

14 April 2020

	Cı	ırrent	Δ from YD	Δ from 7D Avg		
Nat Gas Prompt	\$	1.71	> \$ (0.02)	\$ (0.05)		

	С	urrent	Δ from YD	_	m 7D vg
WTI Prompt	\$	21.99	\$ (0.42)	▼ \$	(1.2)

	Cı	ırront	Δ from YD	Δ from 7D			
	Ct	Current	Δ 110111 1D	A	vg		
Brent Prompt	\$	31.56	> \$ (0.18)	~ \$	(0.2)		

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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	-1.5	-1.5	-2.1	-5.1
24 Hr Chg	2.5	-1.8	-2.2	-1.5
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day -0.1	6-10 Day 6.0	11-15 Day 5.2	Total 11.1

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	91.7	▼ -0.03	a 0.28

	Current	Δf	rom YD	Δf	rom 7D Avg
US ResComm	28.3		3.71	_	6.54

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	8.7	▼ -0.15	a 0.41

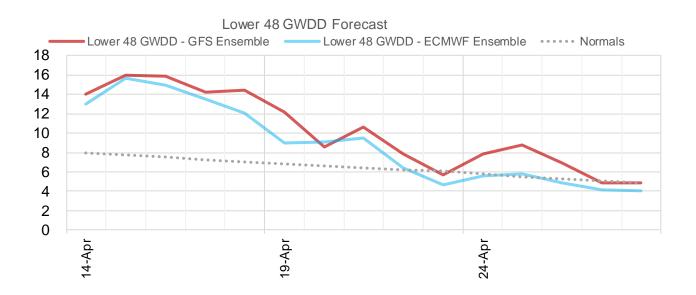
	Current	Δf	rom YD	Δf	rom 7D Avg
US Power Burns	27.6		1.79		1.39

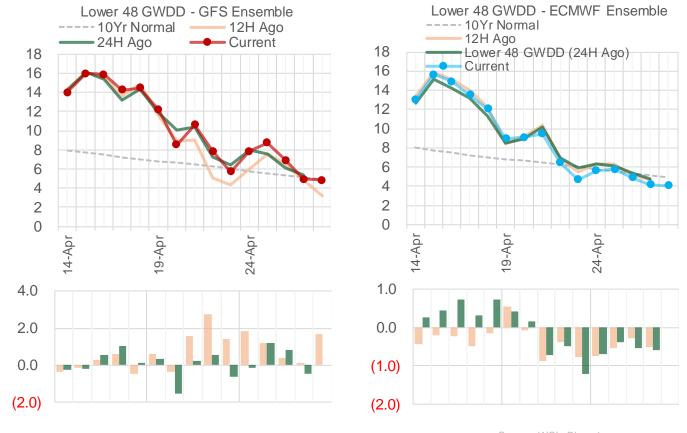
		Current	Δf	rom YD	Δf	rom 7D Avg
Cana	adian rts	5.0	_	0.93	_	1.04

	Current	Δf	rom YD	Δf	rom 7D Avg
Mexican Exports	4.9		0.02	_	0.11



Short-term Weather Model Outlooks (00z)





Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	8-Apr	9-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	DoD	vs.7D
Lower 48 Dry Production	90.8	91.1	91.3	91.5	91.3	91.5	89.4	-2.1	-1.8
Canadian Imports	3.9	4.3	3.8	3.8	3.8	4.0	5.0	0.9	1.0
L48 Power	29.6	28.2	24.9	22.9	23.4	25.8	27.6	1.8	1.8
L48 Residential & Commercial	16.2	24.0	28.2	23.7	20.7	24.6	28.3	3.7	5.5
L48 Industrial	21.6	22.5	22.7	22.2	22.2	22.8	23.2	0.4	0.9
L48 Lease and Plant Fuel	5.0	5.1	5.1	5.1	5.1	5.1	5.0	-0.1	-0.1
L48 Pipeline Distribution	2.1	2.3	2.4	2.1	2.1	2.3	2.5	0.2	0.3
L48 Regional Gas Consumption	74.6	82.1	83.2	76.0	73.3	80.6	86.6	5.9	8.2
Net LNG Exports	8.1	8.2	8.2	8.3	7.9	8.8	8.7	-0.2	0.4
Total Mexican Exports	5.0	4.8	4.6	4.7	4.7	4.9	4.9	0.0	0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	7.0	0.3	-1.0	6.3	9.1	1.2	-5.8		

	6-Mar	13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	WoW	vs. 4W
Lower 48 Dry Production	91.3	91.0	92.0	91.6	91.9	91.3	▽ -0.6	▼ -0.3
Canadian Imports	4.5	3.8	4.1	4.5	3.8	3.7	▽ -0.1	▽ -0.4
L48 Power	27.9	27.2	29.1	28.6	26.2	26.7	0.5	▼ -1.1
L48 Residential & Commercial	34.5	28.7	30.0	29.4	24.3	21.0	▼ -3.2	▼ -7.0
L48 Industrial	24.0	23.2	23.2	23.1	22.4	22.1	▼ -0.3	▼ -0.9
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.7	2.5	2.6	2.5	2.3	2.2	▼ -0.1	▼ -0.3
L48 Regional Gas Consumption	94.1	86.7	90.0	88.7	80.3	77.1	▼ -3.2	▼ -9.3
Net LNG Exports	7.8	8.0	7.9	9.3	9.4	8.3	▼ -1.1	▽ -0.4
Total Mexican Exports	5.6	5.6	5.6	5.7	5.5	5.0	▽ -0.5	▽ -0.6
Implied Daily Storage Activity	-11.7	-5.4	-7.3	-7.4	0.6	4.7	4.1	
EIA Reported Daily Storage Activity	-6.9	-1.3	-4.1	-2.7	5.4			
Daily Model Error	-4.9	-4.1	-3.1	-4.7	-4.8			

Мо	nthly	Bal	ances

monany Zalanoss	2V= A==	LY					MTD		
	2Yr Ago Apr-18	Apr-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	MoM	vs. LY
Lower 48 Dry Production	80.5	88.6	93.4	92.3	91.4	91.6	91.2	▽ -0.4	2.6
Canadian Imports	5.6	4.6	4.5	4.8	5.3	4.1	4.0	▽ -0.1	▼ -0.6
L48 Power	23.5	24.1	28.8	29.9	29.8	27.9	25.9	▼ -2.0	1.8
L48 Residential & Commercial	24.3	17.5	38.9	41.8	41.5	28.7	23.1	▼ -5.6	△ 5.6
L48 Industrial	22.3	21.9	24.9	25.3	25.0	23.1	22.4	▼ -0.7	0.5
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	△ 0.4
L48 Regional Gas Consumption	76.5	70.3	100.8	105.0	104.4	87.3	78.7	▼ -8.6	8.4
Net LNG Exports	3.5	4.4	7.8	8.3	8.5	8.4	8.5	0.0	4.0
Total Mexican Exports	4.3	4.8	5.0	5.2	5.3	5.6	4.9	▽ -0.7	△ 0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	1.8	13.7	-15.6	-21.5	-21.5	-5.7	3.1		
Daily Widdel Error							0	Diagonala	and the state of t

Source: Bloomberg, analytix.ai



Regional S/D Models Storage Projection

Week Ending 10-Apr

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	4.7	4.6	8.9	62
East	-0.4	2.7	2.3	16.1
Midwest	0.1	1.3	1.4	9.9
Mountain	1.8	-1.8	-0.3	-2.1
South Central	3.0	2.3	5.3	37.2
Pacific	0.0	0.2	0.2	1.3

^{*}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	ECMWF Forecast	ECMWF Ensemble Storage Projection	GFS Forecast	GFS Ensemble Storage Projection
10-Apr	58.0	65	58.0	65
17-Apr	55.0	25	54.7	21
24-Apr	59.0	63	57.6	50
1-May	60.7	78	61.2	81

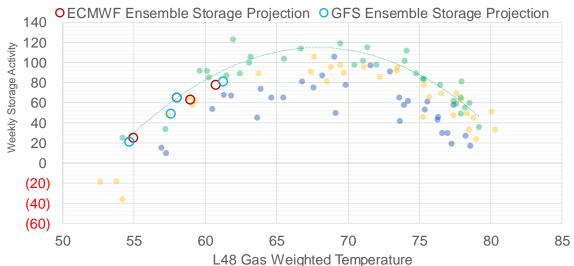
Weather Storage Model - Next 4 Week Forecast

Summer 17

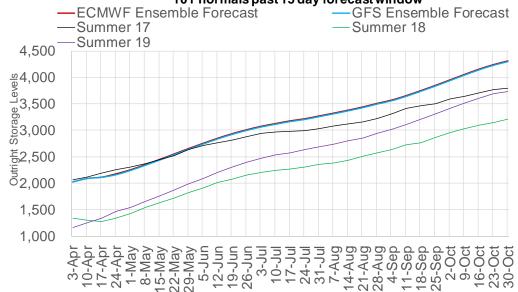
Summer 18

Summer 19

• Summer 20



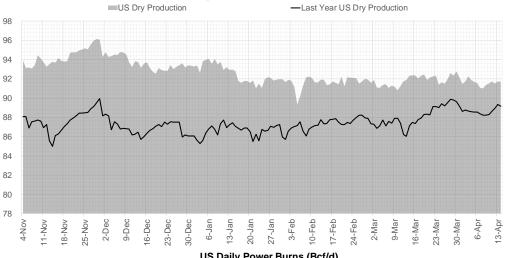
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window



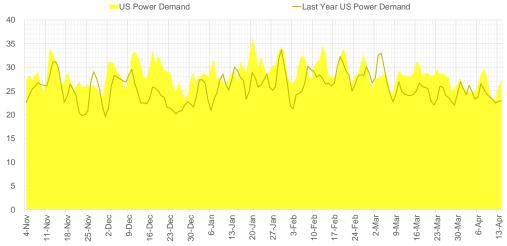


Supply - Demand Trends

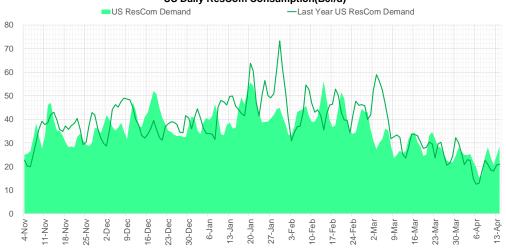
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



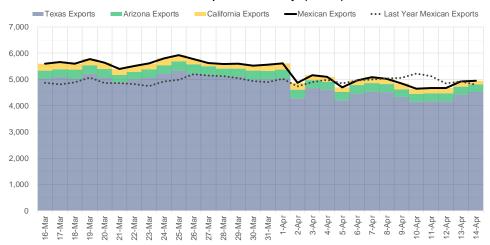
US Daily ResCom Consumption(Bcf/d)



Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d) Cove Point Exports Elba Exports Sabine Pass Exports Cameron Exports Lake Charles Exports Everett Exports Freeport Exports Golden Pass Exports Neptune Exports Northeast Exports Chorpus Christie Import LNG Exports 12,000 10,000 8,000 6,000 4,000 2,000 (2,000)28-Mar 30-Mar 31-Mar

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	CONTRACT YEAR	PUT/CALL	
5	2020	Р	1.50	5720	5	2020	Р	
6	2020	P	1.50	5219	5	2020	Р	
5	2020	P	1.40	4807	5	2020	P	
5	2020	r P	1.60	4719	10	2020	P	
5	2020	P	1.70	4717	6	2020	Р	
6	2020	P	1.70	4460	5	2020	Ċ	
					10	2020	P	
7	2020	С	3.00	4228	6	2020	r P	
5	2020	С	2.25	3710	3	2020	P	
7	2020	Р	1.00	2828	5	2021	P	
5	2020	С	2.00	2764	5	2020	P	
5	2020	Р	1.45	2691			C	
6	2020	Р	1.75	2664	10	2020	P	
7	2020	Р	2.00	2465	6	2020		
6	2020	Р	1.25	2310	5	2020	С	
1	2021	С	3.00	2255	6	2020	С	
6	2020	Р	1.65	2247	5	2020	P	
5	2020	Р	1.65	2243	7	2020	P	
5	2020	С	2.05	2196	6	2020	C	
5	2020	С	1.80	2192	6	2020	P	
7	2020	C	2.50	2080	5	2020	С	
8	2020	P	1.50	2061	5	2020	С	
8	2020	Р	1.60	2000	7	2020	Р	
9	2020	C	2.50	1906	5	2020	Р	
9	2020	Č	2.75	1821	7	2020	С	
7	2020	P	1.60	1789	7	2020	Р	
					5	2020	С	
7	2020	С	2.00	1757	7	2020	С	
11	2020	С	3.00	1700	5	2020	С	
10	2020	С	3.25	1550	10	2020	С	
12	2020	Р	2.00	1550	9	2020	С	
12	2020	Р	2.60	1501	5	2020	Р	
5	2020	С	3.00	1475	9	2020	Р	
6	2020	С	2.50	1312	5	2020	P	
8	2020	С	2.50	1306	8	2020	P	
7	2020	Р	1.70	1302	10	2020	Р	
10	2020	С	2.75	1235	7	2020	C	
3	2021	С	3.00	1230	1	2021	Č	
4	2022	С	3.00	1153	10	2020	P	
5	2022	С	3.00	1153	7	2020	, P	
6	2022	Ċ	3.00	1153	8	2020	C	
7	2022	Č	3.00	1153	10	2020	C	
8	2022	Č	3.00	1153	9	2020	C	
9	2022	Č	3.00	1153			C	
9 10	2022	C	3.00	1153	7	2020		
10 7					6	2020	P	
	2020	С	2.80	1059	6	2020	C	
5	2020	P	1.80	1031	5	2020	P	
10	2020	С	2.20	1005	6	2020	P	
10	2020	Р	2.20	1005	5	2020	Р	
5	2020	С	2.50	980	5	2020	Р	
5	2020	Р	1.55	970	3	2021	С	

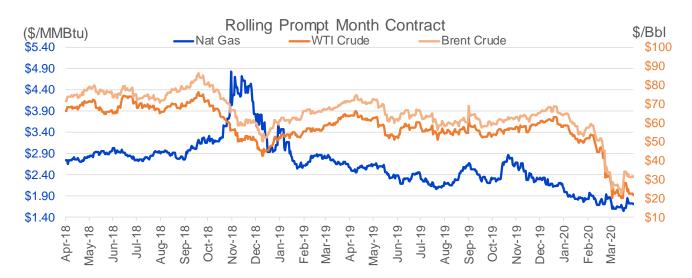
Source: CME, Nasdaq, ICE



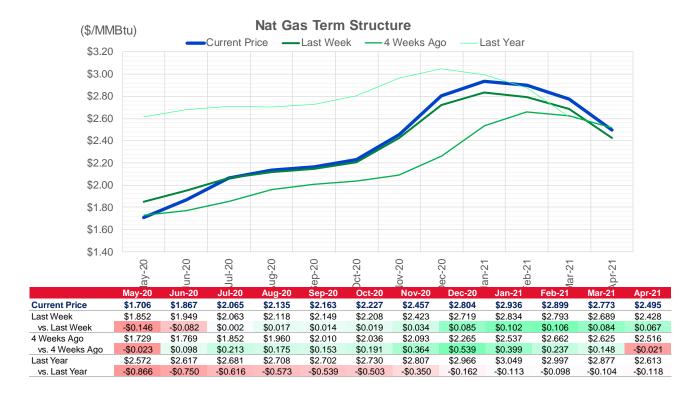
Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry I	Hub Futures (1	0,000 MMBtu	ı)	ICE Henry	Hub Futures Cor	ntract Equiv	alent (10,000 MN	INASDAQ	Henry Hub Futures	s (10,000 l	MMBtu)
	Current	Prior	Daily Change		Current	Prior	Daily Change		Current	Prior	Daily Change
MAY 20	189594	226881	-37287	MAY 20	89885	83662	6223	MAY 20	551	551	0
JUN 20	184177	163269	20908	JUN 20	69738	66485	3253.5	JUN 20	1367	1367	0
JUL 20	147559	140236	7323	JUL 20	69784	70106	-321.75	JUL 20	2871	2871	0
AUG 20	55834	56484	-650	AUG 20	58376	58491	-114.5	AUG 20	549	549	0
SEP 20	102343	101630	713	SEP 20	60367	60023	343.5	SEP 20	161	161	0
OCT 20	98019	99322	-1303	OCT 20	71599	72231	-631.25	OCT 20	1010	1010	0
NOV 20	31725	32076	-351	NOV 20	50924	50734	190.25	NOV 20	741	741	0
DEC 20	41162	38742	2420	DEC 20	55158	55015	142.75	DEC 20	242	242	0
JAN 21	75814	72662	3152	JAN 21	63181	63161	20.5	JAN 21	336	336	0
FEB 21	32704	30603	2101	FEB 21	39727	39415	311.5	FEB 21	33	33	0
MAR 21	50299	48855	1444	MAR 21	47837	47247	590	MAR 21	1106	1106	0
APR 21	61090	59488	1602	APR 21	47086	47038	47.75	APR 21	775	775	0
MAY 21	18462	18647	-185	MAY 21	37272	36993	278.5	MAY 21	46	46	0
JUN 21	12795	13123	-328	JUN 21	35197	34961	235.5	JUN 21	45	45	0
JUL 21	9024	9291	-267	JUL 21	37476	37189	287.75	JUL 21	46	46	0
AUG 21	8320	8573	-253	AUG 21	37865	37601	264.5	AUG 21	46	46	0
SEP 21	9759	9685	74	SEP 21	34558	34288	269.75	SEP 21	45	45	0
OCT 21	19186	19365	-179	OCT 21	40851	40603	248	OCT 21	571	571	0
NOV 21	11957	11860	97	NOV 21	31472	31245	227.25	NOV 21	430	430	0
DEC 21	8458	8434	24	DEC 21	32423	32325	97.75	DEC 21	30	30	0
JAN 22	7070	7269	-199	JAN 22	24477	24579	-102.75	JAN 22	36	36	0
FEB 22	3872	3870	2	FEB 22	22018	21856	161.75	FEB 22	33	33	0
MAR 22	8963	8453	510	MAR 22	23352	23163	189.5	MAR 22	900	900	0
APR 22	9012	8574	438	APR 22	20279	20128	151.25	APR 22	1050	1050	0
MAY 22	3708	3705	3	MAY 22	19196	19077	118.75	MAY 22	51	51	0
JUN 22	1373	1352	21	JUN 22	18761	18662	98.5	JUN 22	50	50	0
JUL 22	1389	1384	5	JUL 22	19282	19164	117.25	JUL 22	51	51	0
AUG 22	1024	1019	5	AUG 22	18871	18754	117.25	AUG 22	51	51	0
SEP 22	1089	1084	5	SEP 22	18775	18677	98.5	SEP 22	50	50	0
OCT 22	1567	1562	5	OCT 22	20012	19969	42.75	OCT 22	515	515	0

Source: CME, Nasdaq, ICE







	Unito	Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	1.46	1.50	0.04
TETCO M3	\$/MMBtu	1.35	1.37	0.02
FGT Zone 3	\$/MMBtu	1.52	1.69	0.17
Zone 6 NY	\$/MMBtu	1.52	1.36	-0.16
Chicago Citygate	\$/MMBtu	1.64	1.51	-0.14
Michcon	\$/MMBtu	1.69	1.53	-0.16
Columbia TCO Pool	\$/MMBtu	1.55	1.39	-0.16
Ventura	\$/MMBtu	1.71	1.43	-0.28
Rockies/Opal	\$/MMBtu	1.50	1.23	-0.27
El Paso Permian Basin	\$/MMBtu	0.05	0.67	0.62
Socal Citygate	\$/MMBtu	1.61	1.21	-0.40
Malin	\$/MMBtu	1.50	1.34	-0.16
Houston Ship Channel	\$/MMBtu	1.66	1.64	-0.03
Henry Hub Cash	\$/MMBtu	1.74	1.49	-0.25
AECO Cash	C\$/GJ	1.44	1.20	-0.25
Station2 Cash	C\$/GJ	1.46	1.20	-0.26
Dawn Cash	C\$/GJ	1.65	1.54	-0.12

Source: CME, Bloomberg



					V	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	VS	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.52	_	0.000	$\overline{}$	-0.235	$\overline{}$	-0.058
NatGas Mar/Apr	\$/MMBtu	0.187	_	0.000	_	0.235	$\overline{}$	-0.096
NatGas Oct/Nov	\$/MMBtu	0.23	$\overline{}$	-0.023	_	0.089		0.185
NatGas Oct/Jan	\$/MMBtu	0.68	$\overline{}$	-0.021	A	0.195		0.383
WTI Crude	\$/Bbl	22.76	$\overline{}$	-5.580	$\overline{}$	-8.970	$\overline{}$	-41.130
Brent Crude	\$/Bbl	31.48	$\overline{}$	-2.630	$\overline{}$	-2.370	$\overline{}$	-40.070
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03		0.000		0.000		0.000
Heating Oil	cents/Gallon	97.26	$\overline{}$	-9.800	$\overline{}$	-16.480	$\overline{}$	-109.810
Propane, Mt. Bel	cents/Gallon	0.31	_	0.009	$\overline{}$	-0.025	$\overline{}$	-0.348
Ethane, Mt. Bel	cents/Gallon	0.10	_	0.004	$\overline{}$	-0.037	$\overline{}$	-0.127
Coal, PRB	\$/MTon	12.30		0.000		0.000	$\overline{}$	-0.200
Coal, ILB	\$/MTon	31.05		0.000	_	0.000	$\overline{}$	-12.000