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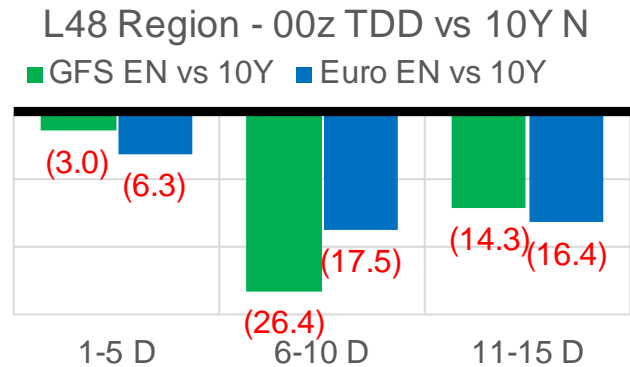
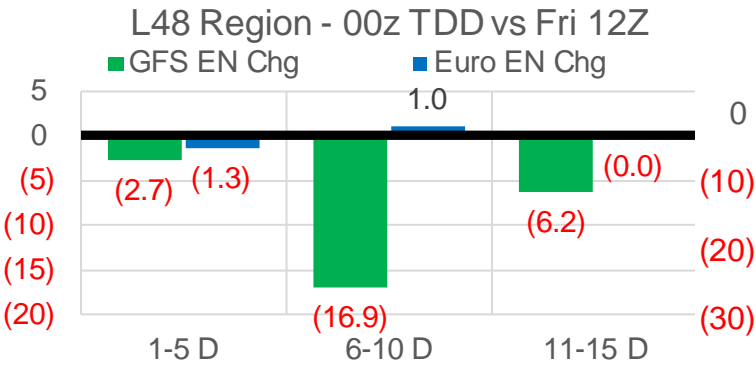
[Nat Gas Futures Open Interest](#)

[Price Summary](#)

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.85	▼ \$ (0.15)	▼ \$ (0.12)

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 41.67	▲ \$ 1.54	▲ \$ 1.0

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 44.32	▲ \$ 1.54	▲ \$ 1.2



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	91.0	▲ 0.10	▲ 1.14

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	25.1	▲ 1.37	▲ 0.25

	Current	Δ from YD	Δ from 7D Avg
US ResComm	25.5	▲ 0.86	▲ 2.79

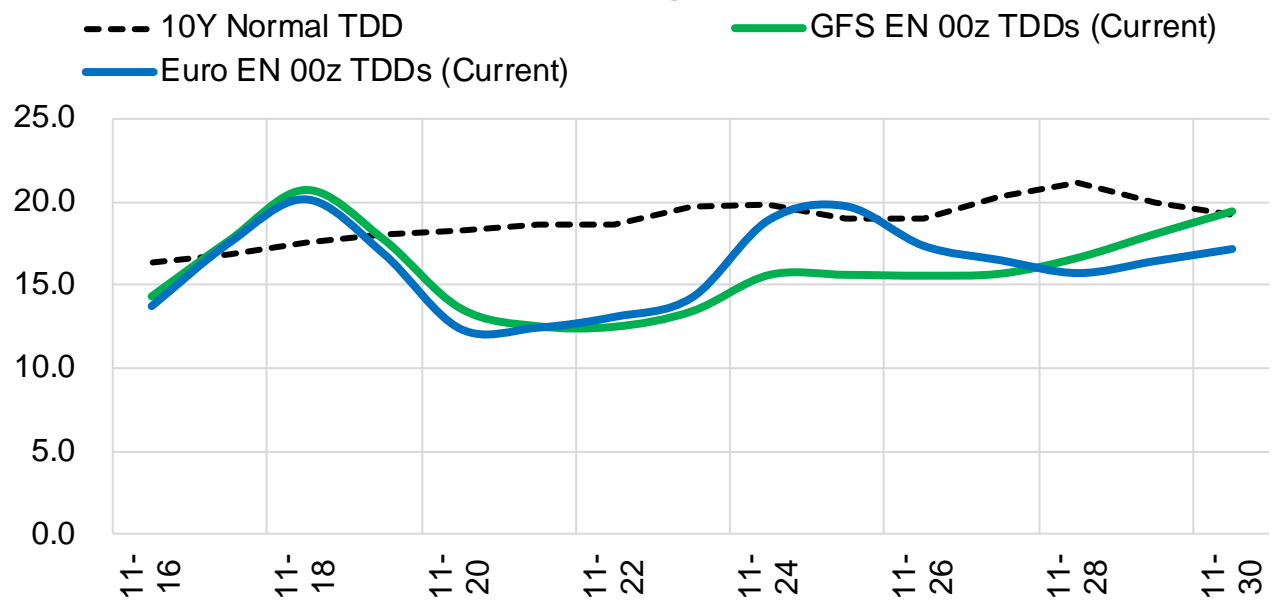
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.0	▼ -0.06	▲ 0.26

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.8	▲ 1.17	▲ 0.45

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.5	▲ 0.41	▲ 0.12

Short-term Weather Model Outlooks (00z)

L48 Region



Source: WSI , Bloomberg

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Lower 48 Component Models

Daily Balances

	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	DoD	vs. 7D
Lower 48 Dry Production	88.0	88.6	90.3	91.2	91.1	90.9	91.0	▲ 0.1	▲ 1.0
Canadian Imports	4.7	5.0	5.1	5.2	5.1	5.1	5.0	▼ -0.1	▲ 0.0
L48 Power	24.9	27.1	26.4	24.8	23.0	23.7	25.1	▲ 1.4	▲ 0.1
L48 Residential & Commercial	17.2	21.8	25.0	28.2	26.8	24.6	25.5	▲ 0.9	▲ 1.6
L48 Industrial	24.8	25.4	25.4	25.4	25.0	24.7	24.6	▼ -0.2	▼ -0.5
L48 Lease and Plant Fuel	4.9	4.9	5.0	5.0	5.0	5.0	5.0	▲ 0.0	▲ 0.1
L48 Pipeline Distribution	2.0	2.3	2.4	2.5	2.3	2.3	2.4	▲ 0.1	▲ 0.1
L48 Regional Gas Consumption	73.7	81.4	84.2	85.8	82.1	80.4	82.6	▲ 2.2	▲ 1.3
Net LNG Delivered	10.42	10.62	10.71	10.72	10.24	9.62	10.79	▲ 1.2	▲ 0.4
Total Mexican Exports	6.6	6.6	6.8	6.6	6.1	6.1	6.5	▲ 0.4	▲ 0.1
Implied Daily Storage Activity	2.0	-5.1	-6.3	-6.7	-2.3	-0.1	-3.8		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	9-Oct	16-Oct	23-Oct	30-Oct	6-Nov	13-Nov	WoW	vs. 4W
Lower 48 Dry Production	88.1	86.7	90.0	88.2	90.5	89.0	▼ -1.4	▲ 0.2
Canadian Imports	4.5	4.0	3.6	4.8	4.9	3.9	▼ -0.9	▼ -0.4
L48 Power	31.0	30.5	28.6	28.1	24.8	24.3	▼ -0.5	▼ -3.7
L48 Residential & Commercial	13.4	11.4	16.8	23.3	23.6	17.3	▼ -6.3	▼ -1.5
L48 Industrial	21.4	21.8	22.4	24.1	23.3	24.6	▲ 1.4	▲ 1.7
L48 Lease and Plant Fuel	4.8	4.8	4.9	4.8	5.0	4.9	▼ -0.1	▲ 0.0
L48 Pipeline Distribution	2.2	2.1	2.2	2.5	2.3	1.9	▼ -0.3	▼ -0.3
L48 Regional Gas Consumption	72.8	70.6	75.0	82.9	78.8	73.0	▼ -5.8	▼ -3.8
Net LNG Exports	7.5	6.9	8.0	9.2	10.2	10.4	▲ 0.1	▲ 1.8
Total Mexican Exports	6.2	6.2	6.3	6.2	6.0	6.3	▲ 0.3	▲ 0.1
Implied Daily Storage Activity	6.2	7.0	4.2	-5.3	0.3	3.2	3.0	
EIA Reported Daily Storage Activity	6.6	7.0	4.1	-5.1	1.1			
Daily Model Error	-0.4	0.0	0.1	-0.2	-0.9			

Monthly Balances

	2Yr Ago Nov-18	LY Nov-19	Jul-20	Aug-20	Sep-20	Oct-20	MTD Nov-20	MoM	vs. LY
Lower 48 Dry Production	88.1	95.3	88.3	88.6	88.6	88.3	90.2	▲ 1.9	▼ -5.1
Canadian Imports	4.1	4.5	4.4	4.9	3.8	4.3	4.5	▲ 0.2	▼ -0.1
L48 Power	25.4	27.5	43.7	40.7	33.3	29.3	24.4	▼ -4.9	▼ -3.1
L48 Residential & Commercial	32.9	32.8	7.9	7.7	8.5	16.8	21.0	▲ 4.2	▼ -11.8
L48 Industrial	24.4	24.1	19.3	20.8	21.2	22.5	24.2	▲ 1.7	▲ 0.2
L48 Lease and Plant Fuel	5.0	5.3	4.9	5.0	4.9	4.9	5.0	▲ 0.1	▼ -0.3
L48 Pipeline Distribution	2.6	2.8	2.4	2.4	2.1	2.3	2.1	▼ -0.1	▼ -0.7
L48 Regional Gas Consumption	90.3	92.5	78.3	76.4	69.9	75.7	76.7	▲ 1.0	▼ -15.7
Net LNG Exports	4.3	7.2	3.3	4.0	5.9	8.0	10.3	▲ 2.3	▲ 3.1
Total Mexican Exports	4.8	5.3	6.1	6.3	6.4	6.2	6.2	▲ 0.0	▲ 1.0
Implied Daily Storage Activity	-7.2	-5.1	4.9	6.8	10.3	2.6	1.3		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

Regional S/D Models Storage Projection

Week Ending 13-Nov

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.0	0.7	3.7	27
East	0.4	2.2	2.5	18
Midwest	1.6	1.2	2.9	20
Mountain	3.3	-3.4	-0.1	-1
South Central	-1.3	0.7	-0.6	-3
Pacific	-1.0	0.0	-1.0	-7

*Adjustment Factor is calculated based on historical regional deltas

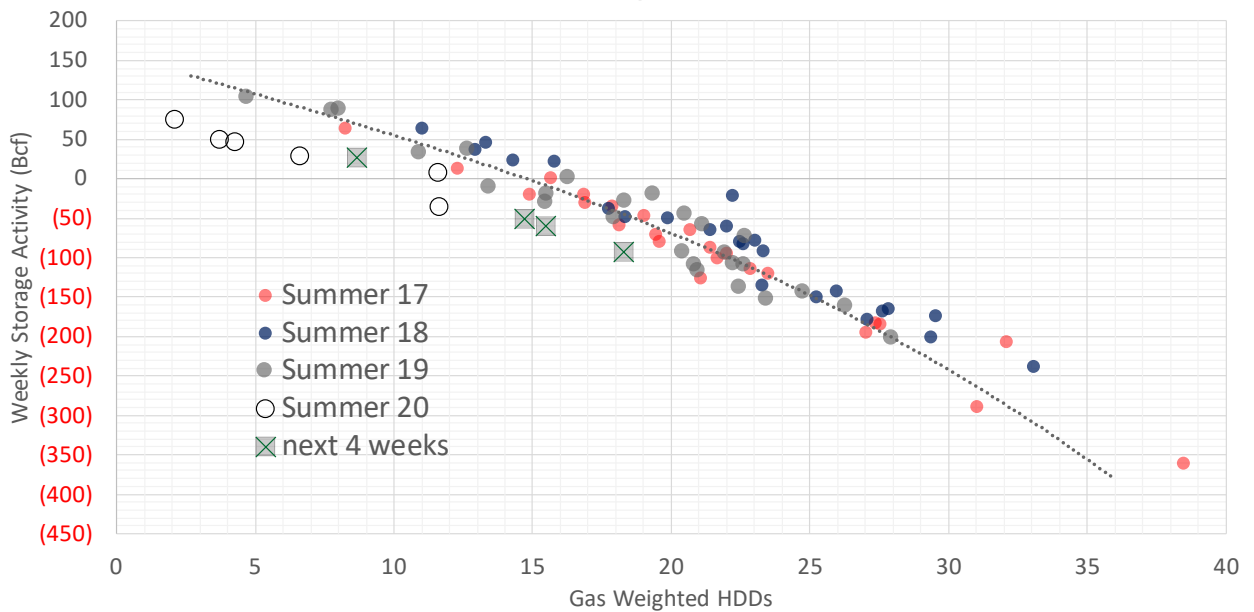
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	Temp	Week Storage Projection
13-Nov	8.7	27
20-Nov	15.5	-60
27-Nov	14.7	-50
04-Dec	18.3	-92

Winter Storage Forecast

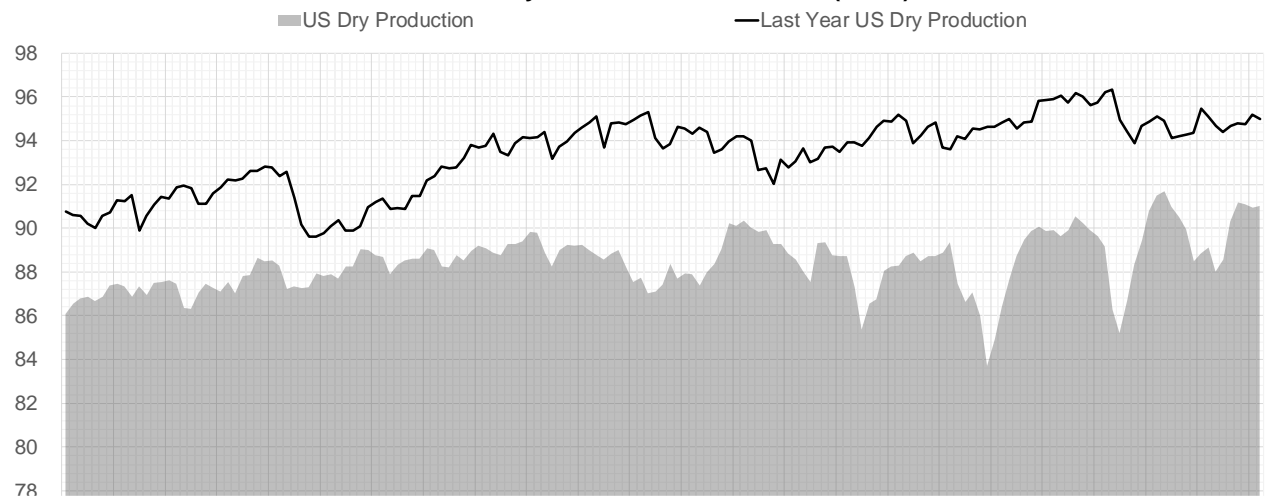


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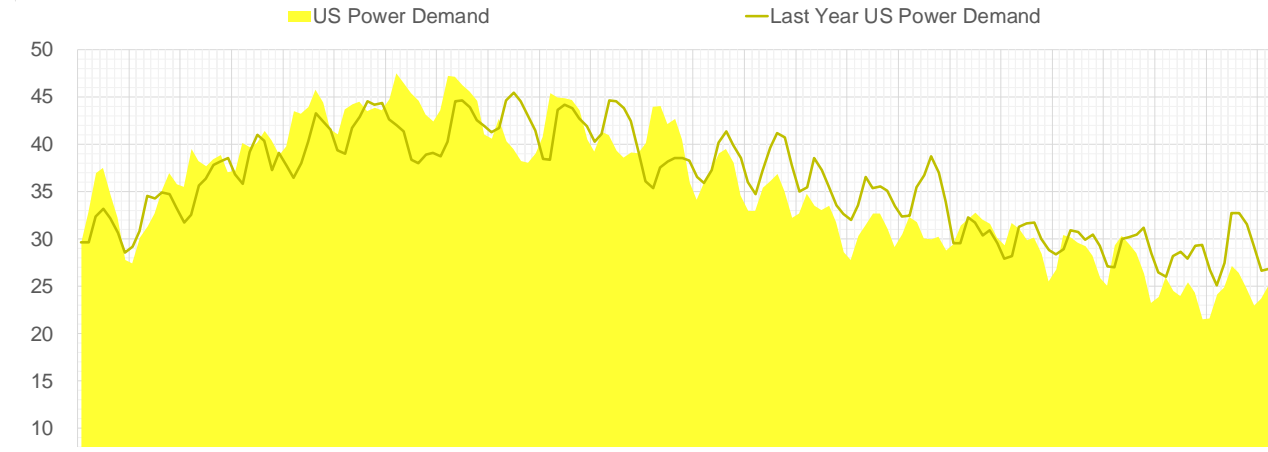


Supply – Demand Trends

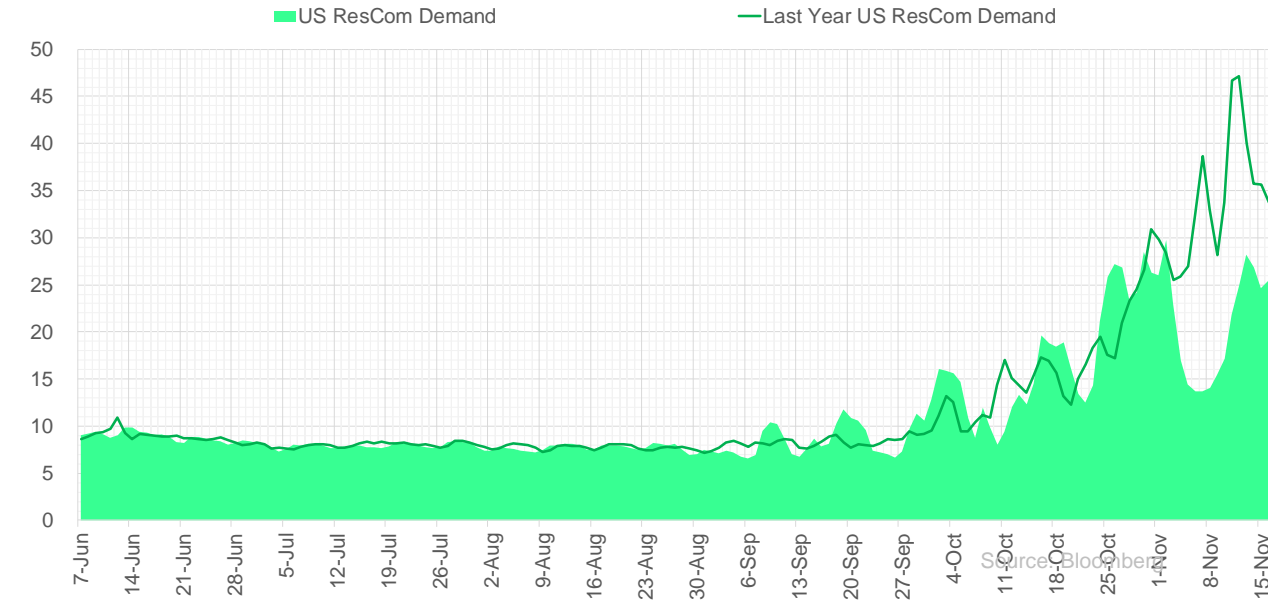
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)

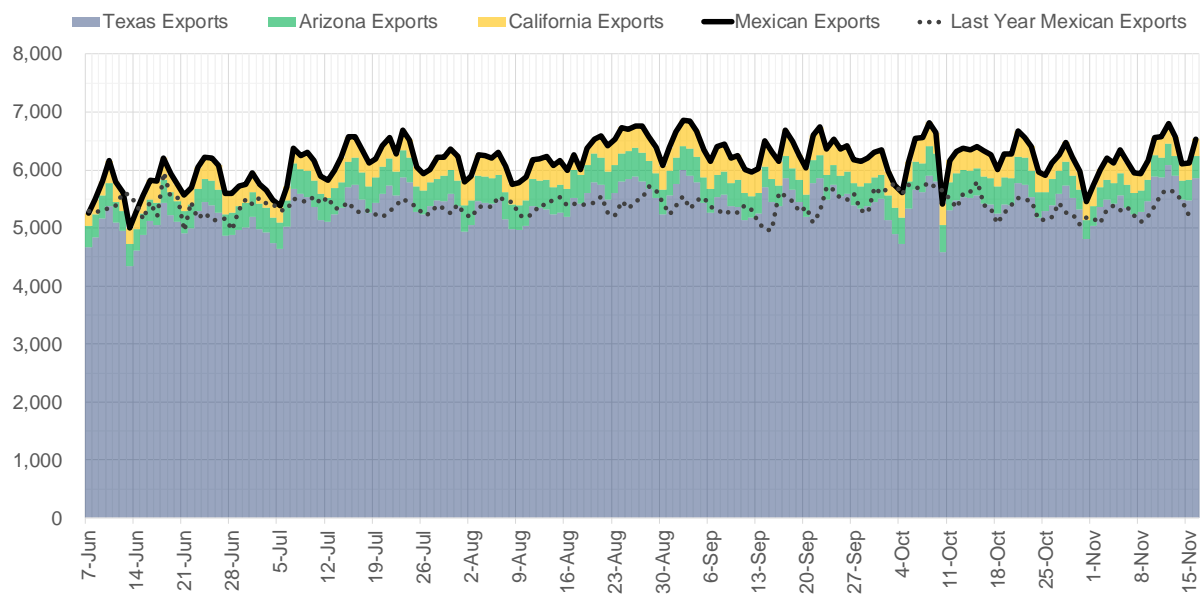


US Daily ResCom Consumption (Bcf/d)

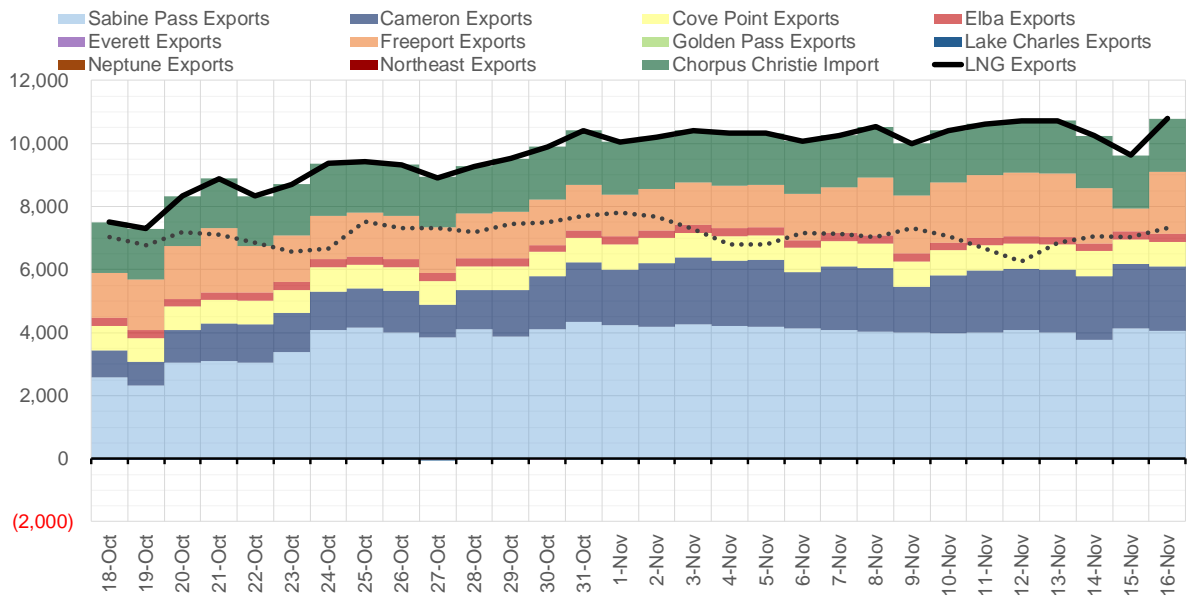


Source: Bloomberg

Mexican Exports (MMcf/d)



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



Source: Bloomberg

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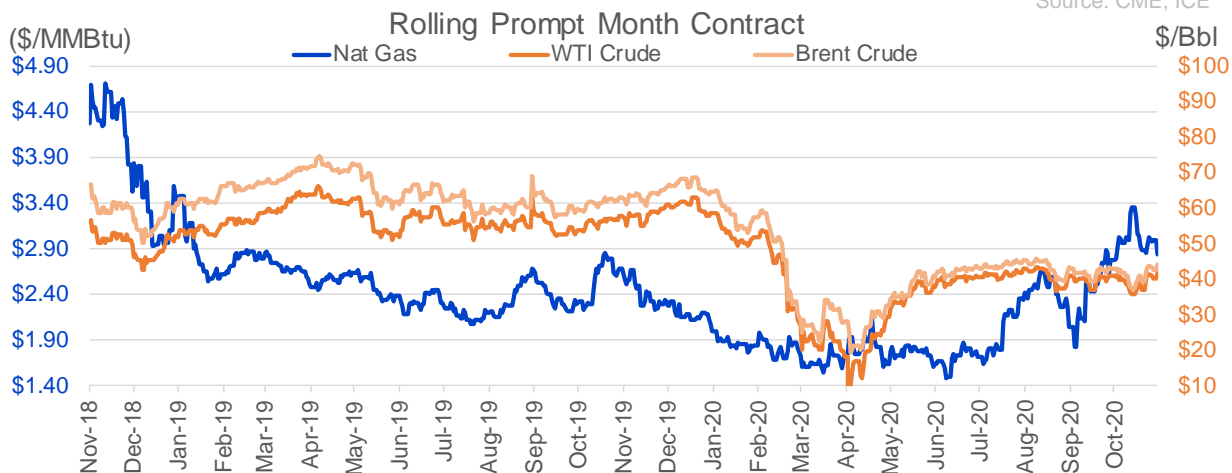
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
12	2020	C	4.00	11884	3	2021	P	2.00	38916
12	2020	C	3.50	9791	3	2021	C	4.00	38032
12	2020	P	2.50	6437	4	2021	C	4.00	36820
12	2020	P	2.70	5500	12	2020	P	2.00	32760
12	2020	P	2.75	4648	1	2021	C	3.50	30715
3	2021	C	4.50	4315	3	2021	C	3.25	30590
12	2020	C	3.25	4172	1	2021	P	2.50	30046
12	2020	C	3.60	3374	1	2021	C	4.50	30010
1	2021	P	2.75	3288	12	2020	P	2.50	29740
12	2020	C	3.40	2855	10	2021	C	4.00	28665
12	2020	C	3.75	2398	12	2020	C	3.75	28041
8	2021	P	2.25	2250	3	2021	C	6.00	27130
8	2021	P	2.50	2150	10	2021	C	3.25	27110
12	2020	C	3.05	2097	4	2021	C	5.00	26848
12	2020	P	3.00	2067	12	2020	C	3.50	25879
12	2020	C	3.35	1994	3	2021	C	7.00	24032
12	2020	P	2.85	1772	3	2021	C	5.00	23706
1	2021	C	4.00	1751	12	2020	P	2.75	23425
1	2021	P	2.50	1625	3	2021	C	4.50	23073
1	2021	P	2.25	1610	1	2021	C	3.75	22601
2	2021	C	4.00	1408	12	2020	C	4.50	22296
3	2021	C	5.00	1365	3	2021	C	3.50	21854
12	2020	P	2.90	1279	1	2021	C	6.00	21395
1	2021	C	3.20	1244	1	2021	C	4.00	20942
1	2021	C	3.25	1219	2	2021	P	2.25	20839
2	2021	P	2.50	1189	12	2020	C	4.00	20810
3	2021	C	4.00	1178	3	2021	C	3.00	20785
2	2021	C	4.50	1112	1	2021	C	5.00	20606
3	2021	P	2.40	1100	2	2021	P	2.50	20133
12	2020	C	3.30	1074	8	2021	P	2.25	19787
12	2020	C	3.20	1056	8	2021	C	4.00	19515
12	2020	C	3.10	1050	12	2020	P	3.00	19335
12	2020	C	3.15	1006	1	2021	C	3.00	19085
3	2021	P	2.00	1002	3	2021	P	2.50	18386
3	2021	P	1.75	1000	2	2021	C	3.50	18279
12	2020	P	2.80	992	4	2021	C	3.25	18186
1	2021	C	4.50	923	12	2020	C	3.25	18178
12	2020	P	2.60	920	2	2021	C	5.00	18178
12	2020	P	2.65	869	12	2020	C	3.00	18165
1	2021	C	3.50	853	1	2021	P	2.00	17952
4	2021	C	4.00	703	1	2021	P	2.25	17588
2	2021	C	5.00	692	2	2021	C	4.00	17206
1	2021	P	3.10	680	2	2021	C	4.50	16982
1	2021	C	4.75	667	10	2021	C	5.00	16953
1	2021	P	3.00	619	12	2020	C	5.00	15830
1	2021	C	5.00	576	4	2021	C	3.00	15754
2	2021	C	3.50	535	12	2020	P	2.70	15371
3	2021	P	2.50	525	1	2021	C	3.25	15196
2	2021	P	3.00	517	4	2021	P	2.00	15054
					10	2021	C	3	15035

Source: CME, ICE

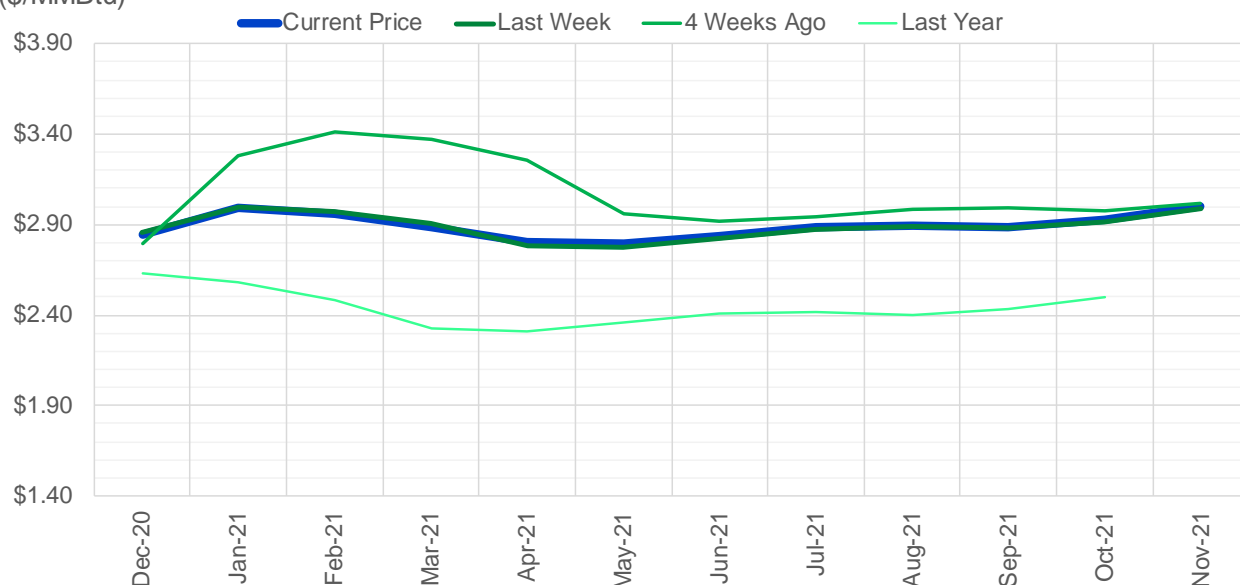
Nat Gas Futures Open Interest CME, and ICE Combined

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
DEC 20	92316	105792	-13476	DEC 20	70797	72104	-1306.5
JAN 21	272955	265359	7596	JAN 21	91579	91796	-216.75
FEB 21	95592	95653	-61	FEB 21	66748	66868	-120
MAR 21	152475	149473	3002	MAR 21	89314	89883	-569.75
APR 21	82113	81714	399	APR 21	71016	71322	-306
MAY 21	63127	64090	-963	MAY 21	71755	71890	-134.5
JUN 21	35030	35196	-166	JUN 21	58302	58208	94.25
JUL 21	32814	32758	56	JUL 21	61089	60842	246.5
AUG 21	28909	28347	562	AUG 21	64906	64987	-81.5
SEP 21	36585	36014	571	SEP 21	58574	58365	209
OCT 21	102185	100330	1855	OCT 21	69355	69318	37
NOV 21	37864	37594	270	NOV 21	53781	53884	-103.5
DEC 21	31666	31639	27	DEC 21	48400	48429	-28.75
JAN 22	31181	30332	849	JAN 22	46477	46289	188
FEB 22	22890	22881	9	FEB 22	37735	37727	8.25
MAR 22	25795	25191	604	MAR 22	40805	40787	17.5
APR 22	25852	25472	380	APR 22	41480	41337	143
MAY 22	11401	11284	117	MAY 22	30601	30461	139.75
JUN 22	6125	6115	10	JUN 22	30025	29897	128
JUL 22	4521	4525	-4	JUL 22	31246	31186	60.25
AUG 22	3719	3633	86	AUG 22	29936	29866	70
SEP 22	4606	4345	261	SEP 22	29744	29616	128
OCT 22	7202	6419	783	OCT 22	34613	34505	108.75
NOV 22	4705	4563	142	NOV 22	29419	29359	60.5
DEC 22	5051	4993	58	DEC 22	31808	31755	52.75
JAN 23	4405	4408	-3	JAN 23	15060	15029	31.25
FEB 23	1065	1065	0	FEB 23	14010	13996	14.25
MAR 23	2662	2381	281	MAR 23	13772	13733	38.75
APR 23	1763	1762	1	APR 23	13184	13086	97.75
MAY 23	450	447	3	MAY 23	11818	11725	93



(\$/MMBtu)

Nat Gas Term Structure



	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
Current Price	\$2.848	\$2.995	\$2.963	\$2.890	\$2.803	\$2.796	\$2.836	\$2.883	\$2.896	\$2.886	\$2.925	\$2.999
Last Week	\$2.859	\$2.999	\$2.974	\$2.904	\$2.785	\$2.776	\$2.821	\$2.875	\$2.892	\$2.882	\$2.918	\$2.991
vs. Last Week	-\$0.011	-\$0.004	-\$0.011	-\$0.014	\$0.018	\$0.020	\$0.015	\$0.008	\$0.004	\$0.004	\$0.007	\$0.008
4 Weeks Ago	\$2.795	\$3.280	\$3.414	\$3.373	\$3.256	\$2.960	\$2.920	\$2.947	\$2.984	\$2.993	\$2.980	\$3.015
vs. 4 Weeks Ago	\$0.053	-\$0.285	-\$0.451	-\$0.483	-\$0.453	-\$0.164	-\$0.084	-\$0.064	-\$0.088	-\$0.107	-\$0.055	-\$0.016
Last Year	\$2.566	\$2.630	\$2.585	\$2.482	\$2.324	\$2.312	\$2.356	\$2.406	\$2.417	\$2.403	\$2.430	\$2.498
vs. Last Year	\$0.282	\$0.365	\$0.378	\$0.408	\$0.479	\$0.484	\$0.480	\$0.477	\$0.479	\$0.483	\$0.495	\$0.501

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.15	4.43	2.28
TETCO M3	\$/MMBtu	1.60	2.78	1.18
FGT Zone 3	\$/MMBtu	1.64	2.89	1.25
Zone 6 NY	\$/MMBtu	1.64	3.40	1.76
Chicago Citygate	\$/MMBtu	2.66	2.75	0.09
Michcon	\$/MMBtu	2.67	2.58	-0.09
Columbia TCO Pool	\$/MMBtu	2.15	2.21	0.06
Ventura	\$/MMBtu	2.63	2.92	0.29
Rockies/Opal	\$/MMBtu	3.15	2.73	-0.42
El Paso Permian Basin	\$/MMBtu	2.47	2.54	0.07
Socal Citygate	\$/MMBtu	3.47	3.55	0.08
Malin	\$/MMBtu	3.22	3.42	0.20
Houston Ship Channel	\$/MMBtu	2.90	2.81	-0.09
Henry Hub Cash	\$/MMBtu	2.85	2.65	-0.20
AECO Cash	C\$/GJ	2.34	2.20	-0.14
Station2 Cash	C\$/GJ	2.22	4.51	2.29
Dawn Cash	C\$/GJ	2.63	2.67	0.04

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.192	▲ 0.022	▲ 0.262	▲ 0.256
NatGas Mar21/Apr21	\$/MMBtu	-0.087	▲ 0.032	▼ -0.383	▼ -0.353
NatGas Oct21/Nov21	\$/MMBtu	0.074	▲ 0.001	▲ 0.015	▲ 0.011
NatGas Apr21/Oct21	\$/MMBtu	0.122	▲ 0.041	▼ -0.277	▼ -0.270
WTI Crude	\$/Bbl	41.67	▲ 1.380	▲ 0.840	▼ -15.380
Brent Crude	\$/Bbl	44.32	▲ 1.920	▲ 1.700	▼ -18.120
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	124.81	▲ 3.140	▲ 9.000	▼ -65.660
Propane, Mt. Bel	cents/Gallon	0.55	▼ -0.004	▲ 0.033	▲ 0.030
Ethane, Mt. Bel	cents/Gallon	0.22	▲ 0.006	▲ 0.009	▲ 0.028
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.050
Coal, PRB	\$/MMBtu	0.70			
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500
Coal, ILB	\$/MMBtu	1.32			

Winter Storage Forecast

