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	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.90	▲ \$ 0.11	▲ \$ 0.13

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 40.83	▲ \$ -	▲ \$ 0.0

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 42.49	▼ \$ (0.13)	▼ \$ (0.4)

00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.2	-1.7	2.8	1.3
24 Hr Chg	-0.6	-4.5	3.9	-1.2

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.1	-0.3	-1.7	-1.9
24 Hr Chg	0.6	1.3	5.0	6.9

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	87.8	▼ -1.02	▼ -0.58

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	30.7	▲ 1.56	▲ 2.44

	Current	Δ from YD	Δ from 7D Avg
US ResComm	16.2	▼ -2.65	▼ -0.41

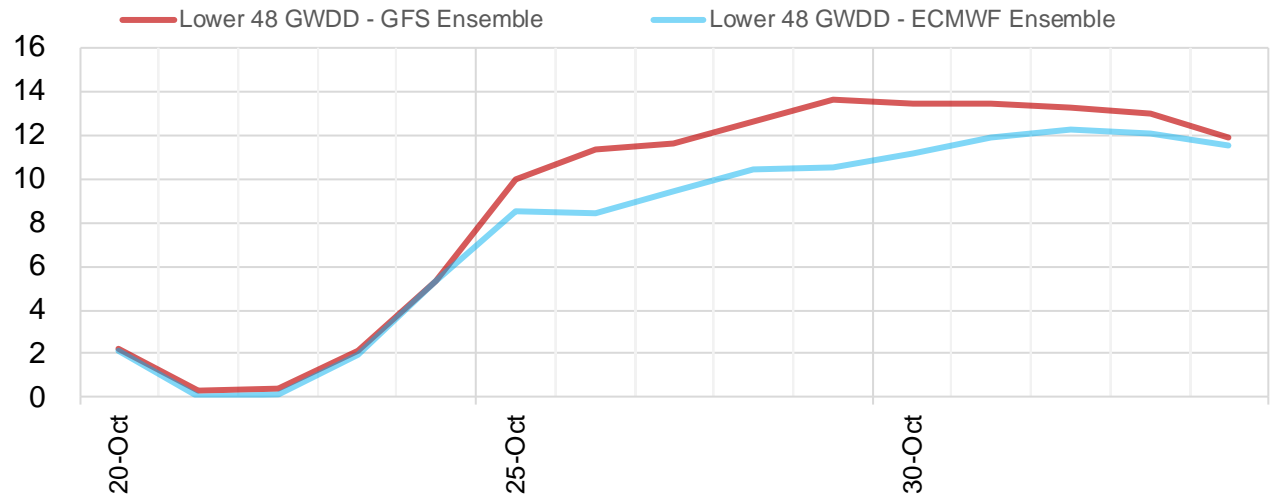
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.1	▼ -0.45	▼ -0.52

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	8.5	▲ 1.26	▲ 0.86

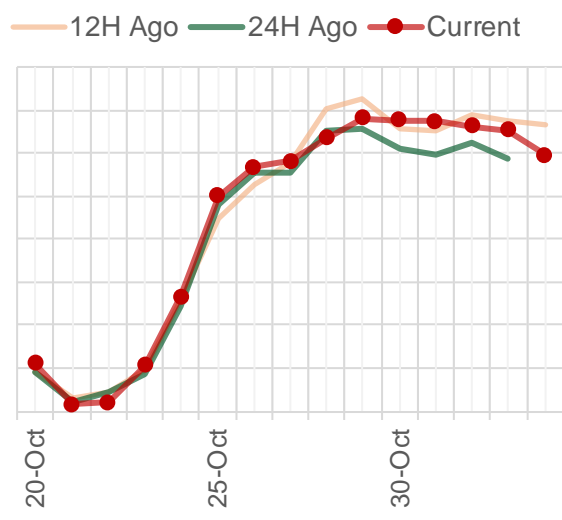
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.4	▲ 0.04	▲ 0.14

Short-term Weather Model Outlooks (00z)

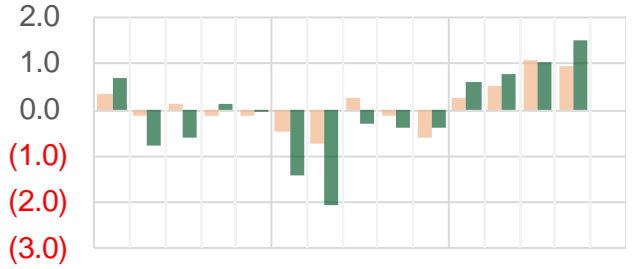
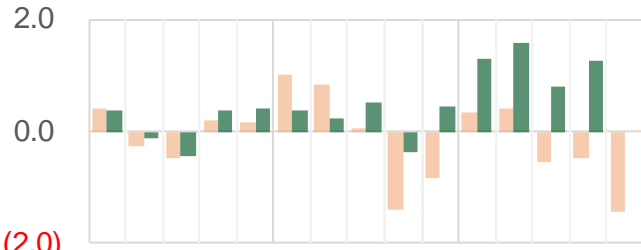
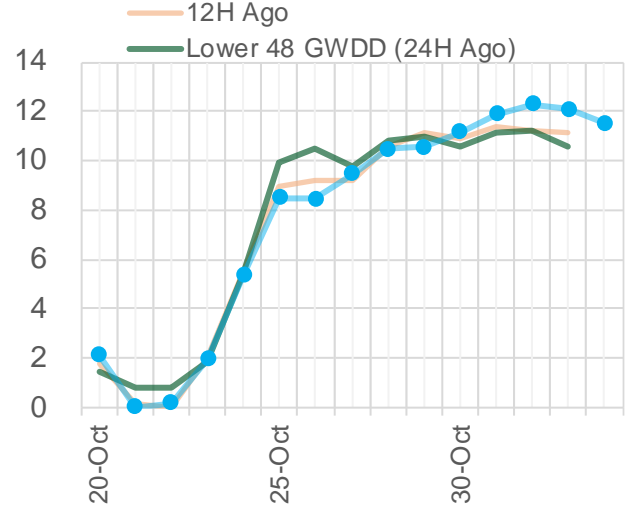
Lower 48 TDD Forecast



Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



Source: WSI, Bloomberg

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Lower 48 Component Models

Daily Balances

	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	DoD	vs. 7D
Lower 48 Dry Production	87.8	88.5	89.0	89.1	88.9	88.9	87.8	▼ -1.0	▼ -0.8
Canadian Imports	3.7	3.8	3.3	3.3	3.2	3.5	3.1	▼ -0.5	▼ -0.4
L48 Power	29.4	29.6	27.8	25.2	26.2	29.1	30.7	▲ 1.6	▲ 2.8
L48 Residential & Commercial	12.4	14.6	19.8	18.9	18.5	18.9	16.2	▼ -2.6	▼ -0.9
L48 Industrial	22.3	22.2	22.2	21.8	21.5	21.4	21.0	▼ -0.4	▼ -0.9
L48 Lease and Plant Fuel	4.8	4.9	4.9	4.9	4.9	4.9	4.8	▼ -0.1	▼ 0.0
L48 Pipeline Distribution	2.0	2.2	2.3	2.2	2.2	2.4	2.3	▼ -0.1	▲ 0.1
L48 Regional Gas Consumption	70.9	73.5	77.1	72.9	73.3	76.7	75.1	▼ -1.6	▲ 1.0
Net LNG Delivered	7.86	7.80	7.95	7.86	7.50	7.29	8.55	▲ 1.3	▲ 0.8
Total Mexican Exports	6.4	6.3	6.4	6.3	5.9	6.4	6.4	▲ 0.0	▲ 0.2
Implied Daily Storage Activity	6.3	4.7	0.9	5.4	5.4	2.0	0.9		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	11-Sep	18-Sep	25-Sep	2-Oct	9-Oct	16-Oct	WoW	vs. 4W
Lower 48 Dry Production	89.0	87.8	86.9	87.2	87.2	85.8	▼ -1.4	▼ -1.5
Canadian Imports	3.8	3.8	3.6	3.9	4.5	4.0	▼ -0.5	▲ 0.1
L48 Power	35.3	33.5	30.8	30.7	30.8	30.1	▼ -0.7	▼ -1.4
L48 Residential & Commercial	8.4	8.0	9.9	9.5	13.5	11.5	▼ -2.1	▲ 1.2
L48 Industrial	19.7	21.3	21.1	22.2	21.6	22.0	▲ 0.4	▲ 0.5
L48 Lease and Plant Fuel	4.9	4.8	4.8	4.8	4.8	4.7	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.2	2.1	2.0	2.0	2.2	2.0	▼ -0.1	▼ 0.0
L48 Regional Gas Consumption	70.5	69.7	68.6	69.1	72.9	70.3	▼ -2.6	▲ 0.2
Net LNG Exports	5.2	7.3	5.8	6.8	7.5	6.9	▼ -0.6	▲ 0.0
Total Mexican Exports	6.4	6.2	6.4	6.3	6.2	6.2	▲ 0.0	▼ -0.1
Implied Daily Storage Activity	10.8	8.3	9.6	8.9	5.1	6.4	1.2	
EIA Reported Daily Storage Activity	12.7	9.4	10.9	10.7	6.6			
Daily Model Error	-1.9	-1.1	-1.2	-1.8	-1.4			

Monthly Balances

	2Yr Ago Oct-18	LY Oct-19	Jun-20	Jul-20	Aug-20	Sep-20	MTD Oct-20	MoM	vs. LY
Lower 48 Dry Production	86.7	95.0	86.6	87.8	87.7	87.6	87.1	▼ -0.5	▼ -7.9
Canadian Imports	4.7	4.6	4.0	4.4	4.9	3.8	4.0	▲ 0.2	▼ -0.6
L48 Power	28.8	30.8	35.0	43.8	40.7	33.2	29.7	▼ -3.5	▼ -1.0
L48 Residential & Commercial	16.1	15.2	8.8	8.0	7.7	8.7	14.0	▲ 5.3	▼ -1.2
L48 Industrial	22.6	24.0	19.2	19.3	20.6	21.0	21.8	▲ 0.8	▼ -2.2
L48 Lease and Plant Fuel	4.9	5.2	4.8	4.9	4.8	4.8	4.8	▼ 0.0	▼ -0.4
L48 Pipeline Distribution	2.1	2.3	2.2	2.4	2.3	2.1	2.1	▲ 0.1	▼ -0.1
L48 Regional Gas Consumption	74.5	77.4	70.1	78.4	76.1	69.8	72.5	▲ 2.7	▼ -5.0
Net LNG Exports	3.3	6.7	4.0	3.3	4.0	5.9	7.3	▲ 1.4	▲ 0.7
Total Mexican Exports	5.0	5.5	5.7	6.1	6.3	6.4	6.2	▼ -0.1	▲ 0.8
Implied Daily Storage Activity	8.6	10.0	10.9	4.4	6.2	9.4	5.0		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

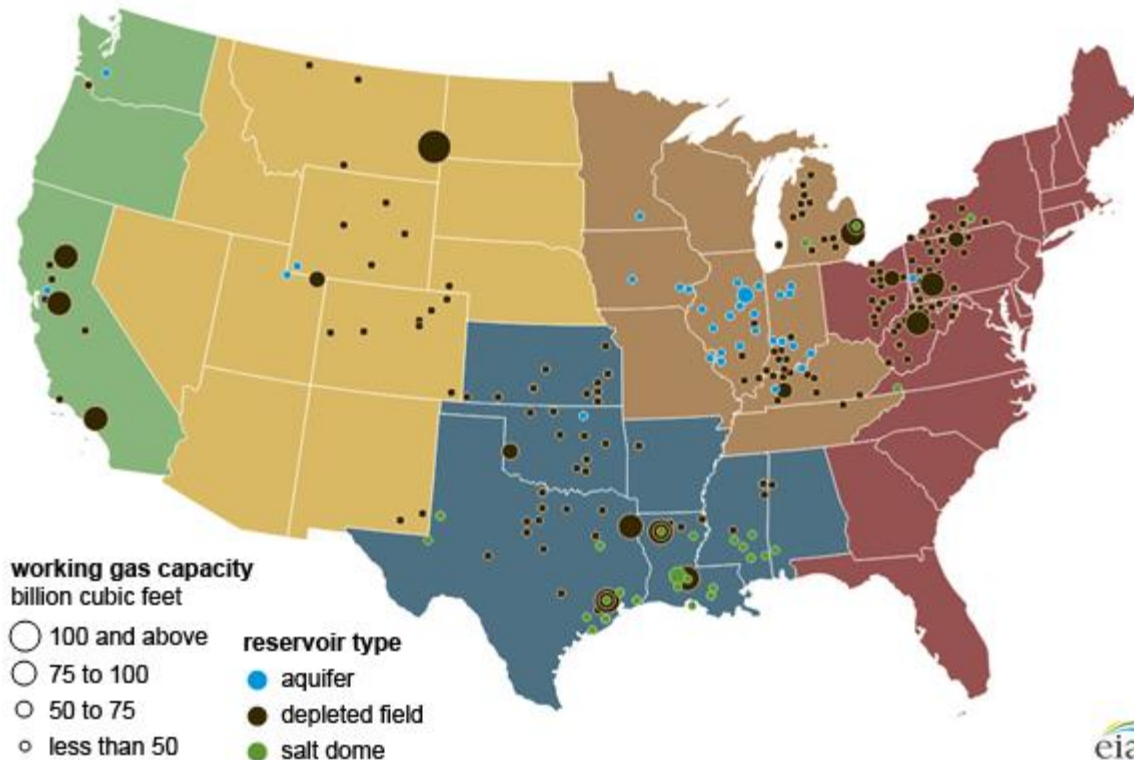
Regional S/D Models Storage Projection

Week Ending 16-Oct

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	6.1	1.7	7.8	54
East	0.5	1.6	2.1	14
Midwest	3.2	1.2	4.4	31
Mountain	3.6	-3.2	0.4	3
South Central	-1.6	2.2	0.6	4
Pacific	0.4	-0.1	0.3	2

*Adjustment Factor is calculated based on historical regional deltas

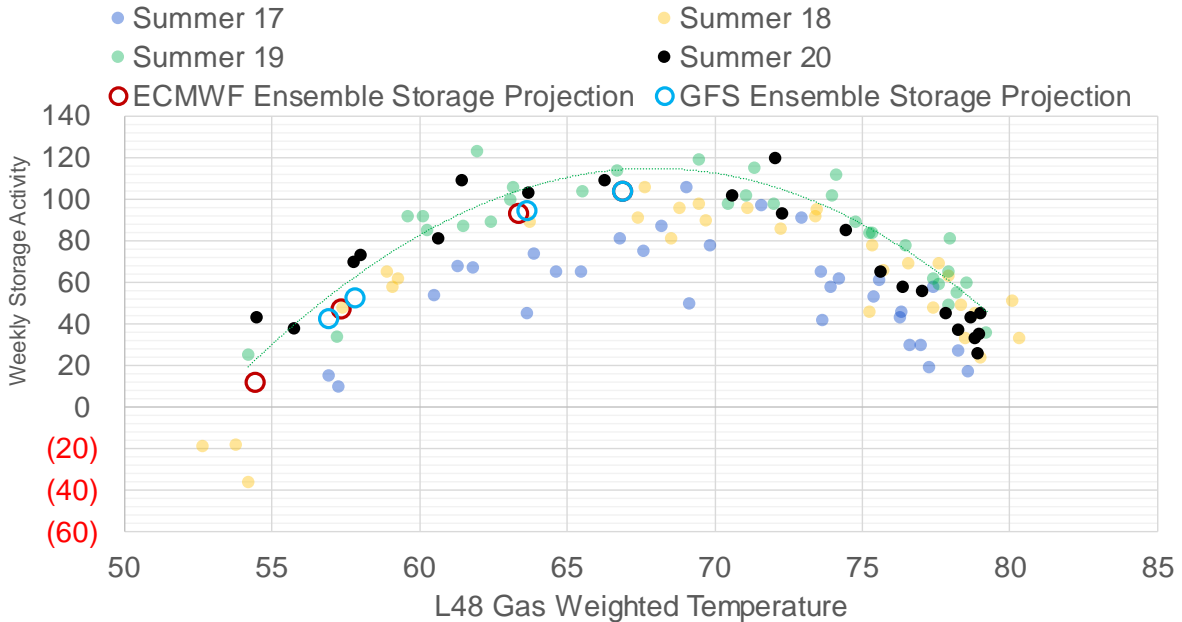
U.S. underground natural gas storage facilities by type (July 2015)



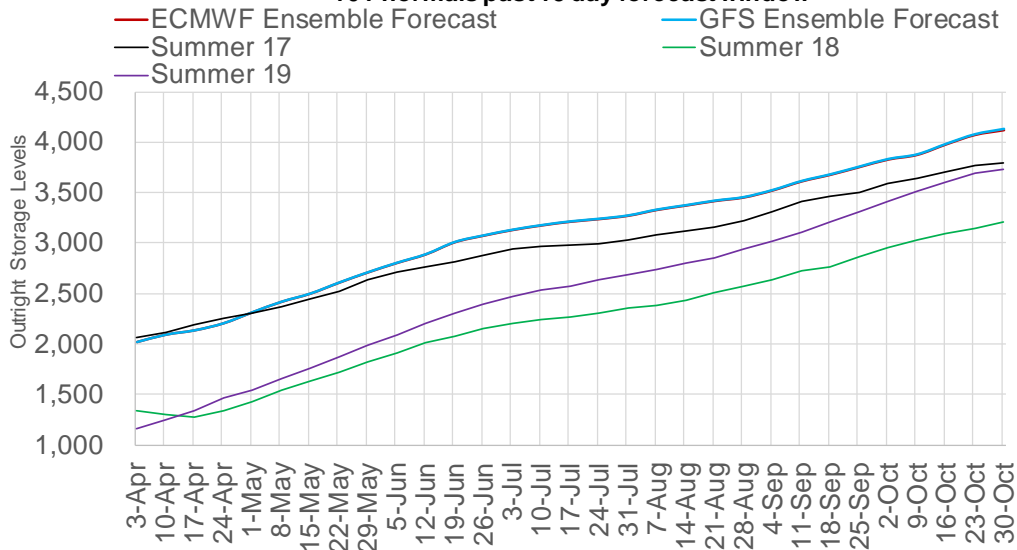
Weather Model Storage Projection

Next report and beyond	
Week Ending	Week Storage Projection
23-Oct	94
30-Oct	50
06-Nov	27

Weather Storage Model - Next 4 Week Forecast

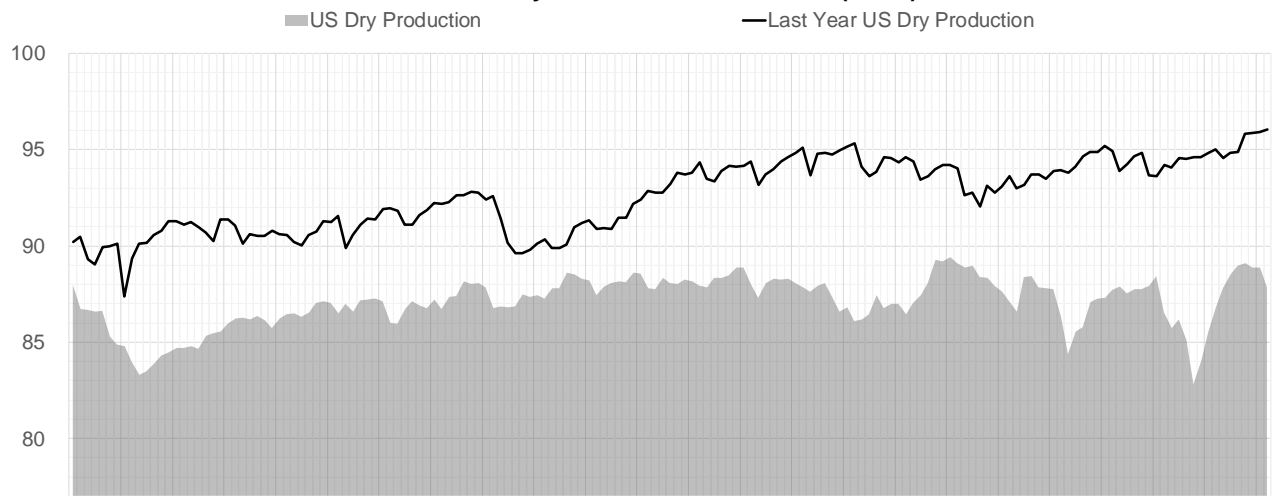


Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window

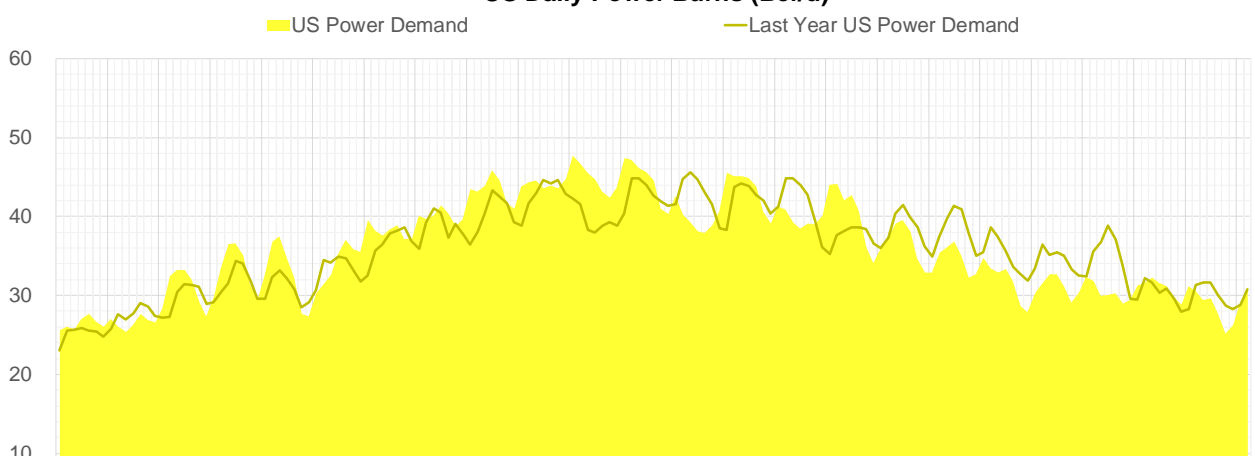


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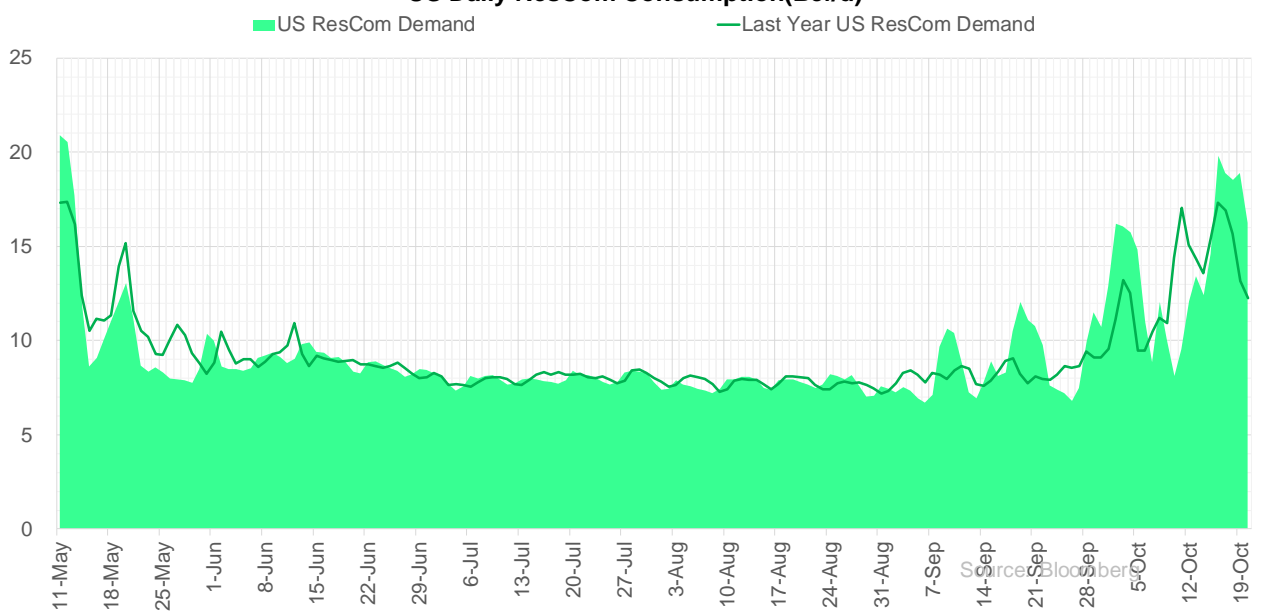
Supply – Demand Trends US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)

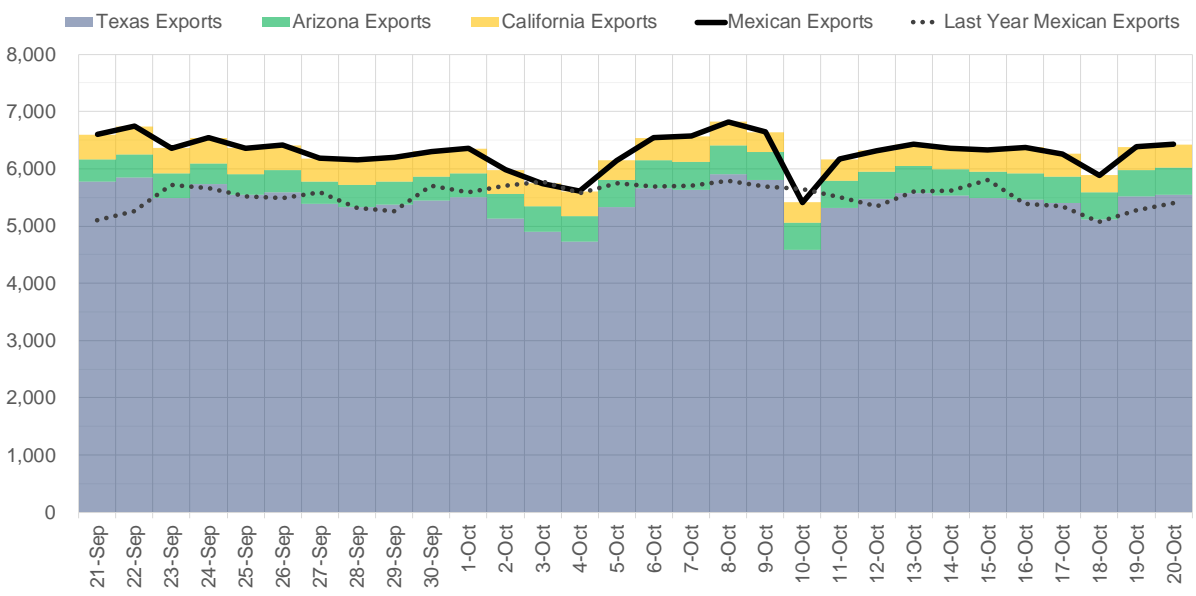


US Daily ResCom Consumption (Bcf/d)

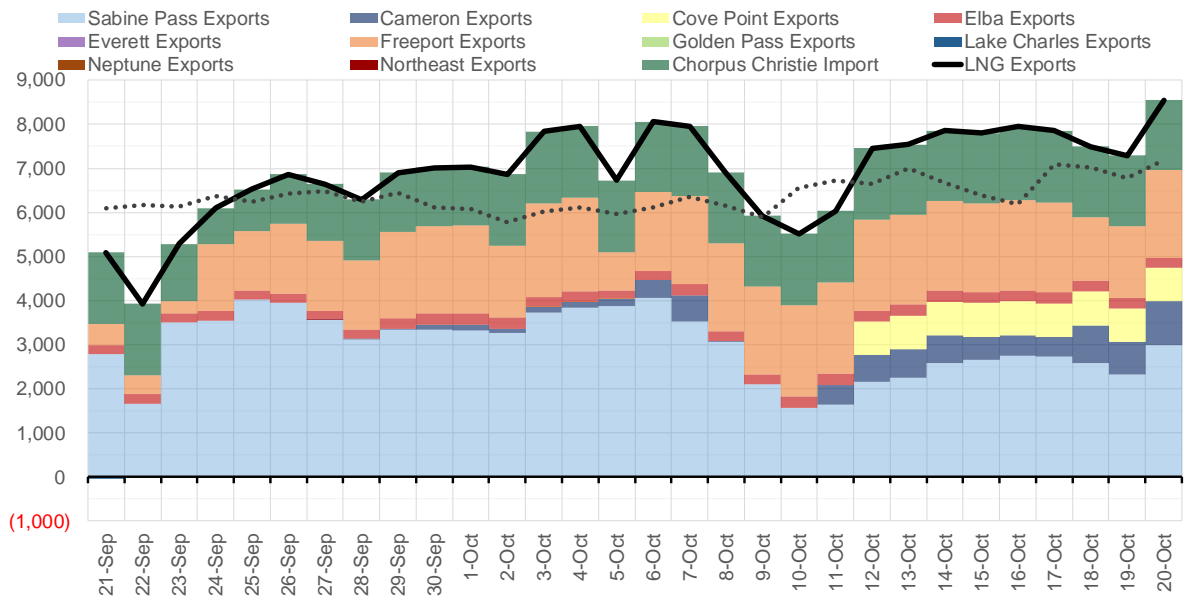


Source: Bloomberg

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

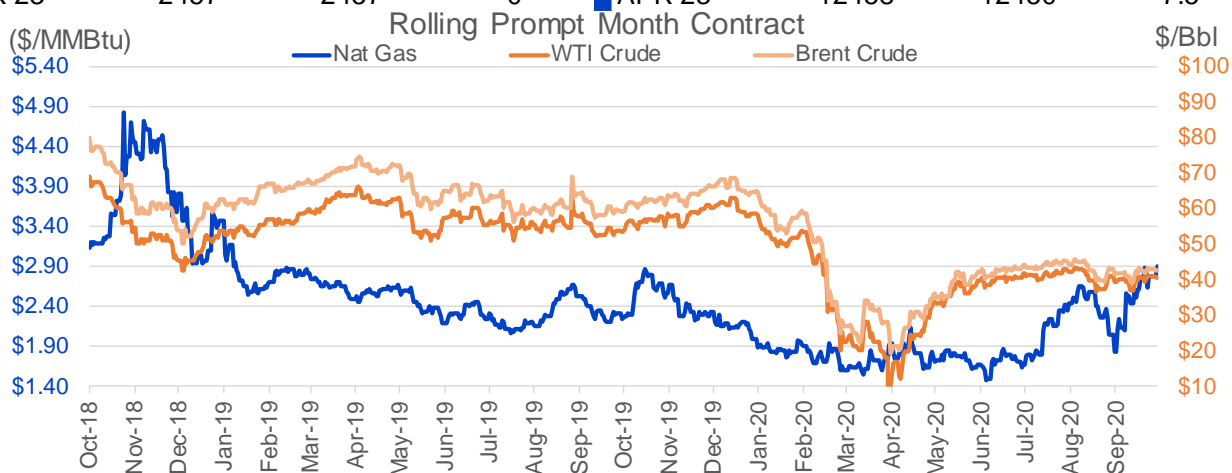
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
11	2020	P	2.50	7228	11	2020	P	2.00	56393
8	2021	C	4.50	5845	3	2021	P	2.00	35422
8	2021	P	2.25	5845	11	2020	C	3.25	34850
8	2021	C	4.00	5800	12	2020	P	2.00	31733
11	2020	C	3.25	5408	11	2020	C	3.50	31042
12	2020	C	5.00	5326	3	2021	C	5.00	30605
11	2020	C	3.00	5289	3	2021	C	6.00	30252
5	2021	C	4.00	5000	1	2021	C	4.50	28845
12	2020	C	5.50	4452	12	2020	P	2.50	27662
11	2020	C	2.90	2713	3	2021	C	3.25	27170
11	2020	P	2.75	2651	4	2021	C	5.00	26770
11	2020	C	3.10	2567	1	2021	C	3.50	26122
11	2020	C	2.80	2337	3	2021	C	7.00	25904
11	2020	P	2.00	2121	3	2021	C	4.00	25378
11	2020	P	2.25	1981	11	2020	C	4.00	25024
1	2021	C	5.00	1976	11	2020	P	2.25	23964
12	2020	P	2.75	1856	11	2020	C	3.00	23663
11	2020	P	2.65	1834	12	2020	C	4.00	23165
5	2021	C	3.25	1700	11	2020	C	5.00	22403
11	2020	C	3.50	1676	2	2021	C	5.00	21510
11	2020	P	2.40	1673	1	2021	C	6.00	21161
2	2021	C	5.00	1623	11	2020	P	1.75	21046
11	2020	C	3.30	1617	3	2021	C	3.00	20826
11	2020	P	2.20	1575	11	2020	P	2.50	20360
11	2020	P	2.60	1552	1	2021	C	5.00	20338
11	2020	P	1.75	1503	3	2021	C	3.50	19998
3	2021	C	5.00	1407	10	2021	C	3.25	19844
12	2020	C	4.25	1218	4	2021	C	4.00	19307
12	2020	C	3.65	1214	10	2021	C	4.00	19170
3	2021	C	6.00	1144	12	2020	C	4.50	19157
12	2020	C	3.30	1128	11	2020	C	2.75	19152
11	2020	C	3.20	1080	1	2021	P	2.25	18835
3	2021	C	3.25	1038	12	2020	C	3.75	18792
12	2020	C	4.50	1014	1	2021	P	2.50	18122
1	2021	C	4.50	1010	12	2020	C	3.50	17739
11	2020	C	2.85	987	2	2021	P	2.25	17589
3	2021	C	4.00	968	1	2021	C	3.00	17187
3	2021	P	2.00	892	2	2021	C	3.50	17132
11	2020	P	2.10	880	2	2021	P	2.50	16652
2	2021	P	3.00	800	1	2021	C	3.75	16632
5	2021	C	3.00	800	11	2020	P	2.65	15573
3	2021	C	5.50	785	3	2021	P	2.50	15471
12	2020	P	2.50	783	12	2020	C	5.00	15098
3	2021	P	2.90	750	8	2021	C	4.00	14474
10	2021	C	3.25	746	12	2020	P	1.50	14450
2	2021	P	2.25	698	2	2021	C	4.00	14424
4	2021	C	3.50	695	1	2021	C	7.00	14297
11	2020	P	2.30	686	4	2021	C	3.00	14285
2	2021	C	7.00	676	4	2021	P	2.00	14097
					1	2021	C	4	13984

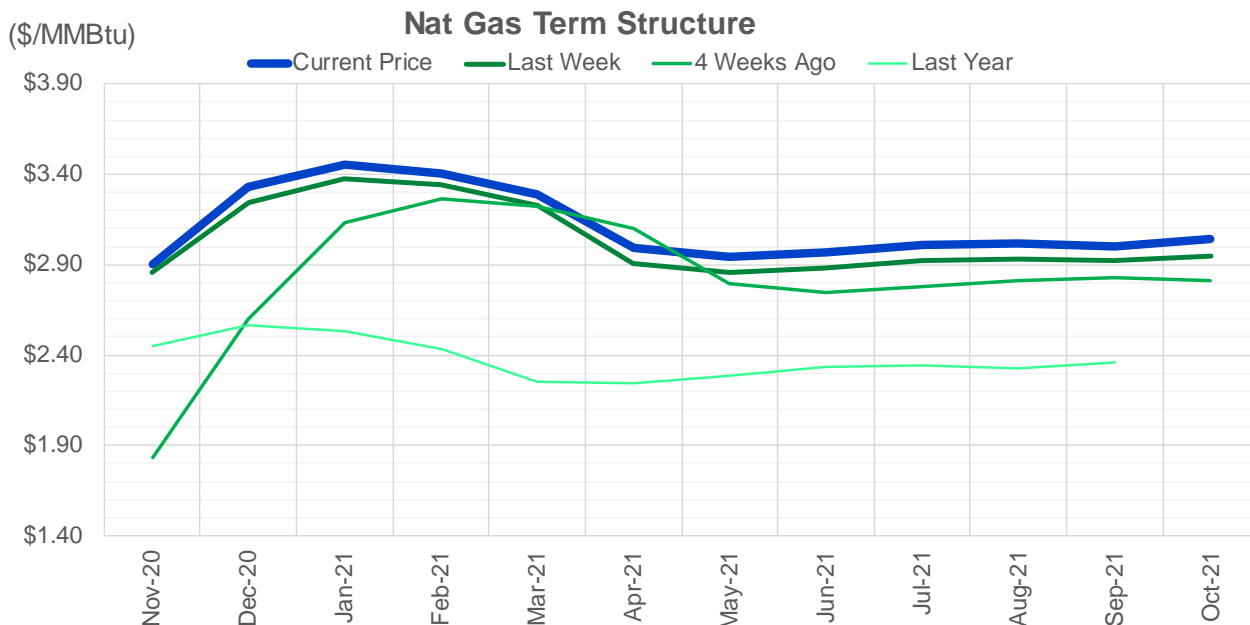
Source: CME, ICE

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
NOV 20	72560	86751	-14191	NOV 20	69544	71101	-1557
DEC 20	173489	169140	4349	DEC 20	76766	77022	-256
JAN 21	203601	203358	243	JAN 21	88593	89704	-1111
FEB 21	83063	83484	-421	FEB 21	64540	64429	111.25
MAR 21	136203	135445	758	MAR 21	84204	84121	82.25
APR 21	84104	85715	-1611	APR 21	69067	69376	-309.5
MAY 21	47334	46793	541	MAY 21	60672	60814	-142.25
JUN 21	33786	33872	-86	JUN 21	56083	55956	127
JUL 21	26629	26363	266	JUL 21	58146	58035	111
AUG 21	26661	26502	159	AUG 21	60253	60408	-154.75
SEP 21	38317	38050	267	SEP 21	56440	56119	320.75
OCT 21	92743	89345	3398	OCT 21	73464	74167	-703
NOV 21	33734	32943	791	NOV 21	50014	49925	88.5
DEC 21	28409	27895	514	DEC 21	46814	46708	106
JAN 22	30437	30114	323	JAN 22	43257	42801	456.5
FEB 22	17426	17319	107	FEB 22	35252	35031	221
MAR 22	20446	19295	1151	MAR 22	38333	38077	255.5
APR 22	21229	21010	219	APR 22	36381	36179	202.5
MAY 22	8948	9028	-80	MAY 22	28395	28279	116.5
JUN 22	4814	4798	16	JUN 22	27129	27009	120
JUL 22	4190	4089	101	JUL 22	28736	28596	139.75
AUG 22	2965	2908	57	AUG 22	27278	27014	264
SEP 22	2604	2655	-51	SEP 22	26817	26687	130
OCT 22	4145	3848	297	OCT 22	29651	29388	263.5
NOV 22	3560	3549	11	NOV 22	25186	25006	180.25
DEC 22	3503	3503	0	DEC 22	29303	29116	186.5
JAN 23	3001	3004	-3	JAN 23	13982	13974	8
FEB 23	908	908	0	FEB 23	13173	13166	7
MAR 23	834	835	-1	MAR 23	13509	13501	7.75
APR 23	2457	2457	0	APR 23	12458	12450	7.5





	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
Current Price	\$2.903	\$3.329	\$3.457	\$3.406	\$3.291	\$2.989	\$2.946	\$2.971	\$3.007	\$3.018	\$3.005	\$3.042
Last Week	\$2.855	\$3.247	\$3.379	\$3.341	\$3.224	\$2.905	\$2.855	\$2.884	\$2.925	\$2.934	\$2.920	\$2.946
vs. Last Week	\$0.048	\$0.082	\$0.078	\$0.065	\$0.067	\$0.084	\$0.091	\$0.087	\$0.082	\$0.084	\$0.085	\$0.096
4 Weeks Ago	\$1.834	\$2.597	\$3.134	\$3.264	\$3.223	\$3.099	\$2.792	\$2.750	\$2.775	\$2.812	\$2.825	\$2.813
vs. 4 Weeks Ago	\$1.069	\$0.732	\$0.323	\$0.142	\$0.068	-\$0.110	\$0.154	\$0.221	\$0.232	\$0.206	\$0.180	\$0.229
Last Year	\$2.272	\$2.449	\$2.568	\$2.531	\$2.436	\$2.252	\$2.242	\$2.284	\$2.332	\$2.343	\$2.328	\$2.357
vs. Last Year	\$0.631	\$0.880	\$0.889	\$0.875	\$0.855	\$0.737	\$0.704	\$0.687	\$0.675	\$0.675	\$0.677	\$0.685

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.00	3.54	1.54
TETCO M3	\$/MMBtu	1.02	2.41	1.39
FGT Zone 3	\$/MMBtu	1.27	2.79	1.52
Zone 6 NY	\$/MMBtu	1.27	2.56	1.29
Chicago Citygate	\$/MMBtu	2.39	2.62	0.23
Michcon	\$/MMBtu	2.28	2.57	0.29
Columbia TCO Pool	\$/MMBtu	1.94	2.35	0.41
Ventura	\$/MMBtu	2.51	2.63	0.12
Rockies/Opal	\$/MMBtu	1.47	2.53	1.06
El Paso Permian Basin	\$/MMBtu	-0.57	1.25	1.82
Socal Citygate	\$/MMBtu	3.63	3.21	-0.42
Malin	\$/MMBtu	2.39	3.15	0.76
Houston Ship Channel	\$/MMBtu	2.57	2.72	0.15
Henry Hub Cash	\$/MMBtu	2.30	2.56	0.26
AECO Cash	C\$/GJ	2.29	2.20	-0.09
Station2 Cash	C\$/GJ	2.35	4.94	2.59
Dawn Cash	C\$/GJ	2.39	2.67	0.28

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks	
				Ago	vs. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.47	▲ 0.006	▲ 0.004	▼ -0.032
NatGas Mar/Apr	\$/MMBtu	-0.302	▲ 0.017	▼ -0.609	▼ -0.578
NatGas Oct/Nov	\$/MMBtu	0.80	▲ 0.048	▲ 0.039	▲ 0.731
NatGas Oct/Jan	\$/MMBtu	1.36	▲ 0.078	▼ -0.074	▲ 0.995
WTI Crude	\$/Bbl	40.83	▲ 0.630	▲ 1.230	▼ -13.330
Brent Crude	\$/Bbl	42.49	▲ 0.040	▲ 0.770	▼ -17.210
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	115.72	▼ -1.180	▲ 6.110	▼ -78.650
Propane, Mt. Bel	cents/Gallon	0.52	▲ 0.004	▲ 0.030	▲ 0.060
Ethane, Mt. Bel	cents/Gallon	0.22	▲ 0.007	▲ 0.024	▲ 0.028
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.100
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500