

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 3.27	▼ \$ (0.08)	▲ \$ 0.07

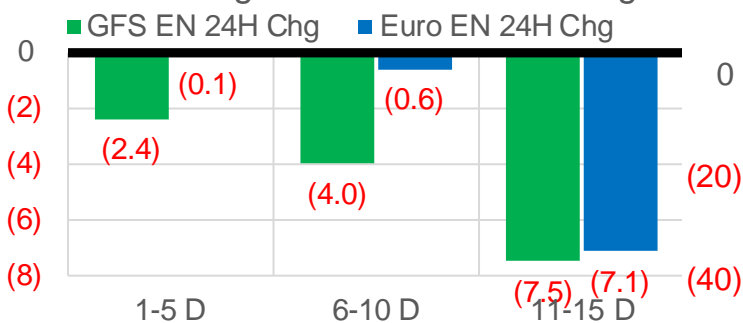
	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 35.05	▼ \$ (0.74)	▼ \$ (2.0)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 37.36	▼ \$ (0.10)	▼ \$ (1.3)

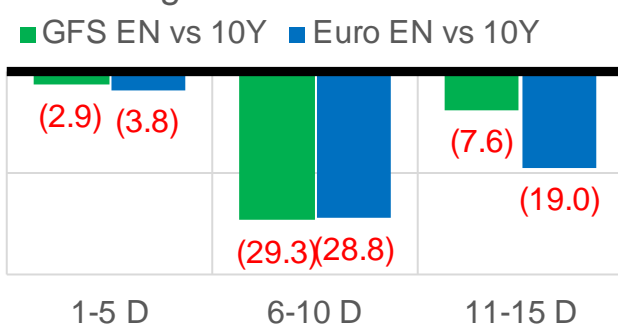
### Page Menu

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- [Nat Gas Options Volume and Open Interest](#)
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L48 Region - 00z TDD vs 24H Ago



L48 Region - 00z TDD vs 10Y N



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	89.7	▼ -1.15	▲ 1.66

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	26.2	▲ 1.45	▼ -1.25

	Current	Δ from YD	Δ from 7D Avg
US ResComm	28.2	▲ 2.08	▲ 2.18

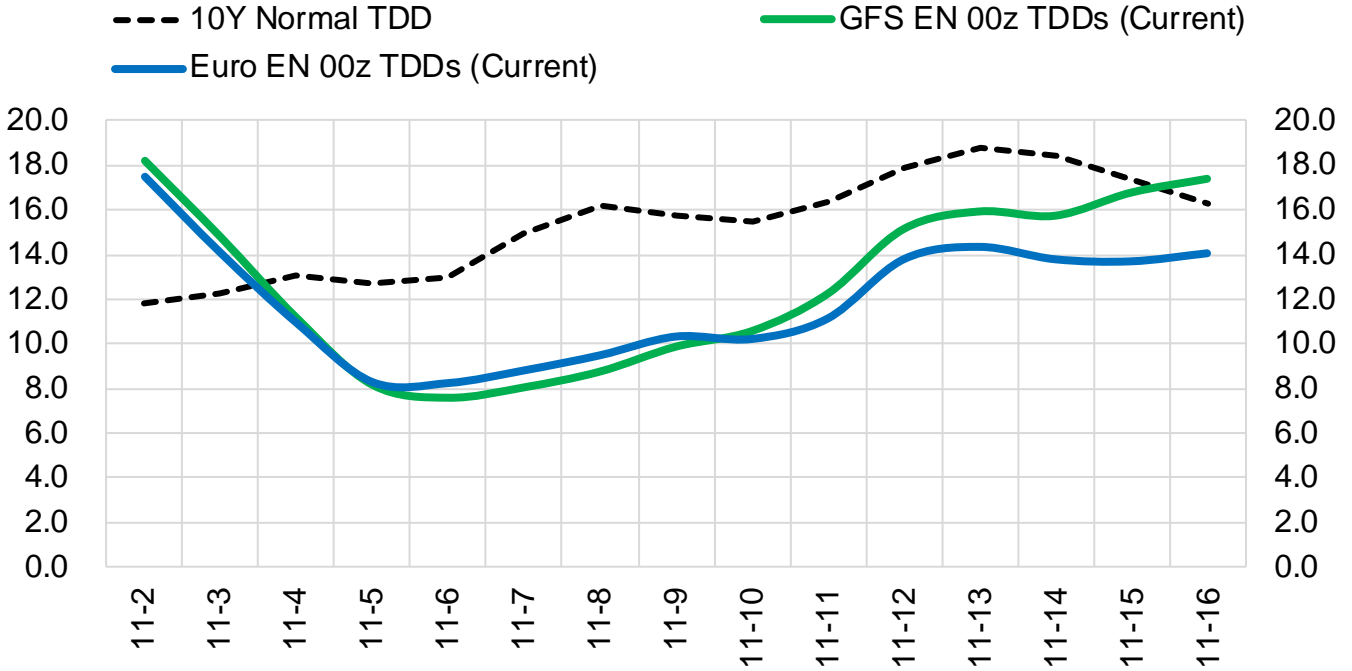
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.4	▲ 0.07	▲ 0.23

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	9.9	▼ -0.17	▲ 0.26

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.3	▲ 0.10	▲ 0.10

### Short-term Weather Model Outlooks (00z)

#### L48 Region



Source: WSI, Bloomberg

## Lower 48 Component Models

### Daily Balances

	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	1-Nov	2-Nov	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>86.3</b>	<b>85.3</b>	<b>86.8</b>	<b>88.5</b>	<b>89.6</b>	<b>90.9</b>	<b>89.7</b>	▼ -1.2	▲ 1.8
<b>Canadian Imports</b>	<b>5.0</b>	<b>5.3</b>	<b>5.6</b>	<b>5.4</b>	<b>5.0</b>	<b>5.3</b>	<b>5.4</b>	▲ 0.1	▲ 0.1
L48 Power	30.4	29.4	28.5	26.3	23.3	24.7	26.2	▲ 1.5	▼ -0.9
L48 Residential & Commercial	26.8	23.4	24.2	28.4	26.2	26.1	28.2	▲ 2.1	▲ 2.4
L48 Industrial	24.7	24.2	24.5	25.0	24.8	24.9	25.0	▲ 0.1	▲ 0.3
L48 Lease and Plant Fuel	4.7	4.7	4.8	4.9	4.9	5.0	5.0	▼ -0.1	▲ 0.1
L48 Pipeline Distribution	2.8	2.6	2.6	2.7	2.4	2.4	2.5	▲ 0.2	▼ 0.0
<b>L48 Regional Gas Consumption</b>	<b>89.3</b>	<b>84.3</b>	<b>84.6</b>	<b>87.3</b>	<b>81.6</b>	<b>83.1</b>	<b>86.9</b>	▲ 3.7	▲ 1.8
<b>Net LNG Delivered</b>	<b>8.91</b>	<b>9.28</b>	<b>9.52</b>	<b>9.87</b>	<b>10.41</b>	<b>10.05</b>	<b>9.88</b>	▼ -0.2	▲ 0.2
<b>Total Mexican Exports</b>	<b>6.3</b>	<b>6.3</b>	<b>6.5</b>	<b>6.3</b>	<b>5.8</b>	<b>6.2</b>	<b>6.3</b>	▲ 0.1	▲ 0.1
<b>Implied Daily Storage Activity</b>	<b>-13.2</b>	<b>-9.4</b>	<b>-8.1</b>	<b>-9.5</b>	<b>-3.3</b>	<b>-3.2</b>	<b>-7.9</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

### EIA Storage Week Balances

	25-Sep	2-Oct	9-Oct	16-Oct	23-Oct	30-Oct	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>87.8</b>	<b>88.2</b>	<b>88.1</b>	<b>86.7</b>	<b>90.0</b>	<b>88.2</b>	▼ -1.8	▼ -0.1
<b>Canadian Imports</b>	<b>3.6</b>	<b>3.9</b>	<b>4.5</b>	<b>4.0</b>	<b>3.6</b>	<b>4.8</b>	▲ 1.2	▲ 0.8
L48 Power	30.8	30.7	31.0	30.5	28.6	28.1	▼ -0.5	▼ -2.1
L48 Residential & Commercial	9.7	9.3	13.4	11.4	16.8	23.3	▲ 6.4	▲ 10.5
L48 Industrial	22.3	23.2	22.5	22.9	23.5	24.5	▲ 0.9	▲ 1.4
L48 Lease and Plant Fuel	4.8	4.8	4.8	4.8	4.9	4.8	▼ -0.1	▼ 0.0
L48 Pipeline Distribution	2.0	2.0	2.2	2.1	2.2	2.5	▲ 0.3	▲ 0.4
<b>L48 Regional Gas Consumption</b>	<b>69.5</b>	<b>70.1</b>	<b>73.9</b>	<b>71.6</b>	<b>76.1</b>	<b>83.2</b>	▲ 7.1	▲ 10.3
<b>Net LNG Exports</b>	<b>5.8</b>	<b>6.8</b>	<b>7.5</b>	<b>6.9</b>	<b>8.0</b>	<b>9.2</b>	▲ 1.2	▲ 1.9
<b>Total Mexican Exports</b>	<b>6.4</b>	<b>6.3</b>	<b>6.2</b>	<b>6.2</b>	<b>6.3</b>	<b>6.2</b>	▼ -0.1	▼ 0.0
<b>Implied Daily Storage Activity</b>	<b>9.6</b>	<b>9.0</b>	<b>5.1</b>	<b>6.0</b>	<b>3.1</b>	<b>-5.6</b>	<b>-8.7</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>10.9</b>	<b>10.7</b>	<b>6.6</b>	<b>7.0</b>	<b>4.1</b>			
<b>Daily Model Error</b>	<b>-1.2</b>	<b>-1.8</b>	<b>-1.5</b>	<b>-1.0</b>	<b>-1.1</b>			

### Monthly Balances

	2Yr Ago Nov-18	LY Nov-19	Jun-20	Jul-20	Aug-20	Sep-20	MTD Oct-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>88.1</b>	<b>95.3</b>	<b>87.0</b>	<b>88.3</b>	<b>88.6</b>	<b>88.6</b>	<b>88.6</b>	▲ 0.0	▼ -6.7
<b>Canadian Imports</b>	<b>4.1</b>	<b>4.5</b>	<b>4.0</b>	<b>4.4</b>	<b>4.9</b>	<b>3.8</b>	<b>4.0</b>	▲ 0.1	▼ -0.6
L48 Power	25.4	27.5	35.0	43.7	40.7	33.3	30.1	▼ -3.1	▲ 2.6
L48 Residential & Commercial	32.9	32.8	8.8	7.9	7.7	8.5	14.4	▲ 5.9	▼ -18.4
L48 Industrial	25.1	25.1	19.5	19.8	21.3	22.1	23.3	▲ 1.3	▼ -1.8
L48 Lease and Plant Fuel	5.0	5.3	4.9	4.9	5.0	4.9	4.9	▲ 0.0	▼ -0.4
L48 Pipeline Distribution	2.6	2.8	2.2	2.4	2.4	2.1	2.2	▲ 0.1	▼ -0.6
<b>L48 Regional Gas Consumption</b>	<b>91.0</b>	<b>93.5</b>	<b>70.4</b>	<b>78.8</b>	<b>77.0</b>	<b>70.7</b>	<b>74.9</b>	▲ 4.2	▼ -18.6
<b>Net LNG Exports</b>	<b>4.3</b>	<b>7.2</b>	<b>4.0</b>	<b>3.3</b>	<b>4.0</b>	<b>5.9</b>	<b>6.9</b>	▲ 1.0	▼ -0.3
<b>Total Mexican Exports</b>	<b>4.8</b>	<b>5.3</b>	<b>5.7</b>	<b>6.1</b>	<b>6.3</b>	<b>6.4</b>	<b>6.2</b>	▼ -0.2	▲ 0.9
<b>Implied Daily Storage Activity</b>	<b>-7.8</b>	<b>-6.2</b>	<b>10.8</b>	<b>4.4</b>	<b>6.2</b>	<b>9.4</b>	<b>4.6</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

Source: Bloomberg, analytix.ai

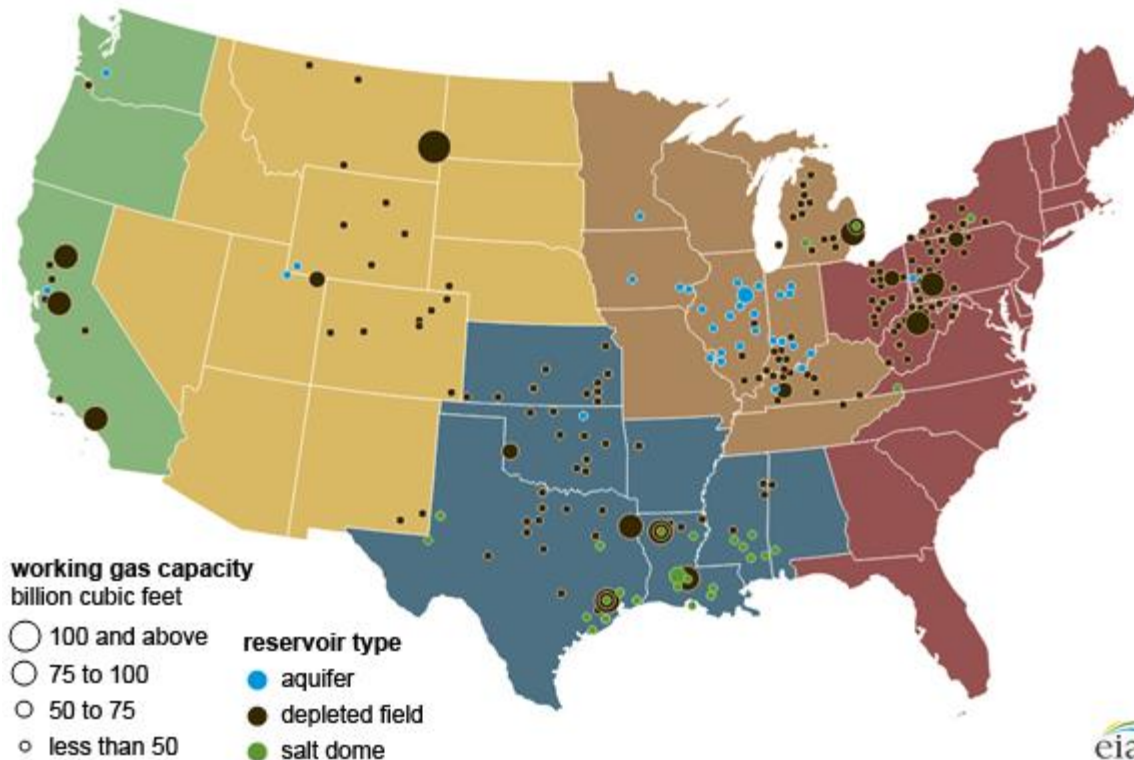
### Regional S/D Models Storage Projection

Week Ending 30-Oct

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-5.9	1.6	-4.4	-31
East	-1.3	2.2	0.9	6
Midwest	-1.3	1.4	0.0	0
Mountain	2.1	-3.2	-1.1	-8
South Central	-4.5	1.2	-3.4	-24
Pacific	-0.9	0.0	-0.9	-6

\*Adjustment Factor is calculated based on historical regional deltas

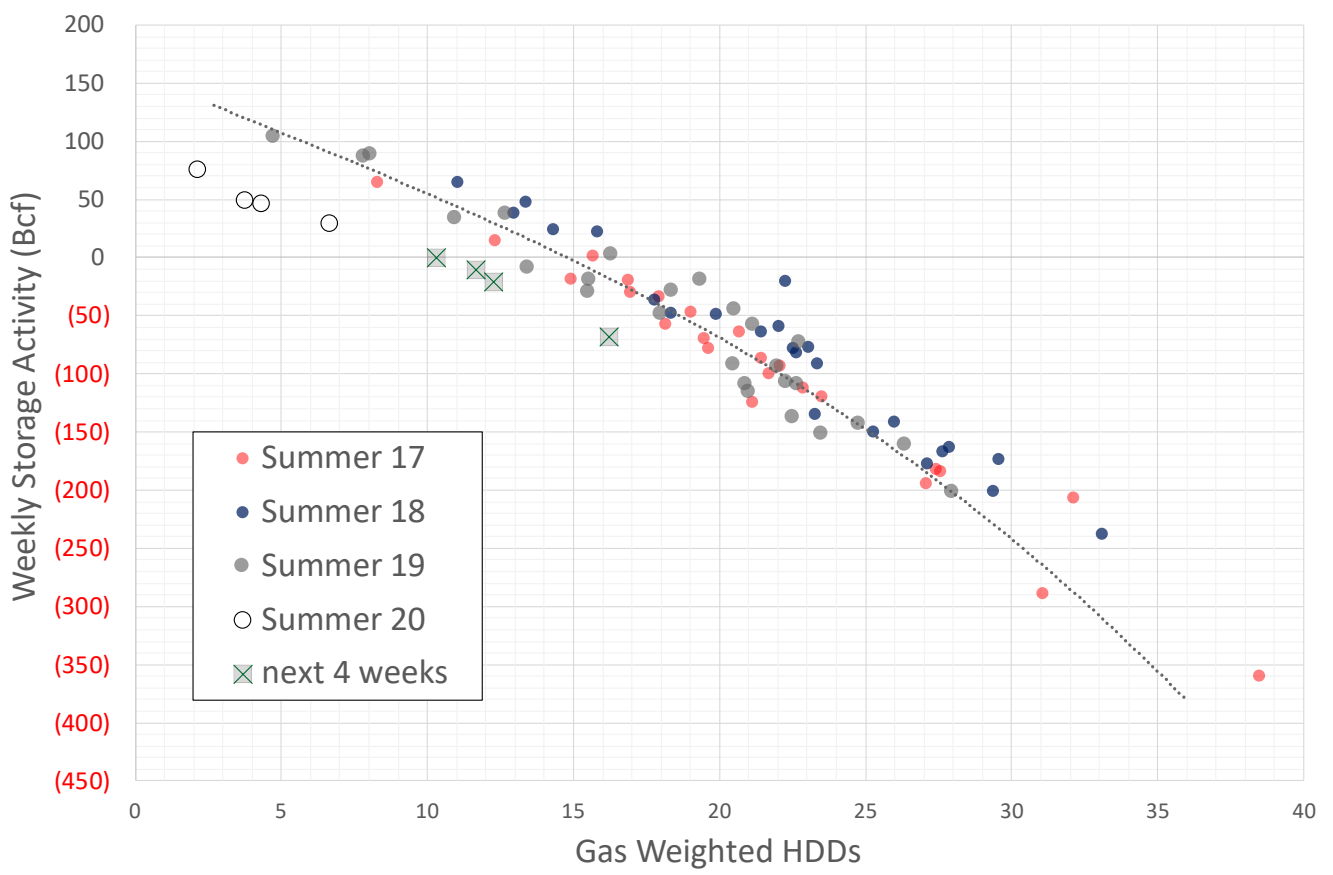
U.S. underground natural gas storage facilities by type (July 2015)



### Weather Model Storage Projection

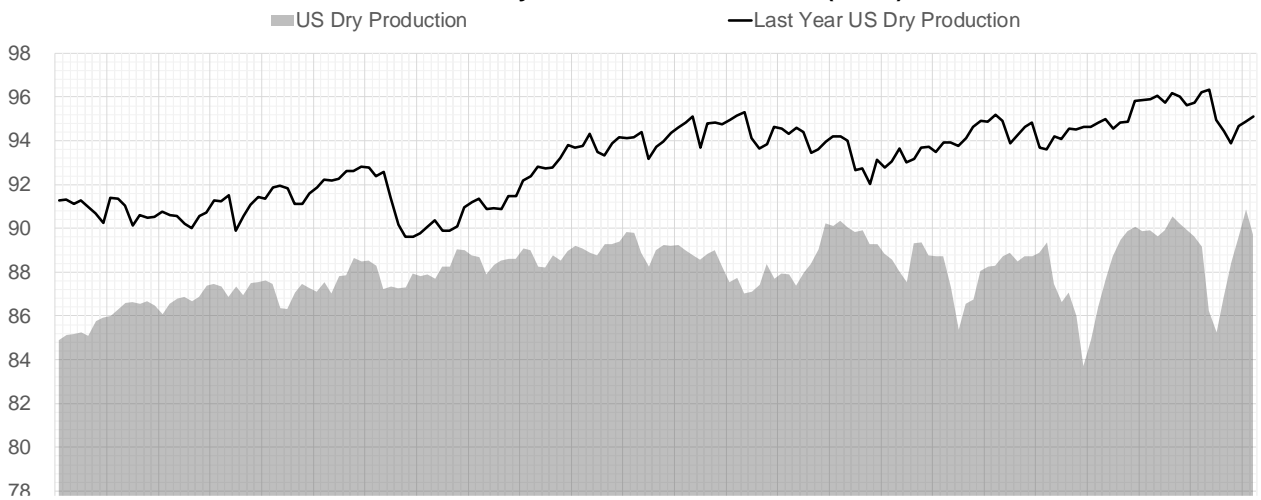
Next report and beyond		
Week Ending	Temp	Week Storage Projection
06-Nov	12.3	-21
13-Nov	10.3	-1
20-Nov	16.2	-69

#### Winter Storage Forecast

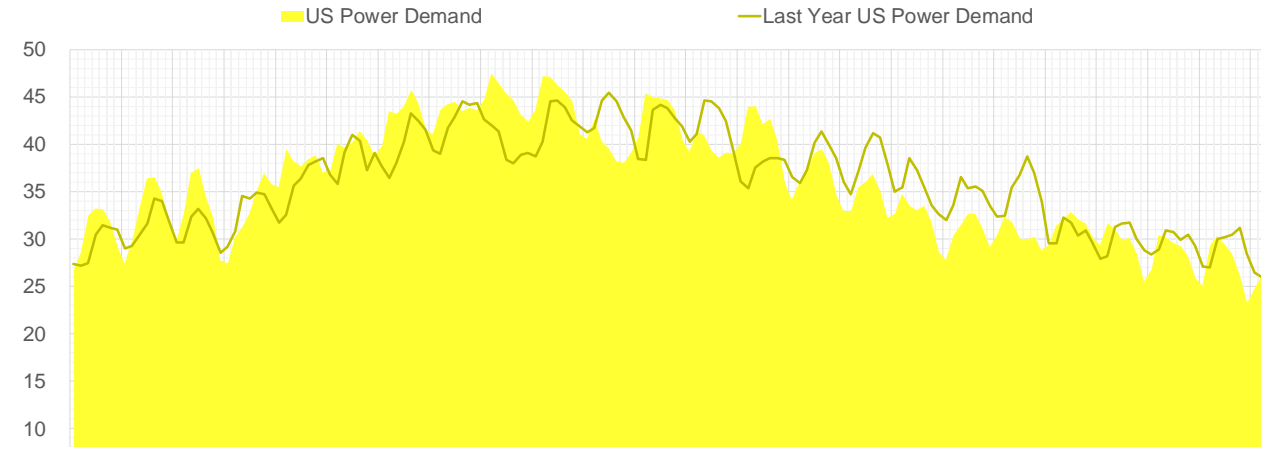


### Supply – Demand Trends

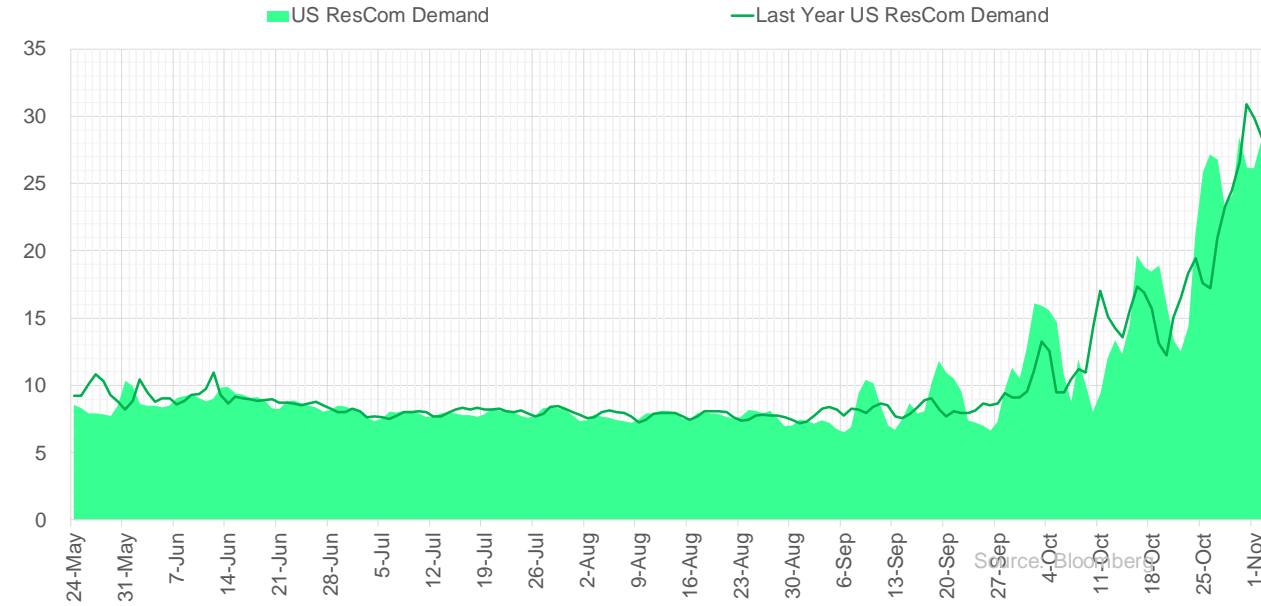
#### US Dry Natural Gas Production (Bcf/d)



#### US Daily Power Burns (Bcf/d)

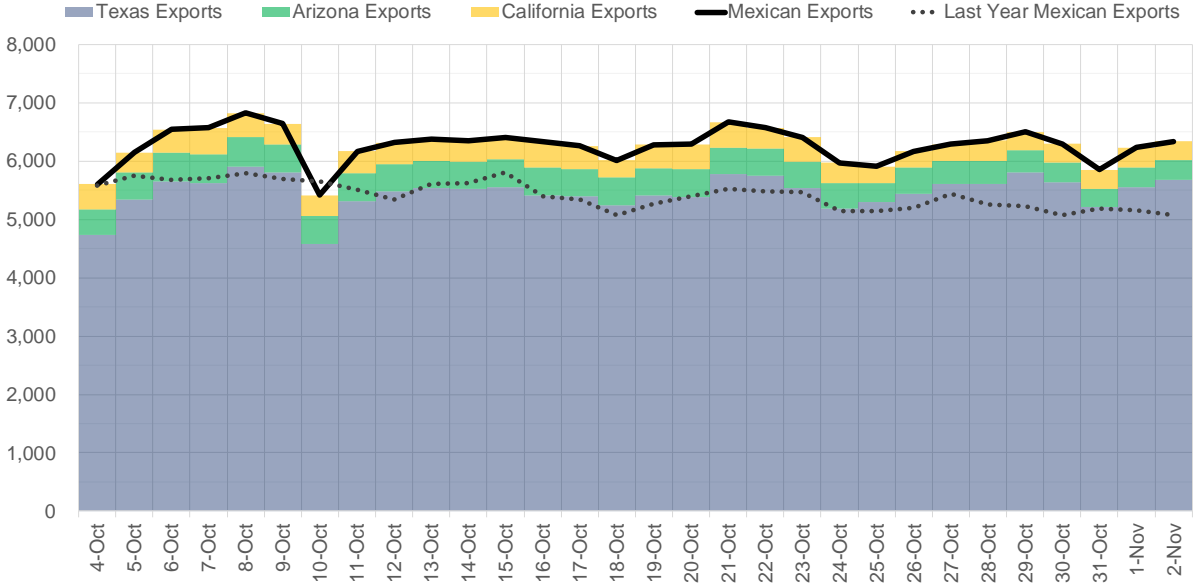


#### US Daily ResCom Consumption (Bcf/d)

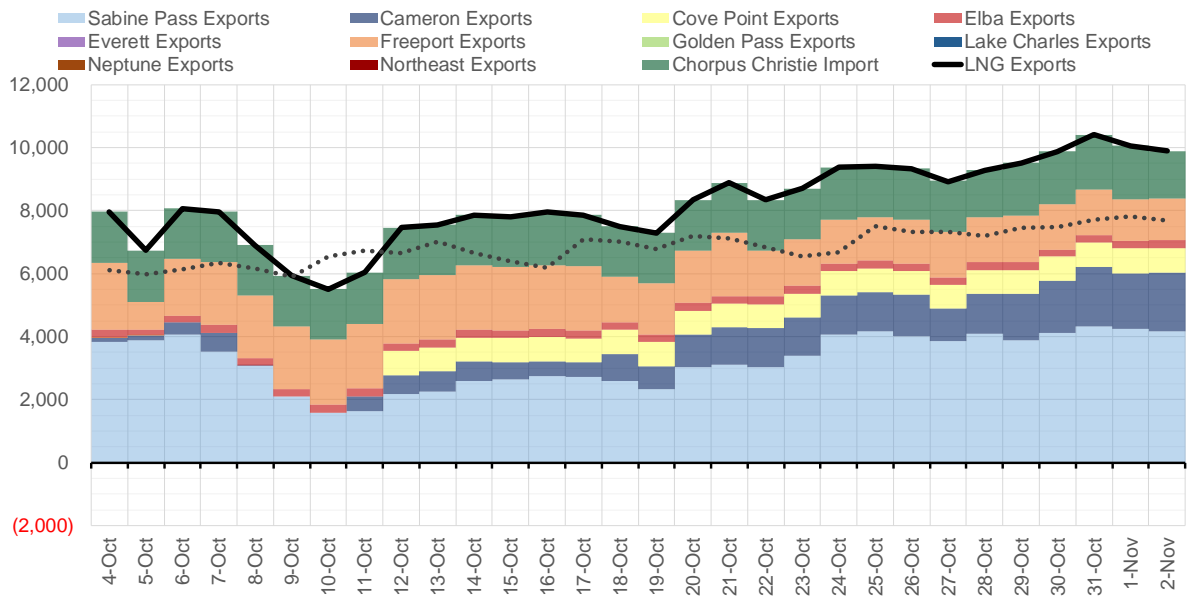


Source: Bloomberg

### Mexican Exports - Last 30 days (MMcf/d)



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



Source: Bloomberg

The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are not necessarily indicative of future results. This communication may contain links to third party websites which are not under the control of and are not maintained by ION Energy Group, and ION Energy Group is not responsible for their content.

### 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	3.75	8897	3	2021	P	2.00	36384
10	2021	P	2.00	4275	12	2020	P	2.00	32580
12	2020	C	4.00	3745	3	2021	C	6.00	31884
12	2020	C	4.25	3702	1	2021	C	4.50	28822
12	2020	P	2.75	3533	10	2021	C	4.00	28035
12	2020	P	2.50	3211	3	2021	C	3.25	27967
3	2021	C	4.00	3154	3	2021	C	5.00	27338
3	2021	C	5.00	2961	4	2021	C	5.00	27042
3	2021	C	4.50	2906	1	2021	C	3.50	26150
12	2020	C	4.50	2492	3	2021	C	4.00	26140
1	2021	C	4.50	2205	10	2021	C	3.25	25615
12	2020	P	3.00	2120	3	2021	C	7.00	25515
3	2021	C	3.25	2096	12	2020	P	2.50	24584
3	2021	P	2.00	2050	12	2020	C	3.75	24273
12	2020	C	3.50	1842	4	2021	C	4.00	23898
4	2021	C	3.25	1768	12	2020	C	4.00	23885
10	2021	C	3.25	1673	1	2021	C	6.00	22059
10	2021	C	4.00	1666	12	2020	C	4.50	21807
12	2020	P	2.95	1547	3	2021	C	3.50	21703
2	2021	P	2.25	1470	3	2021	C	3.00	21072
2	2021	C	5.00	1363	1	2021	P	2.50	20860
1	2021	C	3.75	1263	12	2020	C	3.50	20402
1	2021	P	2.75	1213	8	2021	C	4.00	19799
12	2020	P	3.25	1109	2	2021	C	5.00	19635
3	2021	C	4.75	1100	2	2021	P	2.25	19037
1	2021	C	4.00	1090	1	2021	P	2.25	18557
6	2021	P	2.25	1050	3	2021	C	4.50	18333
2	2021	C	6.00	1001	3	2021	P	2.50	17949
12	2020	P	2.00	907	1	2021	C	5.00	17849
5	2021	P	2.50	830	12	2020	P	2.75	17834
3	2021	C	6.00	801	8	2021	P	2.25	17742
2	2021	C	4.00	798	1	2021	C	3.00	17132
4	2021	P	2.00	775	12	2020	C	5.00	17107
4	2021	C	3.50	733	2	2021	C	3.50	17040
4	2022	C	3.00	650	1	2021	C	3.75	16942
5	2022	C	3.00	650	10	2021	C	5.00	16915
6	2022	C	3.00	650	12	2020	P	3.00	16199
7	2022	C	3.00	650	2	2021	P	2.50	16125
8	2022	C	3.00	650	1	2021	C	7.00	15152
9	2022	C	3.00	650	2	2021	C	4.00	14810
10	2022	C	3.00	650	1	2021	C	4.00	14760
1	2021	C	3.50	633	12	2020	P	1.50	14450
6	2021	C	4.00	630	4	2021	C	3.00	14135
12	2020	C	3.30	596	4	2021	P	2.00	14047
4	2021	P	2.70	575	10	2021	C	3.00	13746
5	2021	P	2.00	575	12	2020	C	3.25	13435
5	2021	P	2.70	575	5	2021	C	3.00	13376
6	2021	P	2.00	575	1	2021	C	3.25	13176
6	2021	P	2.00	575	1	2021	P	2.00	13142
6	2021	P	2.70	575	5	2021	C	3.5	12604

Source: CME, ICE



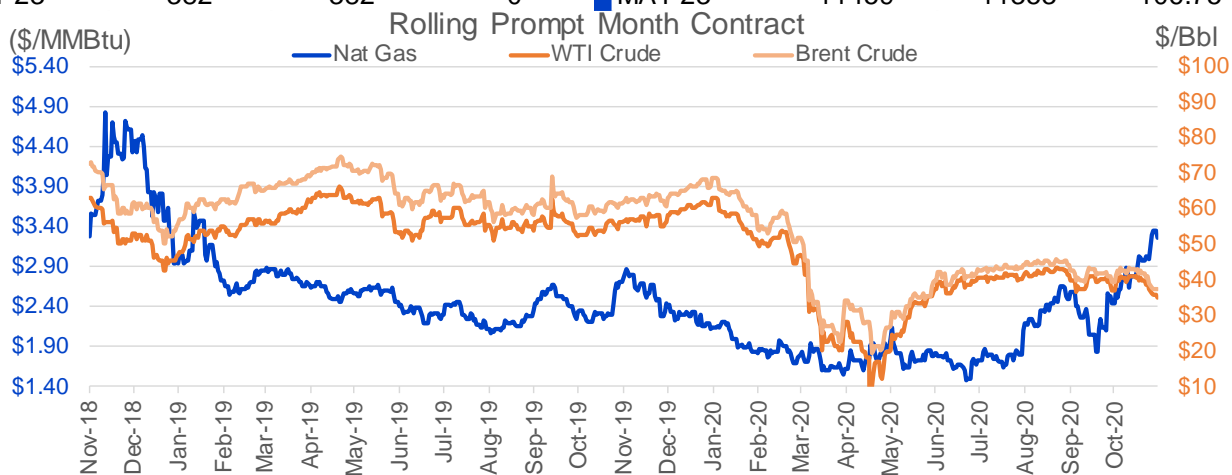
### Nat Gas Futures Open Interest

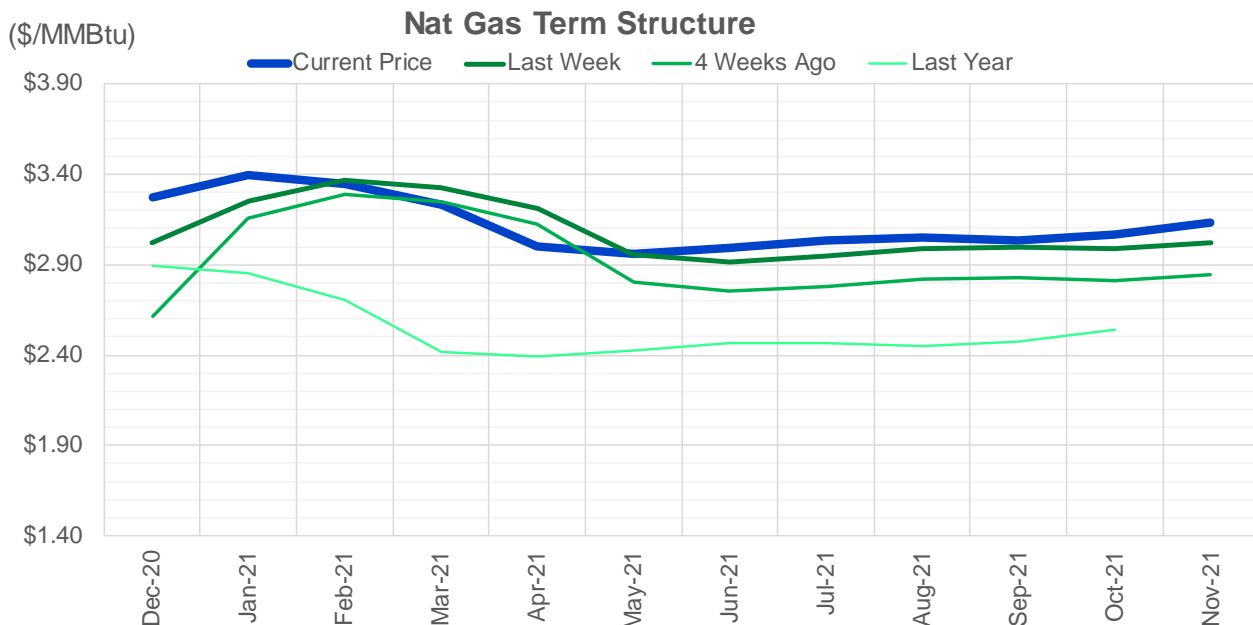
CME and ICE Combined

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	170943	174561	-3618	DEC 20	81414	81884	-469.75
JAN 21	208923	206320	2603	JAN 21	90613	90328	285
FEB 21	85095	84458	637	FEB 21	64927	65117	-189.5
MAR 21	132476	133971	-1495	MAR 21	88927	87841	1085.5
APR 21	74552	73645	907	APR 21	67943	69018	-1074.25
MAY 21	51633	50597	1036	MAY 21	67171	66458	713.5
JUN 21	34517	34201	316	JUN 21	57792	57701	91
JUL 21	27294	26893	401	JUL 21	59865	59494	371.75
AUG 21	29293	28275	1018	AUG 21	63484	63370	114.25
SEP 21	40842	40045	797	SEP 21	57883	57549	333.5
OCT 21	95708	94435	1273	OCT 21	66664	66368	295.5
NOV 21	34261	34242	19	NOV 21	52649	52680	-30.75
DEC 21	29657	29008	649	DEC 21	47651	47646	4.5
JAN 22	31662	32569	-907	JAN 22	44951	46271	-1319.75
FEB 22	22237	21335	902	FEB 22	36515	37502	-987.25
MAR 22	23349	22346	1003	MAR 22	39293	40281	-987.5
APR 22	22941	21955	986	APR 22	39453	38031	1422.5
MAY 22	10192	9788	404	MAY 22	29424	29359	65.5
JUN 22	5296	5266	30	JUN 22	28478	28132	346.25
JUL 22	4556	4572	-16	JUL 22	30459	30050	409.75
AUG 22	3392	3323	69	AUG 22	28558	28475	83
SEP 22	3404	3388	16	SEP 22	28312	27862	450
OCT 22	4484	4329	155	OCT 22	32255	32344	-88.75
NOV 22	3802	3641	161	NOV 22	28512	27293	1218.5
DEC 22	4465	4328	137	DEC 22	30757	30791	-34
JAN 23	4317	4227	90	JAN 23	14740	14689	51
FEB 23	944	944	0	FEB 23	13770	13716	54
MAR 23	2310	2310	0	MAR 23	13835	13776	58.5
APR 23	1548	1548	0	APR 23	12864	12732	131.5
MAY 23	382	382	0	MAY 23	11459	11353	106.75





	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
<b>Current Price</b>	<b>\$3.270</b>	<b>\$3.396</b>	<b>\$3.351</b>	<b>\$3.230</b>	<b>\$2.998</b>	<b>\$2.959</b>	<b>\$2.994</b>	<b>\$3.037</b>	<b>\$3.050</b>	<b>\$3.038</b>	<b>\$3.070</b>	<b>\$3.129</b>
Last Week	\$3.024	\$3.253	\$3.371	\$3.329	\$3.213	\$2.954	\$2.916	\$2.947	\$2.988	\$2.999	\$2.987	\$3.021
vs. Last Week	\$0.246	\$0.143	-\$0.020	-\$0.099	-\$0.215	\$0.005	\$0.078	\$0.090	\$0.062	\$0.039	\$0.083	\$0.108
4 Weeks Ago	\$2.615	\$3.161	\$3.293	\$3.247	\$3.122	\$2.801	\$2.751	\$2.780	\$2.817	\$2.825	\$2.811	\$2.841
vs. 4 Weeks Ago	\$0.655	\$0.235	\$0.058	-\$0.017	-\$0.124	\$0.158	\$0.243	\$0.257	\$0.233	\$0.213	\$0.259	\$0.288
Last Year	\$2.821	\$2.898	\$2.849	\$2.705	\$2.418	\$2.388	\$2.422	\$2.462	\$2.468	\$2.451	\$2.478	\$2.536
vs. Last Year	\$0.449	\$0.498	\$0.502	\$0.525	\$0.580	\$0.571	\$0.572	\$0.575	\$0.582	\$0.587	\$0.592	\$0.593

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	3.40	3.37	-0.03
TETCO M3	\$/MMBtu	2.42	2.21	-0.21
FGT Zone 3	\$/MMBtu	2.50	3.06	0.56
Zone 6 NY	\$/MMBtu	2.50	2.48	-0.02
Chicago Citygate	\$/MMBtu	2.93	2.93	0.00
Michcon	\$/MMBtu	2.96	2.79	-0.17
Columbia TCO Pool	\$/MMBtu	2.32	2.33	0.01
Ventura	\$/MMBtu	2.88	2.97	0.09
Rockies/Opal	\$/MMBtu	2.95	2.83	-0.12
El Paso Permian Basin	\$/MMBtu	2.45	1.71	-0.74
Socal Citygate	\$/MMBtu	3.47	3.50	0.03
Malin	\$/MMBtu	3.05	3.33	0.28
Houston Ship Channel	\$/MMBtu	3.04	3.00	-0.04
Henry Hub Cash	\$/MMBtu	3.03	2.82	-0.21
AECO Cash	C\$/GJ	2.51	2.38	-0.13
Station2 Cash	C\$/GJ	2.49	4.17	1.68
Dawn Cash	C\$/GJ	2.91	2.86	-0.05

Source: CME, Bloomberg

	Units	Current Price	vs. 4 Weeks			
			vs. Last Week	Ago	vs. Last Year	
NatGas Jan/Apr	\$/MMBtu	-0.40	▲ 0.019	▲ 0.094	▲ 0.071	
NatGas Mar/Apr	\$/MMBtu	-0.232	▲ 0.027	▼ -0.553	▼ -0.521	
NatGas Oct/Nov	\$/MMBtu	0.90	▼ -0.028	▲ 0.381	▲ 0.837	
NatGas Oct/Jan	\$/MMBtu	1.30	▲ 0.025	▲ 0.103	▲ 0.962	
WTI Crude	\$/Bbl	35.05	▼ -3.510	▼ -4.170	▼ -21.490	
Brent Crude	\$/Bbl	37.36	▼ -3.100	▼ -3.930	▼ -24.770	
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000	
Heating Oil	cents/Gallon	106.46	▼ -5.720	▼ -6.870	▼ -87.590	
Propane, Mt. Bel	cents/Gallon	0.52	▼ 0.000	▲ 0.013	▲ 0.004	
Ethane, Mt. Bel	cents/Gallon	0.22	▲ 0.000	▲ 0.015	▲ 0.012	
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.050	
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500	