

Market Report

30 September 2020

	Current		Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$	2.51	> \$ (0.05)	\$ 0.30

	С	urrent	Δ from YD		m 7D vg
WTI Prompt	\$	39.02	> \$ (0.27)	~ \$	(1.1)

	_	urront	Δ from YD	Δ from 7D			
	C	urrent	םו וווטוו ב	A	vg		
Brent Prompt	\$	40.45	> \$ (0.58)	▼ \$	(1.4)		
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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	-0.5	1.1	1.2	1.8
24 Hr Chg	-0.4	3.6	0.9	4.2
GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
GFS Ensemble 00z 12 Hr Chg	1-5 Day -0.5	6-10 Day -1.1	11-15 Day 3.5	Total 1.9

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	86.2	▼ -0.91	a 0.41

	Current	Δ from YD	Δ from 7D Avg
US ResComm	11.0	▼ -0.89	2.32

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	6.8	▼ -0.10	a 0.43

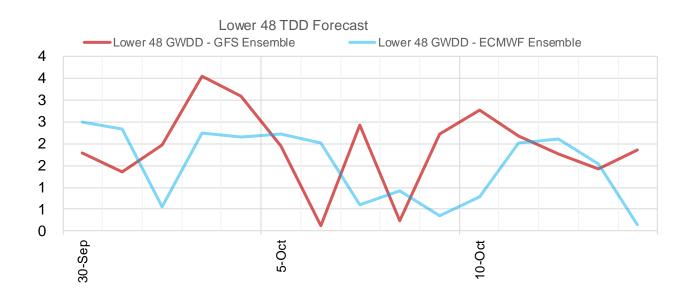
	Current	Δ from YD	Δ from 7D Avg
US Power Burns	31.4	▼ -0.52	a 0.07

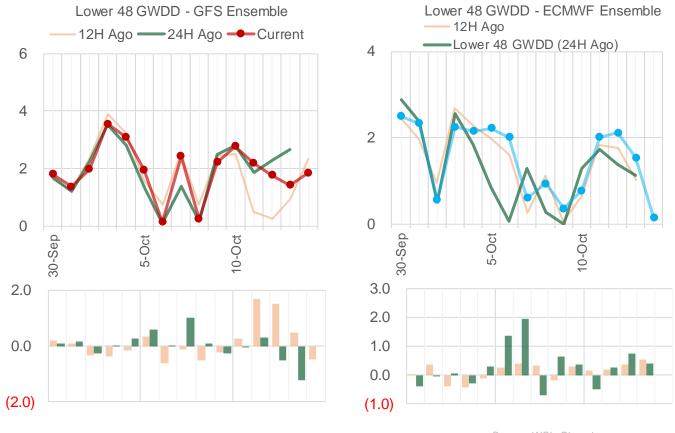
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.6	▼ -0.01	▼ -0.17

	Current	Δf	rom YD	Δf	rom 7D Avg
Mexican Exports	6.6		0.21		0.15



Short-term Weather Model Outlooks (00z)





Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	DoD	vs. 7D
Lower 48 Dry Production	84.8	85.1	86.4	86.6	86.7	87.1	86.2	▽ -0.9	△ 0.1
Canadian Imports	3.8	3.9	3.7	3.8	4.0	3.6	3.6	▽ 0.0	▼ -0.2
L48 Power	32.5	30.8	28.8	30.3	32.4	31.9	31.4	▼ -0.5	0.3
L48 Residential & Commercial	7.9	7.7	7.3	7.9	10.3	11.9	11.0	▼ -0.9	2.2
L48 Industrial	18.9	19.1	19.3	19.4	19.7	19.9	19.9	▼ 0.0	a 0.5
L48 Lease and Plant Fuel	4.7	4.7	4.8	4.8	4.8	4.9	4.8	▼ -0.1	a 0.0
L48 Pipeline Distribution	1.9	1.8	1.7	1.8	2.0	2.1	2.0	▼ -0.1	a 0.1
L48 Regional Gas Consumption	66.0	64.2	61.8	64.2	69.3	70.7	69.1	▼ -1.6	▲ 3.1
Net LNG Exports	6.1	6.5	6.9	6.6	6.3	6.9	6.8	▽ -0.1	△ 0.3
Total Mexican Exports	6.3	6.6	6.4	6.2	6.6	6.4	6.6	△ 0.2	△ 0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	10.3	11.7	15.0	13.3	8.5	6.7	7.3		

EIA Storage Week Balances

	21-Aug	28-Aug	4-Sep	11-Sep	18-Sep	25-Sep	WoW	vs. 4W
Lower 48 Dry Production	87.2	86.0	86.2	88.3	87.0	86.1	▽ -0.9	▼ -0.7
Canadian Imports	4.7	5.2	4.4	3.8	3.8	3.6	▽ -0.2	▽ -0.7
L48 Power	40.0	41.6	37.3	35.2	33.2	30.6	▼ -2.7	▼ -6.2
L48 Residential & Commercial	8.2	8.3	7.8	8.8	8.5	10.3	1.9	2.0
L48 Industrial	20.4	19.6	19.6	18.7	20.4	19.1	▼ -1.3	▼ -0.5
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.9	4.9	4.8	▼ -0.1	▼ 0.0
L48 Pipeline Distribution	2.2	2.3	2.1	2.1	2.0	1.9	▼ 0.0	▼ -0.2
L48 Regional Gas Consumption	75.6	76.6	71.5	69.8	68.9	66.8	▼ -2.1	▼ -4.9
Net LNG Exports	4.7	3.9	3.0	5.2	7.3	5.8	▼ -1.4	1.0
Total Mexican Exports	6.2	6.6	6.5	6.4	6.2	6.4	0.2	▽ 0.0
Implied Daily Storage Activity	5.3	4.1	9.6	10.8	8.4	10.7	2.3	
EIA Reported Daily Storage Activity	6.4	5.0	10.0	12.7	9.4			
Daily Model Error	-1.1	-0.9	-0.4	-1.9	-1.0			

Monthly Balances

,	2Yr Ago	LY					MTD		
	Sep-18	Sep-19	May-20	Jun-20	Jul-20	Aug-20	Sep-20	MoM	vs. LY
Lower 48 Dry Production	85.2	93.5	85.8	85.1	86.6	86.8	86.9	▲ 0.0	▽ -6.6
Canadian Imports	4.5	4.7	3.9	4.0	4.4	4.8	3.8	▼ -1.0	▼ -0.9
L48 Power	34.3	36.4	26.9	34.8	43.9	40.6	33.1	▼ -7.4	▼ -3.3
L48 Residential & Commercial	8.5	8.3	12.9	9.0	8.6	8.1	9.1	1.0	8.0
L48 Industrial	21.6	22.2	18.9	18.4	17.8	19.5	19.4	▼ -0.1	▼ -2.8
L48 Lease and Plant Fuel	4.8	5.2	4.8	4.9	4.9	4.8	4.8	▲ 0.0	▼ -0.4
L48 Pipeline Distribution	2.0	2.1	1.9	2.0	2.4	2.2	2.0	▼ -0.2	▼ -0.1
L48 Regional Gas Consumption	71.2	74.3	65.5	69.1	77.5	75.3	68.5	▽ -6.8	▼ -5.7
Net LNG Exports	3.1	6.2	6.7	4.0	3.3	4.0	5.9	1.9	▽ -0.2
Total Mexican Exports	5.1	5.4	4.9	5.7	6.1	6.3	6.4	△ 0.1	1.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	10.3	12.4	12.6	10.2	4.1	6.1	9.8		
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Source: Bloomberg, analytix.ai



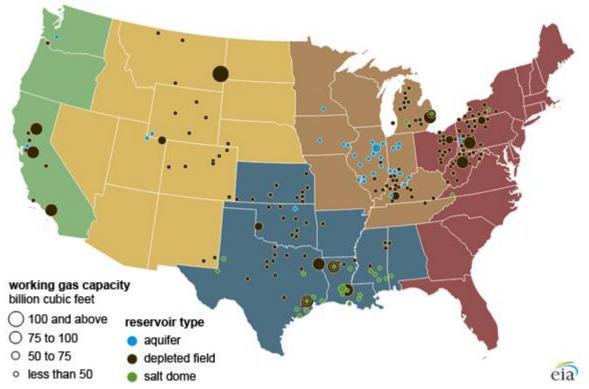
Regional S/D Models Storage Projection

Week Ending 25-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	10.5	1.4	11.9	83
East	8.0	1.7	2.6	18
Midwest	3.5	0.4	3.8	27
Mountain	3.9	-2.9	1.0	7
South Central	0.9	2.8	3.7	26
Pacific	1.3	-0.5	0.8	6

^{*}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								
2-Oct	102								
9-Oct	100								
16-Oct	98								

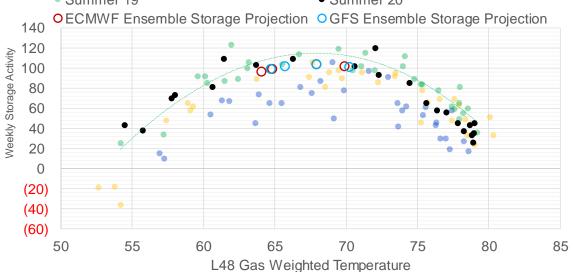
Weather Storage Model - Next 4 Week Forecast

Summer 17

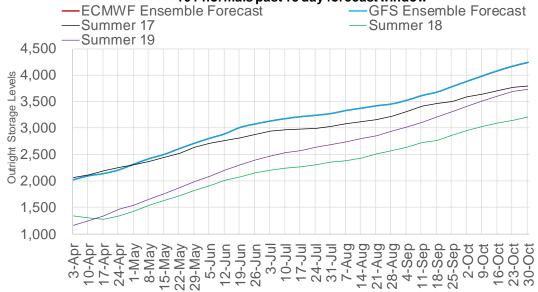
Summer 18

Summer 19

• Summer 20



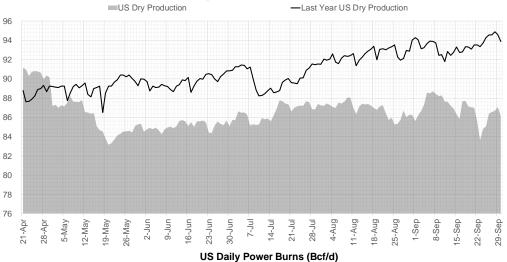
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window

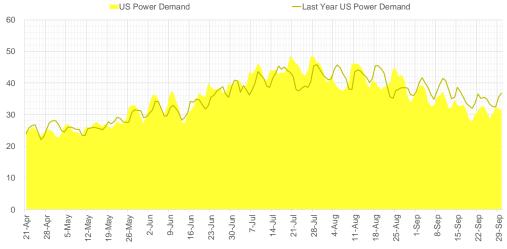




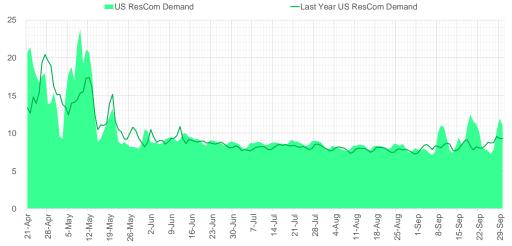
Supply - Demand Trends

US Dry Natural Gas Production (Bcf/d)





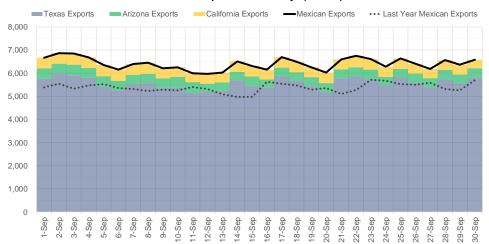
US Daily ResCom Consumption(Bcf/d)

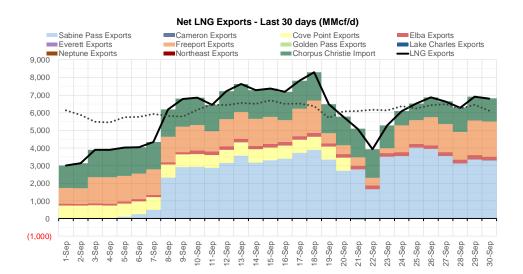


Source: Bloomberg



Mexican Exports - Last 30 days (MMcf/d)





Source: Bloomberg



Market Report

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

					<u> </u>				
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
11	2020	С	3.50	19308	11	2020	Р	2.00	35790
11	2020	С	4.00	14050	3	2021	Р	2.00	33308
11	2020	С	3.25	10202	4	2021	С	5.00	32747
11	2020	Р	2.25	9253	11	2020	С	5.00	28236
11	2020	С	3.00	8672	3	2021	С	4.00	27860
11	2020	Р	1.75	8652	3	2021	С	3.25	27303
11	2020	Р	2.00	8377	11	2020	С	3.50	26647
11	2020	С	5.00	6052	11	2020	Р	2.25	26197
12	2020	С	7.00	6050	12	2020	Р	2.00	24654
11	2020	Р	2.50	4933	3	2021	С	6.00	24590
11	2020	Р	1.50	3793	1	2021	С	4.50	24073
11	2020	Р	2.40	3430	12	2020	Р	2.50	22954
12	2020	P	2.75	2773	1	2021	С	3.50	22316
1	2021	C	7.00	2650	3	2021	С	3.00	22261
1	2021	Č	4.50	2594	12	2020	С	4.00	20425
3	2021	Č	4.00	2506	11	2020	С	3.00	20126
5	2021	Č	3.50	2380	3	2021	С	3.50	19704
1	2021	Č	4.00	2351	1	2021	С	5.00	18670
12	2020	P	2.50	2253	2	2021	С	5.00	17247
11	2020	P	2.35	2240	11	2020	С	3.25	17206
	2020	P P			3	2021	С	7.00	17177
11 11		C	2.30	2189	11	2020	Р	2.50	17079
	2020		2.75	2182	11	2020	С	4.00	17033
1	2021	C P	3.25	2126	1	2021	С	3.00	16884
1	2021	•	2.00	1888	1	2021	С	3.75	16453
12	2020	С	4.00	1867	1	2021	Р	2.50	16428
12	2020	P	2.00	1860	12	2020	С	3.75	15606
5	2021	С	3.25	1825	11	2020	Р	2.65	14316
11	2020	P	2.20	1673	2	2021	С	3.50	14268
1	2021	C	5.00	1650	3	2021	С	5.00	13881
10	2021	C	4.00	1600	4	2021	С	3.00	13875
11	2020	С	3.75	1559	12	2020	Р	1.50	13496
1	2021	С	3.75	1557	4	2021	Р	2.00	13496
11	2020	C	4.50	1541	6	2021	С	4.00	13475
1	2021	C	3.50	1402	1	2021	Р	2.25	13432
11	2020	Р	2.10	1359	11	2020	Р	2.80	13249
1	2021	С	4.25	1346	5	2021	С	3.00	13223
3	2021	С	3.25	1313	11	2020	Р	2.20	12942
1	2021	Р	2.25	1300	1	2021	Р	2.00	12924
12	2020	С	5.00	1286	4	2021	С	2.75	12486
11	2020	Р	1.90	1274	12	2020	С	5.00	12455
11	2020	Р	1.60	1248	1	2021	С	6.00	12183
1	2021	Р	2.50	1051	2	2021	C	6.00	12005
12	2020	С	3.75	1019	11	2020	C	2.75	12005
11	2020	С	2.95	999	10	2021	C	3.00	11950
11	2020	Р	1.70	998	12	2020	C	3.00	11946
1	2021	Р	3.25	901	3	2021	P	2.50	11873
12	2020	С	3.25	814	1	2021	C	3.25	11671
3	2021	С	7.00	800	11	2020	C	3.10	11498
11	2020	P	2.60	790	12	2020	C	3.5	11464

Source: CME, Nasdaq, ICE

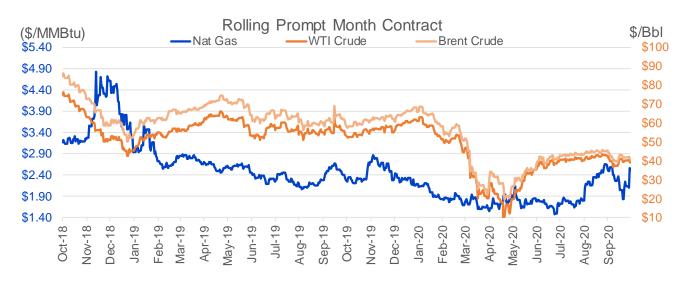


Nat Gas Futures Open Interest

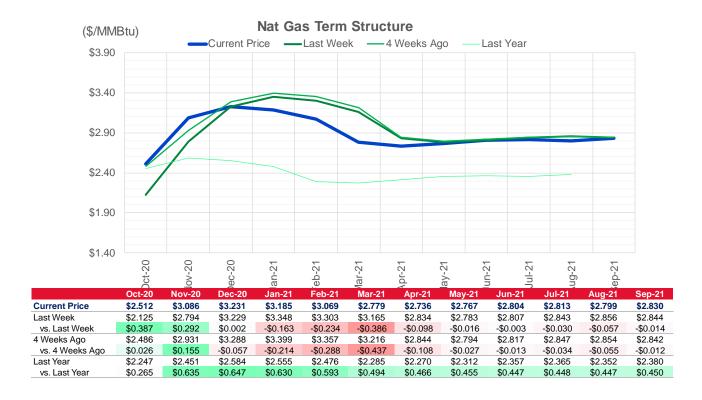
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CME	000		$C_{\alpha}mh$	المصطني
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CMF Henry	Hub Futures (10		, and ICE C		Futures Co	ntract Equiva	lent (10,000 MM
5 <u></u>	Current	Prior		FOR JUNE 26	Current	Prior	Daily Change
NOV 20	296412	286187	10225	NOV 20	87873	83082	4791
DEC 20	143125	137085	6040	DEC 20	77700	77677	23
JAN 21	139294	139481	-187	JAN 21	86928	87626	-699
FEB 21	63338	62459	879	FEB 21	61399	61495	-96
MAR 21	117380	117285	95	MAR 21	81204	80678	526
APR 21	84209	85531	-1322	APR 21	64199	65292	-1093
MAY 21	47685	47167	518	MAY 21	58697	58202	495
JUN 21	32222	32049	173	JUN 21	52982	52973	9
JUL 21	20623	20615	8	JUL 21	55436	55102	334
AUG 21	25967	25861	106	AUG 21	58559	58208	351
SEP 21	34042	33580	462	SEP 21	52690	52692	-1
OCT 21	78778	78188	590	OCT 21	78281	79008	-727
NOV 21	29529	29410	119	NOV 21	45353	45220	133
DEC 21	25331	25433	-102	DEC 21	44525	44586	-61
JAN 22	26422	26405	17	JAN 22	38975	38577	398
FEB 22	14989	14658	331	FEB 22	33126	32939	187
MAR 22	18656	18772	-116	MAR 22	35488	35276	212
APR 22	23092	22965	127	APR 22	36324	36135	188
MAY 22	7141	6832	309	MAY 22	25937	25700	237
JUN 22	3859	3857	2	JUN 22	24484	24293	191
JUL 22	3339	3339	0	JUL 22	26079	25850	229
AUG 22	2310	2263	47	AUG 22	24928	24722	206
SEP 22	2226	2226	0	SEP 22	23604	23413	191
OCT 22	3553	3552	1	OCT 22	25935	25817	118
NOV 22	2718	2711	7	NOV 22	23247	23150	97
DEC 22	2864	2848	16	DEC 22	25925	25832	93
JAN 23	2836	2836	0	JAN 23	13064	12983	81
FEB 23	885	885	0	FEB 23	12537	12301	236
MAR 23	911	911	0	MAR 23	12622	12375	247
APR 23	2449	2449	0	APR 23	11764	11764	

Source: CME, ICE







	Units	Cash Settled	Prompt Settle	Cash to Prompt
A OT O'L and to				· · · ·
AGT Citygate	\$/MMBtu	1.35	1.65	0.30
TETCO M3	\$/MMBtu	1.17	1.35	0.18
FGT Zone 3	\$/MMBtu	1.18	2.23	1.05
Zone 6 NY	\$/MMBtu	1.18	1.35	0.17
Chicago Citygate	\$/MMBtu	1.35	2.04	0.69
Michcon	\$/MMBtu	1.32	1.98	0.66
Columbia TCO Pool	\$/MMBtu	1.21	1.43	0.22
Ventura	\$/MMBtu	1.30	2.01	0.71
Rockies/Opal	\$/MMBtu	2.43	1.93	-0.50
El Paso Permian Basin	\$/MMBtu	1.19	1.49	0.30
Socal Citygate	\$/MMBtu	5.33	2.43	-2.90
Malin	\$/MMBtu	2.25	2.39	0.14
Houston Ship Channel	\$/MMBtu	1.87	2.21	0.34
Henry Hub Cash	\$/MMBtu	1.70	2.00	0.30
AECO Cash	C\$/GJ	1.18	2.01	0.83
Station2 Cash	C\$/GJ	1.13	2.48	1.35
Dawn Cash	C\$/GJ	1.41	1.98	0.57

Source: CME, Bloomberg



					VS	s. 4 Weeks		
	Units	Current Price	vs.	Last Week		Ago	V	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.45	A	0.062	_	0.103	$\overline{}$	-0.020
NatGas Mar/Apr	\$/MMBtu	-0.290	_	0.041	$\overline{}$	-0.662	$\overline{}$	-0.554
NatGas Oct/Nov	\$/MMBtu	0.41	$\overline{}$	-0.258	$\overline{}$	-0.034	_	0.342
NatGas Oct/Jan	\$/MMBtu	1.13	$\overline{}$	-0.093	_	0.217	_	0.772
WTI Crude	\$/Bbl	39.02	$\overline{}$	-0.910	$\overline{}$	-2.490	$\overline{}$	-13.620
Brent Crude	\$/BbI	40.45	$\overline{}$	-1.320	$\overline{}$	-3.980	$\overline{}$	-17.240
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	_	0.000	_	0.000	_	0.000
Heating Oil	cents/Gallon	111.02	_	0.270	$\overline{}$	-7.830	$\overline{}$	-76.280
Propane, Mt. Bel	cents/Gallon	0.49	_	0.001	$\overline{}$	-0.010	_	0.066
Ethane, Mt. Bel	cents/Gallon	0.20	A	0.003	$\overline{}$	-0.005	_	0.005
Coal, PRB	\$/MTon	12.30	_	0.000	_	0.000		0.100
Coal, ILB	\$/MTon	31.05	_	0.000	_	0.000	$\overline{}$	-4.500