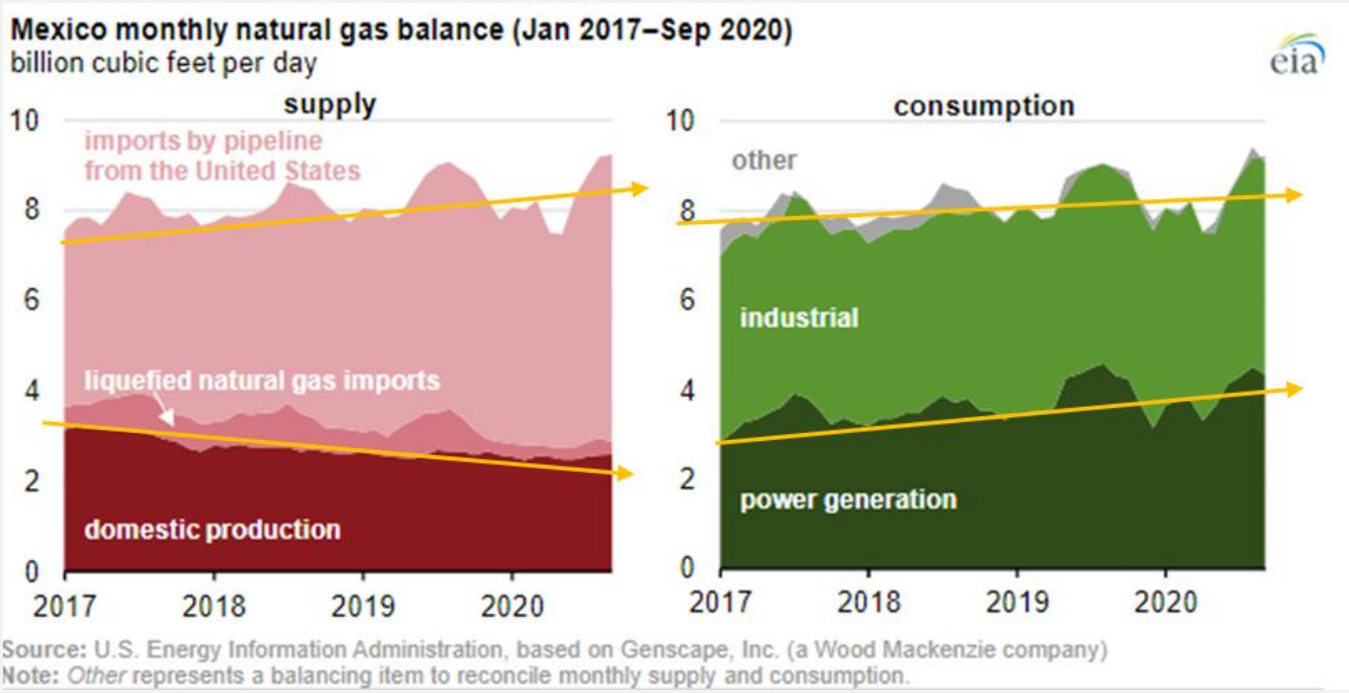
This week we look at how exports are becoming a major component of the US natural gas S/D, despite fluctuating demand due to weather. This includes both LNG and piped, but we will focus on Mexican exports today.

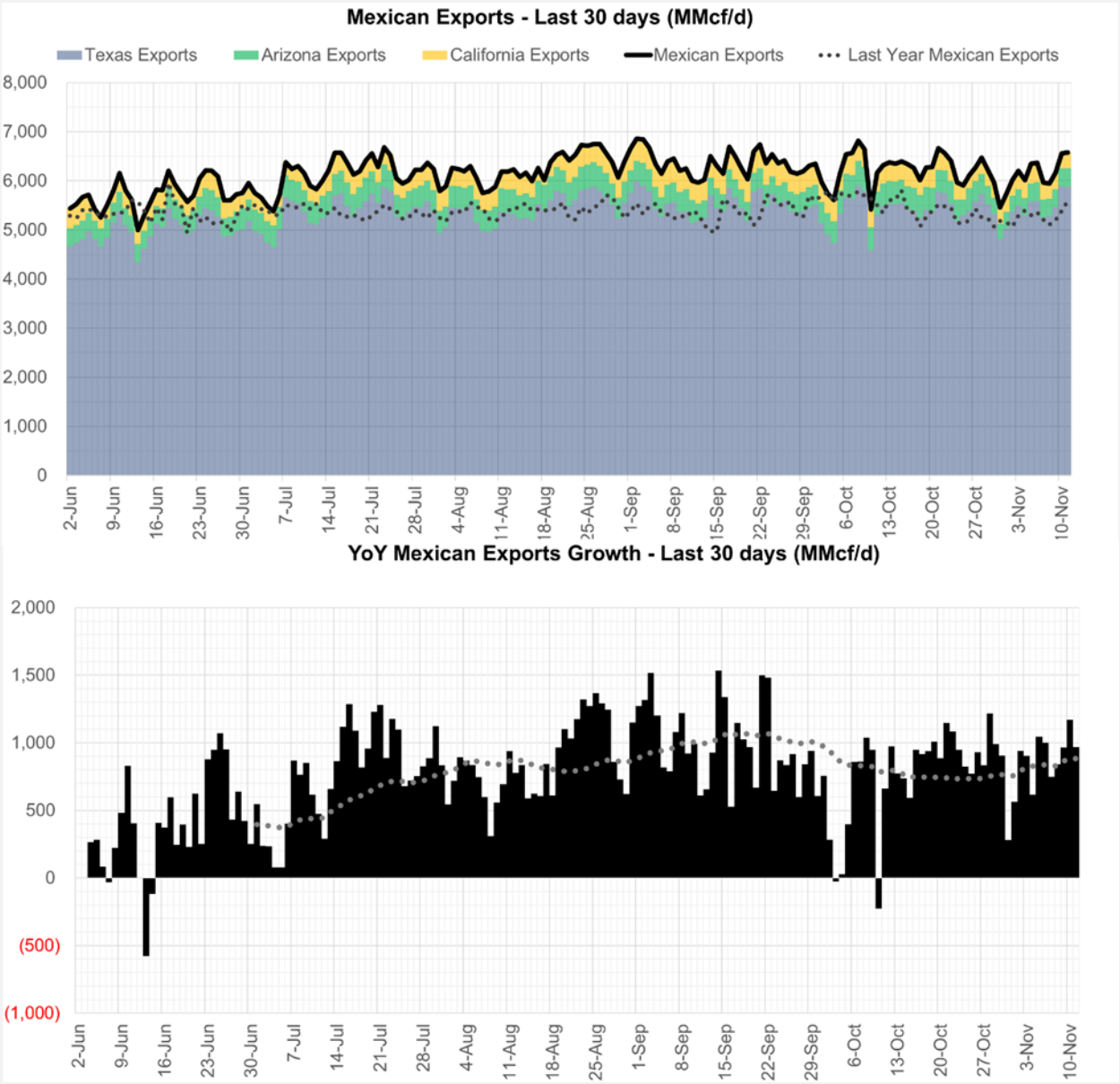
Since 2016, Mexico has been expanding its natural gas pipeline system resulting in a growth in imports from the US as domestic production slides with weak oil prices.

The industrial and electric power sectors accounted for all the natural gas consumption in Mexico in 2019, with industrial at 54% and electric power at 46% of the total. Natural gas use in both sectors declined earlier this year because of the measures taken to contain the spread of the COVID-19, but in August 2020, Mexico's natural gas consumption started to recover and surpassed last year's levels.



Source: U.S. Energy Information Administration, based on Genscape, Inc. (a Wood Mackenzie company)
Note: *Other* represents a balancing item to reconcile monthly supply and consumption.

In November the piped export to Mexico averaged 6.17 Bcf/d, which is 0.89 Bcf/d higher than last year. The peak flow of 6.86 Bcf/d was recorded by Bloomberg on Sept 2nd.

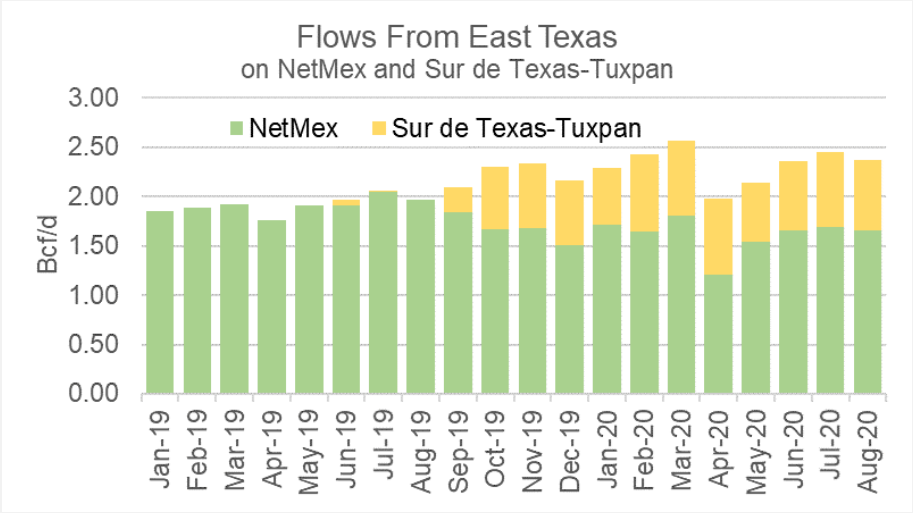


The expectation for growth is expected to continue with the expanding Mexican natural gas system and more downstream demand coming online line next year.

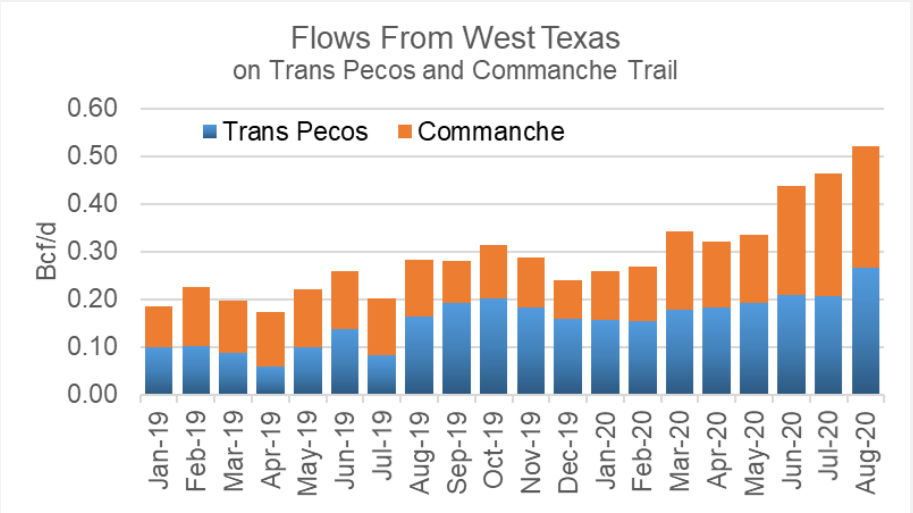
The latest pieces of infrastructure that have led to export growth have been the completion of the Sur de Texas-Tuxpan pipeline, and the Villa de Reyes-Aguascalientes-Guadalajara (VAG) pipeline [the southern-most segment of the Wahalajara system]. VAG is a 0.89 Bcf/d system that began operations in June 2020. CFEnergía recently noted that it has begun supplying fuel from Waha, Texas, to the steel company Arcelor Mittal (the largest industrial consumer in Mexico), as well as power plants that were once fueled with LNG.

Below are the major export pipeline flows since 2019.

Flows out of East Texas have been on the rise since late-Q3 2019 with the start of Sur de Texas-Tuxpan. Coinciding with the start of Sur de Texas-Tuxpan, we can see that flow on NETMEX dropped as flow jumped onto the new underwater pipeline to get natural gas further downstream.



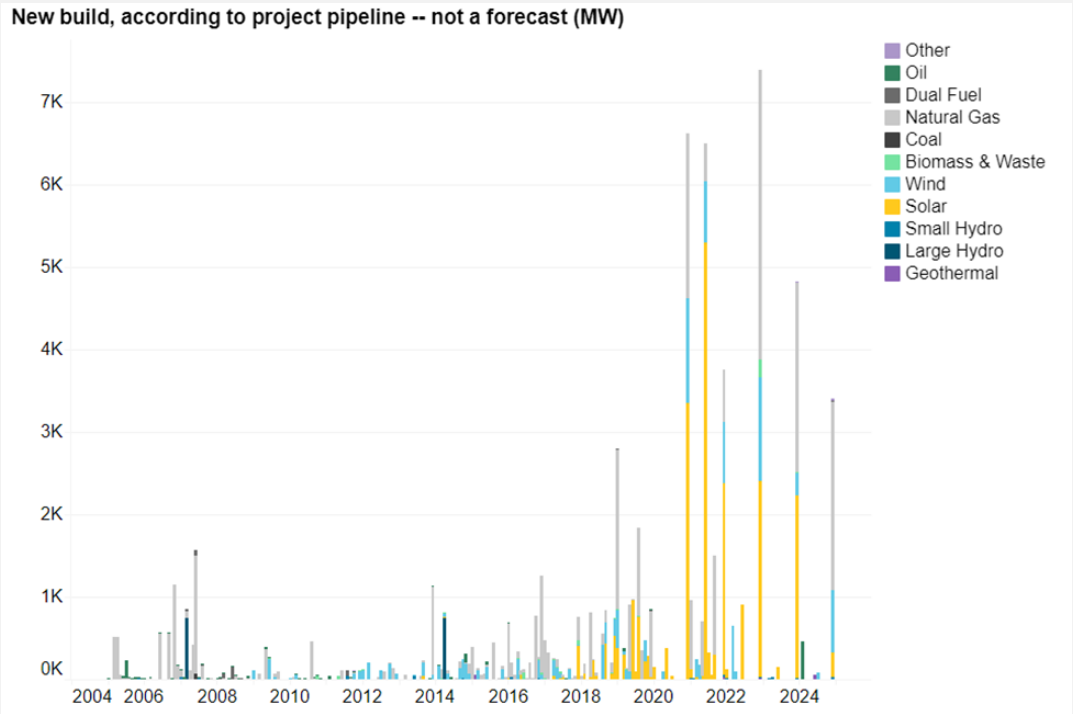
Flows out of West Texas have been on a rise since late Q2 2020 as more pipeline and powerplants come on in West Mexico. Some of these new flows make it to the Wahalajara network, which is likely to partially displace higher-cost liquefied natural gas (LNG) imports into Mexico's Manzanillo terminal. Traditionally this LNG terminal has served markets in Guadalajara and Mexico City. Flows through Commanche Trail are expected to increase with the completion of the 0.47 Bcf/d Samalayuca-Sásabe pipeline in either late 2020 or early 2021.



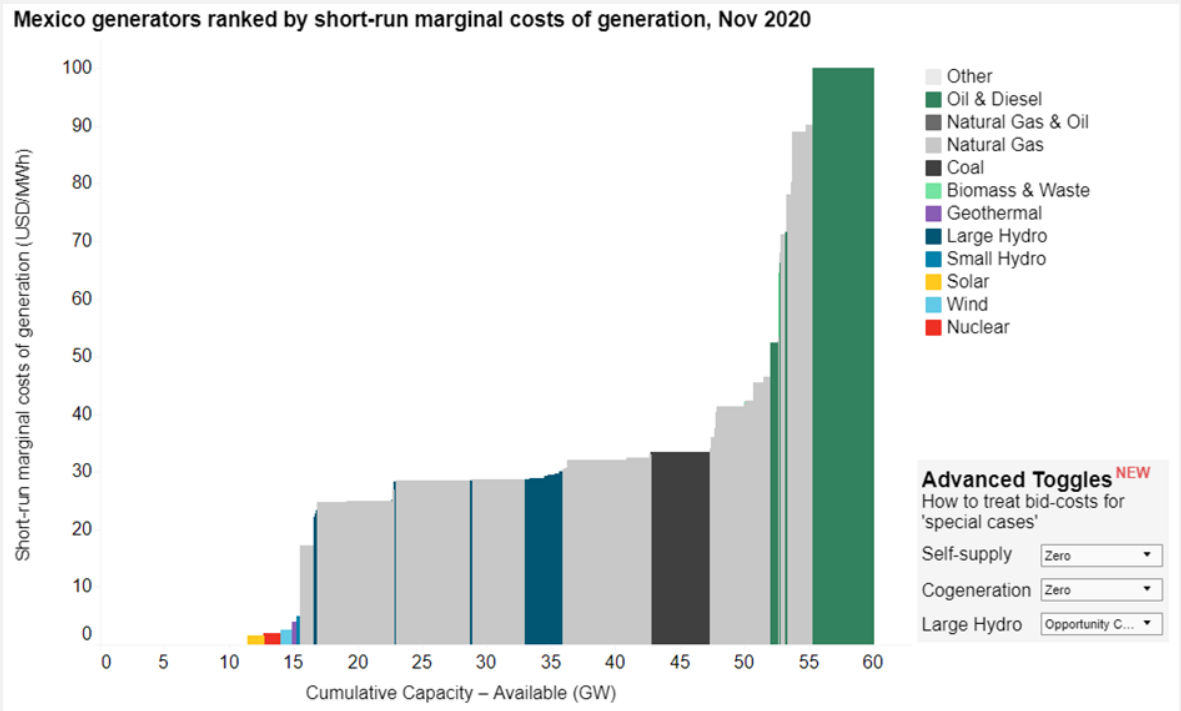
Below is a map from the EIA that show the build-out of the pipeline infrastructure.

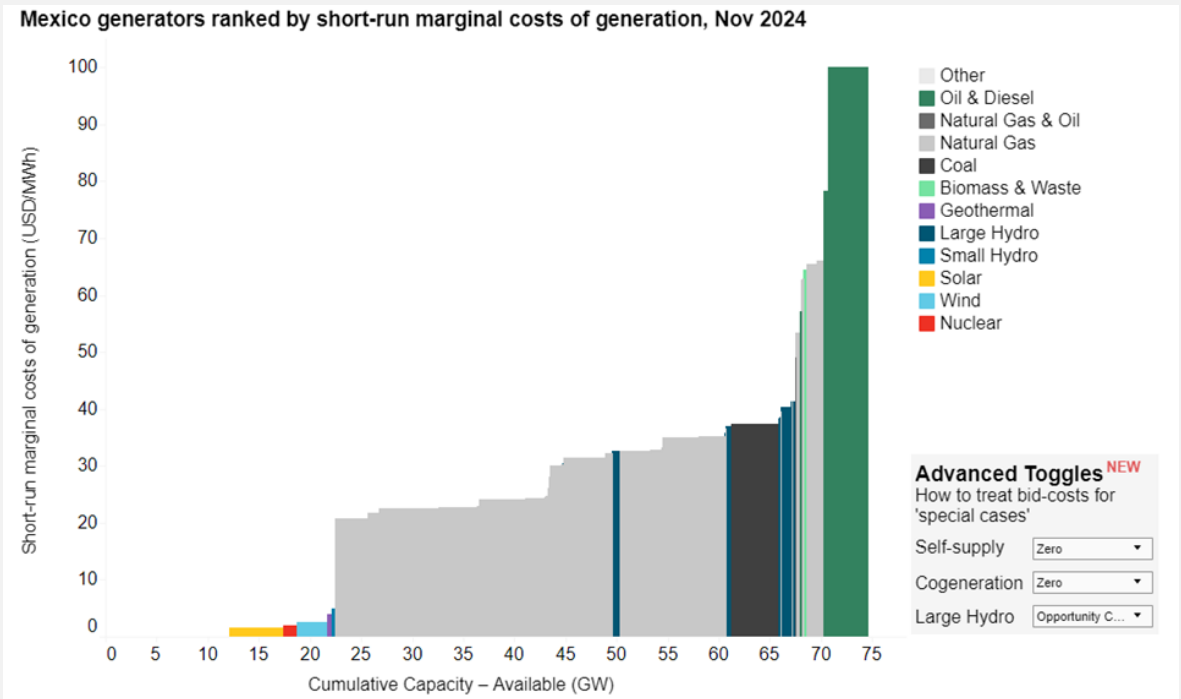
Proposed Mexican natural gas power plant projects can be found in the SENER INDICATIVE PROGRAM FOR INSTALLATION AND REMOVAL OF POWER STATIONS. The addition of new projects will coincide with more natural gas coming from the US as Mexico's domestic production remains in decline.

BNEF produced this data in a great visual format.



Here is how the current power stack looks vs 4 years out. With the build out of more efficient natural gas generation and renewables, we'll see coal pushed out.

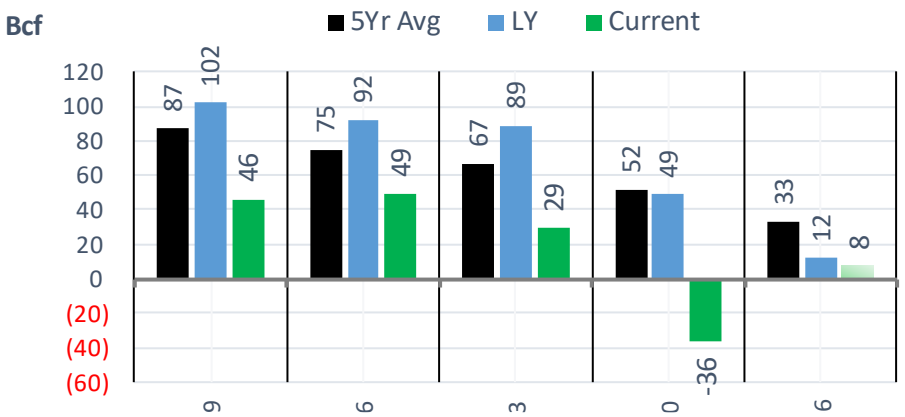




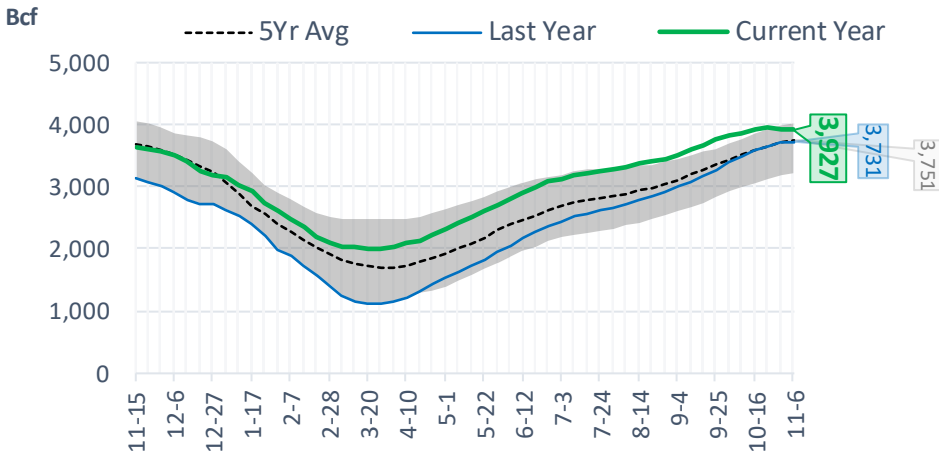
Another good source to keep up with the pipeline infrastructure in Mexico is straight from the Mexican Government.

EIA Storage Report

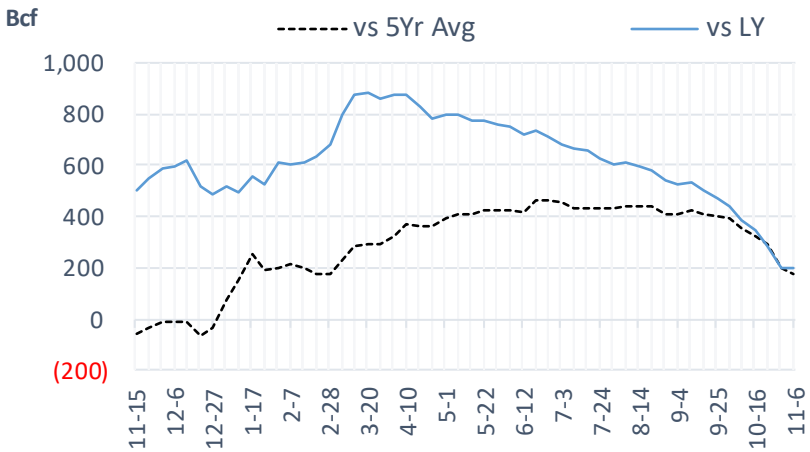
Total Lower 48 YoY Weekly Change



Total Lower 48 Storage Levels



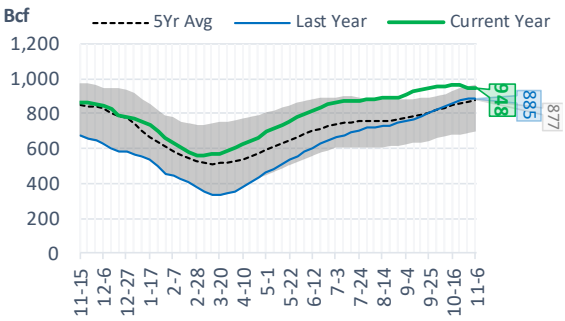
Total Lower 48 LY Surplus/Deficit



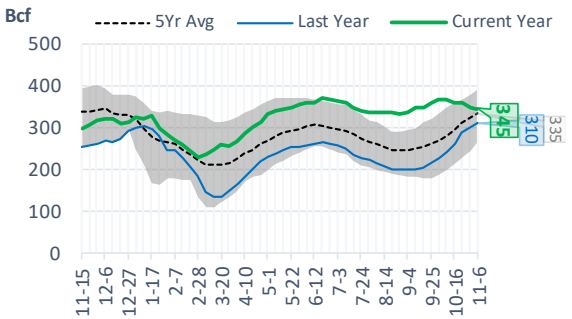
Natural Gas Storage Stats - Last 5 Weeks

Week Ending	Current 6-Nov	Week - 1 30-Oct	Week - 2 23-Oct	Week - 3 16-Oct	Week - 4 9-Oct	Week - 5 2-Oct
Total Lower 48 Storage Level	**3927**	3919	3955	3926	3877	3831
Weekly Change	**+8**	-36	+29	+49	+46	+75
vs LY	**+196**	+200	+285	+345	+388	+444
vs 5Yr Avg	**+176**	+201	+289	+327	+353	+394
S. Central Salt Storage Level	**345**	348	360	360	366	366
Weekly Change	**-3**	-12	0	-6	0	+8
vs LY	**+35**	+48	+74	+98	+125	+140
vs 5Yr Avg	**+10**	+24	+49	+65	+85	+98
S. Central NonSalt Storage Level	**948**	945	968	969	960	955
Weekly Change	**+3**	-23	-1	+9	+5	+10
vs LY	**+63**	+59	+88	+108	+119	+135
vs 5Yr Avg	**+71**	+74	+107	+120	+125	+136
Midwest Storage Level	**1127**	1119	1118	1105	1081	1062
Weekly Change	**+8**	+1	+13	+24	+19	+29
vs LY	**+20**	+14	+30	+43	+47	+63
vs 5Yr Avg	**+33**	+36	+54	+66	+70	+83
East Storage Level	**942**	947	941	923	908	893
Weekly Change	**-5**	+6	+18	+15	+15	+21
vs LY	**+10**	+20	+32	+30	+35	+47
vs 5Yr Avg	**+30**	+39	+41	+34	+35	+41
Mountain Storage Level	**243**	240	245	245	241	236
Weekly Change	**+3**	-5	0	+4	+5	+5
vs LY	**+36**	+32	+35	+38	+37	+34
vs 5Yr Avg	**+27**	+24	+30	+32	+30	+27
Pacific Storage Level	**322**	320	323	323	320	318
Weekly Change	**+2**	-3	0	+3	+2	+2
vs LY	**+31**	+26	+25	+26	+24	+23
vs 5Yr Avg	**+6**	+4	+8	+10	+7	+8

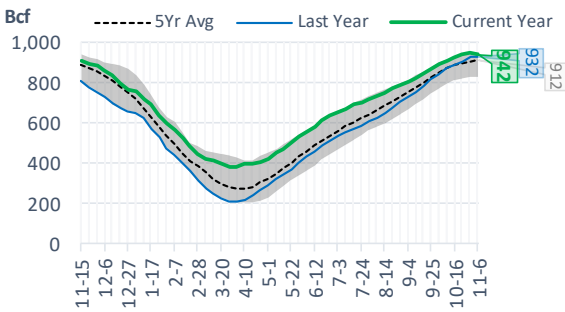
NonSalt Storage Levels



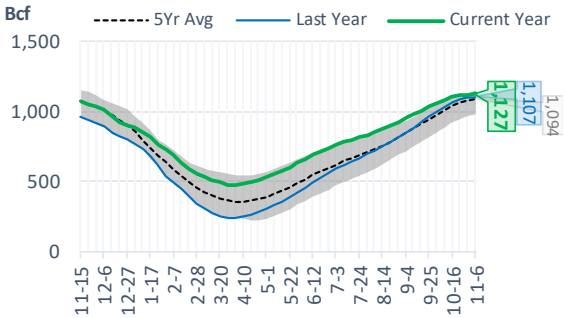
Salt Storage Levels



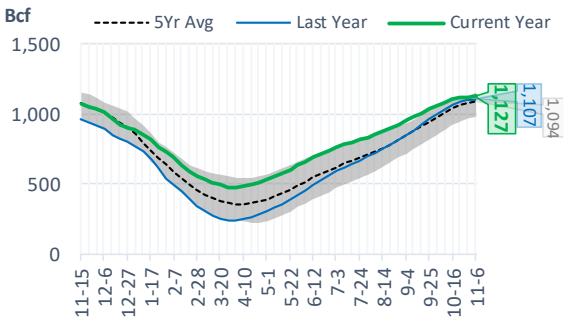
East Storage Levels



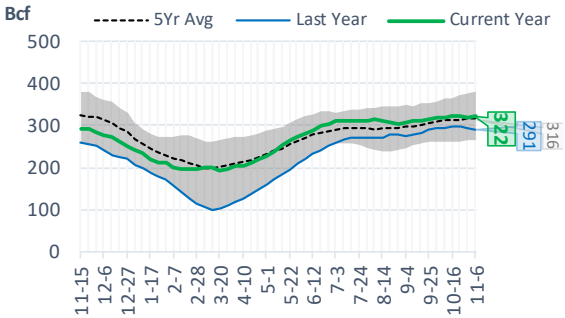
Midwest Storage Levels



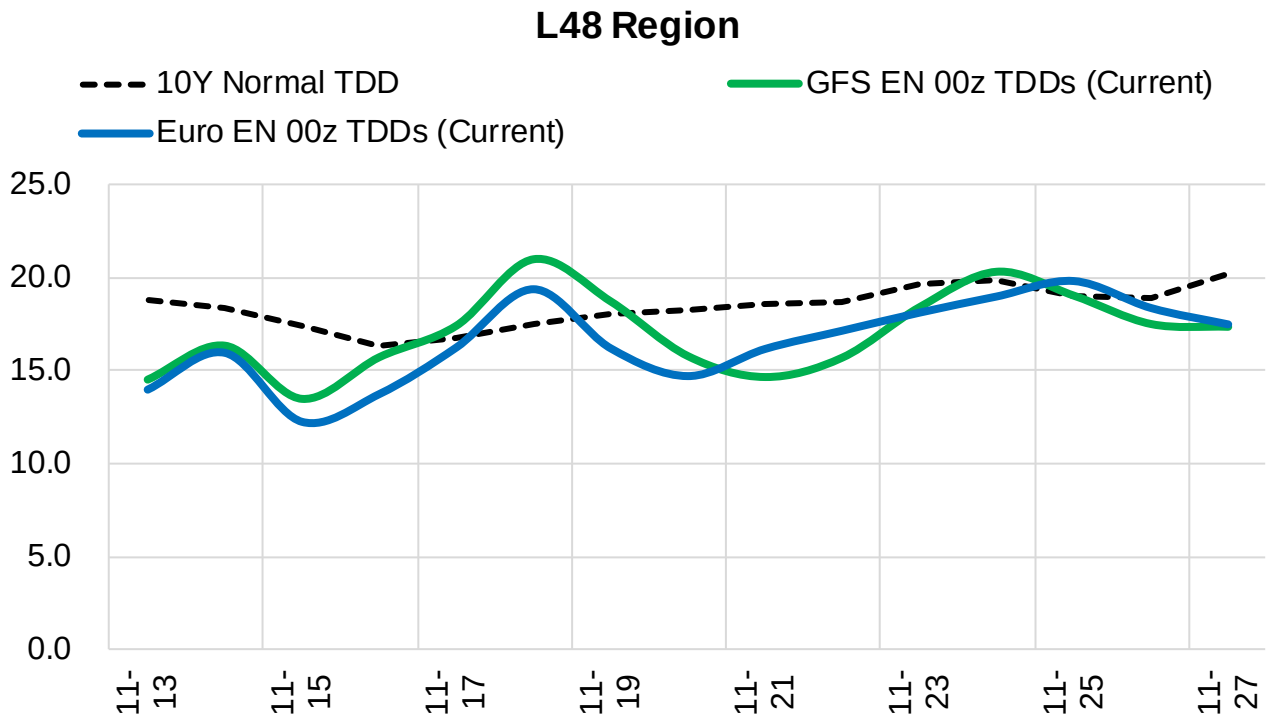
Midwest Storage Levels

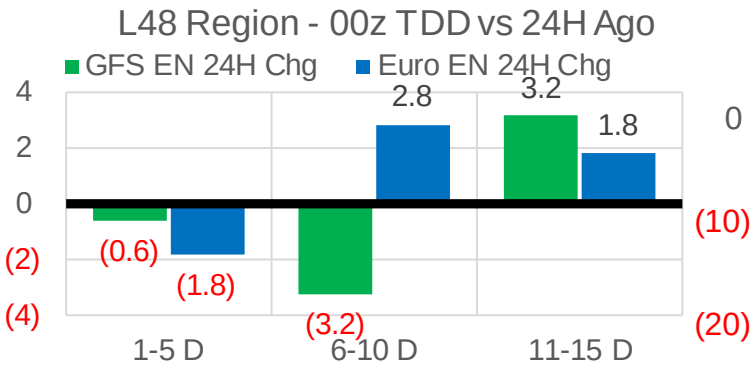


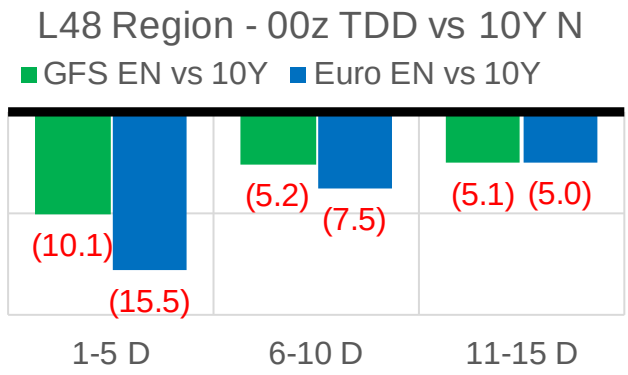
Pacific Storage Levels



Current Short-term Weather Model Outlooks (00z)







Source: WSI , Bloomberg

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	23.2	24.4	1.3	1.6
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**	**72.9**	**-5.9**	**-3.9**
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**	**0.4**	**0.2**
Implied Daily Storage Activity	**6.2**	**7.0**	**4.2**	**-5.3**	**0.3**	**3.3**	**3.0**	
EIA Reported Daily Storage Activity	**6.6**	**7.0**	**4.1**	**-5.1**	**1.1**			
Daily Model Error	**-0.4**	**0.0**	**0.0**	**-0.2**	**-0.8**			

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**	**89.9**	**1.6**	**-5.3**
Canadian Imports	**4.1**	**4.5**	**4.4**	**4.9**	**3.8**	**4.3**	**4.3**	**0.0**	**-0.2**
L48 Power	25.4	27.5	43.7	40.7	33.3	29.3	24.6	-4.7	-3.0
L48 Residential & Commercial	32.9	32.8	7.9	7.7	8.5	16.8	19.9	3.0	-12.9
L48 Industrial	24.4	24.1	19.3	20.8	21.2	22.5	23.8	1.3	-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	-0.2	-0.7
L48 Regional Gas Consumption	**90.3**	**92.5**	**78.3**	**76.4**	**69.9**	**75.7**	**75.3**	**-0.4**	**-17.1**
Net LNG Exports	**4.3**	**7.2**	**3.3**	**4.0**	**5.9**	**8.0**	**10.4**	**2.3**	**3.1**
Total Mexican Exports	**4.8**	**5.3**	**6.1**	**6.3**	**6.4**	**6.2**	**6.3**	**0.1**	**1.0**
Implied Daily Storage Activity	**-7.2**	**-5.1**	**4.9**	**6.8**	**10.3**	**2.6**	**2.3**		
EIA Reported Daily Storage Activity									
Daily Model Error									

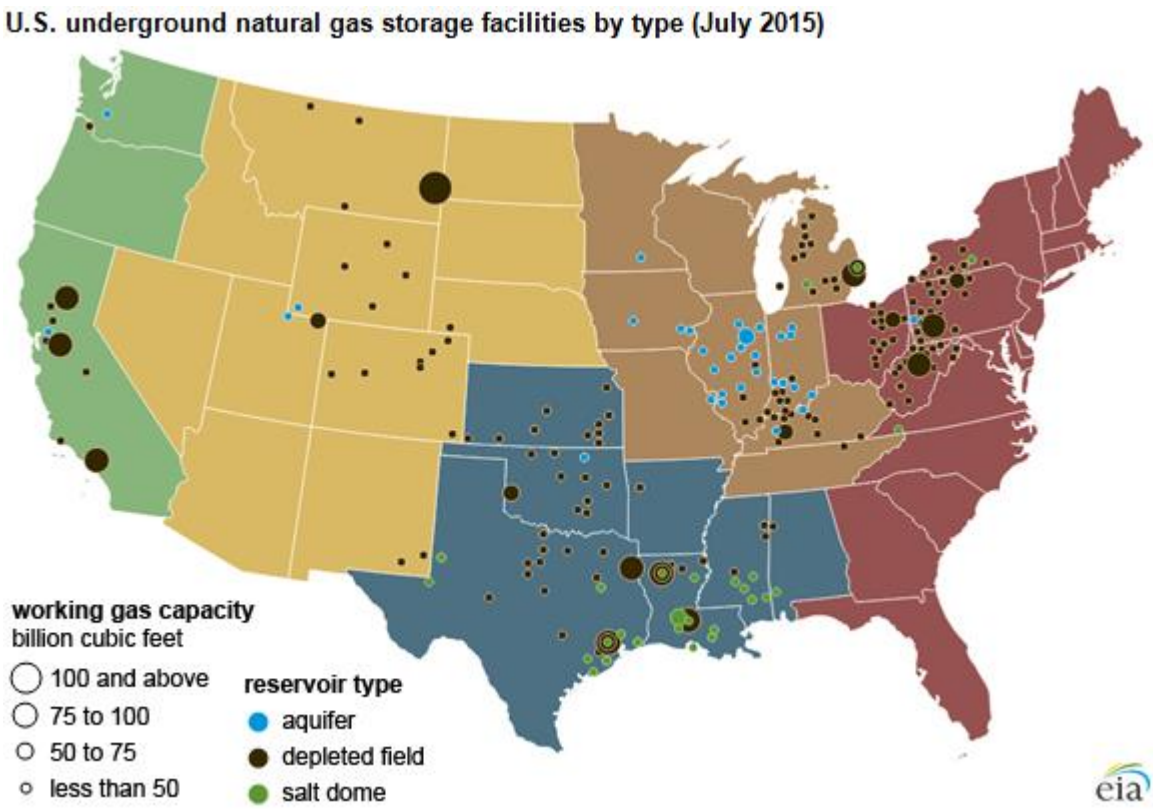
Source: Bloomberg, analytix.ai

Regional S/D Models Storage Projection

Week Ending 13-Nov

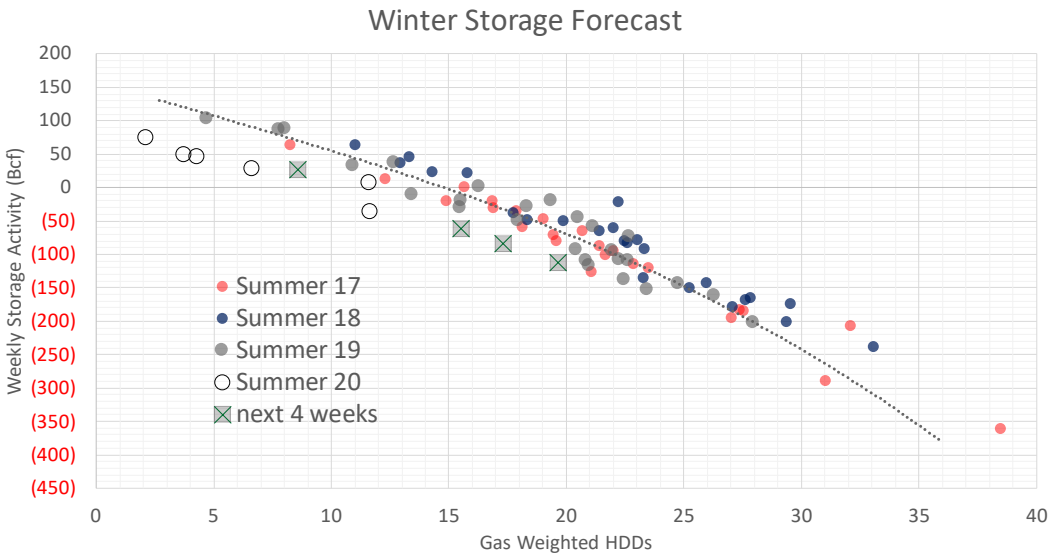
	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.1	0.7	3.8	27
East	0.3	2.2	2.5	18
Midwest	1.7	1.2	2.9	20
Mountain	3.3	-3.4	-0.1	-1
South Central	-1.2	0.7	-0.6	-3
Pacific	-1.0	0.0	-1.0	-7

*Adjustment Factor is calcuated based on historical regional deltas



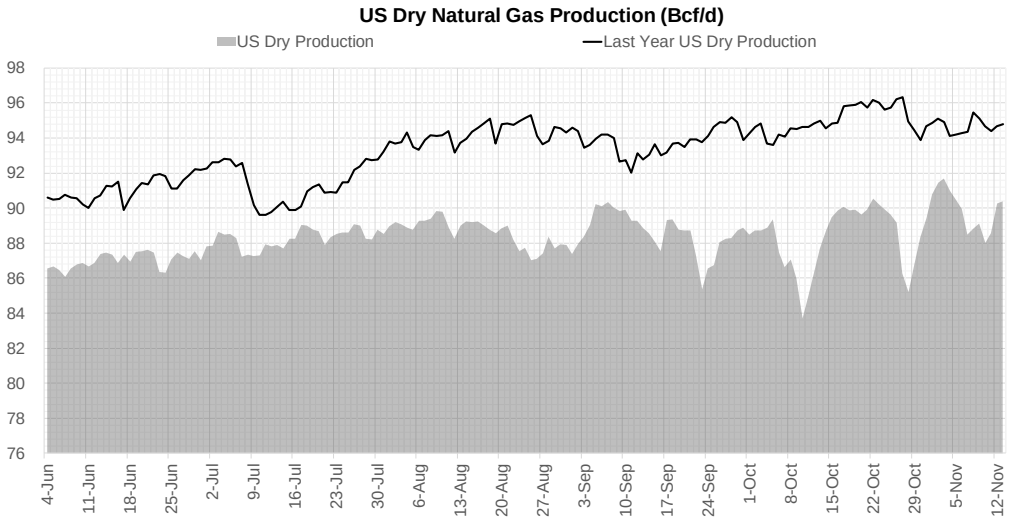
Weather Model Storage Projection

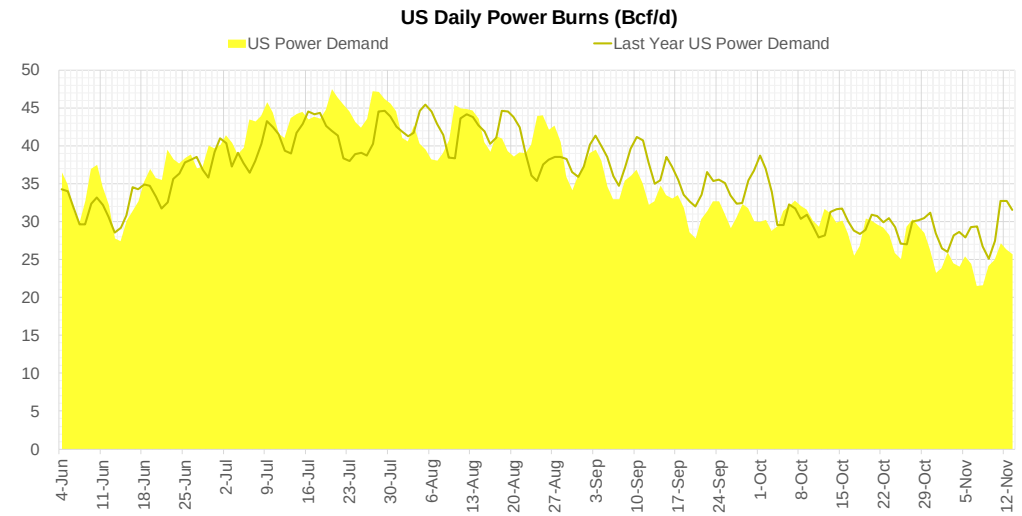
Next report and beyond		
Week Ending	Temp	Week Storage Projection
20-Nov	15.5	-61
27-Nov	17.3	-84
04-Dec	19.7	-112

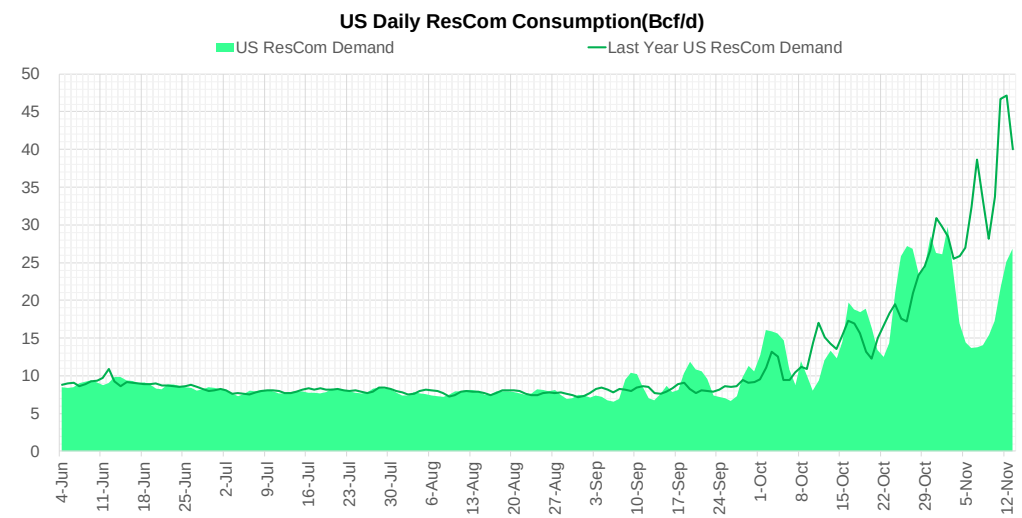


Note: this is not our official end of season forecast. This chart signifies where storage levels end with 10-year normal weather and current market tightness relative to last year

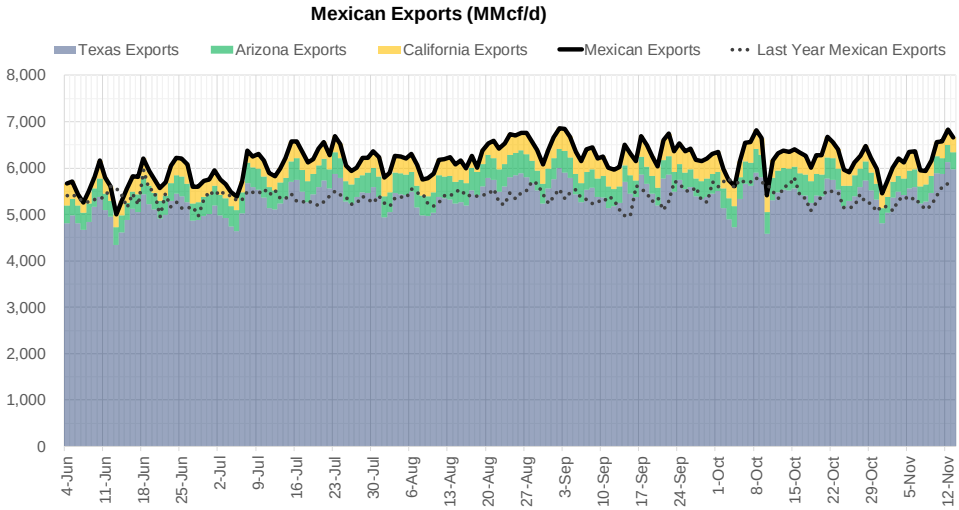
Supply – Demand Trends

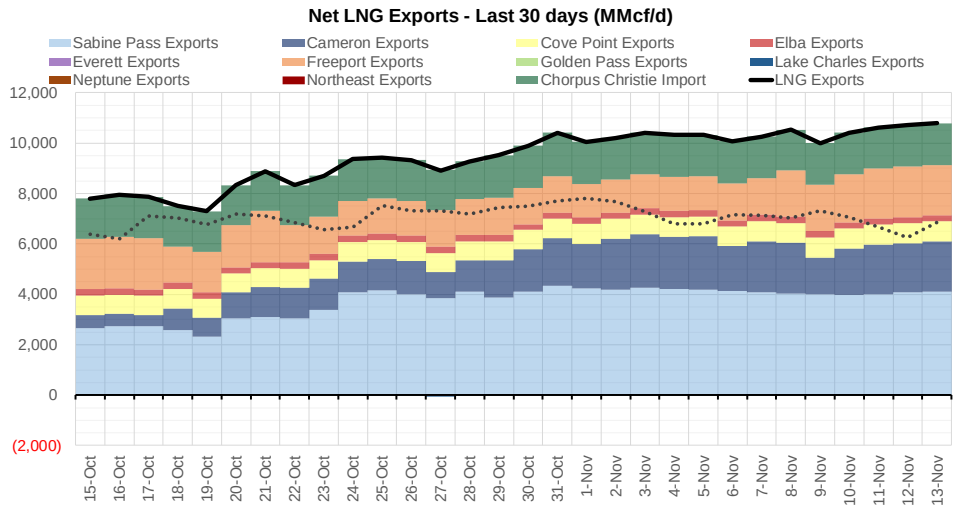






Source: Bloomberg





Source: Bloomberg

Nat Gas Options Volume and Open Interest

CME, ICE and Nasdaq Combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL
1	2021	P	2.50	7571
12	2020	P	2.75	5342
12	2020	C	3.75	5205
12	2020	C	4.00	4429
4	2021	C	4.00	4250
3	2021	C	4.00	4249
3	2021	C	4.50	3952
12	2020	P	2.50	3882
12	2020	P	2.70	3818
12	2020	C	3.25	3675
12	2020	P	2.85	2473
12	2020	C	3.50	2448
1	2021	P	2.75	2432
12	2020	P	2.90	2351
4	2021	C	3.25	2300
4	2021	P	2.25	2100
6	2021	P	2.25	2100
6	2021	C	3.75	2000
1	2021	C	3.50	1788
3	2021	C	7.00	1713
12	2020	C	3.00	1666
3	2021	C	6.00	1510
3	2021	P	2.40	1446
3	2021	C	3.25	1415
2	2021	P	3.00	1358
12	2020	P	3.00	1176
12	2020	C	3.30	1106
12	2020	P	2.65	1074
5	2021	P	2.50	1050
12	2020	P	2.80	974
3	2021	C	3.50	936
12	2020	C	3.15	826
12	2020	C	3.35	802
1	2021	C	4.00	792
2	2021	P	2.50	766
3	2021	C	3.15	708
1	2021	C	4.75	690
1	2021	C	3.15	684
12	2020	C	3.40	673
2	2021	C	5.00	665
12	2020	C	3.05	603
1	2021	C	5.00	538
4	2021	P	2.00	525
5	2021	P	2.00	525
6	2021	P	2.00	525
7	2021	P	2.00	525
8	2021	P	2.00	525
9	2021	P	2.00	525
10	2021	P	2.00	525

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
3	2021	P	2.00	38188
4	2021	C	4.00	37070
3	2021	C	4.00	34274
12	2020	P	2.00	32760
1	2021	C	3.50	31210
3	2021	C	3.25	30090
1	2021	C	4.50	30054
12	2020	P	2.50	29538
10	2021	C	4.00	28665
3	2021	C	6.00	27622
10	2021	C	3.25	27160
4	2021	C	5.00	26848
1	2021	P	2.50	26515
12	2020	C	4.00	25906
12	2020	C	3.50	25897
12	2020	C	3.75	25225
3	2021	C	7.00	24606
3	2021	C	5.00	24529
12	2020	P	2.75	23740
3	2021	C	4.50	22473
1	2021	C	3.75	22385
12	2020	C	4.50	22301
3	2021	C	3.50	22178
1	2021	C	6.00	21271
1	2021	C	4.00	21042
2	2021	P	2.25	20839
3	2021	C	3.00	20785
1	2021	C	5.00	20221
2	2021	P	2.50	19715
12	2020	P	3.00	19581
8	2021	C	4.00	19505
1	2021	C	3.00	19284
3	2021	P	2.50	18385
2	2021	C	5.00	18376
2	2021	C	3.50	18181
12	2020	C	3.00	18129
4	2021	C	3.25	18036
1	2021	P	2.00	17915
8	2021	P	2.25	17792
1	2021	P	2.25	17387
2	2021	C	4.00	16961
10	2021	C	5.00	16953
12	2020	P	2.70	16568
12	2020	C	3.25	16470
2	2021	C	4.50	16081
12	2020	C	5.00	15830
4	2021	C	3.00	15729
1	2021	C	3.25	15061
10	2021	C	3.00	14985
4	2021	P	2	14904

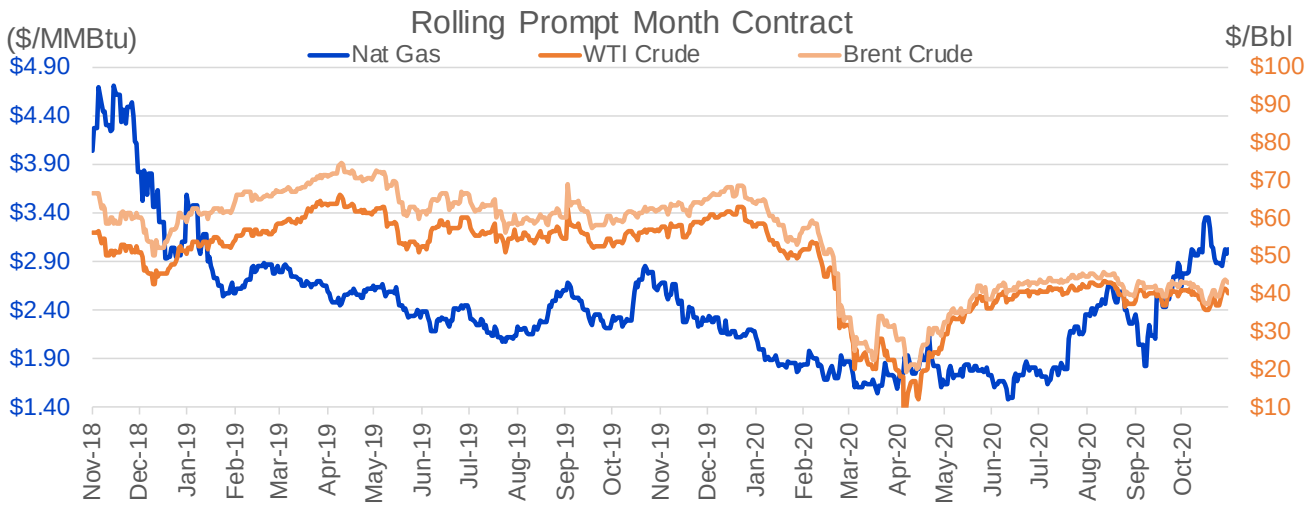
Source: CME, Nasdaq, ICE

Nat Gas Futures Open Interest

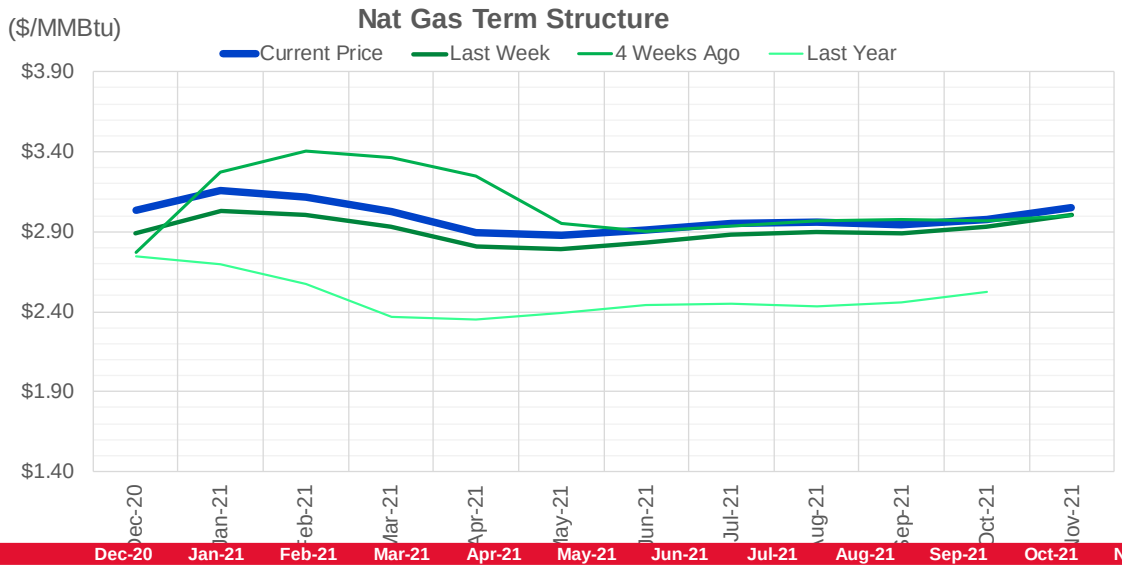
CME, ICE and Nasdaq Combined

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	105998	119105	-13107	DEC 20	72104	72808	-704
JAN 21	265374	255978	9396	JAN 21	91796	91229	566.75
FEB 21	95653	97512	-1859	FEB 21	66868	66762	106.5
MAR 21	149473	146939	2534	MAR 21	89883	89341	542.25
APR 21	81715	82041	-326	APR 21	71322	71262	59.75
MAY 21	64090	62591	1499	MAY 21	71890	71979	-89.5
JUN 21	35196	34394	802	JUN 21	58208	58074	133.75
JUL 21	32758	31803	955	JUL 21	60842	60843	-1
AUG 21	28347	29196	-849	AUG 21	64987	64724	263
SEP 21	36014	38212	-2198	SEP 21	58365	58391	-25.75
OCT 21	100330	99467	863	OCT 21	69318	69224	94.25
NOV 21	37594	37673	-79	NOV 21	53884	53955	-71
DEC 21	31639	30868	771	DEC 21	48429	48392	37
JAN 22	30332	30119	213	JAN 22	46289	46372	-83
FEB 22	22881	22956	-75	FEB 22	37727	37533	194
MAR 22	25191	25771	-580	MAR 22	40787	41115	-327.5
APR 22	25472	25891	-419	APR 22	41337	41314	22.25
MAY 22	11284	10712	572	MAY 22	30461	30386	75.25
JUN 22	6115	5536	579	JUN 22	29897	29939	-42
JUL 22	4525	4531	-6	JUL 22	31186	31187	-1
AUG 22	3633	3464	169	AUG 22	29866	29883	-16.75
SEP 22	4345	3738	607	SEP 22	29616	29606	10.25
OCT 22	6419	5674	745	OCT 22	34505	34353	152
NOV 22	4563	4502	61	NOV 22	29359	29305	53.5
DEC 22	4993	4892	101	DEC 22	31755	31708	47.25
JAN 23	4408	4416	-8	JAN 23	15029	14917	111.25
FEB 23	1065	1057	8	FEB 23	13996	13908	87.75
MAR 23	2381	2331	50	MAR 23	13733	13622	111.5
APR 23	1762	1762	0	APR 23	13086	13010	76.25
MAY 23	447	447	0	MAY 23	11725	11639	85.5

Source: CME, ICE



Market Report



	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	**$3.032**	**$3.154**	**$3.114**	**$3.027**	**$2.893**	**$2.877**	**$2.912**	**$2.953**	**$2.963**	**$2.947**	**$2.978**	**$3.052**
Last Week	$2.888	$3.031	$3.005	$2.933	$2.807	$2.793	$2.834	$2.885	$2.900	$2.889	$2.928	$3.008
vs. Last Week	$0.144	$0.123	$0.109	$0.094	$0.086	$0.084	$0.078	$0.068	$0.063	$0.058	$0.050	$0.044
4 Weeks Ago	$2.773	$3.271	$3.405	$3.364	$3.249	$2.948	$2.906	$2.933	$2.970	$2.979	$2.966	$3.001
vs. 4 Weeks Ago	$0.259	-$0.117	-$0.291	-$0.337	-$0.356	-$0.071	$0.006	$0.020	-$0.007	-$0.032	$0.012	$0.051
Last Year	$2.688	$2.750	$2.695	$2.569	$2.368	$2.351	$2.393	$2.440	$2.449	$2.434	$2.461	$2.523
vs. Last Year	$0.344	$0.404	$0.419	$0.458	$0.525	$0.526	$0.519	$0.513	$0.514	$0.513	$0.517	$0.529

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	$/MMBtu	-0.261	-0.037	0.196	0.199
NatGas Mar21/Apr21	$/MMBtu	-0.134	-0.008	-0.435	-0.407
NatGas Oct21/Nov21	$/MMBtu	0.074	-0.006	0.015	0.011
NatGas Apr21/Oct21	$/MMBtu	0.085	-0.018	-0.319	-0.321
WTI Crude	$/Bbl	40.39	3.250	-0.490	-17.330
Brent Crude	$/Bbl	43.01	3.560	0.080	-20.290
Fuel Oil, NY Harbour 1%	$/Bbl	98.03	0.000	0.000	0.000
Heating Oil	cents/Gallon	120.83	6.570	2.920	-73.970
Propane, Mt. Bel	cents/Gallon	0.56	0.006	0.037	0.030
Ethane, Mt. Bel	cents/Gallon	0.22	0.003	0.009	0.026
Coal, PRB	$/MTon	12.30	0.000	0.000	0.050
Coal, PRB	$/MMBtu	0.70			

Source: CME, Bloomberg

Baker Hughes Rig Counts

Rotary Rig Count

11/13/2020

Baker Hughes

U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	236	10	226	-438	674
Gas	73	2	71	-56	129
Miscellaneous	3	0	3	0	3
Directional	23	4	19	-31	54
Horizontal	267	8	259	-435	702
Vertical	22	0	22	-28	50
Canada Breakout	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Oil	39	2	37	-49	88
Gas	50	1	49	4	46
Major Basin Variances	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Arkoma Woodford	0	0	0	-3	3
Barnett	0	0	0	-4	4
Cana Woodford	11	1	10	-17	28
DJ-Niobrara	3	0	3	-18	21
Eagle Ford	20	1	19	-40	60
Haynesville	37	0	37	-14	51
Marcellus	27	2	25	-10	37
Mississippian	0	0	0	-3	3
Permian	154	7	147	-254	408
Utica	4	-1	5	-9	13
Williston	12	0	12	-39	51