

Market Report

28 August 2020

	Current		Δf	rom YD	Δ from 7D Avg		
Nat Gas Prompt	\$	2.71	_	\$ 0.13	\$	0.23	

	С	urrent	Δf	froi	m YD	Δf	ron Av	n 7D g
WTI Prompt	\$	43.05	_	\$	0.01	_	\$	0.3

	Current	Δ from YD	Δ from 7D
	Current	ם וווטווו ב	Avg
Brent Prompt	\$ 45.0	5 🔻 \$ (0.04)	\$ 0.1

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	0.4	2.7	0.9	4.1
24 Hr Chg	0.3	1.3	-0.2	1.4
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day 1.2	6-10 Day 0.1	11-15 Day 3.6	Total 5.0

	Current	Δf	rom YD	Δf	rom 7D Avg
US Dry Production	84.5		0.30	~	-0.65

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.9	▼ -0.06	▼ -0.01

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	2.8	a 0.39	▼ -1.04

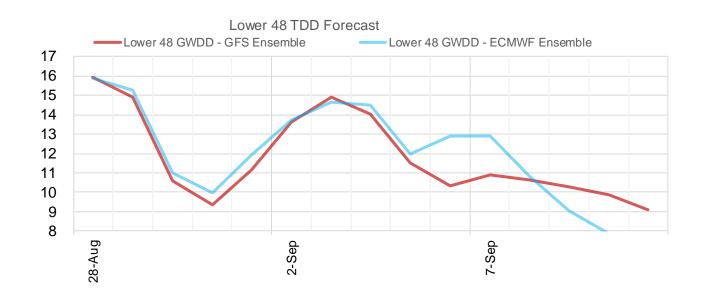
	Current	Δ from YD	Δ from 7D Avg
US Power Burns	42.8	▼ -2.00	▼ -1.57

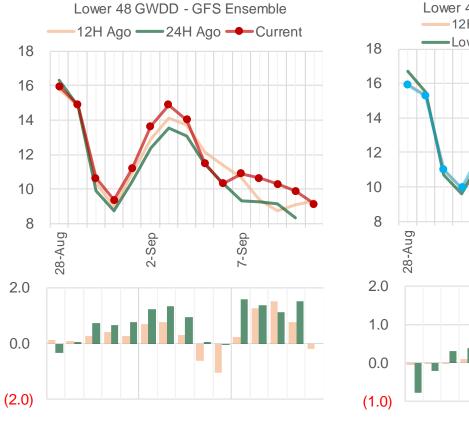
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.9	▼ -0.18	▼ -0.32

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.7	▼ -0.20	a 0.10



Short-term Weather Model Outlooks (00z)







Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	DoD	vs.7D
Lower 48 Dry Production	85.8	85.1	85.3	84.6	84.6	84.2	84.5	0.3	▽ -0.4
Canadian Imports	5.1	5.2	5.4	5.3	5.5	5.1	4.9	▽ -0.2	▼ -0.3
L48 Power	42.9	44.6	46.3	45.4	44.7	44.8	42.8	▼ -2.0	▼ -2.0
L48 Residential & Commercial	7.6	7.7	8.3	8.2	8.0	8.0	7.9	▼ -0.1	▼ 0.0
L48 Industrial	16.8	16.7	16.9	16.6	16.2	15.8	16.0	0.3	▼ -0.5
L48 Lease and Plant Fuel	4.8	4.7	4.7	4.7	4.7	4.7	4.7	△ 0.1	△ 0.0
L48 Pipeline Distribution	2.3	2.4	2.5	2.5	2.4	2.4	2.3	▼ -0.1	▼ -0.1
L48 Regional Gas Consumption	74.4	76.2	78.7	77.4	76.0	75.6	73.8	▼ -1.8	▼ -2.6
Net LNG Exports	5.1	5.0	4.1	3.1	2.3	2.4	2.8	△ 0.4	▼ -0.8
Total Mexican Exports	6.4	6.3	6.8	6.6	6.8	6.9	6.7	▽ -0.2	△ 0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	5.0	2.8	1.1	2.8	5.0	4.3	6.1		

EIA Storage Week Balances

	24-Jul	31-Jul	7-Aug	14-Aug	21-Aug	28-Aug	WoW	vs. 4W
Lower 48 Dry Production	86.6	86.5	86.6	86.7	86.5	85.1	▼ -1.3	▼ -1.4
Canadian Imports	4.4	4.5	4.6	5.0	4.7	5.2	△ 0.5	△ 0.5
L48 Power	45.4	46.0	42.5	44.8	42.7	44.3	1.6	△ 0.3
L48 Residential & Commercial	8.1	8.1	7.7	7.8	7.8	7.9	△ 0.1	△ 0.1
L48 Industrial	17.4	16.7	16.8	16.6	17.3	16.5	▼ -0.7	▼ -0.3
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.7	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.5	2.3	2.4	2.3	2.4	0.1	0.0
L48 Regional Gas Consumption	78.2	78.2	74.1	76.5	75.0	76.0	1.0	△ 0.0
Net LNG Exports	3.6	3.1	3.9	4.4	4.7	3.9	▽ -0.9	▽ -0.2
Total Mexican Exports	6.4	6.2	6.1	6.0	6.2	6.6	△ 0.4	△ 0.5
Implied Daily Storage Activity	2.8	3.6	7.1	4.9	5.3	3.9	-1.3	
EIA Reported Daily Storage Activity	3.7	4.7	8.3	6.1	6.4			
Daily Model Error	-1.0	-1.2	-1.2	-1.3	-1.2			

Monthly Balances

	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	83.2	92.5	91.6	85.8	85.1	86.2	86.1	▽ 0.0	▼ -6.3
Canadian Imports	5.0	4.4	3.9	3.9	4.0	4.4	4.9	△ 0.5	△ 0.5
L48 Power	38.1	41.0	25.6	26.9	34.7	43.6	43.5	▼ -0.1	2.5
L48 Residential & Commercial	7.8	7.8	20.4	13.0	8.6	8.0	7.8	▼ -0.2	▼ 0.0
L48 Industrial	20.3	22.0	20.6	18.8	18.2	18.0	16.8	▼ -1.2	▼ -5.3
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	2.4	△ 0.0	△ 0.1
L48 Regional Gas Consumption	73.0	78.3	73.8	65.4	68.4	76.7	75.3	▼ -1.5	▼ -3.0
Net LNG Exports	3.3	5.2	8.2	6.7	4.0	3.3	4.2	0.9	▽ -1.0
Total Mexican Exports	5.0	5.4	4.9	4.9	5.7	6.1	6.3	△ 0.1	0.9
Implied Daily Storage Activity EIA Reported Daily Storage Activity	6.9	8.0	8.6	12.7	10.9	4.5	5.3		
Daily Model Error								D	

Source: Bloomberg, analytix.ai



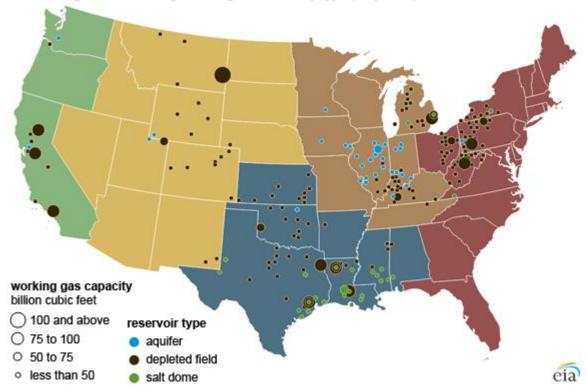
Regional S/D Models Storage Projection

Week Ending 28-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.7	1.4	5.1	39
East	8.0	1.5	2.3	17
Midwest	3.5	-0.2	3.4	24
Mountain	0.1	0.1	0.1	1
South Central	-1.2	0.9	-0.4	-2
Pacific	0.5	-0.8	-0.3	-1

^{*}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								
4-Sep	66								
11-Sep	83								
18-Sep	97								

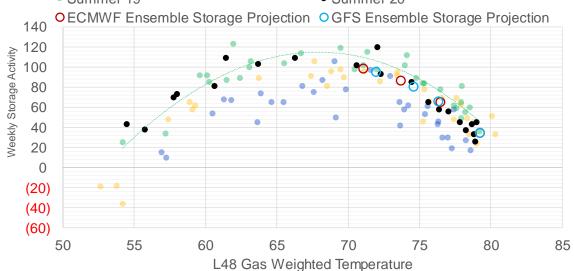
Weather Storage Model - Next 4 Week Forecast

Summer 17

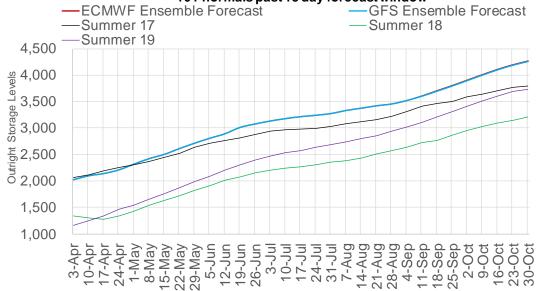
Summer 18

Summer 19

• Summer 20



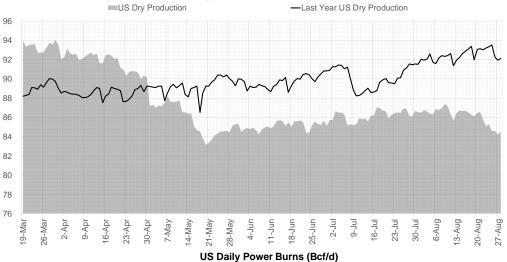
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window

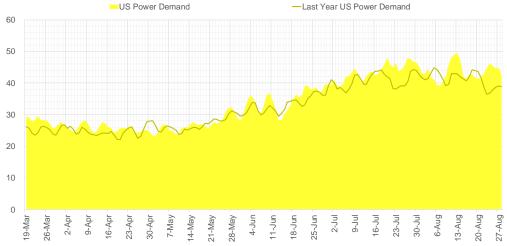




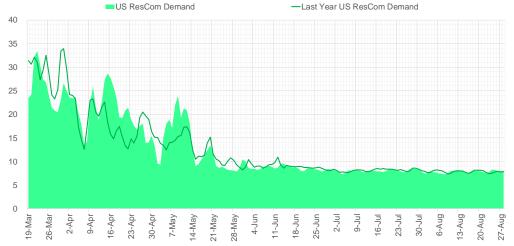
Supply - Demand Trends

US Dry Natural Gas Production (Bcf/d)





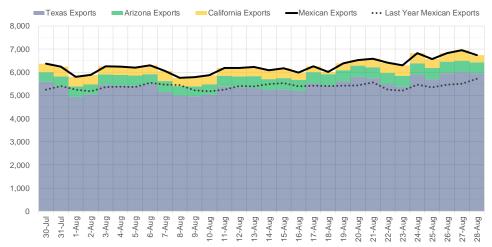
US Daily ResCom Consumption(Bcf/d)



Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)



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 8,000 7,000 6.000 5,000 4,000 3,000 2,000 1,000 0 (1,000)13-Aug 10-Aug 11-Aug 12-Aug 14-Aug 15-Aug 17-Aug

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			
10	2020	С	2.75	9167		10	10 2020	10 2020 P	10 2020 P 1.50
10	2020	P	2.25	8509		10			
10	2020	C	3.00	8226		10			
10	2020	P	2.00	7765		10			
10	2020	P	2.50	5329		10			
11	2020	C	5.00	5150		10			
10	2020	C	4.00	4630		3			
		P		4081		10			
11	2020		2.20		10		2020		
12	2020	P	2.20	4000	11		2020		
10	2020	С	3.25	3691	10		2020		
10	2020	P	2.40	3469	10		2020		
10	2020	C	3.50	3210	1 12		2021		
10	2020	Р	2.20	3154	12 3		2020		
11	2020	Р	2.50	3143					
11	2020	Р	2.25	2674	10		2020		
10	2020	С	2.50	2634	10		2020		
10	2020	Р	2.15	2627	10		2020		
10	2020	С	2.85	2506	1		2021		
11	2020	Ċ	3.00	2501	11		020		
11	2020	P	1.90	2243	3	2021			
12	2020	P	2.50	2124	10	2020		С	
7	2021	C	4.00	2050	3	2021		С	
12	2020	P	1.90	2015	10	2020		Р	
12	2020	C	2.70	1876	10	2020		С	
4					11	2020		С	
	2021	С	5.00	1600	4	2021		С	
4	2021	С	3.25	1575	10	2020		С	C 3.25
11	2020	С	3.25	1540	10	2020		P	P 1.80
1	2022	С	5.00	1500	10	2020		C	
2	2022	С	5.00	1500	1	2021		Ċ	
3	2022	С	5.00	1500	2	2021		Ċ	
12	2020	Р	2.25	1490	12	2020		Č	
10	2020	Р	1.80	1438	11	2020		Č	
7	2021	Р	2.00	1400	1	2021		Č	
8	2021	Р	2.00	1400	4	2021		Č	
9	2021	Р	2.00	1400	11	2021		C	
10	2021	P	2.00	1400	1	2020		C	
11	2020	P	2.60	1293	1	2021		P	
10	2020	C	3.75	1185				C	
10	2020	P	2.45	1115	10	2020			
4	2021	C	4.00	1100	10	2020		P	
4	2021	P	2.00	1100	11	2020		P	
					12	2020		P	
10	2020	С	2.80	1093	4	2021		P	
11	2020	P	2.40	1058	1	2021		P	
4	2021	P	2.25	1050	10	2020		Р	
5	2021	С	4.00	1050	3	2021		С	
6	2021	С	4.00	1050	1	2021		Р	
8	2021	С	4.00	1050	11	2020		С	
9	2021	С	4.00	1050	10	2021		С	C 3.00
10	2021	С	4.00	1050	10	2020		Р	P 1.2

Source: CME, Nasdaq, ICE

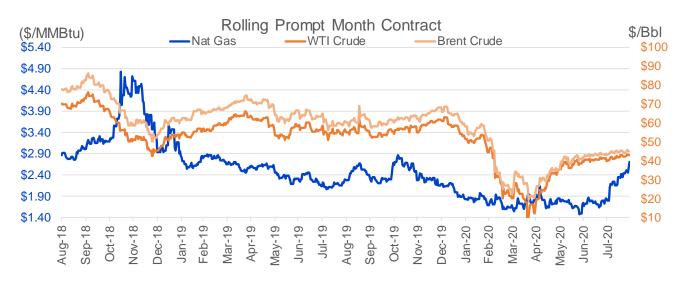


Nat Gas Futures Open Interest

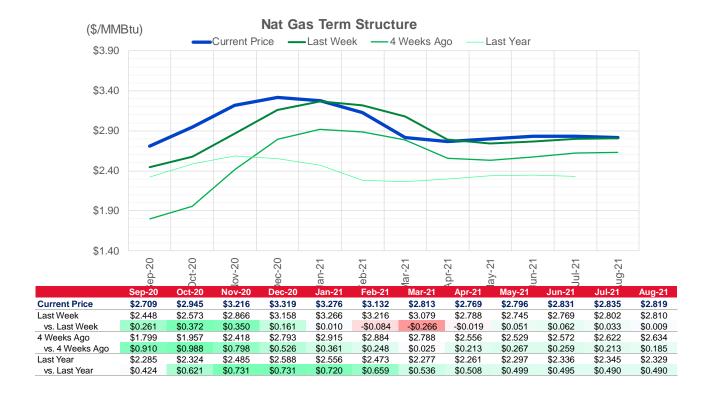
CME.	and	ICE	Com	hined
CIVIL.	anu		COIII	DILLEG

CME Henry	Hub Futures (10				Futures Co	ntract Equiva	lent (10,000 MM
	Current	Prior		FOR JUNE 26	Current	Prior	Daily Change
OCT 20	187	2800	-2613	OCT 20	62959	63405	-446
NOV 20	239165	233286	5879	NOV 20	87805	81636	6169.25
DEC 20	199292	196441	2851	DEC 20	78192	77076	1116
JAN 21	103002	99086	3916	JAN 21	71807	71281	526.25
FEB 21	132363	130950	1413	FEB 21	87936	87576	359.75
MAR 21	45175	45358	-183	MAR 21	55740	55134	606.25
APR 21	89788	89432	356	APR 21	76887	75075	1812.75
MAY 21	80444	80950	-506	MAY 21	64114	63723	391.25
JUN 21	45936	44992	944	JUN 21	52832	52252	580
JUL 21	26032	25038	994	JUL 21	49615	49249	366.5
AUG 21	19246	19168	78	AUG 21	51319	51240	78.25
SEP 21	18882	18633	249	SEP 21	51053	50533	519.75
OCT 21	24841	24691	150	OCT 21	47921	47621	299.75
NOV 21	62074	59894	2180	NOV 21	71674	70172	1502
DEC 21	26323	26801	-478	DEC 21	41903	41973	-69.75
JAN 22	21822	21394	428	JAN 22	42376	42111	264.75
FEB 22	20431	20336	95	FEB 22	35789	35653	135.75
MAR 22	12107	12145	-38	MAR 22	31298	31051	246.75
APR 22	17764	17513	251	APR 22	33084	32999	85.75
MAY 22	19133	19005	128	MAY 22	33461	32748	713
JUN 22	5965	5813	152	JUN 22	24224	23942	282
JUL 22	3148	3146	2	JUL 22	23523	23273	250.5
AUG 22	2681	2569	112	AUG 22	24021	23704	316.5
SEP 22	1940	1931	9	SEP 22	23838	23580	258.25
OCT 22	2123	2122	1	OCT 22	22966	22715	250.5
NOV 22	3193	2965	228	NOV 22	24235	24221	14
DEC 22	2019	2019	0	DEC 22	21943	21860	82.5
JAN 23	2057	2050	7	JAN 23	22720	22589	130.5
FEB 23	2866	2861	5	FEB 23	12388	12319	69.75
MAR 23	861	861	0	MAR 23	11290	11241	49

Source: CME, ICE







	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.40	1.64	0.24
TETCO M3	\$/MMBtu	1.59	1.45	-0.14
FGT Zone 3	\$/MMBtu	1.63	2.51	0.88
Zone 6 NY	\$/MMBtu	1.63	1.44	-0.19
Chicago Citygate	\$/MMBtu	2.28	2.23	-0.05
Michcon	\$/MMBtu	2.23	2.17	-0.06
Columbia TCO Pool	\$/MMBtu	1.52	1.67	0.15
Ventura	\$/MMBtu	2.36	2.17	-0.19
Rockies/Opal	\$/MMBtu	2.48	2.12	-0.36
El Paso Permian Basin	\$/MMBtu	0.96	1.66	0.70
Socal Citygate	\$/MMBtu	4.05	3.21	-0.84
Malin	\$/MMBtu	2.49	2.34	-0.15
Houston Ship Channel	\$/MMBtu	2.38	2.42	0.04
Henry Hub Cash	\$/MMBtu	2.52	2.26	-0.26
AECO Cash	C\$/GJ	2.12	1.92	-0.20
Station2 Cash	C\$/GJ	2.09	2.34	0.25
Dawn Cash	C\$/GJ	2.24	2.18	-0.06

Source: CME, Bloomberg



					V	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	VS	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.51	$\overline{}$	-0.028	$\overline{}$	-0.147	$\overline{}$	-0.118
NatGas Mar/Apr	\$/MMBtu	-0.319	$\overline{}$	-0.028	$\overline{}$	-0.551	$\overline{}$	-0.564
NatGas Oct/Nov	\$/MMBtu	0.24	$\overline{}$	-0.057	$\overline{}$	-0.225		0.172
NatGas Oct/Jan	\$/MMBtu	0.61	$\overline{}$	-0.083	$\overline{}$	-0.348		0.263
WTI Crude	\$/Bbl	43.05	_	0.710	_	2.780	$\overline{}$	-12.050
Brent Crude	\$/Bbl	45.05	_	0.700	_	1.750	$\overline{}$	-15.380
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	_	0.000	_	0.000	_	0.000
Heating Oil	cents/Gallon	120.52	$\overline{}$	-0.280	$\overline{}$	-1.190	$\overline{}$	-62.300
Propane, Mt. Bel	cents/Gallon	0.51	_	0.001	_	0.014		0.103
Ethane, Mt. Bel	cents/Gallon	0.24	$\overline{}$	-0.003	_	0.025		0.083
Coal, PRB	\$/MTon	12.30	_	0.000	_	0.000	_	0.150
Coal, ILB	\$/MTon	31.05	_	0.000	_	0.000	$\overline{}$	-4.500