

Market Report

11 September 2020

	Cı	urrent	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$	2.31	\$ (0.01)	\$ (0.19)

	С	urrent	Δf	roi	m YD	Δ	m 7D vg
WTI Prompt	\$	37.36	_	\$	0.06	$\overline{}$	\$ (1.4)

	C	urrent Δ from YE		Δ from 7D		
	C	urreni		A	vg	
Brent Prompt	\$	39.98	\$ (0.08)	~ \$	(1.5)	

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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	1.0	-3.1	-2.5	-4.7
24 Hr Chg	-2.1	-6.4	-6.1	-14.6
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day -1.9	6-10 Day 5.2	11-15 Day 1.6	Total 4.9

	Current		Δ from 7D Avg		
US Dry Production	87.4	▼ -0.83	▼ -0.89		

	Current	Δ from YD	Δ from 7D Avg
US ResComm	9.4	▼ -1.44	a 0.57

	Current	Δ from YD	Δ from 7D Avg	
Net LNG Exports	6.8	▼ -0.06	1.64	

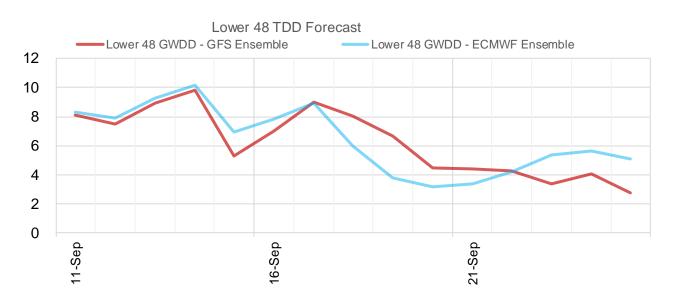
	Current	Δ from YD	Δ from 7D Avg
US Power Burns	36.3	▼ -0.45	1.27

	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.7	▼ -0.87	▼ -0.12

	Current		rom YD	Δ from 7D Avg		
Mexican Exports	6.5		0.09		0.03	



Short-term Weather Model Outlooks (00z)





Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

Implied Daily Storage Activity

Daily Model Error

EIA Reported Daily Storage Activity

	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	DoD	vs. 7D
Lower 48 Dry Production	88.6	88.5	88.8	88.4	88.3	88.3	87.4	▽ -0.8	▼ -1.1
Canadian Imports	3.5	3.5	3.5	3.8	4.0	4.5	3.7	▽ -0.9	▼ -0.1
L48 Power	33.9	32.6	32.7	35.4	36.1	36.8	36.3	▼ -0.5	1.8
L48 Residential & Commercial	7.3	7.1	7.5	10.1	11.0	10.8	9.4	▼ -1.4	a 0.4
L48 Industrial	20.0	20.1	20.2	20.3	20.4	19.9	19.7	▼ -0.2	▼ -0.5
L48 Lease and Plant Fuel	4.9	4.9	4.9	4.9	4.9	4.9	4.9	▼ 0.0	▼ -0.1
L48 Pipeline Distribution	2.0	1.9	1.9	2.2	2.2	2.3	2.2	▼ -0.1	0.1
L48 Regional Gas Consumption	68.1	66.5	67.3	72.9	74.6	74.7	72.4	▼ -2.2	1.7
Net LNG Exports	4.0	4.1	4.3	6.2	6.8	6.9	6.8	▽ -0.1	▲ 1.4
Total Mexican Exports	6.5	6.2	6.5	6.4	6.2	6.4	6.5	△ 0.1	△ 0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	13.5	15.4	14.1	6.7	4.7	4.9	5.4		

EIA Storage Week Balances								
	7-Aug	14-Aug	21-Aug	28-Aug	4-Sep	11-Sep	WoW	vs. 4W
Lower 48 Dry Production	87.3	87.4	87.2	86.0	86.3	88.3	<u>^</u> 2.1	1.6
Canadian Imports	4.6	5.0	4.7	5.2	4.4	3.8	▽ -0.6	▼ -1.1
L48 Power	40.7	42.9	40.0	41.6	37.2	35.1	▼ -2.2	▼ -5.4
L48 Residential & Commercial	8.1	8.1	8.2	8.3	7.7	8.8	1.0	△ 0.7
L48 Industrial	18.8	19.0	20.4	19.6	19.5	20.1	0.6	0.5
L48 Lease and Plant Fuel	4.9	4.9	4.8	4.8	4.8	4.9	0.1	0.1
L48 Pipeline Distribution	2.2	2.3	2.2	2.3	2.1	2.1	▼ 0.0	▼ -0.2
L48 Regional Gas Consumption	74.7	77.2	75.7	76.6	71.4	71.0	▽ -0.4	▼ -4.2
Net LNG Exports	3.9	4.4	4.7	3.9	3.0	5.2	2.1	1.2
Total Mexican Exports	6.1	6.0	6.2	6.6	6.5	6.4	▽ -0.1	▲ 0.1

5.3

6.4

4.1

5.0

-0.9

9.7

10.0

-0.3

9.5

-0.2

4.8

6.1

7.2

8.3

-1.0

Monthly Balances									
	2Yr Ago Sep-18	LY Sep-19	May-20	Jun-20	Jul-20	Aug-20	MTD Sep-20	MoM	vs. LY
Lower 48 Dry Production	85.2	93.5	85.8	85.1	86.6	86.9	87.6	▲ 0.8	▼ -5.8
Canadian Imports	4.5	4.7	3.9	4.0	4.4	4.9	3.9	▼ -1.0	▼ -0.8
L48 Power	34.2	36.4	26.9	34.8	43.8	40.6	36.1	▼ -4.5	▼ -0.3
L48 Residential & Commercial	8.5	8.3	12.9	9.0	8.6	8.1	8.6	0.5	△ 0.3
L48 Industrial	21.6	22.3	18.9	18.3	17.8	19.5	19.9	△ 0.4	▼ -2.4
L48 Lease and Plant Fuel	4.8	5.2	4.8	4.9	4.9	4.8	4.9	0.1	▼ -0.3
L48 Pipeline Distribution	2.0	2.1	1.9	2.0	2.4	2.2	2.1	▼ -0.1	a 0.0
L48 Regional Gas Consumption	71.2	74.3	65.5	69.1	77.5	75.2	71.6	▼ -3.7	▼ -2.7
Net LNG Exports	3.1	6.2	6.7	4.0	3.3	4.0	4.8	▲ 0.8	▼ -1.4
Total Mexican Exports	5.1	5.4	4.9	5.7	6.1	6.3	6.5	0.3	1.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	10.3	12.4	12.6	10.2	4.1	6.2	8.6		
Daily model Eller							Source:	Bloombe	era analytiy

Source: Bloomberg, analytix.ai



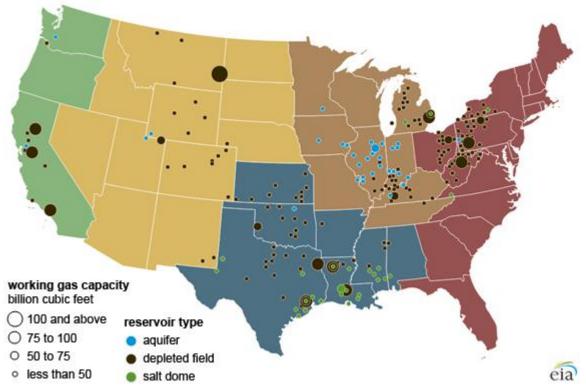
Regional S/D Models Storage Projection

Week Ending 11-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	9.3	0.9	10.2	70
East	8.0	1.4	2.1	14
Midwest	3.6	0.3	4.0	27
Mountain	3.4	-2.9	0.5	3
South Central	8.0	2.6	3.4	24
Pacific	0.7	-0.5	0.2	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								
18-Sep	94								
25-Sep	104								
2-Oct	104								

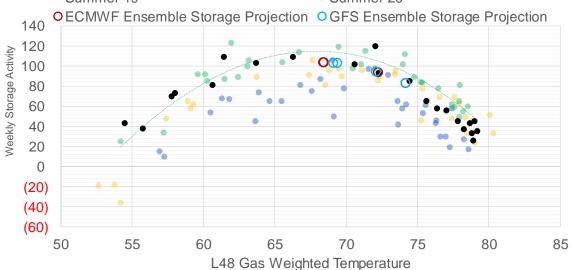
Weather Storage Model - Next 4 Week Forecast

Summer 17

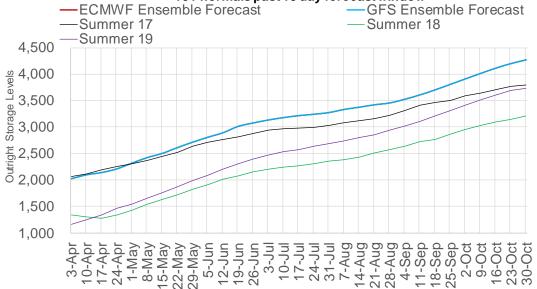
Summer 18

Summer 19

• Summer 20



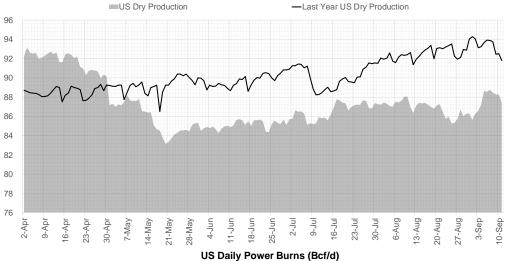
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window

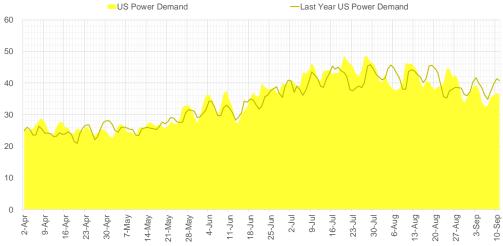




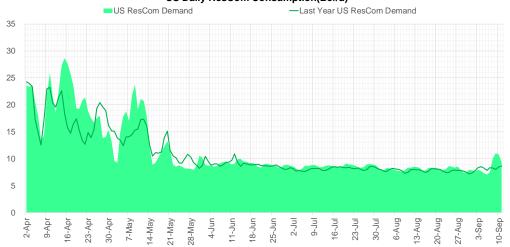
Supply - Demand Trends

US Dry Natural Gas Production (Bcf/d)





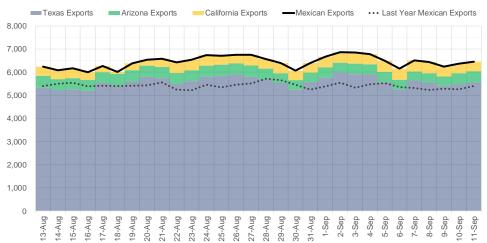
US Daily ResCom Consumption(Bcf/d)

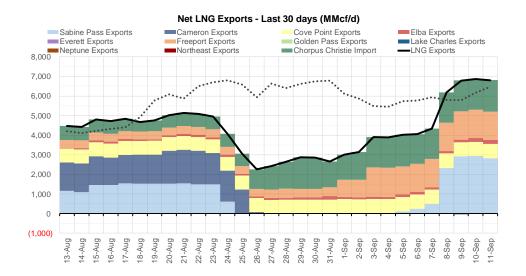


Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)





Source: Bloomberg



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	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULAT
10	2020	Р	2.00	12486	10	2020	Р	2.00	4815
10	2020	С	2.75	9852	10	2020	С	3.00	4614
10	2020	P	1.90	9701	10	2020	Р	1.50	4473
10	2020	C	3.00	7738	10	2020	С	2.75	4195
10	2020	Č	2.50	7110	10	2020	P	2.25	3474
10	2020	P	2.25	6281	10	2020	Р	1.75	3425
10	2020	r P	2.20	5424	10	2020	P	1.60	3378
11	2020	C	3.25	5070	3	2021	P	2.00	3243
10	2020	P	1.75	4506	10	2020	C	2.50	3230
					4	2021	Č	5.00	3028
11	2020	P	2.25	4097	10	2020	P	1.25	2889
11	2020	C	4.50	4060	3	2021	C	4.00	2665
10	2020	С	2.60	3735	3	2021	C	3.25	2641
10	2020	С	2.40	3629	3 11	2021	C		2610
11	2020	С	3.50	3395				3.50	
10	2020	С	2.45	3038	10	2020	С	3.25	2439
11	2020	С	3.75	2891	10	2020	P	1.00	2401
10	2020	Р	2.05	2484	11	2020	P	2.00	2388
10	2020	С	2.70	2300	10	2020	P	2.10	2361
10	2020	С	3.25	2052	1	2021	С	4.50	2316
1	2021	C	4.00	2012	12	2020	Р	2.00	2314
1	2021	Č	5.00	2004	11	2020	С	5.00	2294
10	2020	Č	2.85	2000	1	2021	С	3.50	2230
10	2020	P	2.40	1972	10	2020	С	2.10	2198
10	2020	P	1.50	1723	3	2021	С	3.00	2196
10	2020	' P	2.20	1708	10	2020	Р	1.80	216
		C	4.00		10	2020	Р	2.20	2078
3	2021	C		1508	3	2021	С	6.00	2045
3	2021	P	4.50	1500	10	2020	Р	1.90	2009
10	2020	•	1.80	1483	3	2021	С	3.50	1963
11	2020	Р	1.35	1311	10	2020	Р	1.30	1943
10	2020	P	2.15	1264	10	2020	С	3.50	1901
1	2021	С	3.75	1253	11	2020	Р	2.25	1880
1	2021	С	3.50	1250	1	2021	С	3.75	1879
10	2020	Р	1.85	1166	10	2020	C	2.00	1866
11	2020	Р	2.10	1152	1	2021	Č	5.00	1802
10	2020	С	2.65	1115	11	2020	P	2.50	1757
11	2020	Р	1.20	1038	2	2021	C	5.00	1729
10	2020	Р	1.60	1023	10	2020	Č	2.25	1728
11	2020	Р	1.75	1018	1	2020	C	3.00	1678
1	2021	С	4.75	1000	11	2020	C	3.25	1662
3	2021	Č	4.75	1000	11	2020	C	3.00	1624
3	2021	Č	5.50	1000	10	2020	C	2.60	1582
10	2020	Č	2.55	965			P		
10	2020	C	2.30	962	12	2020		2.50	1534
11	2020	P	2.50	946	12	2020	C	4.00	1510
		P P			11	2020	С	2.75	1459
11	2020	•	2.80	730	10	2020	P	1.40	1449
11	2020	P	1.50	718	11	2020	С	4.00	1446
11	2020	P	2.30	708	10	2020	C	2.70	1442
11	2020	С	3.00	707	12	2020	С	3.75	1433
11	2020	Р	2.00	607	_ 1	2021	Р	2.25	1432

Source: CME, Nasdaq, ICE

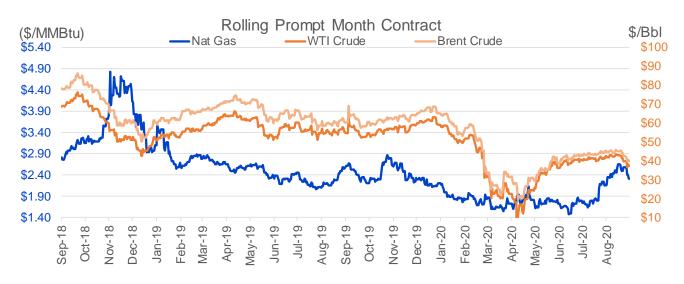


Nat Gas Futures Open Interest

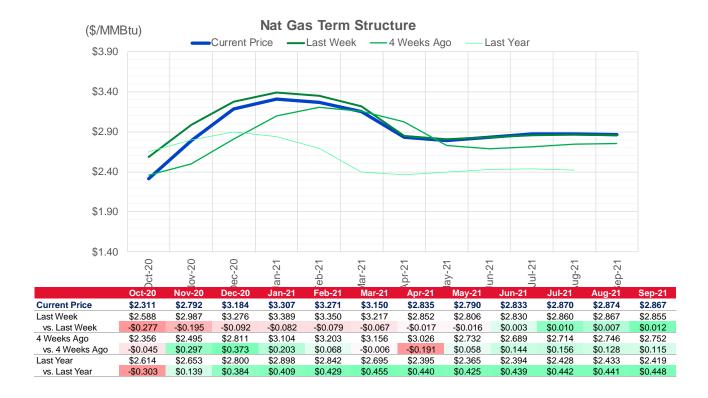
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CME	000		$C_{\alpha}m_{\alpha}$	المصطني
	and	п —	Cachini) II 1 (2 (1

CMF Henry	Hub Futures (10		, and ICE C		Futures Co	ntract Equiva	lent (10,000 MM
OINE FIOLITY	Current	Prior		FOR JUNE 26	Current	Prior	Daily Change
OCT 20	158989	173217	-14228	OCT 20	89433	90772	-1338.5
NOV 20	227222	218088	9134	NOV 20	81388	83046	-1657.75
DEC 20	105747	100439	5308	DEC 20	74094	74261	-167.25
JAN 21	133845	130664	3181	JAN 21	87245	86912	333.25
FEB 21	55361	54145	1216	FEB 21	58748	58636	112
MAR 21	108683	105987	2696	MAR 21	78068	77450	617.25
APR 21	77182	78590	-1408	APR 21	64073	63608	465.5
MAY 21	46737	46500	237	MAY 21	56325	56408	-83
JUN 21	29490	29316	174	JUN 21	50849	50661	188.75
JUL 21	20614	20357	257	JUL 21	53281	53087	193.25
AUG 21	22039	22010	29	AUG 21	53181	53021	159.25
SEP 21	27915	27752	163	SEP 21	49814	49529	284.5
OCT 21	67446	66978	468	OCT 21	74189	73739	449.25
NOV 21	27176	27183	-7	NOV 21	42669	42524	145
DEC 21	23914	24285	-371	DEC 21	42730	42744	-13.5
JAN 22	22063	22429	-366	JAN 22	36880	36873	7.25
FEB 22	12632	12581	51	FEB 22	32048	32024	24
MAR 22	17937	18027	-90	MAR 22	33850	33927	-76.5
APR 22	21151	21166	-15	APR 22	33811	33761	50
MAY 22	6088	6050	38	MAY 22	24693	24583	109.75
JUN 22	3621	3620	1	JUN 22	23944	23908	35.5
JUL 22	2983	2945	38	JUL 22	24994	24885	109.25
AUG 22	1946	1944	2	AUG 22	24282	24298	-15.25
SEP 22	2061	2059	2	SEP 22	23408	23373	35.5
OCT 22	3296	3295	1	OCT 22	24955	25023	-68
NOV 22	2373	2326	47	NOV 22	22063	22068	-5
DEC 22	2188	2223	-35	DEC 22	23180	23168	12
JAN 23	2873	2873	0	JAN 23	12437	12440	-2.75
FEB 23	858	858	0	FEB 23	11434	11437	-3.5
MAR 23	900	900	0	MAR 23	11897	11902	-5

Source: CME, ICE







	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.54	1.78	0.24
TETCO M3	\$/MMBtu	1.41	1.51	0.10
FGT Zone 3	\$/MMBtu	1.42	2.61	1.19
Zone 6 NY	\$/MMBtu	1.42	1.30	-0.12
Chicago Citygate	\$/MMBtu	1.90	2.29	0.39
Michcon	\$/MMBtu	1.86	2.17	0.31
Columbia TCO Pool	\$/MMBtu	1.74	1.66	-0.09
Ventura	\$/MMBtu	1.89	2.27	0.38
Rockies/Opal	\$/MMBtu	1.85	2.14	0.29
El Paso Permian Basin	\$/MMBtu	1.52	1.83	0.31
Socal Citygate	\$/MMBtu	2.26	2.57	0.31
Malin	\$/MMBtu	1.86	2.39	0.53
Houston Ship Channel	\$/MMBtu	2.10	2.55	0.45
Henry Hub Cash	\$/MMBtu	2.13	2.33	0.20
AECO Cash	C\$/GJ	1.79	2.05	0.26
Station2 Cash	C\$/GJ	1.78	2.57	0.79
Dawn Cash	C\$/GJ	1.91	2.18	0.27

Source: CME, Bloomberg



					V	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	VS	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.47	_	0.065	$\overline{}$	-0.001	$\overline{}$	-0.022
NatGas Mar/Apr	\$/MMBtu	-0.315	_	0.050	$\overline{}$	-0.609	$\overline{}$	-0.586
NatGas Oct/Nov	\$/MMBtu	0.48	_	0.082	_	0.165		0.430
NatGas Oct/Jan	\$/MMBtu	1.00	_	0.195	_	0.288		0.677
WTI Crude	\$/Bbl	37.36	$\overline{}$	-2.410	$\overline{}$	-4.650	$\overline{}$	-17.490
Brent Crude	\$/Bbl	39.98	$\overline{}$	-2.680	$\overline{}$	-4.820	$\overline{}$	-20.240
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03		0.000	_	0.000		0.000
Heating Oil	cents/Gallon	108.85	$\overline{}$	-6.300	$\overline{}$	-14.820	$\overline{}$	-78.930
Propane, Mt. Bel	cents/Gallon	0.46	$\overline{}$	-0.018	$\overline{}$	-0.036		0.038
Ethane, Mt. Bel	cents/Gallon	0.21	_	0.014	$\overline{}$	-0.026	$\overline{}$	-0.006
Coal, PRB	\$/MTon	12.30		0.000	_	0.000		0.150
Coal, ILB	\$/MTon	31.05		0.000		0.000	$\overline{}$	-4.500