

Market Report

10 August 2020

	Cı	urrent	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$	2.23	\$ (0.01)	\$ 0.04

	Current	Δ from YD	Δ fron Av	
WTI Prompt	\$ 41.74	\$ 0.52	\$	0.2

	Curre	ent	Δf	ron	n YD	Δf	rom Ave	7D
Brent Prompt	\$ 44	1.75	_	\$ (0.35	_	\$	0.2

Page Menu

Short-term Weather Model Outlooks
Lower 48 Component Models
Regional S/D Models Storage Projection
Weather Model Storage Projection
Supply – Demand Trends
Nat Gas Options Volume and Open Interest
Nat Gas Futures Open Interest
Price Summary

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	0.0	2.0	2.9
24 Hr Chg	-1.0	-1.6	-1.2	-3.9
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day 2.0	6-10 Day -0.6	11-15 Day -1.6	Total -0.2

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	86.0	▼ -0.75	▼ -0.36

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.4	▼ -0.11	▼ -0.15

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	4.5	a 0.14	a 0.42

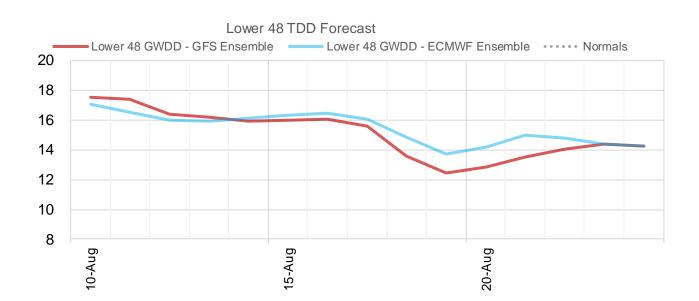
	Current	Δf	rom YD	Δf	rom 7D Avg
US Power Burns	40.2		0.12		0.71

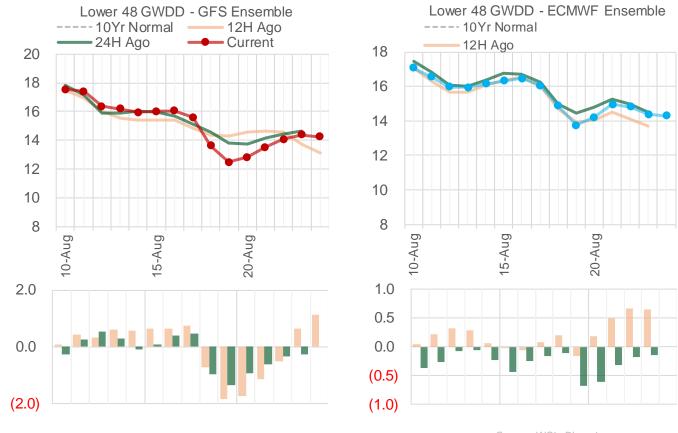
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.7	a 0.01	a 0.08

	Current	Δf	rom YD	Δf	rom 7D Avg
Mexican Exports	5.9		0.14	~	-0.28



Short-term Weather Model Outlooks (00z)





Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	DoD	vs.7D
Lower 48 Dry Production	86.1	86.0	86.5	86.4	86.7	86.8	86.0	▼ -0.8	▽ -0.4
Canadian Imports	4.9	4.9	4.2	4.2	4.7	4.7	4.7	△ 0.0	▲ 0.1
L48 Power	40.2	38.9	38.0	37.8	38.7	40.1	40.2	0.1	1.3
L48 Residential & Commercial	7.7	7.6	7.4	7.3	7.2	7.5	7.4	▼ -0.1	▼ -0.1
L48 Industrial	18.2	18.7	19.5	20.1	20.9	21.5	21.6	△ 0.1	1.8
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	4.8	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.1	2.1	2.1	2.1	2.2	2.2	0.0	△ 0.1
L48 Regional Gas Consumption	73.1	72.2	71.8	72.1	73.7	76.1	76.2	△ 0.1	3.0
Net LNG Exports	3.9	3.8	4.0	4.0	4.3	4.3	4.5	△ 0.1	△ 0.4
Total Mexican Exports	6.3	6.2	6.3	6.3	5.7	5.7	5.9	△ 0.1	▼ -0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	7.7	8.7	8.6	8.2	7.6	5.3	4.2		

EIA Storage	Week	Bala	ınces
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	3-Jul	10-Jul	17-Jul	24-Jul	31-Jul	7-Aug	WoW	vs. 4W
Lower 48 Dry Production	85.3	85.7	85.6	86.3	86.3	86.3	▼ 0.0	△ 0.3
Canadian Imports	4.1	4.3	4.5	4.4	4.5	4.6	△ 0.1	△ 0.2
L48 Power	38.5	41.8	42.9	45.5	45.6	40.8	▼ -4.7	▼ -3.1
L48 Residential & Commercial	8.2	7.9	7.9	8.1	8.1	7.6	▼ -0.5	▼ -0.3
L48 Industrial	19.0	18.3	17.8	17.2	17.0	18.1	1.0	a 0.5
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.2	2.3	2.3	2.4	2.4	2.2	▼ -0.2	▼ -0.1
L48 Regional Gas Consumption	72.7	75.0	75.8	78.0	78.0	73.6	▽ -4.4	▼ -3.1
Net LNG Exports	4.0	3.0	3.3	3.6	3.1	3.9	0.7	△ 0.6
Total Mexican Exports	5.8	5.9	6.2	6.4	6.2	6.2	▽ 0.0	0.0
Implied Daily Storage Activity	6.9	6.0	4.8	2.7	3.5	7.3	3.8	
EIA Reported Daily Storage Activity	8.0	6.4	5.3	3.7	4.7			
Daily Model Error	-1.1	-0.4	-0.5	-1.0	-1.2			

Monthly	/ Balances

menting Data Note	2Yr Ago	LY					MTD		
	Aug-18	Aug-19	Apr-20	May-20	Jun-20	Jul-20	Aug-20	MoM	vs. LY
Lower 48 Dry Production	83.3	92.4	91.7	86.0	84.9	85.9	86.3	△ 0.4	▼ -6.1
Canadian Imports	5.0	4.4	3.9	3.9	4.0	4.4	4.6	△ 0.2	△ 0.2
L48 Power	38.2	41.0	25.5	26.9	34.4	43.7	39.8	▼ -3.9	▼ -1.2
L48 Residential & Commercial	7.8	7.8	20.4	13.0	8.6	8.0	7.5	▼ -0.5	▼ -0.3
L48 Industrial	20.2	21.9	20.7	18.8	18.4	17.7	19.3	1.7	▼ -2.6
L48 Lease and Plant Fuel	4.7	5.1	5.1	4.8	4.8	4.8	4.8	▼ 0.0	▼ -0.3
L48 Pipeline Distribution	2.1	2.3	2.1	1.9	2.1	2.3	2.2	▼ -0.2	▼ -0.1
L48 Regional Gas Consumption	73.0	78.1	73.8	65.4	68.3	76.5	73.6	▽ -2.9	▼ -4.5
Net LNG Exports	3.3	5.2	8.2	6.7	4.0	3.3	4.1	8.0	▼ -1.1
Total Mexican Exports	5.0	5.4	4.9	4.9	5.7	6.1	6.1	▽ -0.1	a 0.7
Implied Daily Storage Activity EIA Reported Daily Storage Activity	7.0	8.1	8.7	12.9	10.8	4.4	7.2		
Daily Model Error							0	Discoul	and an aluti

Source: Bloomberg, analytix.ai



Regional S/D Models Storage Projection

Week Ending 7-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	7.1	1.3	8.4	59
East	0.6	2.8	3.4	24
Midwest	3.4	-0.3	3.0	21
Mountain	3.1	-2.2	1.0	7
South Central	-1.1	1.8	0.7	5
Pacific	1.0	-0.7	0.3	2

^{*}Adjustment Factor is calcuated 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 Storage							
Week Ending	Projection							
14-Aug	41							
21-Aug	43							
28-Aug	67							

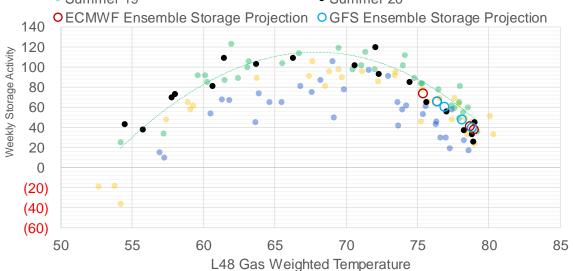
Weather Storage Model - Next 4 Week Forecast

Summer 17

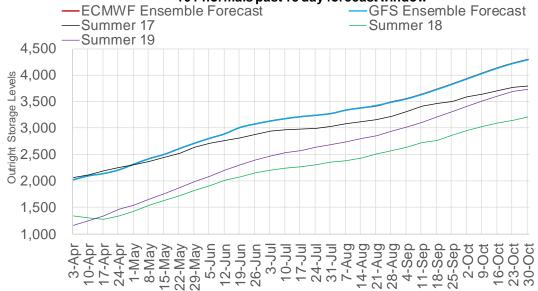
Summer 18

Summer 19

• Summer 20



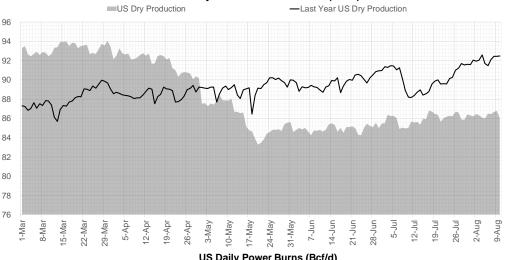
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window



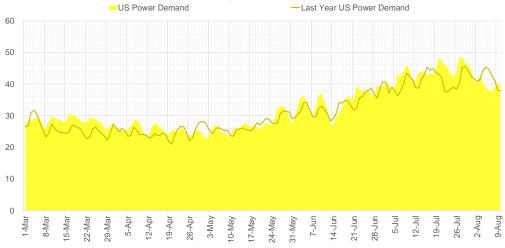


Supply - Demand Trends

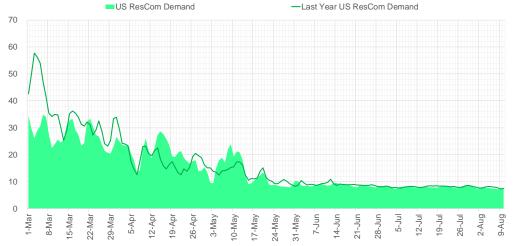
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



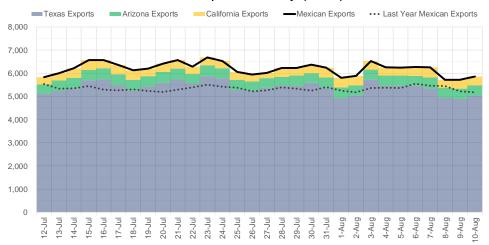
US Daily ResCom Consumption(Bcf/d)



Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d) Cameron Exports Cove Point Exports Elba Exports Sabine Pass Exports Everett Exports Freeport Exports Golden Pass Exports Lake Charles Exports Neptune Exports Northeast Exports Chorpus Christie Import LNG Exports 7,000 6,000 5,000 4,000 3,000 2,000 1,000 n (1,000)23-Jul 24-Jul 25-Jul 26-Jul 27-Jul 28-Jul 29-Jul

Source: Bloomberg



Market Report

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

									·
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL		CONTRACT MONTH			
11	2020	Р	1.75	12108		10	10 2020	10 2020 P	10 2020 P 1.50
11	2020	P	1.65	12045		9			
10	2020	C	2.75	5165		0			
9	2020	Č	2.73	5125	10		2020		
9	2020	P	2.00	4942	3		2021		
9	2020	C	2.50	4044	10		2020		
11	2020	P	2.25	3868	10		2020		
10	2020	P	2.00	3764	10		2020		
9	2020	r P	1.85	3690	10		2020		
11	2020	C	3.50	3551	9		2020		
10	2020	P	1.85	3525	10		2020	2020 P	2020 P 1.75
10	2020	C	2.40	2875	10		2020		
10	2020	C	3.25	2714	9		2020		
9	2020	P	3.25 1.50	2562	3		2021		
9	2020	C	2.30	2562 2493	9		2020		
		P			9		2020		
10	2020		1.80	2487	9		2020		
10	2020	P	1.50	2243	9		020		
9	2020	С	2.75	2079	3	202			
10	2020	P	1.70	2027	10	2020		Č	
9	2020	P	1.90	1932	9	2020		P	
9	2020	С	3.00	1577	9	2020		P	
10	2020	С	3.00	1480	9	2020		P	
11	2020	C	3.25	1450	10	2020		Р	
10	2020	Р	1.75	1372	10	2020		Р	
3	2021	Р	2.00	1350	3	2021		C	
10	2020	Р	2.30	1256	10	2020		Č	
10	2020	С	2.60	1165	12	2020		P	
9	2020	Р	1.75	1064	1	2021		C	
9	2020	Р	1.60	1055	1	2021		Č	
11	2020	Р	2.00	1039	9	2020		Ċ	
11	2020	С	4.00	1021	9	2020		Č	
10	2020	С	2.90	1015	12	2020		P	
11	2020	С	3.00	1005	10	2020		Р	
11	2020	С	3.20	1000	1	2021		C	
9	2020	С	2.65	737	10	2020		Č	
9	2020	Р	1.95	692	10	2020		Č	
2	2021	Р	2.50	675	10	2020		Č	
11	2020	С	3.10	671	11	2020		P	
9	2020	P	1.80	666	11	2020		C	
1	2021	Р	2.00	651	11	2020		C	
11	2020	Р	1.70	650	4	2020		C	
10	2020	C	2.50	637	11	2021		C	
9	2020	P	2.15	614	1	2020		C	
2	2021	Р	2.00	600	10	2021		C	
2	2021	P	3.00	600	2	2020		C	
10	2020	r P	1.25	553	1	2021		P	
10	2021	C	3.50	548	9	2021		C	
1 12	2020	C	3.50	522	9	2020		P	
		P						P P	
9	2020	۲	1.65	520	4	2021		Р	P 2

Source: CME, Nasdaq, ICE

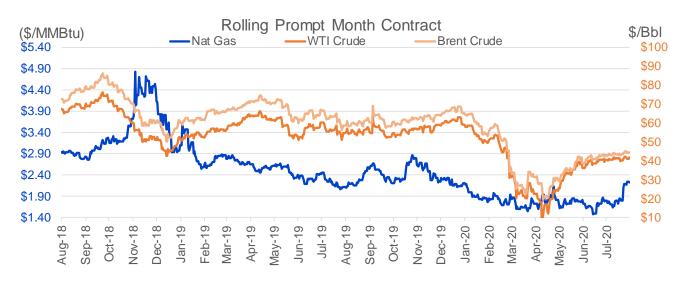


Nat Gas Futures Open Interest

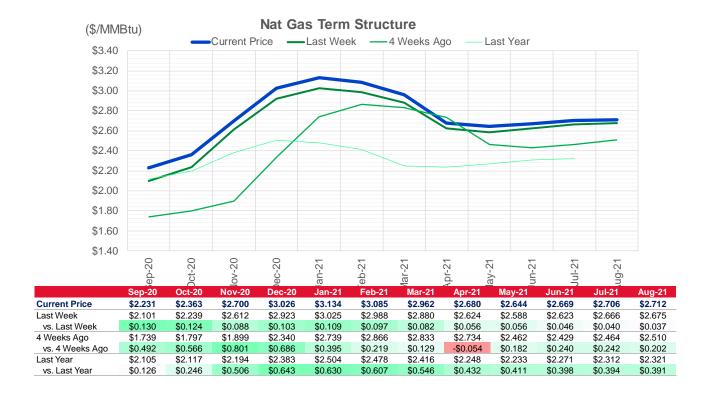
CME	000		$C_{\alpha m}$	المصطني
	and	п —)

CME Henry	Hub Futures (10		, and ICE Co		Futures Co	ntract Equiva	lent (10,000 MM
	Current	Prior		FOR JUNE 26	Current	Prior	Daily Change
SEP 20	286051	317730	-31679	SEP 20	74676	74640	36
OCT 20	149672	142572	7100	OCT 20	83155	80524	2630.25
NOV 20	111558	105898	5660	NOV 20	67787	67835	-48.25
DEC 20	89991	90336	-345	DEC 20	70707	69082	1625
JAN 21	123750	126428	-2678	JAN 21	86586	87078	-492.5
FEB 21	40770	39956	814	FEB 21	53285	53336	-51.75
MAR 21	81730	83523	-1793	MAR 21	69007	68536	470.5
APR 21	78048	79033	-985	APR 21	58879	58455	424.25
MAY 21	41534	41416	118	MAY 21	49422	49019	403
JUN 21	23972	23037	935	JUN 21	47974	47819	154.5
JUL 21	17782	18542	-760	JUL 21	48960	48970	-10.5
AUG 21	16777	16378	399	AUG 21	47827	47466	361
SEP 21	19105	19046	59	SEP 21	46702	46222	479.25
OCT 21	50870	50252	618	OCT 21	68110	67927	183
NOV 21	23966	23607	359	NOV 21	39637	39607	29.25
DEC 21	16809	16466	343	DEC 21	41725	41437	288.5
JAN 22	18741	18436	305	JAN 22	34292	34155	137.5
FEB 22	10603	10570	33	FEB 22	29523	29414	109.25
MAR 22	15620	15453	167	MAR 22	31748	31624	124.25
APR 22	16603	16104	499	APR 22	31110	30640	470.75
MAY 22	5480	5455	25	MAY 22	23598	23413	185.75
JUN 22	2823	2820	3	JUN 22	23626	23490	135.75
JUL 22	2123	2120	3	JUL 22	23339	23214	124.75
AUG 22	1744	1743	1	AUG 22	23358	23217	140.25
SEP 22	2244	2240	4	SEP 22	22839	22703	135.75
OCT 22	2662	2645	17	OCT 22	24314	24321	-7
NOV 22	1945	1944	1	NOV 22	21777	21716	60.75
DEC 22	1948	1947	1	DEC 22	22551	22501	50.25
JAN 23	2627	2628	-1	JAN 23	11958	11932	26.75
FEB 23	675	676	-1	FEB 23	10819	10826	-6.75

Source: CME, ICE







	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.45	1.74	0.29
TETCO M3	\$/MMBtu	1.38	1.59	0.23
FGT Zone 3	\$/MMBtu	1.38	2.16	0.78
Zone 6 NY	\$/MMBtu	1.38	1.58	0.70
Chicago Citygate	\$/MMBtu	1.89	1.95	0.05
Michcon	\$/MMBtu	1.81	1.89	0.08
Columbia TCO Pool	\$/MMBtu	1.67	1.66	-0.01
Ventura	\$/MMBtu	1.86	1.95	0.09
Rockies/Opal	\$/MMBtu	1.83	1.83	0.00
El Paso Permian Basin	\$/MMBtu	0.51	1.62	1.11
Socal Citygate	\$/MMBtu	1.92	2.13	0.21
Malin	\$/MMBtu	1.78	1.95	0.17
Houston Ship Channel	\$/MMBtu	2.06	2.09	0.03
Henry Hub Cash	\$/MMBtu	2.15	1.98	-0.17
AECO Cash	C\$/GJ	1.70	1.76	0.06
Station2 Cash	C\$/GJ	1.69	1.94	0.25
Dawn Cash	C\$/GJ	1.81	1.88	0.06

Source: CME, Bloomberg



					V	s. 4 Weeks		
	Units	Current Price	vs.	. Last Week		Ago	V:	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.45	$\overline{}$	-0.053	$\overline{}$	-0.050	$\overline{}$	-0.083
NatGas Mar/Apr	\$/MMBtu	-0.282	$\overline{}$	-0.026	$\overline{}$	-0.554	$\overline{}$	-0.524
NatGas Oct/Nov	\$/MMBtu	0.34	$\overline{}$	-0.036	$\overline{}$	-0.104		0.271
NatGas Oct/Jan	\$/MMBtu	0.77	$\overline{}$	-0.015	$\overline{}$	-0.196		0.426
WTI Crude	\$/Bbl	41.74	_	0.730	_	1.640	$\overline{}$	-13.190
Brent Crude	\$/Bbl	44.75	_	0.600	_	2.030	$\overline{}$	-13.820
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	_	0.000	_	0.000		0.000
Heating Oil	cents/Gallon	122.70	$\overline{}$	-1.390	_	0.350	$\overline{}$	-57.880
Propane, Mt. Bel	cents/Gallon	0.50	$\overline{}$	-0.001	_	0.021		0.095
Ethane, Mt. Bel	cents/Gallon	0.23	_	0.007	_	0.005		0.075
Coal, PRB	\$/MTon	12.30	_	0.000	_	0.000		0.100
Coal, ILB	\$/MTon	31.05	_	0.000	_	0.000	$\overline{}$	-7.500