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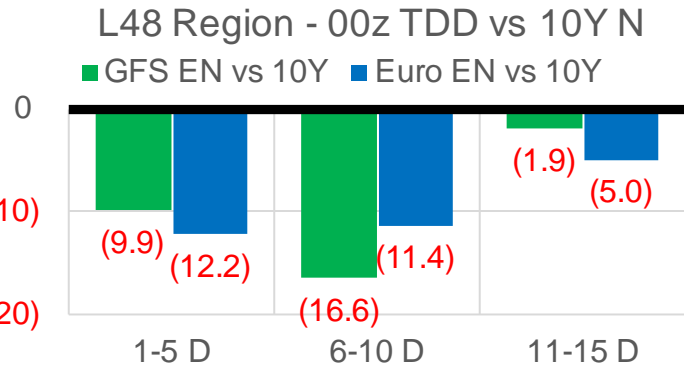
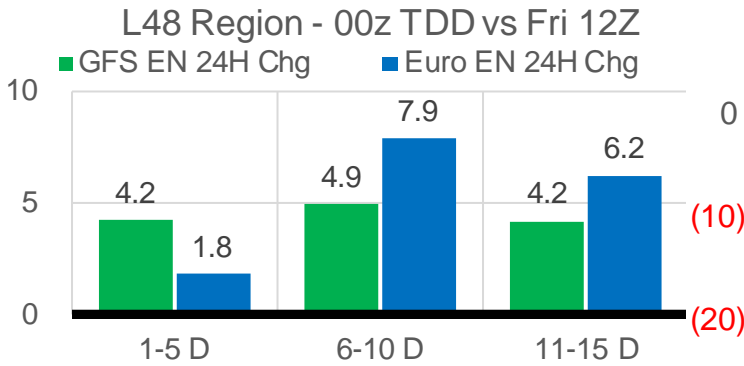
[Nat Gas Futures Open Interest](#)

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	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.77 ▲	\$ 0.08 ▼	\$ (0.14) ▼

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 42.34 ▲	\$ 0.91 ▲	\$ 1.5 ▲

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 44.76 ▲	\$ 1.01 ▲	\$ 1.4 ▲



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	89.8 ▼	-2.25 ▼	-0.95 ▼

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	26.5 ▼	-0.22 ▼	0.81 ▲

	Current	Δ from YD	Δ from 7D Avg
US ResComm	31.8 ▲	0.70 ▲	5.57 ▲

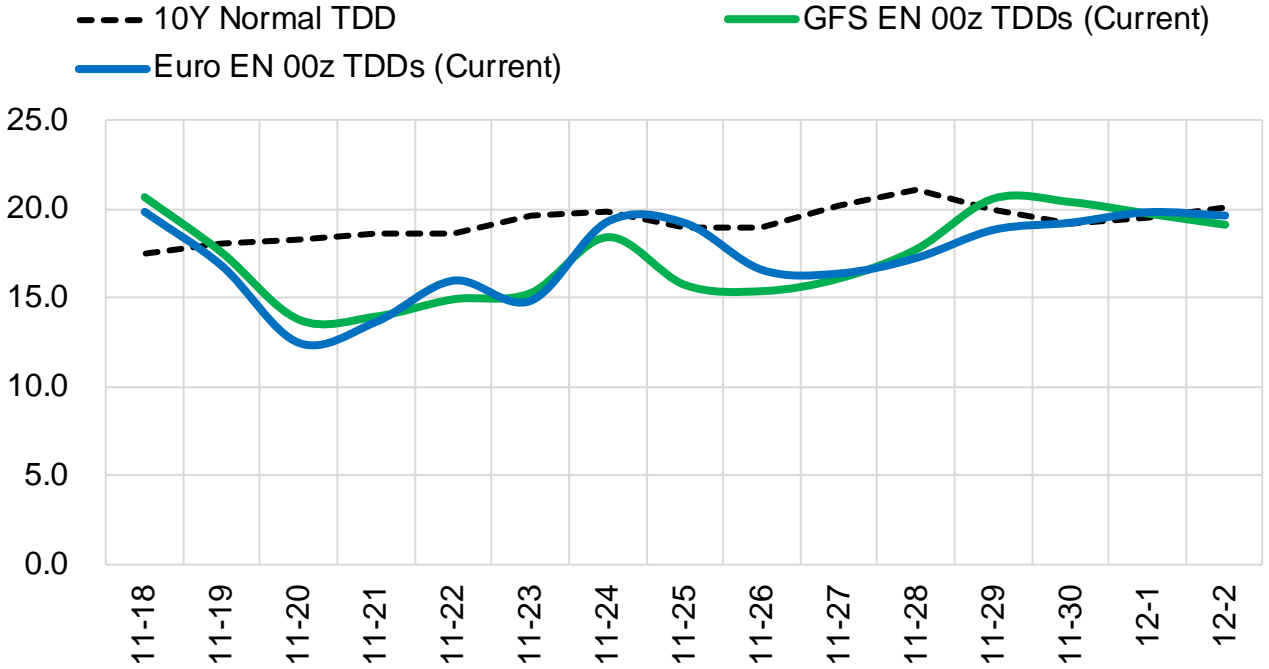
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.2 ▼	-0.47 ▼	0.02 ▲

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.6 ▲	0.33 ▲	0.29 ▲

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.0 ▼	-0.25 ▼	-0.28 ▼

Short-term Weather Model Outlooks (00z)

L48 Region



Source: WSI , Bloomberg

Lower 48 Component Models

Daily Balances

	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	DoD	vs. 7D
Lower 48 Dry Production	90.3	91.1	91.0	90.9	91.3	92.1	89.8	▼ -2.3	▼ -1.3
Canadian Imports	5.1	5.2	5.1	5.1	5.1	5.7	5.2	▼ -0.5	▼ 0.0
L48 Power	26.4	24.8	23.1	23.8	27.9	26.7	26.5	▼ -0.2	▲ 1.1
L48 Residential & Commercial	24.9	28.0	26.6	24.2	27.1	31.1	31.8	▲ 0.7	▲ 4.8
L48 Industrial	25.3	24.6	23.6	22.9	22.8	23.1	22.8	▼ -0.3	▼ -0.9
L48 Lease and Plant Fuel	5.0	5.0	5.0	5.0	5.0	5.1	5.0	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.5	2.3	2.2	2.6	2.7	2.7	▲ 0.0	▲ 0.3
L48 Regional Gas Consumption	84.0	84.9	80.7	78.1	85.5	88.7	88.8	▲ 0.1	▲ 5.2
Net LNG Delivered	10.71	10.72	10.24	9.60	9.82	10.25	10.57	▲ 0.3	▲ 0.3
Total Mexican Exports	6.8	6.6	6.1	6.0	6.0	6.3	6.0	▼ -0.2	▼ -0.2
Implied Daily Storage Activity	-6.1	-5.8	-0.9	2.3	-4.8	-7.5	-10.4		
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	88.1	90.4	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	30.9	30.5	28.5	28.1	24.8	24.3	▼ -0.4	▼ -3.6
L48 Residential & Commercial	13.4	11.4	16.8	23.3	23.6	17.2	▼ -6.4	▼ -1.6
L48 Industrial	21.4	21.9	22.5	24.2	23.2	25.4	▲ 2.1	▲ 2.4
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	▼ -0.4	▼ -0.3
L48 Regional Gas Consumption	72.8	70.5	75.0	82.9	78.8	73.7	▼ -5.1	▼ -3.1
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	2.6	2.3	
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	90.3	▲ 2.0	▼ -5.0
Canadian Imports	4.1	4.5	4.4	4.9	3.8	4.3	4.6	▲ 0.3	▲ 0.0
L48 Power	25.5	27.6	43.8	40.6	33.3	29.2	24.8	▼ -4.4	▼ -2.7
L48 Residential & Commercial	32.9	32.8	7.9	7.7	8.5	16.8	22.2	▲ 5.3	▼ -10.6
L48 Industrial	24.4	24.0	19.3	20.8	21.1	22.5	24.1	▲ 1.5	▲ 0.0
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	2.2	▼ -0.1	▼ -0.6
L48 Regional Gas Consumption	90.3	92.5	78.3	76.4	69.8	75.7	78.2	▲ 2.5	▼ -14.2
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	▲ 0.9
Implied Daily Storage Activity	-7.2	-5.1	4.9	6.8	10.2	2.7	0.1		
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	2.3	0.7	3.0	22
East	0.3	2.1	2.5	17
Midwest	1.5	1.2	2.8	19
Mountain	3.2	-3.4	-0.1	-1
South Central	-1.7	0.7	-1.0	-6
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)

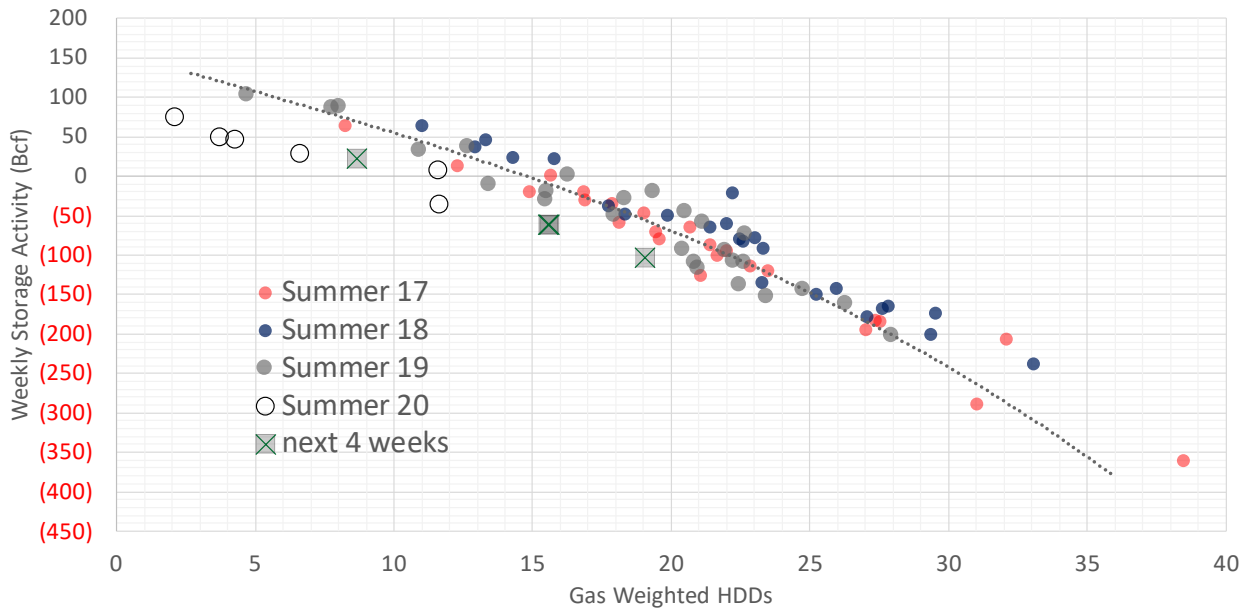


Weather Model Storage Projection

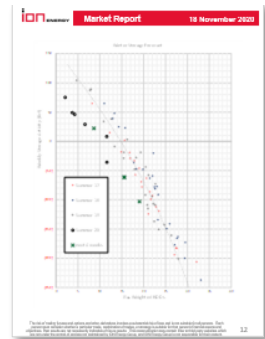
Next report
and beyond

Week Ending	Temp	Week Storage Projection
13-Nov	8.7	22
20-Nov	15.6	-61
27-Nov	15.6	-61
04-Dec	19.1	-103

Winter Storage Forecast

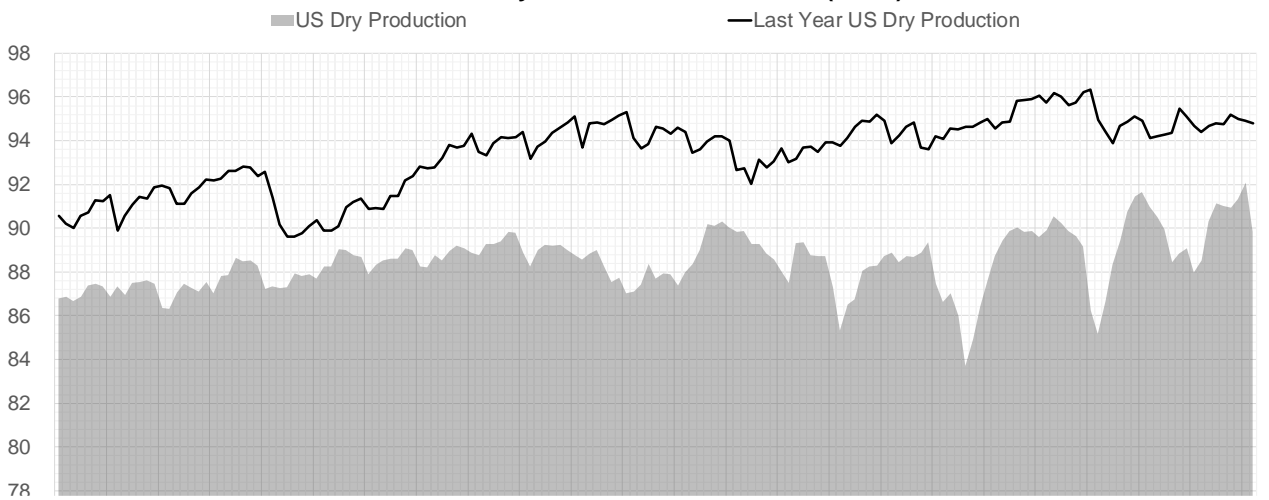


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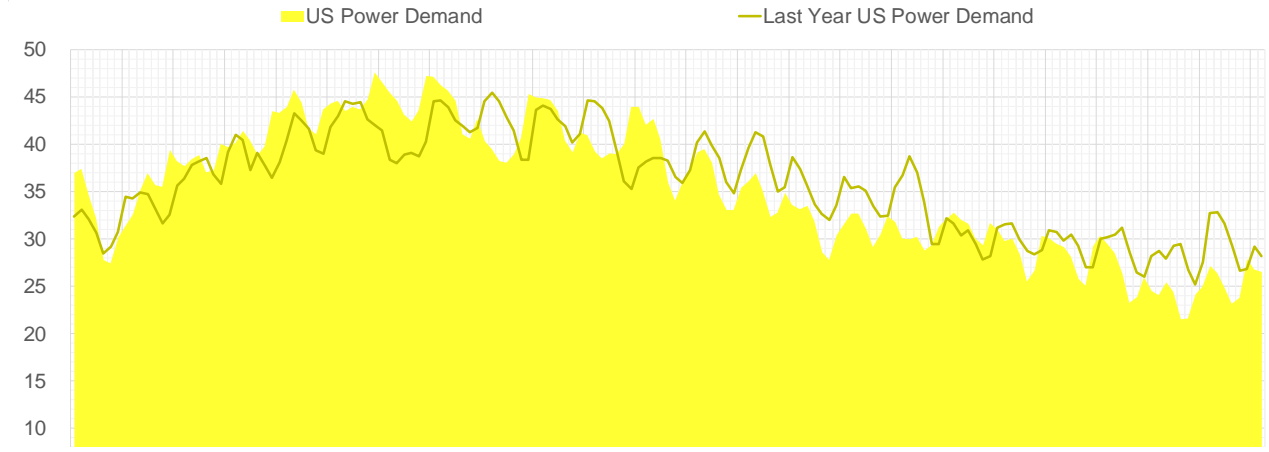


Supply – Demand Trends

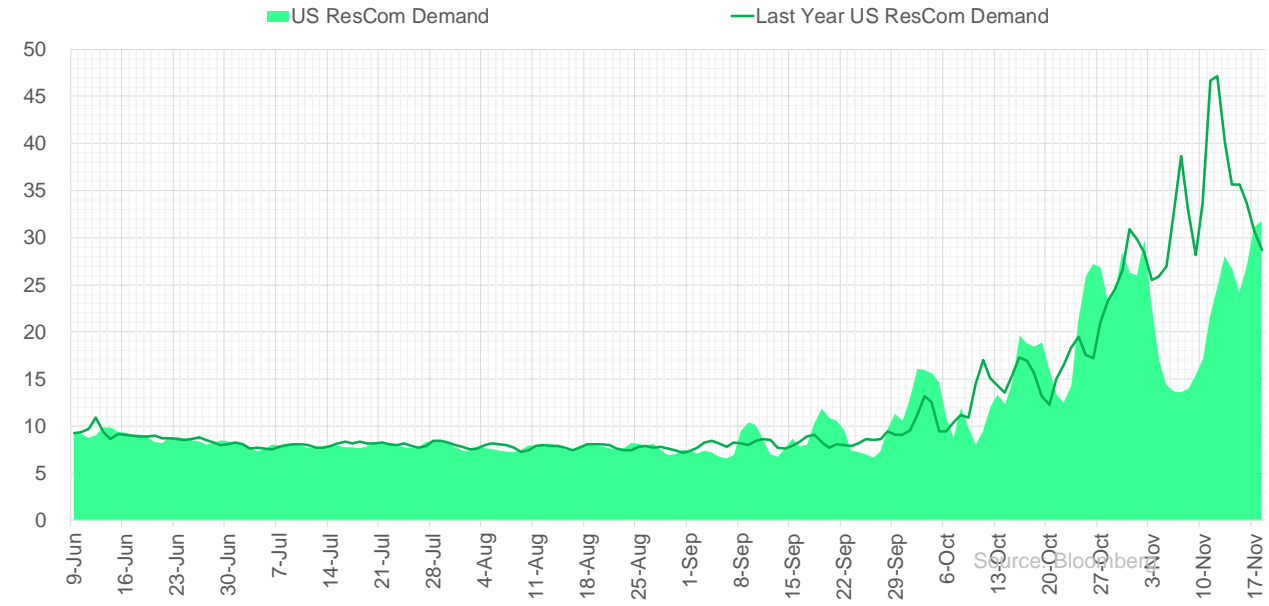
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)

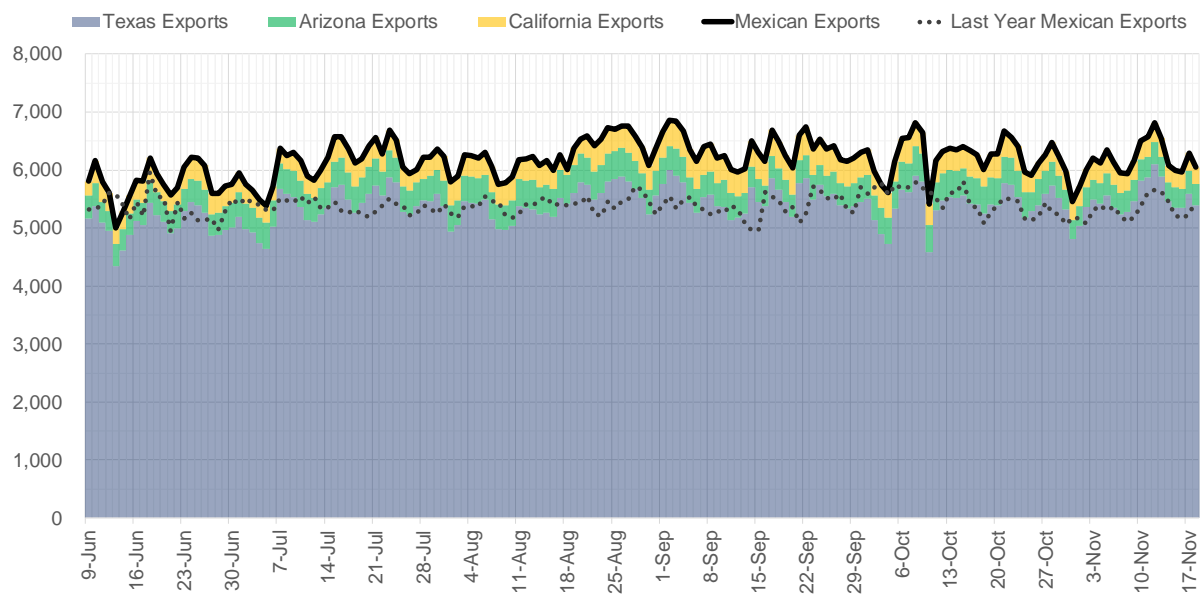


US Daily ResCom Consumption (Bcf/d)

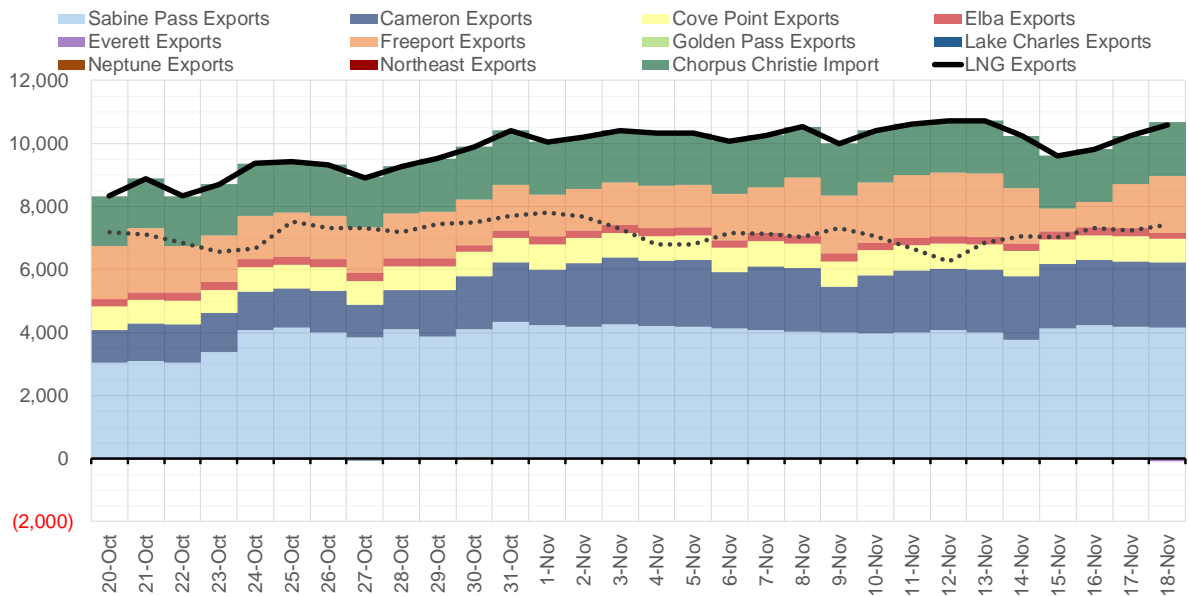


Source: Bloomberg

Mexican Exports (MMcf/d)



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



Source: Bloomberg

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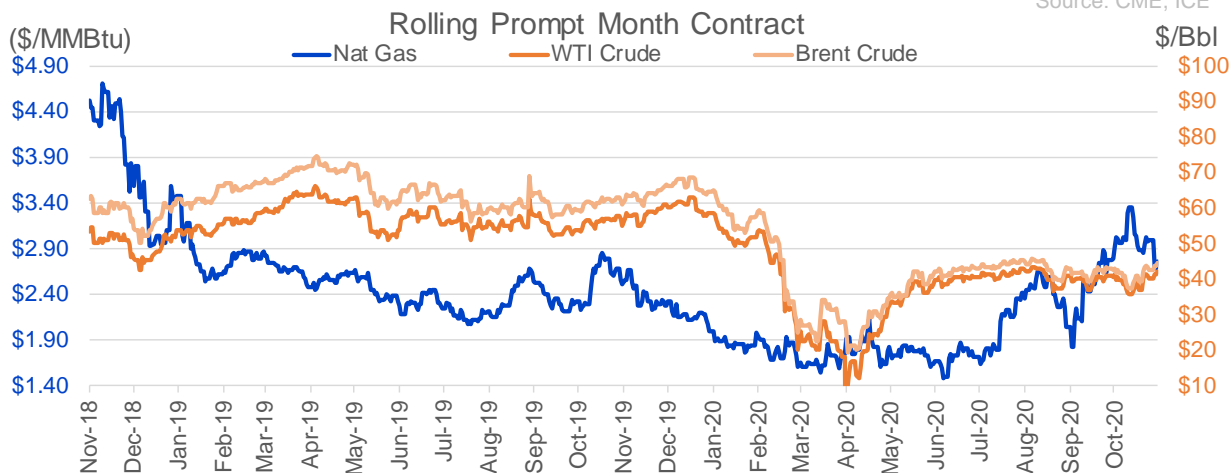
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

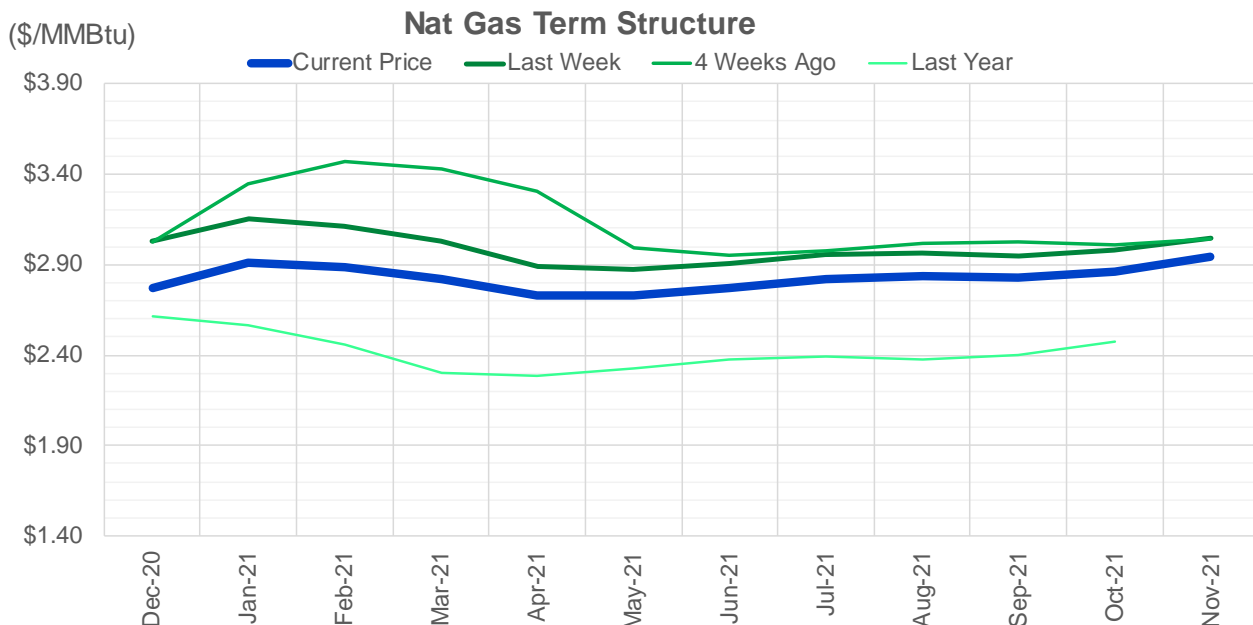
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
12	2020	C	2.90	9453	3	2021	C	4.00	39425
12	2020	C	3.00	6171	3	2021	P	2.00	38844
12	2020	C	2.75	5825	4	2021	C	4.00	37770
3	2021	C	5.00	4624	12	2020	P	2.00	31991
3	2021	C	6.00	4277	1	2021	C	3.50	31142
1	2021	C	3.25	3680	3	2021	C	3.25	29994
2	2021	C	4.00	3205	1	2021	C	4.50	29675
10	2021	C	3.25	3150	1	2021	P	2.50	29471
10	2021	P	2.50	3000	10	2021	C	4.00	28665
2	2021	P	2.25	2682	10	2021	C	3.25	27085
3	2021	C	4.00	2642	4	2021	C	5.00	26828
12	2020	P	2.50	2615	12	2020	C	3.75	26699
12	2020	C	2.85	2573	12	2020	C	4.00	25111
1	2021	C	3.50	2347	12	2020	C	3.50	25073
12	2020	P	2.70	2204	3	2021	C	6.00	24281
1	2021	P	2.75	2130	12	2020	P	2.50	24070
3	2021	C	3.25	2120	3	2021	C	7.00	24060
3	2021	P	2.25	2100	1	2021	C	5.00	23525
1	2021	C	4.00	2074	3	2021	C	5.00	23149
12	2020	C	3.25	2028	3	2021	C	3.00	22919
12	2020	P	2.75	2008	3	2021	C	3.50	22728
10	2021	C	5.00	2000	12	2020	P	2.75	22695
4	2021	P	2.25	1925	3	2021	C	4.50	22383
4	2021	C	3.50	1850	12	2020	C	4.50	22296
3	2021	C	3.50	1776	2	2021	P	2.25	22248
4	2021	C	3.25	1753	1	2021	C	3.75	22247
2	2021	P	2.75	1677	1	2021	C	4.00	22158
12	2020	C	3.50	1589	1	2021	C	6.00	21165
12	2020	C	2.70	1587	2	2021	P	2.50	20784
1	2021	P	2.40	1542	12	2020	C	3.00	19989
4	2021	C	3.00	1500	1	2021	C	3.00	19816
3	2021	P	2.00	1466	8	2021	P	2.25	19637
4	2021	C	4.00	1452	8	2021	C	4.00	19519
12	2020	P	2.65	1390	2	2021	C	3.50	19433
1	2021	P	2.25	1356	3	2021	P	2.50	18852
12	2020	P	2.60	1355	12	2020	C	3.25	18812
2	2021	C	3.25	1350	12	2020	P	3.00	18648
7	2021	P	2.25	1325	4	2021	C	3.25	18407
12	2020	C	2.95	1257	2	2021	C	4.00	18366
1	2021	P	2.50	1238	1	2021	P	2.00	18037
10	2021	C	3.00	1200	2	2021	C	5.00	17493
6	2021	C	3.50	1150	10	2021	C	5.00	16953
2	2021	C	6.00	1143	2	2021	C	4.50	16400
6	2021	C	3.00	1100	1	2021	P	2.25	16214
10	2021	C	3.50	1050	12	2020	C	5.00	15829
1	2021	C	3.00	1040	4	2021	C	3.00	15410
2	2021	C	3.75	1000	5	2021	C	3.00	15286
4	2021	C	2.75	1000	4	2021	P	2.00	15199
4	2021	P	2.45	1000	1	2021	C	3.25	14745
					10	2021	C	3	14741

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	69589	79923	-10334	DEC 20	69514	71928	-2414
JAN 21	290745	286066	4679	JAN 21	93442	91913	1528.25
FEB 21	97169	97370	-201	FEB 21	66854	66896	-41.75
MAR 21	172185	166747	5438	MAR 21	85824	85888	-64
APR 21	87326	86371	955	APR 21	71545	71251	293.25
MAY 21	57400	61309	-3909	MAY 21	72457	71813	644
JUN 21	35155	34856	299	JUN 21	58749	58596	153
JUL 21	32992	33021	-29	JUL 21	61572	61397	174.75
AUG 21	26633	27388	-755	AUG 21	65125	65134	-8.75
SEP 21	36061	36206	-145	SEP 21	58185	58154	31
OCT 21	102656	102228	428	OCT 21	69620	69467	152.5
NOV 21	40661	40318	343	NOV 21	52678	53087	-409
DEC 21	31467	31874	-407	DEC 21	48445	48346	99
JAN 22	32224	31368	856	JAN 22	46902	46243	658.5
FEB 22	23118	23466	-348	FEB 22	38080	37728	351.75
MAR 22	25363	25861	-498	MAR 22	41106	40605	501.5
APR 22	25001	25673	-672	APR 22	41271	41602	-331
MAY 22	11968	11808	160	MAY 22	31085	30671	414.5
JUN 22	6645	6423	222	JUN 22	30243	30138	105.25
JUL 22	4845	4691	154	JUL 22	31886	31391	494.5
AUG 22	4618	3945	673	AUG 22	30587	30092	494.5
SEP 22	4679	4742	-63	SEP 22	29856	29789	66.5
OCT 22	7078	7086	-8	OCT 22	35147	34761	386.5
NOV 22	5485	4814	671	NOV 22	30315	29828	487.75
DEC 22	5186	5128	58	DEC 22	32851	32301	550
JAN 23	4402	4405	-3	JAN 23	15065	15021	44.25
FEB 23	1075	1070	5	FEB 23	14015	13975	39.75
MAR 23	2902	2902	0	MAR 23	13824	13733	90.75
APR 23	1853	1853	0	APR 23	13055	13176	-121.25
MAY 23	451	451	0	MAY 23	11974	11825	149





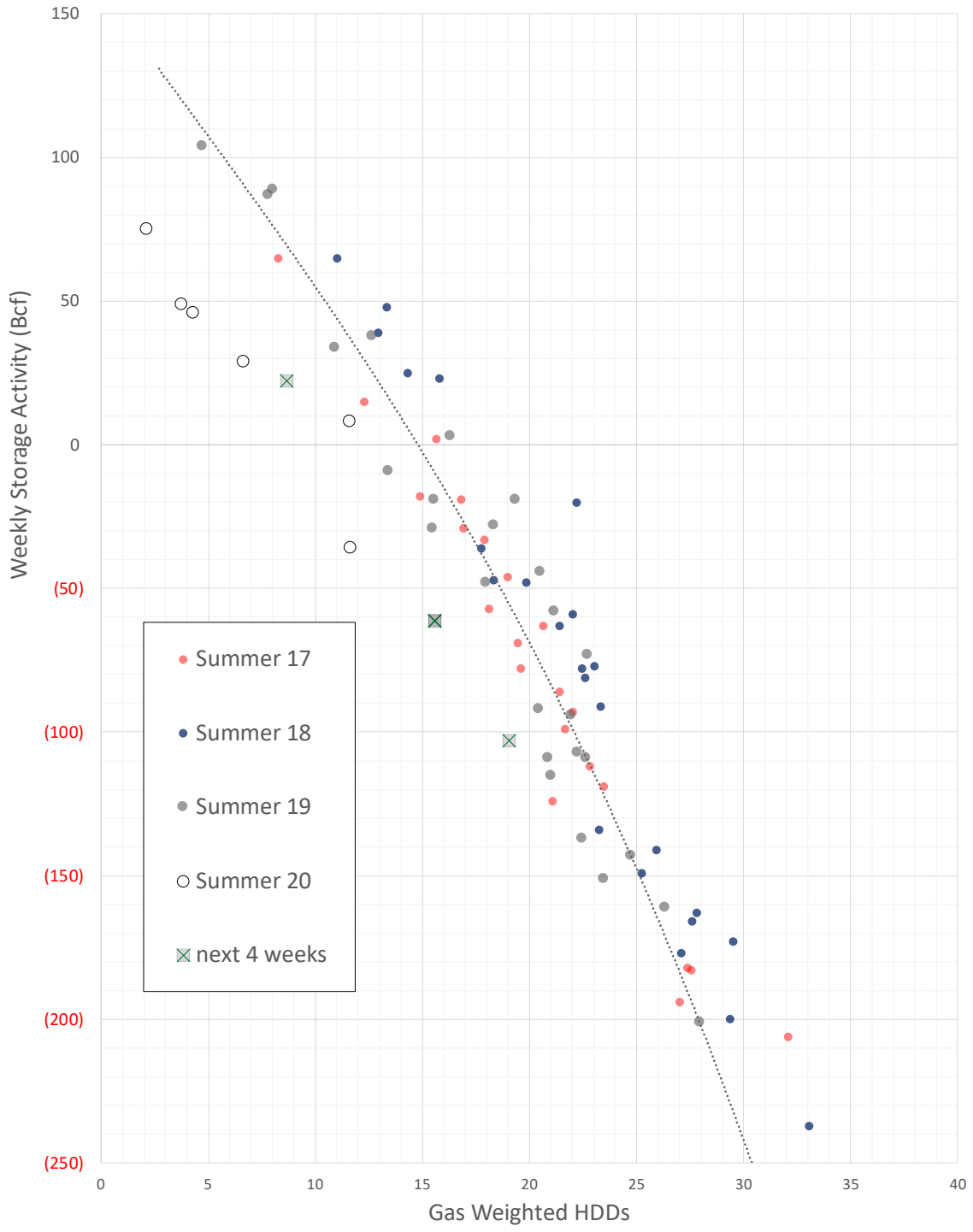
	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
Current Price	\$2.769	\$2.909	\$2.887	\$2.822	\$2.727	\$2.728	\$2.770	\$2.821	\$2.838	\$2.828	\$2.862	\$2.946
Last Week	\$3.031	\$3.151	\$3.116	\$3.026	\$2.892	\$2.872	\$2.910	\$2.957	\$2.966	\$2.949	\$2.980	\$3.047
vs. Last Week	-\$0.262	-\$0.242	-\$0.229	-\$0.204	-\$0.165	-\$0.144	-\$0.140	-\$0.136	-\$0.128	-\$0.121	-\$0.118	-\$0.101
4 Weeks Ago	\$3.023	\$3.348	\$3.471	\$3.427	\$3.304	\$2.996	\$2.953	\$2.980	\$3.016	\$3.024	\$3.011	\$3.046
vs. 4 Weeks Ago	-\$0.254	-\$0.439	-\$0.584	-\$0.605	-\$0.577	-\$0.268	-\$0.183	-\$0.159	-\$0.178	-\$0.196	-\$0.149	-\$0.100
Last Year	\$2.559	\$2.611	\$2.562	\$2.459	\$2.298	\$2.285	\$2.329	\$2.378	\$2.390	\$2.377	\$2.404	\$2.474
vs. Last Year	\$0.210	\$0.298	\$0.325	\$0.363	\$0.429	\$0.443	\$0.441	\$0.443	\$0.448	\$0.451	\$0.458	\$0.472

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	4.56	4.61	0.05
TETCO M3	\$/MMBtu	2.11	2.94	0.83
FGT Zone 3	\$/MMBtu	2.50	3.06	0.56
Zone 6 NY	\$/MMBtu	2.50	3.47	0.97
Chicago Citygate	\$/MMBtu	2.30	2.90	0.60
Michcon	\$/MMBtu	2.31	2.74	0.43
Columbia TCO Pool	\$/MMBtu	1.96	2.35	0.39
Ventura	\$/MMBtu	2.63	3.08	0.45
Rockies/Opal	\$/MMBtu	3.02	2.84	-0.18
El Paso Permian Basin	\$/MMBtu	2.01	2.71	0.70
Socal Citygate	\$/MMBtu	4.00	3.65	-0.35
Malin	\$/MMBtu	2.81	3.46	0.65
Houston Ship Channel	\$/MMBtu	2.51	2.98	0.47
Henry Hub Cash	\$/MMBtu	2.55	2.82	0.27
AECO Cash	C\$/GJ	2.07	2.39	0.32
Station2 Cash	C\$/GJ	1.97	4.42	2.45
Dawn Cash	C\$/GJ	2.33	2.82	0.49

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.182	▲ 0.077	▲ 0.293	▲ 0.256
NatGas Mar21/Apr21	\$/MMBtu	-0.095	▲ 0.039	▼ -0.403	▼ -0.358
NatGas Oct21/Nov21	\$/MMBtu	0.084	▲ 0.017	▲ 0.026	▲ 0.017
NatGas Apr21/Oct21	\$/MMBtu	0.135	▼ -0.036	▼ -0.290	▼ -0.243
WTI Crude	\$/Bbl	42.34	▲ 0.890	▲ 2.310	▼ -14.770
Brent Crude	\$/Bbl	44.76	▲ 0.960	▲ 3.030	▼ -17.640
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	126.94	▲ 2.360	▲ 12.950	▼ -62.270
Propane, Mt. Bel	cents/Gallon	0.55	▼ -0.006	▲ 0.029	▲ 0.021
Ethane, Mt. Bel	cents/Gallon	0.22	▼ 0.000	▲ 0.002	▲ 0.022
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



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