

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 1.91	▲ \$ 0.11	▲ \$ 0.10

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 40.10	▼ \$ (0.17)	▼ \$ (0.6)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 43.39	▲ \$ 0.09	▲ \$ 0.1

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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	1.5	0.2	-0.9	0.9
24 Hr Chg	-0.9	-1.3	0.5	-1.8

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	1.8	1.7	1.2	4.7
24 Hr Chg	-0.8	-2.0	-0.8	-3.7

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	84.9	▼ -1.20	▼ -1.00

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	42.5	▲ 1.82	▼ -2.60

	Current	Δ from YD	Δ from 7D Avg
US ResComm	7.0	▲ 0.29	▼ -0.11

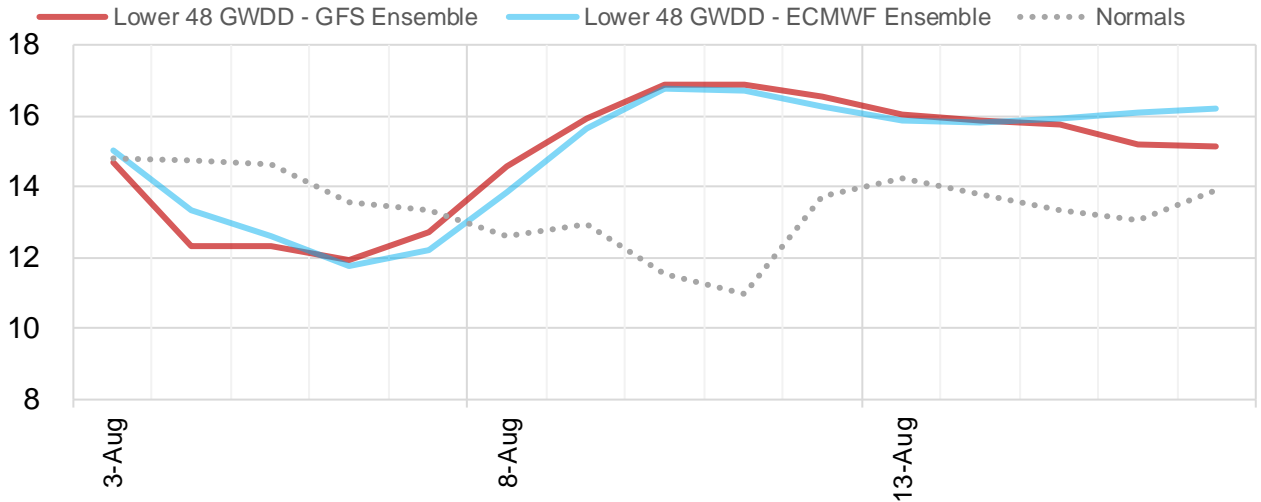
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	4.6	▲ 0.03	▼ -0.11

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	3.9	▼ -0.06	▲ 0.46

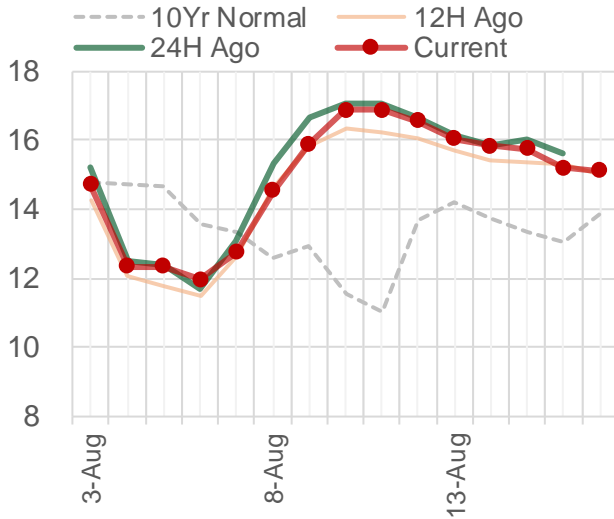
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.4	▲ 0.48	▲ 0.27

Short-term Weather Model Outlooks (00z)

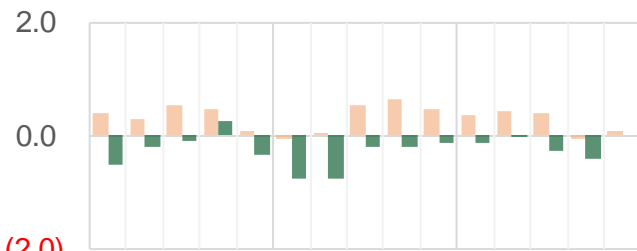
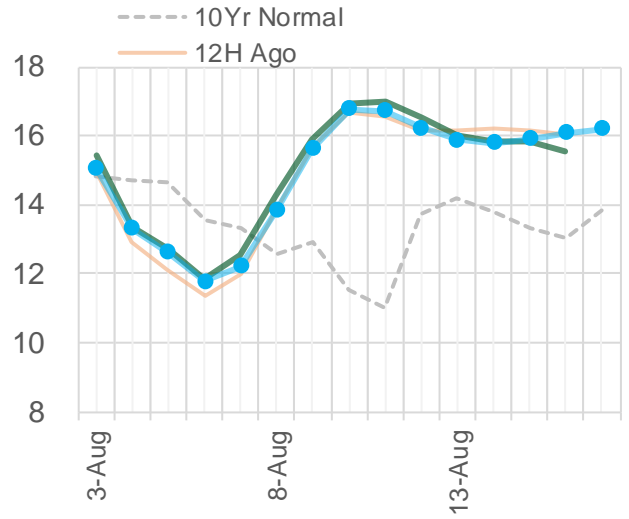
Lower 48 TDD Forecast



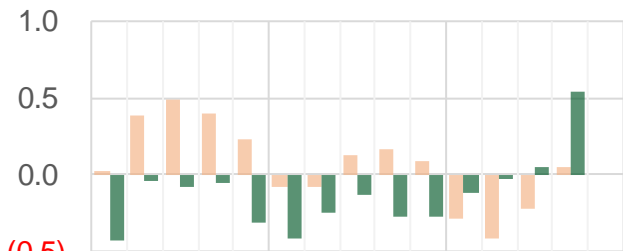
Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



(2.0)



(0.5)

Source: WSI, Bloomberg

Lower 48 Component Models

Daily Balances

	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	DoD	vs. 7D
Lower 48 Dry Production	85.5	85.5	86.0	85.9	85.9	86.1	84.9	▼ -1.2	▼ -0.9
Canadian Imports	5.0	4.8	4.9	4.6	4.6	4.6	4.6	▲ 0.0	▼ -0.1
L48 Power	48.4	46.6	46.2	44.4	40.7	40.6	42.5	▲ 1.8	▼ -2.0
L48 Residential & Commercial	7.5	7.4	7.3	6.9	6.5	6.7	7.0	▲ 0.3	▼ -0.1
L48 Industrial	18.2	18.0	17.7	17.1	16.8	16.7	17.5	▲ 0.8	▲ 0.1
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	4.7	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.3	2.3	2.2	2.1	2.1	2.2	▲ 0.1	▼ -0.1
L48 Regional Gas Consumption	81.4	79.2	78.4	75.5	70.9	71.0	73.9	▲ 3.0	▼ -2.1
Net LNG Exports	3.1	3.2	3.3	3.3	4.1	3.9	3.9	▼ -0.1	▲ 0.4
Total Mexican Exports	6.2	6.1	6.3	6.4	6.0	5.9	6.4	▲ 0.5	▲ 0.2
Implied Daily Storage Activity	-0.2	1.7	2.9	5.2	9.5	9.9	5.3		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	26-Jun	3-Jul	10-Jul	17-Jul	24-Jul	31-Jul	WoW	vs. 4W
Lower 48 Dry Production	84.7	84.9	85.3	85.2	85.9	85.9	▼ 0.0	▲ 0.6
Canadian Imports	4.2	4.1	4.3	4.5	4.4	4.5	▲ 0.1	▲ 0.2
L48 Power	37.1	38.5	41.8	42.9	45.5	45.6	▲ 0.1	▲ 3.4
L48 Residential & Commercial	7.4	7.2	6.9	6.9	7.1	7.2	▲ 0.1	▲ 0.1
L48 Industrial	19.1	19.8	19.1	18.6	17.9	17.9	▲ 0.0	▼ -0.9
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.8	4.8	▼ 0.0	▲ 0.0
L48 Pipeline Distribution	2.1	2.1	2.1	2.2	2.3	2.3	▲ 0.0	▲ 0.1
L48 Regional Gas Consumption	70.4	72.3	74.7	75.4	77.6	77.7	▲ 0.2	▲ 2.7
Net LNG Exports	4.0	4.0	3.0	3.3	3.6	3.1	▼ -0.5	▼ -0.4
Total Mexican Exports	5.9	5.8	5.9	6.2	6.4	6.1	▼ -0.2	▲ 0.1
Implied Daily Storage Activity	8.5	6.9	6.0	4.8	2.8	3.4	0.7	
EIA Reported Daily Storage Activity	9.3	8.0	6.4	5.3	3.7			
Daily Model Error	-0.7	-1.1	-0.4	-0.5	-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	84.8	85.6	85.6	▲ 0.1	▼ -6.8
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	41.3	▼ -2.4	▲ 0.3
L48 Residential & Commercial	6.8	6.9	16.9	10.9	7.6	7.0	6.7	▼ -0.3	▼ -0.1
L48 Industrial	21.4	22.9	24.1	20.9	19.3	18.4	17.0	▼ -1.4	▼ -5.9
L48 Lease and Plant Fuel	4.7	5.1	5.1	4.8	4.8	4.8	4.8	▼ 0.0	▼ -0.4
L48 Pipeline Distribution	2.0	2.1	2.0	1.8	2.0	2.2	2.1	▼ -0.1	▲ 0.0
L48 Regional Gas Consumption	73.0	78.1	73.7	65.4	68.1	76.1	72.0	▼ -4.2	▼ -6.2
Net LNG Exports	3.3	5.2	8.2	6.7	4.0	3.3	4.0	▲ 0.7	▼ -1.2
Total Mexican Exports	5.0	5.4	4.9	4.9	5.7	6.1	6.1	▼ -0.1	▲ 0.7
Implied Daily Storage Activity	6.9	8.1	8.8	12.9	11.0	4.4	8.2		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

Regional S/D Models Storage Projection

Week Ending 31-Jul

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.2	1.0	4.2	30
East	-0.8	2.0	1.2	8
Midwest	4.0	-2.1	1.9	13
Mountain	2.9	-2.1	0.7	5
South Central	-3.2	3.5	0.3	2
Pacific	0.3	-0.1	0.2	1

*Adjustment Factor is calculated based on historical regional deltas

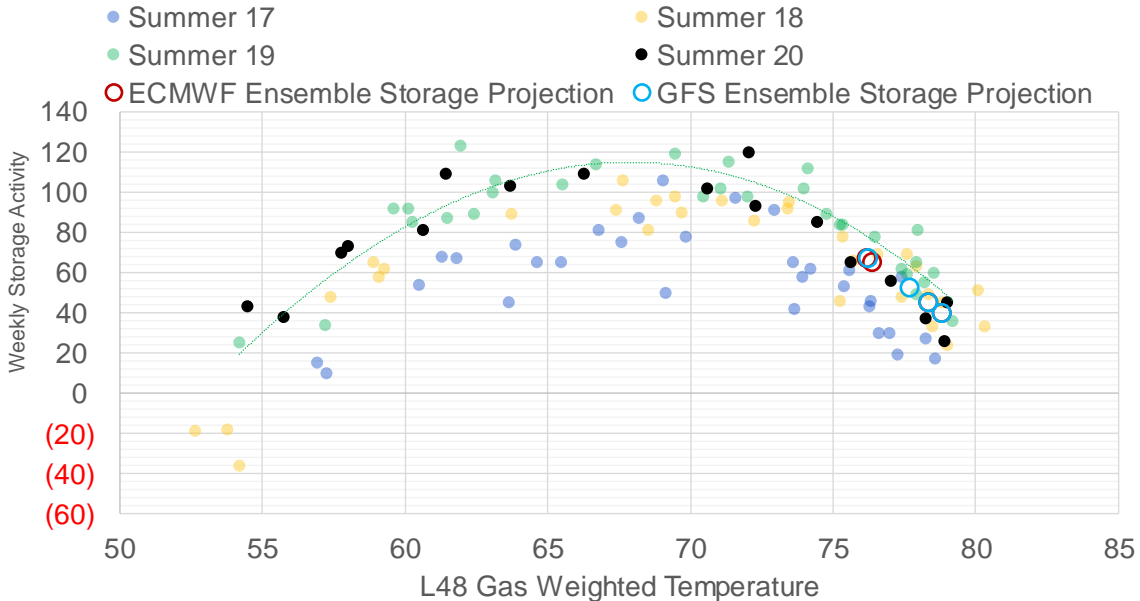
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

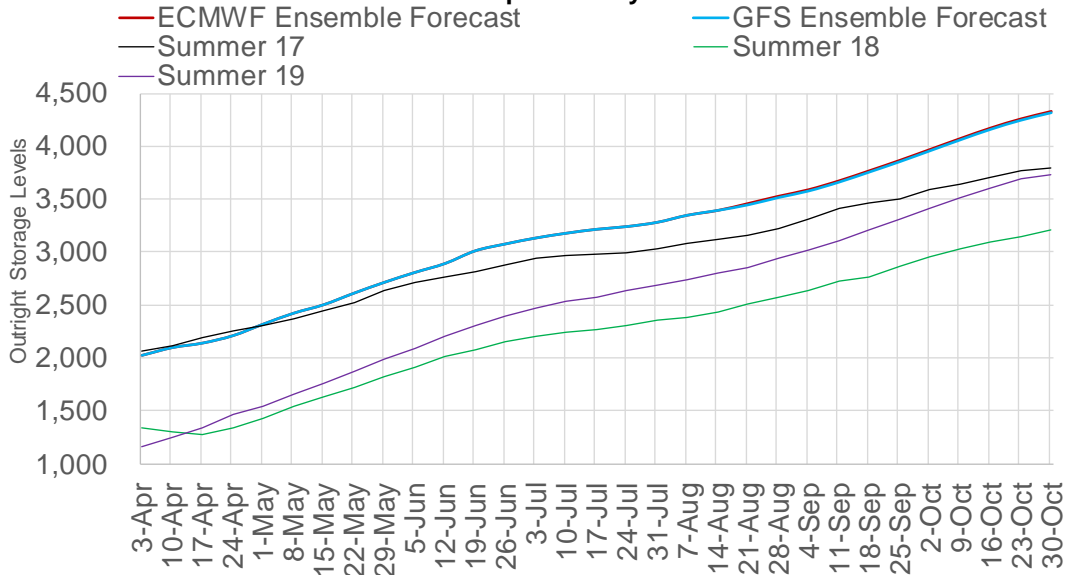
Next report and beyond	
Week Ending	Week Storage Projection
7-Aug	67
14-Aug	45
21-Aug	59

Weather Storage Model - Next 4 Week Forecast



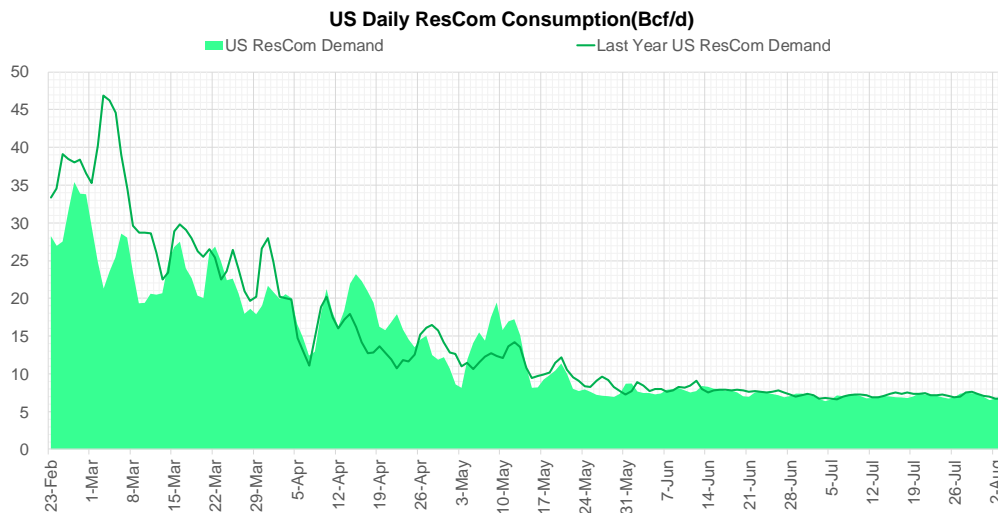
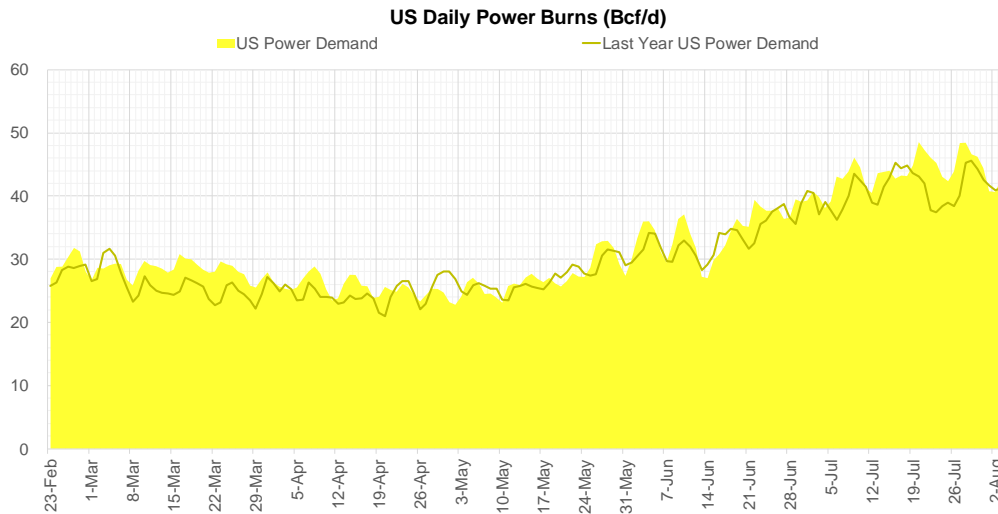
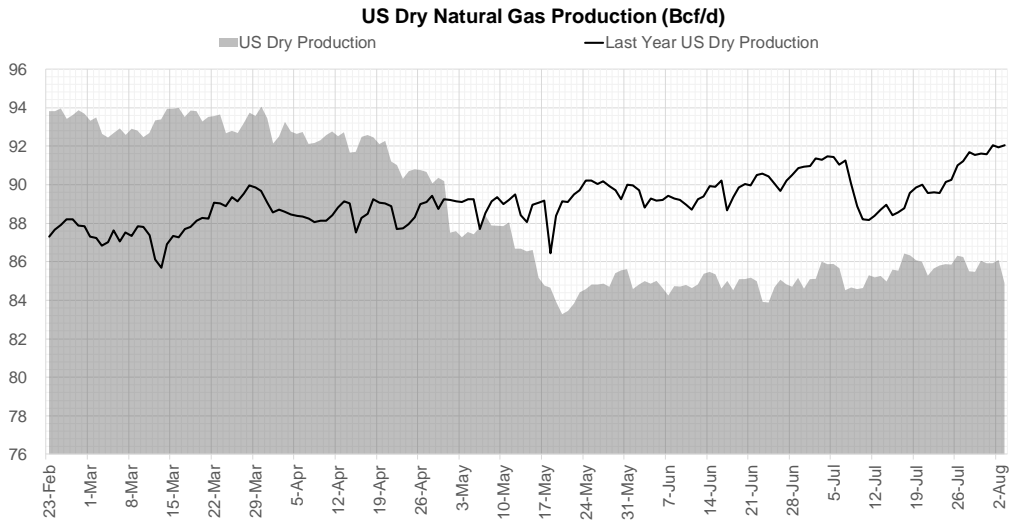
Weather Based End of Winter Projection (Bcf)

10Y normals past 15 day forecast window



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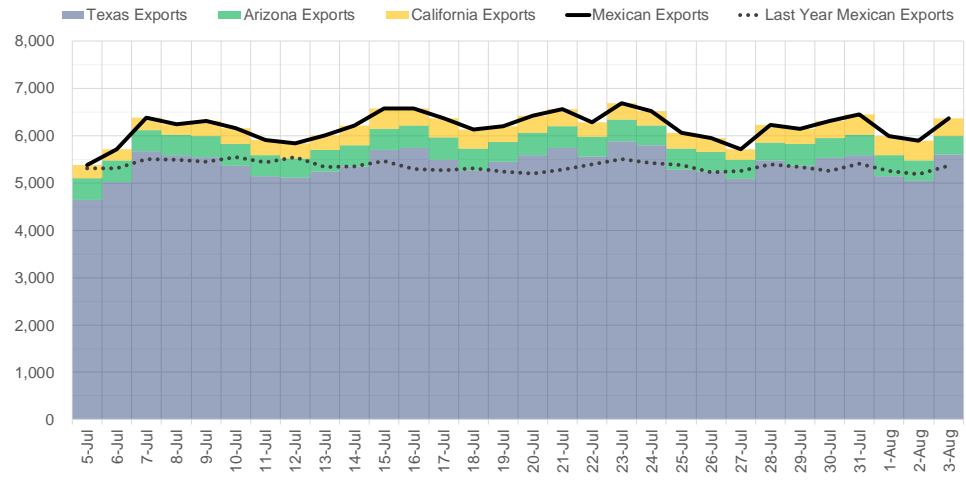
Supply – Demand Trends



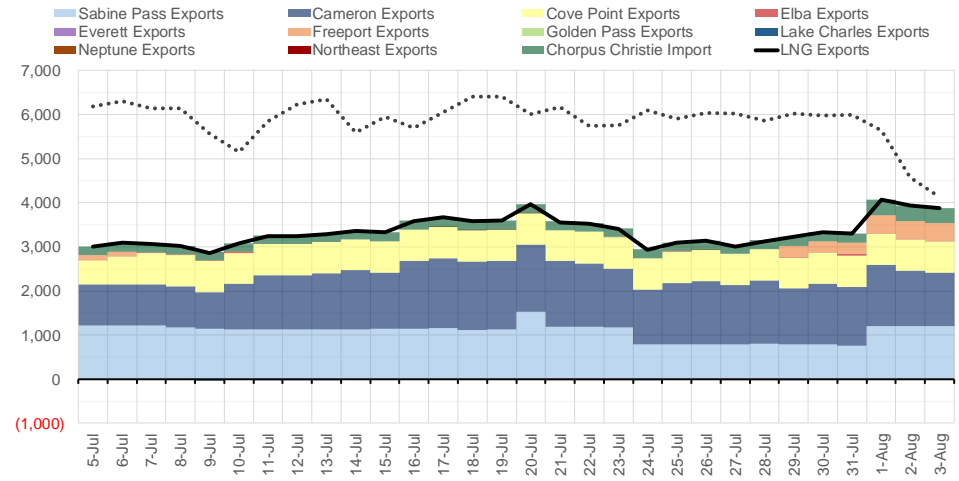
Source: Bloomberg

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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

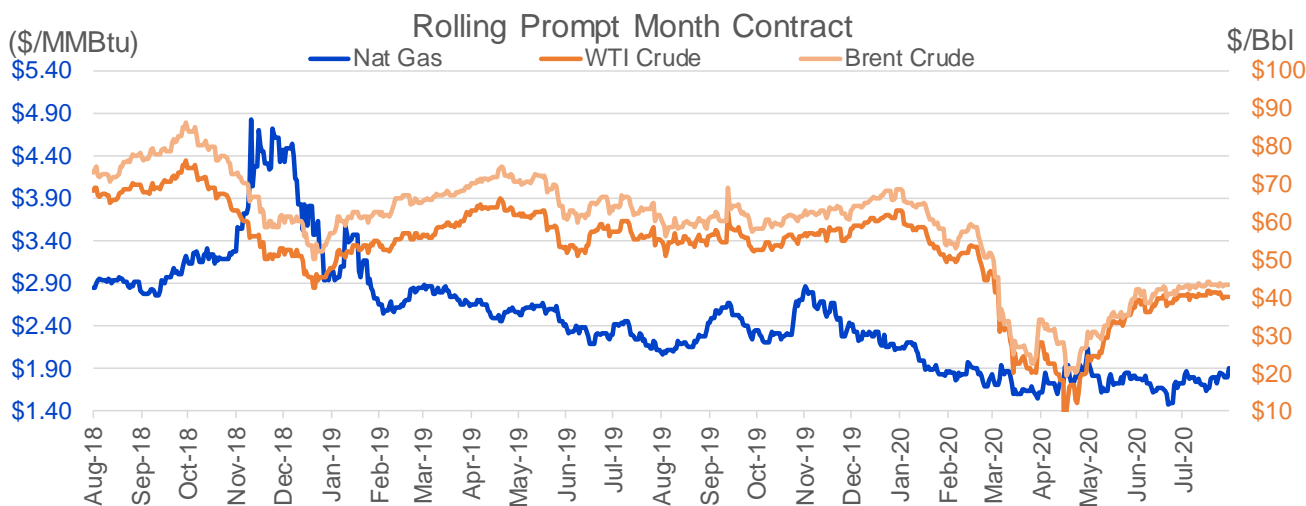
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
10	2020	C	2.50	8372	10	2020	C	2.75	50500
9	2020	C	2.00	7709	10	2020	P	1.50	49188
3	2021	C	6.00	7250	10	2020	C	2.50	41314
9	2020	P	1.50	5189	3	2021	P	2.00	35531
12	2020	P	1.85	5001	10	2020	P	1.60	33574
12	2020	P	1.50	5000	10	2020	C	3.00	31818
9	2020	P	1.75	3342	9	2020	C	2.50	30949
1	2021	P	2.00	3300	9	2020	P	1.50	30738
9	2020	C	2.10	3199	10	2020	P	2.00	30659
9	2020	C	2.05	2988	10	2020	P	1.25	28077
9	2020	P	1.80	2959	10	2020	P	1.00	26002
9	2020	C	2.25	2929	9	2020	P	1.75	25937
10	2020	C	2.00	2807	10	2020	P	1.75	25752
10	2020	C	2.10	2279	9	2020	C	3.00	24615
9	2020	C	2.15	2224	9	2020	P	1.00	24078
9	2020	C	2.50	1851	9	2020	P	1.20	22715
1	2021	P	1.75	1705	10	2020	C	2.10	22374
10	2020	P	1.60	1672	3	2021	C	3.00	21879
10	2020	P	1.35	1520	3	2021	C	6.00	20454
10	2020	C	2.25	1505	9	2020	C	2.00	19863
10	2020	P	1.75	1477	9	2020	P	1.25	19790
9	2020	C	1.80	1258	9	2020	P	1.30	19112
9	2020	P	1.40	1233	10	2020	P	1.30	19093
9	2020	P	1.60	1226	9	2020	C	2.75	18770
12	2020	C	3.00	1105	9	2020	C	2.25	18671
10	2020	C	2.20	1104	1	2021	C	3.50	18569
9	2020	C	1.85	1062	3	2021	C	3.50	18545
9	2020	P	1.70	1055	10	2020	P	2.10	18284
10	2020	P	1.00	1014	10	2020	C	3.25	18198
11	2020	P	1.75	1007	10	2020	C	2.25	17658
10	2020	P	0.75	1000	10	2020	C	2.00	17514
5	2022	C	3.00	1000	1	2021	C	3.00	17410
10	2020	P	1.50	930	12	2020	P	2.00	17392
9	2020	C	2.20	897	11	2020	P	1.75	16833
10	2020	C	3.00	801	10	2020	C	2.40	16173
9	2020	P	1.65	793	12	2020	P	1.50	15756
11	2020	P	2.00	729	4	2021	C	3.00	15512
3	2021	C	3.00	700	11	2020	C	3.50	14037
10	2020	C	2.40	666	9	2020	P	2.00	13926
10	2020	P	1.80	652	1	2021	C	3.75	13718
11	2020	P	1.50	607	1	2021	C	4.50	13157
9	2020	C	1.90	576	10	2020	P	1.40	13041
10	2020	C	2.30	533	9	2020	C	3.25	12912
10	2020	P	1.25	532	4	2021	P	2.00	12724
11	2020	P	1.35	500	10	2020	C	2.20	12585
1	2021	C	7.00	500	1	2021	P	2.50	12559
2	2021	C	7.00	500	10	2021	C	3.00	12550
3	2021	C	3.50	500	9	2020	C	2.10	12463
3	2021	C	7.00	500	5	2021	C	3.00	12411
					10	2020	P	1.2	12393

Source: CME, Nasdaq, ICE

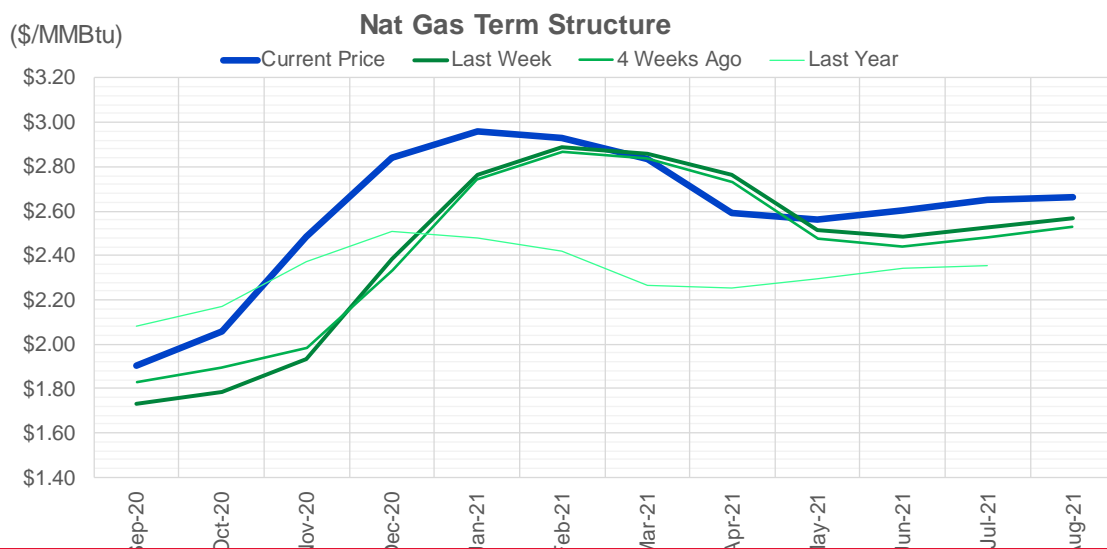
Nat Gas Futures Open Interest CME, and ICE Combined

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	347176	345507	1669	SEP 20	79603	80037	-433.75
OCT 20	149951	145945	4006	OCT 20	81825	81464	360.75
NOV 20	107781	106089	1692	NOV 20	66468	66409	58.75
DEC 20	86322	86281	41	DEC 20	64742	64617	125
JAN 21	132336	130125	2211	JAN 21	85375	85030	344.5
FEB 21	41486	41231	255	FEB 21	51218	51065	152.75
MAR 21	79721	78591	1130	MAR 21	68945	69093	-148
APR 21	79082	78103	979	APR 21	56758	57023	-265
MAY 21	37978	37421	557	MAY 21	47748	47808	-59.25
JUN 21	21461	21405	56	JUN 21	46830	46667	163.5
JUL 21	18570	18276	294	JUL 21	47477	47305	172
AUG 21	15524	15336	188	AUG 21	47688	47530	158.25
SEP 21	17539	17546	-7	SEP 21	45349	45069	280.5
OCT 21	44360	44222	138	OCT 21	67069	66953	116.5
NOV 21	23585	23523	62	NOV 21	39066	38999	66.25
DEC 21	16050	15799	251	DEC 21	40506	40521	-15.25
JAN 22	17286	16766	520	JAN 22	33302	33295	7.25
FEB 22	9474	9503	-29	FEB 22	28856	28786	69.5
MAR 22	13997	13920	77	MAR 22	31103	31018	84.75
APR 22	13902	13885	17	APR 22	29451	29352	98.5
MAY 22	5430	5456	-26	MAY 22	23221	23134	86.5
JUN 22	2707	2710	-3	JUN 22	23012	22877	135
JUL 22	2168	2168	0	JUL 22	22845	22722	123
AUG 22	1660	1659	1	AUG 22	22759	22639	119.75
SEP 22	2202	2202	0	SEP 22	22260	22156	103.5
OCT 22	2485	2485	0	OCT 22	24102	23986	116.25
NOV 22	1909	1911	-2	NOV 22	21346	21241	105
DEC 22	1871	1871	0	DEC 22	21998	21734	263.75
JAN 23	2643	2643	0	JAN 23	11823	11768	54.5
FEB 23	651	651	0	FEB 23	10757	10701	56

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	\$1.906	\$2.059	\$2.485	\$2.842	\$2.959	\$2.928	\$2.832	\$2.592	\$2.561	\$2.602	\$2.649	\$2.661
Last Week	\$1.734	\$1.786	\$1.932	\$2.385	\$2.763	\$2.888	\$2.858	\$2.761	\$2.516	\$2.484	\$2.524	\$2.570
vs. Last Week	\$0.172	\$0.273	\$0.553	\$0.457	\$0.196	\$0.040	-\$0.026	-\$0.169	\$0.045	\$0.118	\$0.125	\$0.091
4 Weeks Ago	\$1.830	\$1.893	\$1.983	\$2.335	\$2.741	\$2.870	\$2.839	\$2.733	\$2.473	\$2.440	\$2.482	\$2.530
vs. 4 Weeks Ago	\$0.076	\$0.166	\$0.502	\$0.507	\$0.218	\$0.058	-\$0.007	-\$0.141	\$0.088	\$0.162	\$0.167	\$0.131
Last Year	\$2.070	\$2.083	\$2.169	\$2.372	\$2.506	\$2.481	\$2.420	\$2.263	\$2.252	\$2.297	\$2.345	\$2.357
vs. Last Year	-\$0.164	-\$0.024	\$0.316	\$0.470	\$0.453	\$0.447	\$0.412	\$0.329	\$0.309	\$0.305	\$0.304	\$0.304

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	1.60	1.54	-0.06
TETCO M3	\$/MMBtu	1.56	1.68	0.12
FGT Zone 3	\$/MMBtu	1.50	1.82	0.32
Zone 6 NY	\$/MMBtu	1.50	1.61	0.11
Chicago Citygate	\$/MMBtu	1.66	1.66	0.00
Michcon	\$/MMBtu	1.64	1.58	-0.06
Columbia TCO Pool	\$/MMBtu	1.49	1.51	0.02
Ventura	\$/MMBtu	1.64	1.62	-0.03
Rockies/Opal	\$/MMBtu	1.75	1.55	-0.20
El Paso Permian Basin	\$/MMBtu	0.18	1.38	1.20
Socal Citygate	\$/MMBtu	2.61	1.84	-0.78
Malin	\$/MMBtu	1.69	1.66	-0.03
Houston Ship Channel	\$/MMBtu	1.73	1.72	-0.02
Henry Hub Cash	\$/MMBtu	1.80	1.63	-0.17
AECO Cash	C\$/GJ	1.54	1.42	-0.12
Station2 Cash	C\$/GJ	1.56	1.64	0.08
Dawn Cash	C\$/GJ	1.64	1.64	0.00

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks		vs. Last Year
				Ago		
NatGas Jan/Apr	\$/MMBtu	-0.37	▲ 0.005	▲ 0.030	▼ -0.001	
NatGas Mar/Apr	\$/MMBtu	-0.240	▲ 0.005	▼ -0.500	▼ -0.479	
NatGas Oct/Nov	\$/MMBtu	0.43	▼ -0.027	▲ 0.074	▲ 0.353	
NatGas Oct/Jan	\$/MMBtu	0.90	▼ -0.056	▲ 0.013	▲ 0.538	
WTI Crude	\$/Bbl	40.10	▼ -1.500	▼ -0.530	▼ -14.590	
Brent Crude	\$/Bbl	43.39	▼ -0.020	▲ 0.290	▼ -16.420	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	122.17	▼ -3.240	▼ -2.000	▼ -61.390	
Propane, Mt. Bel	cents/Gallon	0.49	▼ -0.003	▲ 0.018	▲ 0.076	
Ethane, Mt. Bel	cents/Gallon	0.22	▼ 0.000	▲ 0.009	▲ 0.081	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -7.500	