

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.20	▲ \$ 0.02	▲ \$ 0.01

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 42.27	▲ \$ 0.03	▲ \$ 0.5

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 44.96	▲ \$ -	▲ \$ 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	-0.4	2.8	5.2	7.6
24 Hr Chg	-2.4	1.9	1.7	1.3

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	1.0	5.0	8.6	14.6
24 Hr Chg	2.8	6.8	0.9	10.5

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	85.6	▼ -0.63	▼ -0.81

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	43.3	▼ -1.16	▲ 0.47

	Current	Δ from YD	Δ from 7D Avg
US ResComm	8.0	▼ -0.13	▲ 0.22

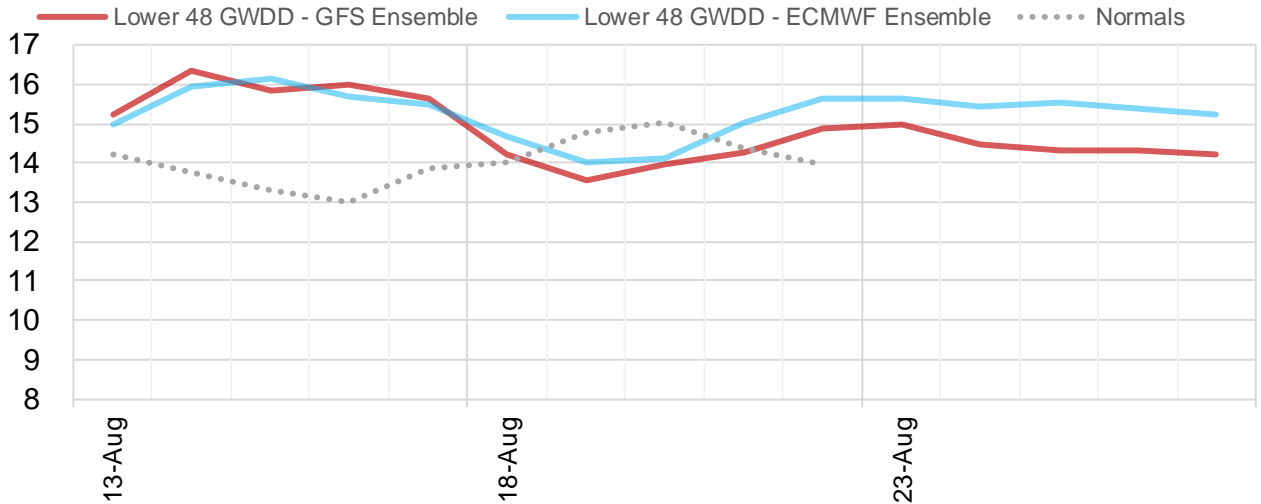
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.7	▼ -0.43	▼ -0.30

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	4.4	▼ -0.12	▼ 0.00

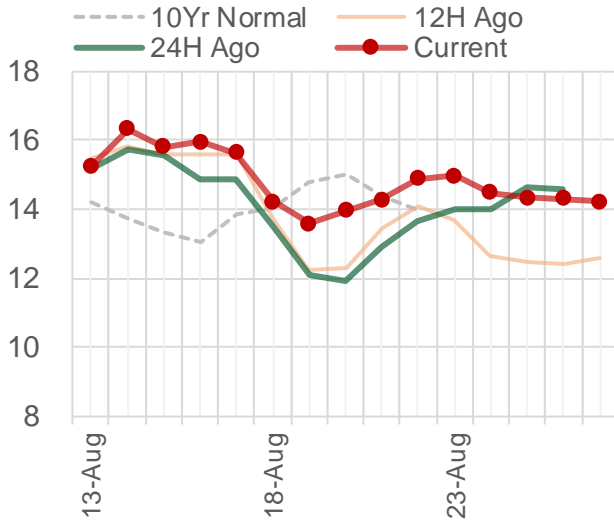
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.4	▲ 0.01	▲ 0.32

Short-term Weather Model Outlooks (00z)

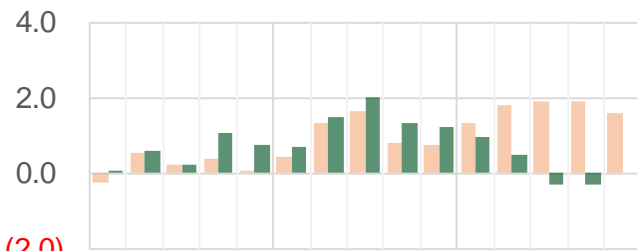
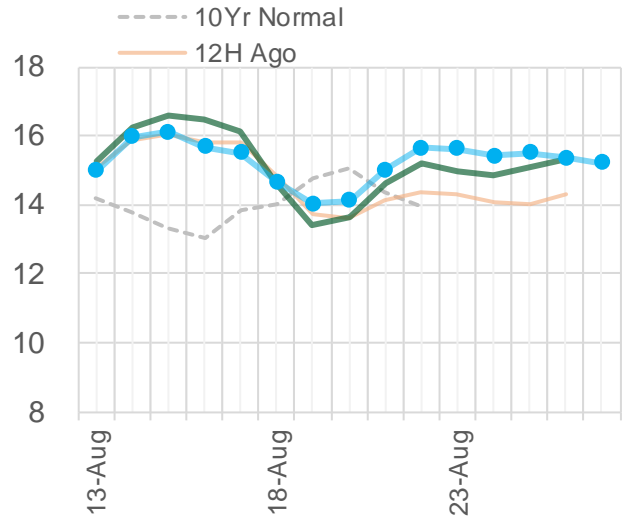
Lower 48 TDD Forecast



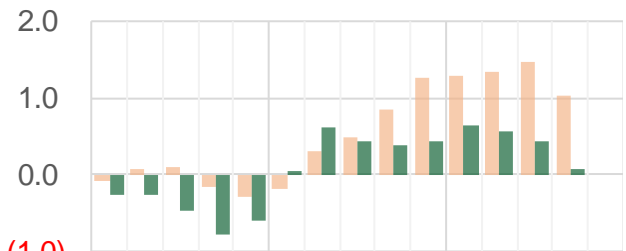
Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



(2.0)



(1.0)

Source: WSI, Bloomberg

Lower 48 Component Models

Daily Balances

	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	DoD	vs. 7D
Lower 48 Dry Production	86.6	87.1	86.9	86.0	85.4	86.2	85.6	▼ -0.6	▼ -0.8
Canadian Imports	4.7	4.7	5.2	5.8	5.5	5.2	4.7	▼ -0.4	▼ -0.4
L48 Power	38.6	40.6	46.3	46.0	45.9	44.4	43.3	▼ -1.2	▼ -0.4
L48 Residential & Commercial	7.2	7.5	8.0	7.9	8.1	8.1	8.0	▼ -0.1	▲ 0.2
L48 Industrial	18.7	18.9	19.0	19.0	19.1	19.3	19.1	▼ -0.1	▲ 0.2
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.7	4.8	4.8	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	2.1	2.2	2.5	2.5	2.5	2.4	2.4	▼ -0.1	▼ 0.0
L48 Regional Gas Consumption	71.5	74.0	80.5	80.2	80.4	79.0	77.5	▼ -1.5	▼ -0.1
Net LNG Exports	4.3	4.3	4.5	4.5	4.4	4.5	4.4	▼ -0.1	▼ -0.1
Total Mexican Exports	5.8	5.7	5.9	6.2	6.2	6.3	6.4	▲ 0.0	▲ 0.4
Implied Daily Storage Activity	9.8	7.8	1.2	0.9	-0.1	1.5	2.1		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	10-Jul	17-Jul	24-Jul	31-Jul	7-Aug	14-Aug	WoW	vs. 4W
Lower 48 Dry Production	85.7	85.6	86.3	86.3	86.3	86.4	▲ 0.1	▲ 0.3
Canadian Imports	4.3	4.5	4.4	4.5	4.6	5.0	▲ 0.4	▲ 0.5
L48 Power	41.8	42.9	45.5	45.5	40.8	42.8	▲ 2.0	▼ -0.9
L48 Residential & Commercial	7.9	7.9	8.1	8.1	7.7	7.7	▲ 0.1	▼ -0.2
L48 Industrial	18.2	17.9	17.2	17.0	18.2	18.9	▲ 0.8	▲ 1.4
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▲ 0.0	▼ 0.0
L48 Pipeline Distribution	2.3	2.3	2.4	2.4	2.2	2.3	▲ 0.1	▼ 0.0
L48 Regional Gas Consumption	75.0	75.8	78.0	77.9	73.6	76.6	▲ 2.9	▲ 0.2
Net LNG Exports	3.0	3.3	3.6	3.1	3.9	4.4	▲ 0.5	▲ 0.9
Total Mexican Exports	5.9	6.2	6.4	6.2	6.1	6.0	▼ -0.1	▼ -0.2
Implied Daily Storage Activity	6.0	4.8	2.7	3.5	7.3	4.4	-2.9	
EIA Reported Daily Storage Activity	6.4	5.3	3.7	4.7	8.3			
Daily Model Error	-0.4	-0.5	-1.0	-1.2	-1.0			

Monthly Balances

	2Yr Ago Aug-18	LY Aug-19	Apr-20	May-20	Jun-20	Jul-20	MTD Aug-20	MoM	vs. LY
Lower 48 Dry Production	83.3	92.4	91.7	86.0	84.9	85.9	86.3	▲ 0.3	▼ -6.2
Canadian Imports	5.0	4.4	3.9	3.9	4.0	4.4	4.8	▲ 0.5	▲ 0.5
L48 Power	38.2	41.0	25.5	26.9	34.4	43.7	41.7	▼ -2.0	▲ 0.7
L48 Residential & Commercial	7.8	7.8	20.4	13.0	8.6	8.0	7.7	▼ -0.3	▼ -0.1
L48 Industrial	20.2	21.9	20.7	18.8	18.4	17.7	18.6	▲ 1.0	▼ -3.3
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	2.3	▼ -0.1	▲ 0.0
L48 Regional Gas Consumption	73.0	78.1	73.8	65.4	68.4	76.5	75.1	▼ -1.4	▼ -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	6.1	▼ 0.0	▲ 0.7
Implied Daily Storage Activity	7.0	8.1	8.7	12.9	10.8	4.4	5.7		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

Regional S/D Models Storage Projection

Week Ending 14-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	4.2	1.3	5.5	38
East	0.0	2.4	2.4	17
Midwest	2.4	0.0	2.4	17
Mountain	3.1	-2.4	0.8	5
South Central	-2.0	1.8	-0.2	-1
Pacific	0.7	-0.6	0.1	1

*Adjustment Factor is calculated based on historical regional deltas

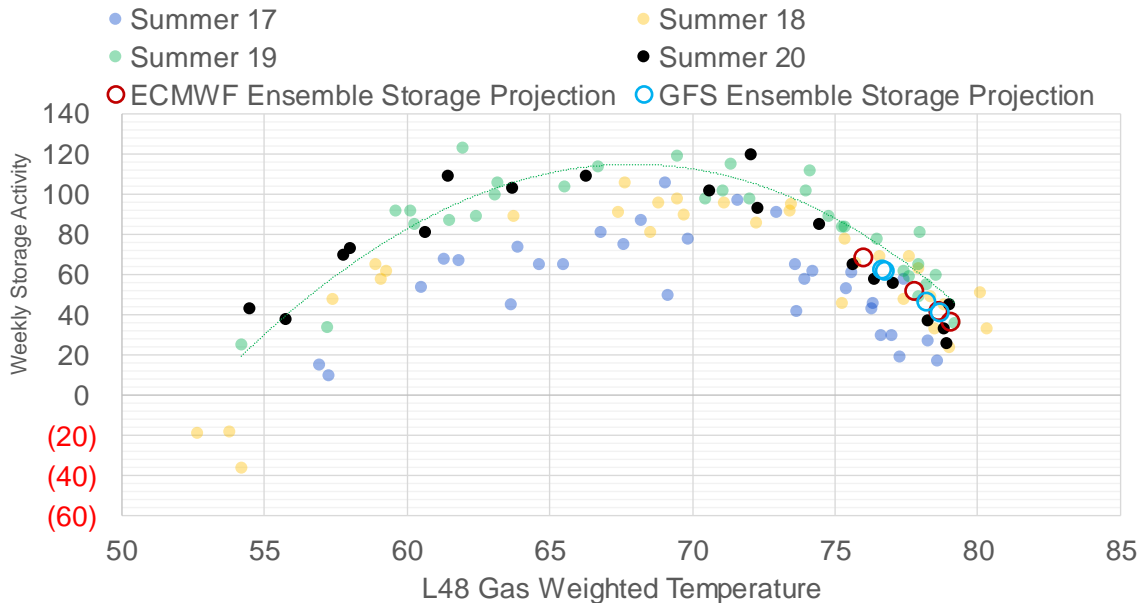
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

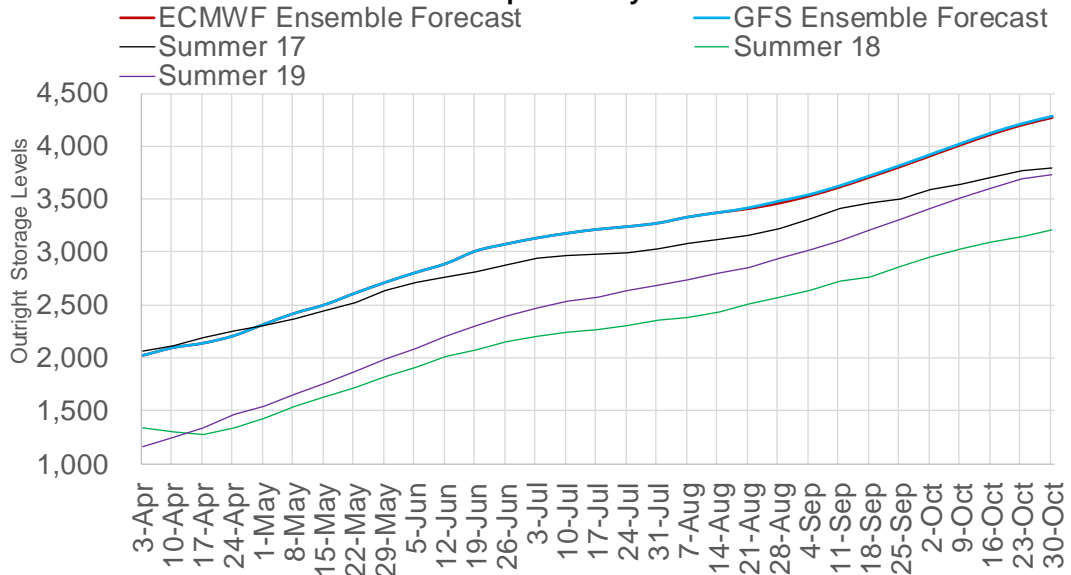
Next report and beyond	
Week Ending	Week Storage Projection
21-Aug	42
28-Aug	57
4-Sep	65

Weather Storage Model - Next 4 Week Forecast



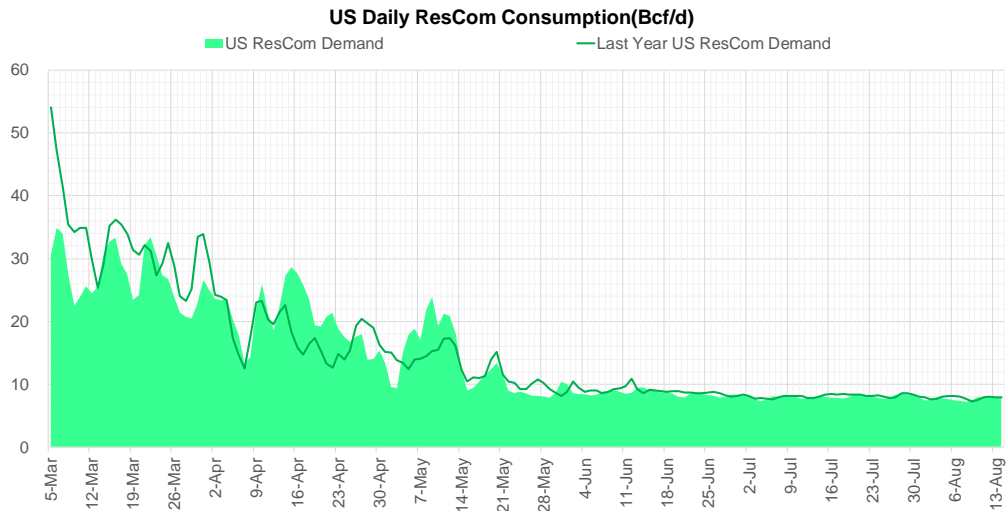
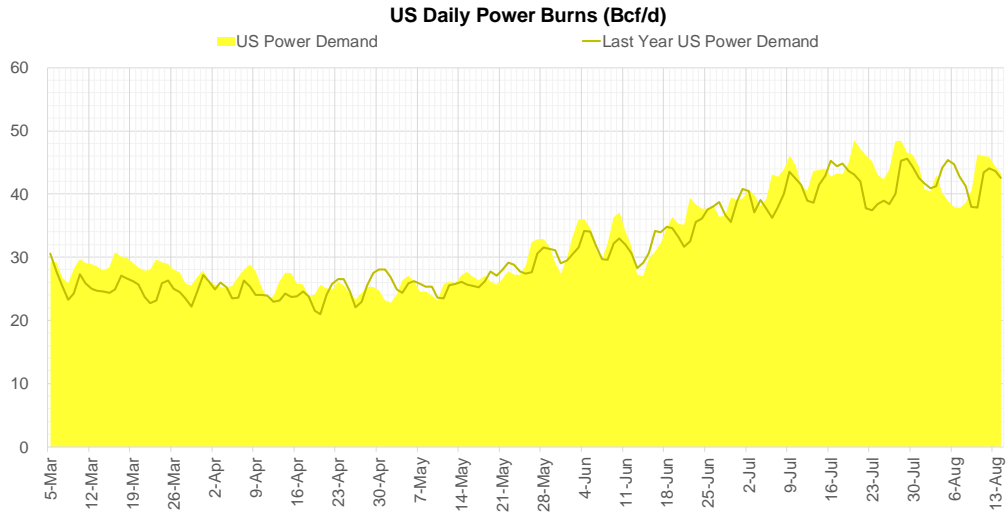
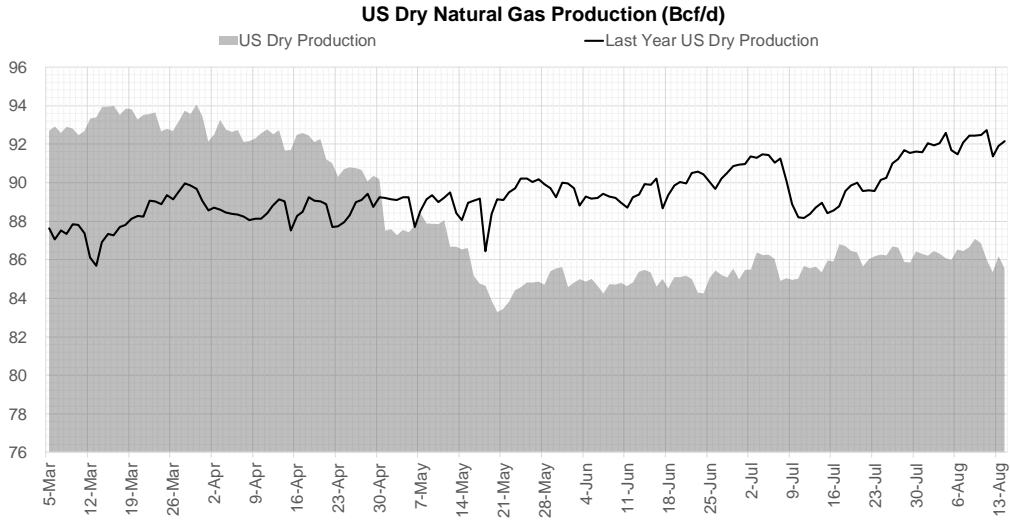
Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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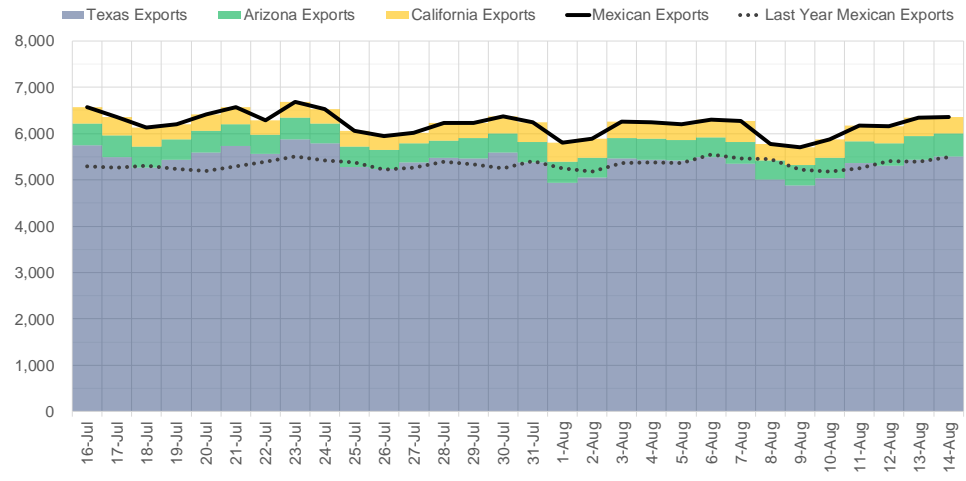
Supply – Demand Trends



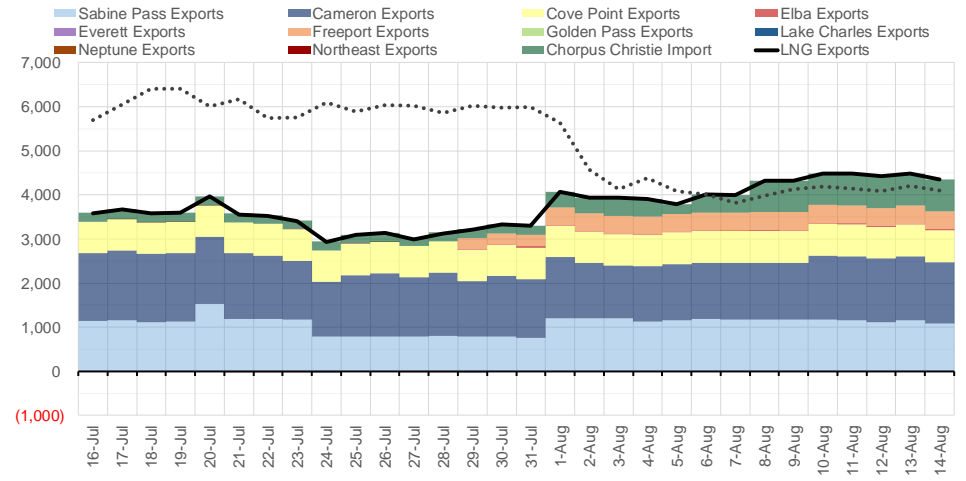
Source: Bloomberg

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Mexican Exports - Last 30 days (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d)



Source: Bloomberg

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

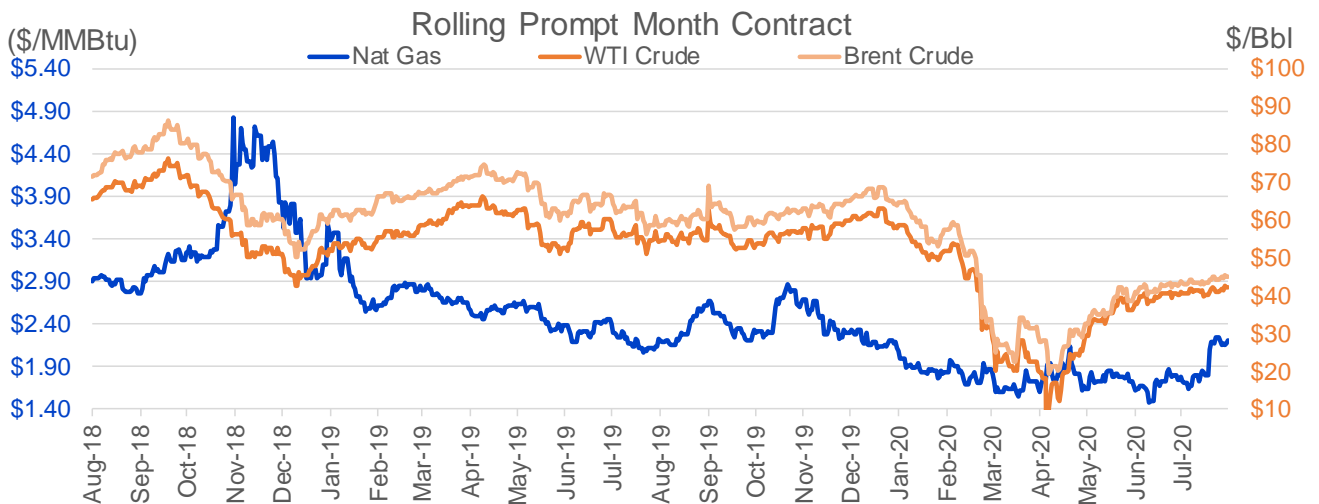
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
9	2020	P	2.00	8865	9	2020	C	2.50	46660
10	2020	P	1.50	4111	10	2020	P	1.50	45470
9	2020	C	2.35	3825	10	2020	C	2.75	42568
9	2020	P	1.90	3707	10	2020	C	2.50	40063
9	2020	C	2.50	3610	10	2020	P	2.00	37782
9	2020	P	2.10	3280	3	2021	P	2.00	35522
9	2020	C	2.40	2662	10	2020	P	1.60	34391
10	2020	C	2.40	2403	10	2020	C	3.00	33868
10	2020	P	2.00	2083	10	2020	P	1.25	28908
9	2020	P	1.75	2003	10	2020	P	1.75	27694
11	2020	C	3.50	2001	9	2020	P	2.00	26002
9	2020	P	1.85	1745	10	2020	P	1.00	24723
10	2020	C	3.25	1622	9	2020	P	1.00	24289
10	2020	C	2.15	1556	9	2020	P	1.75	23752
10	2020	C	2.65	1495	9	2020	C	3.00	23707
9	2020	P	1.80	1399	9	2020	P	1.50	23391
9	2020	C	2.25	1375	9	2020	C	2.00	22947
10	2020	P	1.70	1340	9	2020	P	1.20	22877
9	2020	C	2.15	1327	3	2021	C	3.00	22349
9	2020	P	2.05	1322	10	2020	C	2.10	21985
11	2020	P	2.25	1208	10	2020	C	3.25	21795
9	2020	C	2.30	1163	3	2021	C	6.00	21604
10	2020	C	2.60	1144	9	2020	C	2.25	19857
9	2020	C	2.65	1100	12	2020	P	2.00	19668
3	2021	C	3.25	1100	9	2020	P	1.30	19378
1	2021	C	3.25	1000	9	2020	P	1.25	19214
1	2021	C	4.00	1000	10	2020	P	1.30	19087
9	2020	P	1.95	951	1	2021	C	4.50	19076
10	2020	P	2.30	910	10	2020	P	2.10	19025
11	2020	P	2.50	901	3	2021	C	3.50	18984
10	2020	P	2.15	879	10	2020	C	2.00	18662
10	2020	C	2.30	857	9	2020	C	2.75	18641
11	2020	P	2.00	854	1	2021	C	3.50	18206
12	2020	C	3.50	767	11	2020	C	3.50	18046
11	2020	C	3.00	752	11	2020	C	3.00	17372
1	2021	P	2.25	750	10	2020	C	2.25	17163
2	2021	C	4.50	750	10	2020	C	2.40	17149
10	2020	C	2.75	742	10	2020	P	1.80	16922
9	2020	P	2.15	693	1	2021	C	3.00	16605
10	2020	C	2.50	688	12	2020	P	1.50	16402
10	2020	C	2.35	554	11	2020	C	2.75	15588
3	2021	C	2.75	550	4	2021	C	3.00	14997
3	2021	C	3.75	550	1	2021	P	2.25	14403
10	2020	P	1.00	549	10	2020	C	3.50	14385
11	2020	C	2.80	533	9	2020	C	2.40	14204
4	2021	C	3.25	530	1	2021	C	3.75	13927
5	2021	C	3.25	530	2	2021	C	5.00	13519
6	2021	C	3.25	530	10	2020	P	1.40	13253
7	2021	C	3.25	530	9	2020	C	3.25	12929
					10	2021	C	3	12925

Source: CME, Nasdaq, ICE

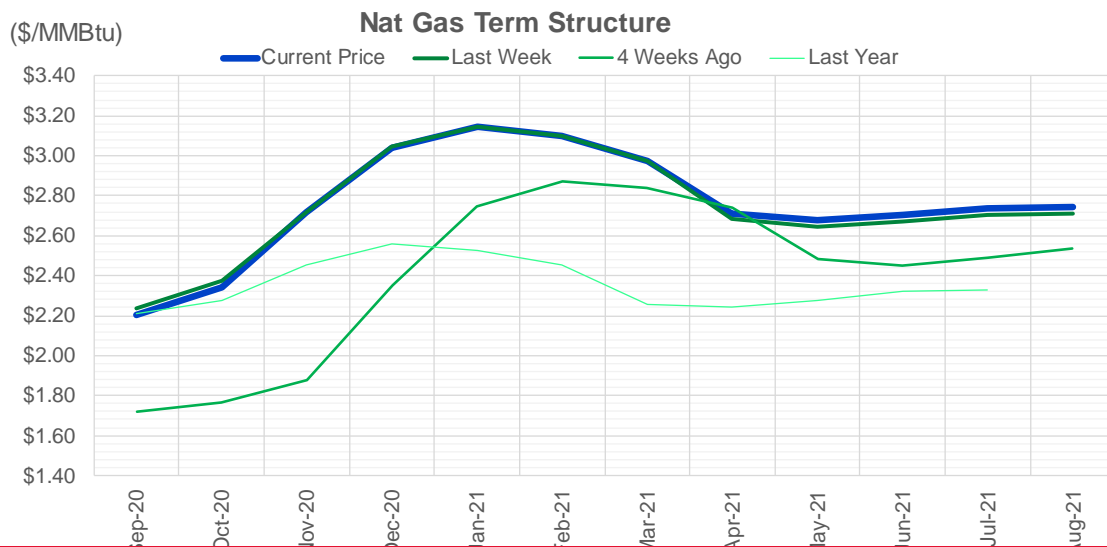
Nat Gas Futures Open Interest CME, and ICE Combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM			
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
SEP 20	147584	174317	-26733	SEP 20	71939	72592	-653.5
OCT 20	201728	184775	16953	OCT 20	82770	82335	434.5
NOV 20	178329	157073	21256	NOV 20	69878	68973	905
DEC 20	92280	91438	842	DEC 20	71892	71712	179.75
JAN 21	125577	125895	-318	JAN 21	87836	87579	256.75
FEB 21	41586	41444	142	FEB 21	53104	53039	65.25
MAR 21	76433	78185	-1752	MAR 21	68356	69204	-847.25
APR 21	77881	77845	36	APR 21	60123	59885	238.25
MAY 21	44218	43896	322	MAY 21	49732	49826	-93.5
JUN 21	22895	23393	-498	JUN 21	47845	48038	-193
JUL 21	17339	17084	255	JUL 21	49761	49653	108.25
AUG 21	16657	16896	-239	AUG 21	48108	48080	28
SEP 21	20512	20116	396	SEP 21	46458	47093	-635.5
OCT 21	50861	50481	380	OCT 21	67693	67899	-205.5
NOV 21	24390	24099	291	NOV 21	40811	40315	496.5
DEC 21	18344	17739	605	DEC 21	41166	41812	-645.75
JAN 22	18998	18875	123	JAN 22	34670	34286	383.75
FEB 22	11165	11133	32	FEB 22	29201	29243	-41.75
MAR 22	16039	16253	-214	MAR 22	31743	31739	4
APR 22	17010	16572	438	APR 22	31150	30758	391.75
MAY 22	5434	5427	7	MAY 22	23317	23241	75.75
JUN 22	2816	2824	-8	JUN 22	23144	23037	106.5
JUL 22	2109	2115	-6	JUL 22	22783	22677	105.75
AUG 22	1739	1740	-1	AUG 22	23135	23025	109.75
SEP 22	2221	2226	-5	SEP 22	22294	22487	-193.5
OCT 22	2749	2780	-31	OCT 22	23950	23879	71
NOV 22	1970	1970	0	NOV 22	21507	21438	69
DEC 22	1948	1948	0	DEC 22	22265	22194	71
JAN 23	2629	2627	2	JAN 23	12276	12182	93.5
FEB 23	678	681	-3	FEB 23	11139	11006	133.25

Source: CME, ICE



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	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21
Current Price	\$2.203	\$2.344	\$2.715	\$3.042	\$3.145	\$3.100	\$2.973	\$2.711	\$2.675	\$2.701	\$2.737	\$2.741
Last Week	\$2.238	\$2.376	\$2.720	\$3.044	\$3.147	\$3.098	\$2.973	\$2.685	\$2.647	\$2.674	\$2.707	\$2.712
vs. Last Week	-\$0.035	-\$0.032	-\$0.005	-\$0.002	-\$0.002	\$0.002	\$0.000	\$0.026	\$0.028	\$0.027	\$0.030	\$0.029
4 Weeks Ago	\$1.718	\$1.765	\$1.876	\$2.350	\$2.749	\$2.874	\$2.841	\$2.740	\$2.483	\$2.450	\$2.490	\$2.535
vs. 4 Weeks Ago	\$0.485	\$0.579	\$0.839	\$0.692	\$0.396	\$0.226	\$0.132	-\$0.029	\$0.192	\$0.251	\$0.247	\$0.206
Last Year	\$2.200	\$2.207	\$2.273	\$2.451	\$2.558	\$2.529	\$2.453	\$2.257	\$2.241	\$2.279	\$2.319	\$2.326
vs. Last Year	\$0.003	\$0.137	\$0.442	\$0.591	\$0.587	\$0.571	\$0.520	\$0.454	\$0.434	\$0.422	\$0.418	\$0.415

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.49	1.72	0.23
TETCO M3	\$/MMBtu	1.42	1.61	0.19
FGT Zone 3	\$/MMBtu	1.53	2.33	0.80
Zone 6 NY	\$/MMBtu	1.53	1.66	0.13
Chicago Citygate	\$/MMBtu	2.03	1.99	-0.04
Michcon	\$/MMBtu	1.97	1.91	-0.06
Columbia TCO Pool	\$/MMBtu	1.89	1.77	-0.12
Ventura	\$/MMBtu	1.89	1.91	0.02
Rockies/Opal	\$/MMBtu	2.22	1.87	-0.36
El Paso Permian Basin	\$/MMBtu	1.49	1.57	0.08
Socal Citygate	\$/MMBtu	4.27	2.02	-2.25
Malin	\$/MMBtu	2.16	1.98	-0.18
Houston Ship Channel	\$/MMBtu	2.14	2.23	0.09
Henry Hub Cash	\$/MMBtu	2.05	2.08	0.03
AECO Cash	C\$/GJ	1.86	1.80	-0.06
Station2 Cash	C\$/GJ	1.82	1.98	0.16
Dawn Cash	C\$/GJ	1.97	1.96	-0.01

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.43	▲ 0.028	▼ -0.043	▼ -0.041	
NatGas Mar/Apr	\$/MMBtu	-0.262	▲ 0.026	▼ -0.519	▼ -0.513	
NatGas Oct/Nov	\$/MMBtu	0.37	▲ 0.027	▼ -0.103	▲ 0.309	
NatGas Oct/Jan	\$/MMBtu	0.80	▲ 0.030	▼ -0.197	▲ 0.462	
WTI Crude	\$/Bbl	42.27	▲ 1.050	▲ 1.680	▼ -12.600	
Brent Crude	\$/Bbl	44.96	▲ 0.560	▲ 1.820	▼ -13.680	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	124.37	▲ 2.380	▲ 2.460	▼ -56.910	
Propane, Mt. Bel	cents/Gallon	0.50	▲ 0.001	▲ 0.021	▲ 0.116	
Ethane, Mt. Bel	cents/Gallon	0.23	▲ 0.005	▲ 0.015	▲ 0.087	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.200	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -7.000	