.7	5.2	4.1	3.9	3.9	4.3	<b>0.3</b>	▽ -0.4
L48 Power	31.8	33.0	30.0	28.3	25.7	26.8	33.8	<b>6.9</b>	<b>8.0</b>
L48 Residential & Commercial	8.6	9.0	39.9	27.7	21.6	12.8	8.3	▼ -4.4	▼ -0.6
L48 Industrial	21.3	21.3	24.3	21.6	18.9	18.6	18.4	▼ -0.2	▼ -3.0
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	<b>△</b> 0.1	<b>0.0</b>
L48 Regional Gas Consumption	68.2	70.4	102.3	85.4	73.6	64.9	67.2	<b>2.3</b>	▼ -3.1
Net LNG Exports	3.2	5.5	8.5	8.5	8.2	6.7	4.4	<b>▽ -2.2</b>	▼ -1.1
Total Mexican Exports	4.5	5.3	5.3	5.6	4.9	4.9	5.5	<b>△</b> 0.6	<b>△</b> 0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.3	13.1	-19.0	-3.1	8.4	12.7	11.3		
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Source: Bloomberg, analytix.ai



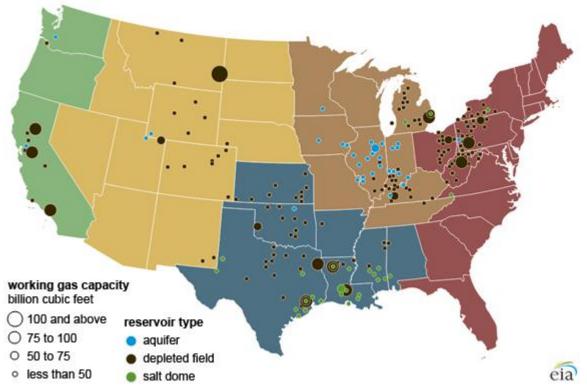
### Regional S/D Models Storage Projection

Week Ending 5-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	12.5	1.9	14.4	101
East	1.8	2.2	4.0	28
Midwest	4.1	0.5	4.6	32
Mountain	3.5	-2.1	1.5	10
South Central	1.6	1.7	3.4	24
Pacific	1.4	-0.5	0.9	6

<sup>\*</sup>Adjustment Factor is calcuated 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
5-Jun	94
12-Jun	86
19-Jun	91
26-Jun	77

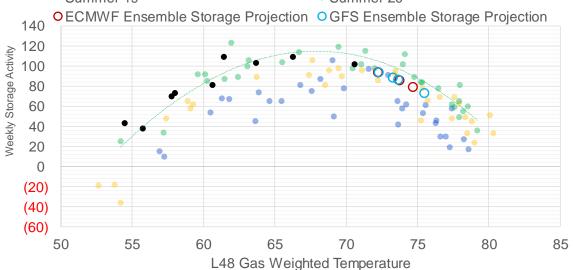
#### Weather Storage Model - Next 4 Week Forecast

Summer 17

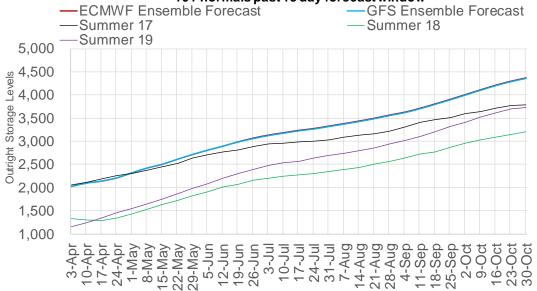
Summer 18

Summer 19

• Summer 20



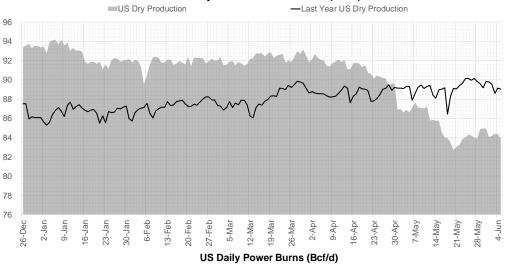
#### Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window

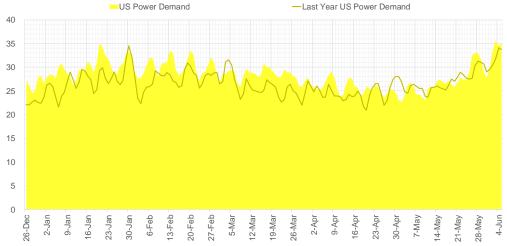




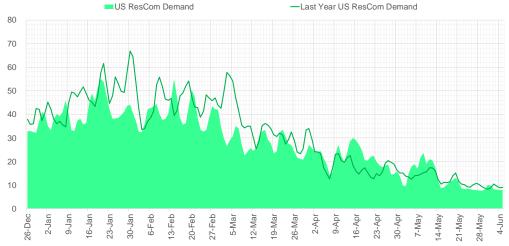
#### Supply - Demand Trends

#### US Dry Natural Gas Production (Bcf/d)





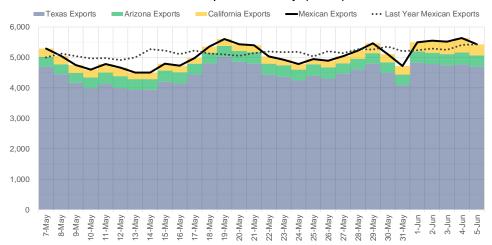
#### US Daily ResCom Consumption(Bcf/d)

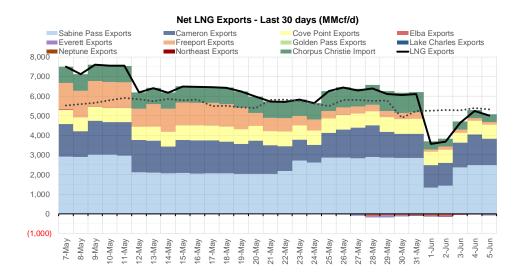


Source: Bloomberg



#### Mexican Exports - Last 30 days (MMcf/d)





Source: Bloomberg



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

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL		CONTRACT MONTH			
10	2020	Р	1.50	14841		10	10 2020	10 2020 P	10 2020 P 1.50
10	2020	P	1.60	13536		10			
7	2020	C	2.50	4985		10			
						3			
10	2020	С	3.00	3722		3 7			
7	2020	P	1.50	3198		, 10			
7	2020	С	2.00	3088					
9	2020	Р	1.20	3024		7			
8	2020	Р	1.20	3005		10			
10	2020	Р	1.20	3000	9		2020		
7	2020	С	2.25	2941	10		2020		
12	2020	Р	1.50	2500	10		2020		
7	2020	С	2.20	2372	7		2020		
10	2020	Р	1.00	2220	8		2020		
9	2020	P	1.50	2105	9		2020		
3	2021	C	6.00	2000	8	20			
8	2020	P	1.30	1714	10	2020			
7	2020	C	1.90	1623	9	2020		С	C 2.75
7	2020	P	1.65	1573	7	2020		Р	P 2.00
9	2020	P	1.30	1501	7	2020		С	C 3.00
8		P			7	2020		С	C 2.00
	2020		1.10	1500	9	2020		Р	P 1.00
9	2020	P	1.10	1500	7	2020		С	C 2.25
10	2020	P	1.10	1500	10	2020		C	
10	2020	Р	1.30	1500	1	2021		Č	
7	2020	Р	1.55	1362	10	2020		P	
9	2020	Р	1.75	1350	11	2020		C	
7	2020	Р	1.60	1287	7	2020		c	
9	2020	Р	1.00	1203	1	2020		Č	
10	2020	С	2.50	1201	8	2021		P	
8	2020	Р	1.60	1068	10	2020		C	
12	2020	Р	2.00	1004	9	2020		P	
12	2020	Р	2.25	1001	9 7			P P	
8	2020	C	2.35	940		2020			
7	2020	P	1.00	920	7	2020		С	
9	2020	P	1.25	900	10	2020		P	
10	2020	r P	1.25	900	7	2020		P	
7	2020	C	2.10	868	9	2020		P	
7 7	2020	P	2.10 1.80	813	8	2020		Р	
					3	2021		С	
8	2020	С	2.25	806	9	2020		С	
1	2021	С	6.00	800	10	2020		Р	
8	2020	P	1.70	767	4	2021		С	
1	2021	Р	2.00	760	8	2020		С	
10	2020	Р	2.00	758	7	2020		Р	
8	2020	Р	1.50	731	7	2020		С	
7	2020	Р	1.75	672	8	2020		С	C 2.75
1	2021	Р	2.50	670	9	2020		Р	
8	2020	Р	1.65	659	9	2020		С	
7	2020	С	2.15	608	8	2020		P	
10	2020	C	2.85	600	8	2020		C	
1	2021	Č	3.25	560	3	2021		Ċ	

Source: CME, Nasdaq, ICE



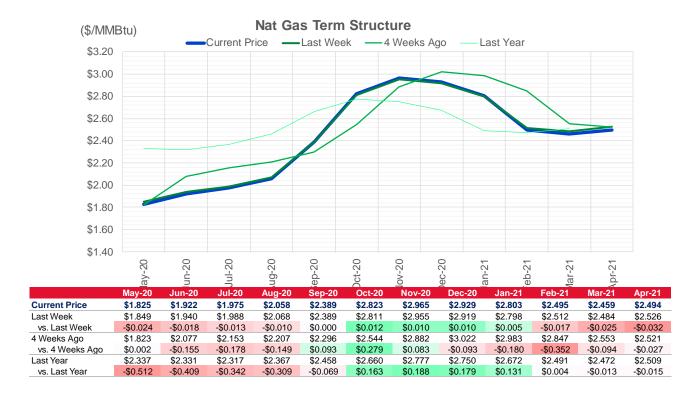
## Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry	Hub Futures (1	0,000 MMBt	J)	ICE Henry	Hub Futures Cor	ntract Equiv	alent (10,000 MI	MNASDAQ	Henry Hub Future	s (10,000	MMBtu)
	Current	Prior	Daily Change		Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 20	364226	367533	-3307	JUL 20	82323	86080	-3757.25	JUL 20			
AUG 20	97436	91494	5942	AUG 20	82744	78020	4723.5	AUG 20			
SEP 20	151022	151182	-160	SEP 20	69454	69229	225.5	SEP 20			
OCT 20	119504	118100	1404	OCT 20	81277	80750	527	OCT 20			
NOV 20	53343	52225	1118	NOV 20	61414	61026	388.5	NOV 20			
DEC 20	59372	59038	334	DEC 20	58540	58407	133	DEC 20			
JAN 21	105462	106204	-742	JAN 21	72089	72111	-22.25	JAN 21			
FEB 21	37091	37650	-559	FEB 21	45146	44690	455.75	FEB 21			
MAR 21	66635	66046	589	MAR 21	61298	60996	302.5	MAR 21			
APR 21	69963	70304	-341	APR 21	49735	51120	-1385	APR 21			
MAY 21	25637	25597	40	MAY 21	44960	44746	213.5	MAY 21			
JUN 21	16518	16458	60	JUN 21	42613	42484	129	JUN 21			
JUL 21	13239	12905	334	JUL 21	43521	43332	188.75	JUL 21			
AUG 21	10670	10677	-7	AUG 21	44231	44131	100.25	AUG 21			
SEP 21	11987	11798	189	SEP 21	41822	41708	114	SEP 21			
OCT 21	27026	26752	274	OCT 21	53792	53439	353	OCT 21			
NOV 21	17135	16989	146	NOV 21	36197	36122	75.75	NOV 21			
DEC 21	14467	14362	105	DEC 21	36707	36567	139.75	DEC 21			
JAN 22	11801	11835	-34	JAN 22	28723	28480	242.5	JAN 22			
FEB 22	8391	8237	154	FEB 22	25422	25245	177.25	FEB 22			
MAR 22	13824	13713	111	MAR 22	27220	26992	227.75	MAR 22			
APR 22	10641	10638	3	APR 22	23608	23700	-91.75	APR 22			
MAY 22	4648	4646	2	MAY 22	21207	21144	63.25	MAY 22			
JUN 22	2070	2081	-11	JUN 22	20905	20762	143.25	JUN 22			
JUL 22	1803	1816	-13	JUL 22	21472	21413	59	JUL 22			
AUG 22	1262	1275	-13	AUG 22	21212	21099	113	AUG 22			
SEP 22	1330	1343	-13	SEP 22	20985	20868	116.25	SEP 22			
OCT 22	1899	1912	-13	OCT 22	23703	23604	99	OCT 22			
NOV 22	1364	1377	-13	NOV 22	18836	18781	55	NOV 22			
DEC 22	1279	1292	-13	DEC 22	19865	19808	56.5	DEC 22			

Source: CME, Nasdaq, ICE







	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.70	1.34	-0.37
TETCO M3	\$/MMBtu	1.59	1.29	-0.30
FGT Zone 3	\$/MMBtu	1.57	1.73	0.16
Zone 6 NY	\$/MMBtu	1.57	1.27	-0.30
Chicago Citygate	\$/MMBtu	1.76	1.58	-0.18
Michcon	\$/MMBtu	1.81	1.59	-0.22
Columbia TCO Pool	\$/MMBtu	1.58	1.46	-0.12
Ventura	\$/MMBtu	1.70	1.60	-0.10
Rockies/Opal	\$/MMBtu	1.72	1.43	-0.29
El Paso Permian Basin	\$/MMBtu	1.61	1.36	-0.25
Socal Citygate	\$/MMBtu	2.53	1.62	-0.91
Malin	\$/MMBtu	1.70	1.52	-0.18
Houston Ship Channel	\$/MMBtu	1.61	1.68	0.07
Henry Hub Cash	\$/MMBtu	1.84	1.57	-0.27
AECO Cash	C\$/GJ	1.56	1.44	-0.12
Station2 Cash	C\$/GJ	1.58	1.48	-0.10
Dawn Cash	C\$/GJ	1.77	1.62	-0.15

Source: CME, Bloomberg



					V	s. 4 Weeks		
	Units	<b>Current Price</b>	vs.	<b>Last Week</b>		Ago	VS	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.52	_	0.000	_	0.000	$\overline{}$	-0.215
NatGas Mar/Apr	\$/MMBtu	0.187	_	0.000	_	0.000	$\overline{}$	-0.004
NatGas Oct/Nov	\$/MMBtu	0.34	_	0.035	_	0.117		0.283
NatGas Oct/Jan	\$/MMBtu	0.93	_	0.074		0.256		0.606
WTI Crude	\$/BbI	37.29	_	4.480	_	13.300	$\overline{}$	-14.390
Brent Crude	\$/BbI	39.79	_	5.050	_	10.070	$\overline{}$	-20.840
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	<b>A</b>	0.000	<b>A</b>	0.000		0.000
Heating Oil	cents/Gallon	106.46	_	9.250	_	24.060	$\overline{}$	-71.540
Propane, Mt. Bel	cents/Gallon	0.50	_	0.086	_	0.133		0.074
Ethane, Mt. Bel	cents/Gallon	0.25	_	0.024	_	0.047		0.053
Coal, PRB	\$/MTon	12.30	_	0.000	_	0.000	$\overline{}$	-0.150
Coal, ILB	\$/MTon	31.05		0.000	_	0.000	$\overline{}$	-9.500