

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.70 ▲	\$ 0.11 ▲	\$ 0.19

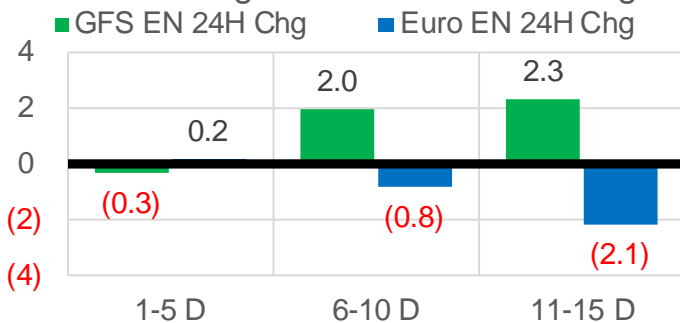
	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 47.07 ▲	\$ 0.50 ▲	\$ 0.9

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 50.54 ▲	\$ 0.57 ▲	\$ 1.0

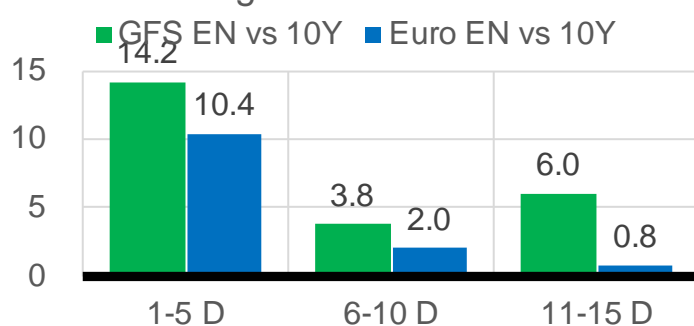
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- [Short-term Weather Model Outlooks](#)
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- [Supply – Demand Trends](#)
- [Nat Gas Options Volume and Open Interest](#)
- [Nat Gas Futures Open Interest](#)
- [Price Summary](#)

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	91.5 ▲	0.18 ▲	0.31

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	25.9 ▲	1.67 ▲	-1.06 ▼

	Current	Δ from YD	Δ from 7D Avg
US ResComm	40.7 ▲	5.48 ▲	5.05

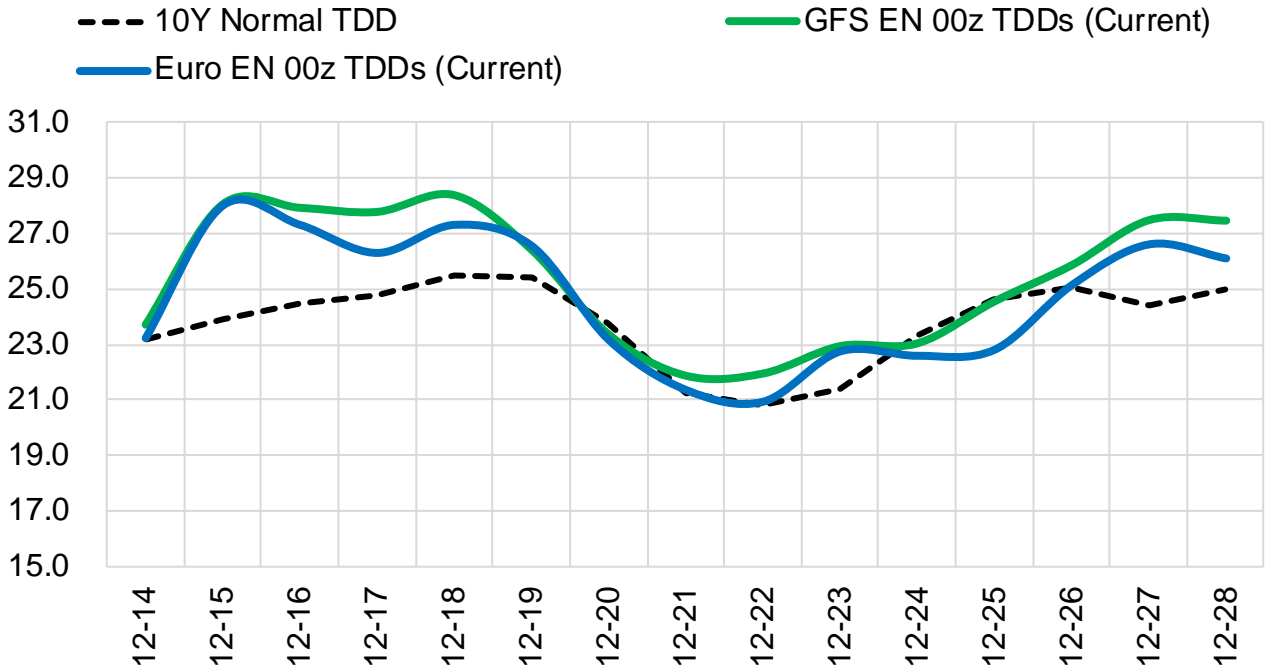
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.6 ▲	0.55 ▲	0.12

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.5 ▼	-0.09 ▼	0.13 ▲

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.3 ▲	0.37 ▲	0.02

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

### L48 Region



Source: WSI , Bloomberg

## Lower 48 Component Models

### Daily Balances

	8-Dec	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	DoD	vs. 7D
<b>Lower 48 Dry Production</b>	<b>91.1</b>	<b>90.9</b>	<b>91.2</b>	<b>91.7</b>	<b>91.2</b>	<b>91.3</b>	<b>91.5</b>	▲ 0.2	▲ 0.2
<b>Canadian Imports</b>	<b>6.0</b>	<b>5.7</b>	<b>5.5</b>	<b>4.6</b>	<b>4.9</b>	<b>5.0</b>	<b>5.6</b>	▲ 0.6	▲ 0.3
L48 Power	30.7	29.0	26.1	24.7	24.0	24.3	25.9	▲ 1.7	▼ -0.5
L48 Residential & Commercial	39.5	35.2	33.4	32.3	33.2	35.2	40.7	▲ 5.5	▲ 5.9
L48 Industrial	23.2	23.3	23.5	24.0	24.7	25.3	25.8	▲ 0.5	▲ 1.8
L48 Lease and Plant Fuel	5.0	5.0	5.1	5.1	5.1	5.1	5.1	▲ 0.0	▲ 0.0
L48 Pipeline Distribution	3.2	2.9	2.7	2.6	2.6	2.7	3.0	▲ 0.3	▲ 0.2
<b>L48 Regional Gas Consumption</b>	<b>101.5</b>	<b>95.4</b>	<b>90.8</b>	<b>88.7</b>	<b>89.4</b>	<b>92.5</b>	<b>100.5</b>	▲ 8.0	▲ 7.4
<b>Net LNG Delivered</b>	<b>11.22</b>	<b>11.37</b>	<b>11.39</b>	<b>11.49</b>	<b>11.59</b>	<b>11.59</b>	<b>11.51</b>	▼ -0.1	▲ 0.1
<b>Total Mexican Exports</b>	<b>6.6</b>	<b>6.4</b>	<b>6.4</b>	<b>6.3</b>	<b>6.0</b>	<b>5.9</b>	<b>6.3</b>	▲ 0.4	▲ 0.0
<b>Implied Daily Storage Activity</b>	<b>-22.1</b>	<b>-16.6</b>	<b>-11.8</b>	<b>-10.2</b>	<b>-10.9</b>	<b>-13.7</b>	<b>-21.2</b>		
<b>EIA Reported Daily Storage Activity</b>									
<b>Daily Model Error</b>									

### EIA Storage Week Balances

	6-Nov	13-Nov	20-Nov	27-Nov	4-Dec	11-Dec	WoW	vs. 4W
<b>Lower 48 Dry Production</b>	<b>89.6</b>	<b>88.2</b>	<b>90.9</b>	<b>91.6</b>	<b>91.6</b>	<b>90.9</b>	▼ -0.7	▲ 0.3
<b>Canadian Imports</b>	<b>4.9</b>	<b>3.9</b>	<b>5.1</b>	<b>4.5</b>	<b>5.3</b>	<b>5.9</b>	▲ 0.6	▲ 1.2
L48 Power	24.6	24.4	24.8	24.8	26.5	28.1	▲ 1.6	▲ 3.0
L48 Residential & Commercial	23.1	16.8	27.2	26.7	34.4	37.4	▲ 2.9	▲ 11.1
L48 Industrial	23.0	24.0	23.3	22.1	24.4	22.9	▼ -1.5	▼ -0.5
L48 Lease and Plant Fuel	4.9	4.9	5.0	5.1	5.1	5.0	▼ 0.0	▲ 0.0
L48 Pipeline Distribution	2.3	1.9	2.4	2.4	2.8	3.0	▲ 0.2	▲ 0.6
<b>L48 Regional Gas Consumption</b>	<b>78.0</b>	<b>72.0</b>	<b>82.7</b>	<b>81.1</b>	<b>93.2</b>	<b>96.4</b>	▲ 3.2	▲ 14.1
<b>Net LNG Exports</b>	<b>10.2</b>	<b>10.4</b>	<b>10.2</b>	<b>9.7</b>	<b>10.4</b>	<b>11.3</b>	▲ 0.9	▲ 1.1
<b>Total Mexican Exports</b>	<b>6.0</b>	<b>6.3</b>	<b>6.1</b>	<b>6.3</b>	<b>6.4</b>	<b>6.3</b>	▼ -0.1	▼ 0.0
<b>Implied Daily Storage Activity</b>	<b>0.3</b>	<b>3.4</b>	<b>-2.9</b>	<b>-1.0</b>	<b>-13.1</b>	<b>-17.1</b>	<b>-4.0</b>	
<b>EIA Reported Daily Storage Activity</b>	<b>1.1</b>	<b>4.4</b>	<b>-2.6</b>	<b>-0.1</b>	<b>-13.0</b>			
<b>Daily Model Error</b>	<b>-0.8</b>	<b>-1.1</b>	<b>-0.3</b>	<b>-0.9</b>	<b>-0.1</b>			

### Monthly Balances

	2Yr Ago Dec-18	LY Dec-19	Aug-20	Sep-20	Oct-20	Nov-20	MTD Dec-20	MoM	vs. LY
<b>Lower 48 Dry Production</b>	<b>87.5</b>	<b>95.1</b>	<b>88.6</b>	<b>87.8</b>	<b>87.5</b>	<b>90.4</b>	<b>91.2</b>	▲ 0.7	▼ -4.0
<b>Canadian Imports</b>	<b>4.8</b>	<b>4.5</b>	<b>4.9</b>	<b>3.8</b>	<b>4.3</b>	<b>4.6</b>	<b>5.7</b>	▲ 1.1	▲ 1.2
L48 Power	24.4	28.9	41.0	34.1	29.4	24.7	27.3	▲ 2.6	▼ -1.6
L48 Residential & Commercial	39.3	39.1	7.7	8.8	16.2	24.2	37.2	▲ 13.0	▼ -1.9
L48 Industrial	22.4	24.4	20.3	19.2	22.3	23.2	24.2	▲ 1.0	▼ -0.2
L48 Lease and Plant Fuel	4.9	5.3	4.9	4.9	4.8	5.0	5.1	▲ 0.1	▼ -0.2
L48 Pipeline Distribution	2.8	3.1	2.4	2.2	2.2	2.3	2.9	▲ 0.7	▼ -0.2
<b>L48 Regional Gas Consumption</b>	<b>93.9</b>	<b>100.7</b>	<b>76.3</b>	<b>69.1</b>	<b>74.9</b>	<b>79.3</b>	<b>96.7</b>	▲ 17.3	▼ -4.1
<b>Net LNG Exports</b>	<b>4.5</b>	<b>7.8</b>	<b>4.0</b>	<b>5.9</b>	<b>8.0</b>	<b>10.1</b>	<b>11.2</b>	▲ 1.1	▲ 3.4
<b>Total Mexican Exports</b>	<b>4.5</b>	<b>5.0</b>	<b>6.3</b>	<b>6.4</b>	<b>6.2</b>	<b>6.2</b>	<b>6.3</b>	▲ 0.0	▲ 1.3
<b>Implied Daily Storage Activity</b>	<b>-10.7</b>	<b>-13.9</b>	<b>6.8</b>	<b>10.2</b>	<b>2.7</b>	<b>-0.7</b>	<b>-17.3</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 11-Dec

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-17.9	0.7	-16.5	-116
East	-6.6	1.8	-4.7	-33
Midwest	-6.0	0.4	-5.3	-37
Mountain	2.8	-3.7	-0.8	-6
South Central	-7.5	2.4	-4.8	-34
Pacific	-0.6	-0.3	-0.9	-6

\*Adjustment Factor is calculated based on historical regional deltas

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

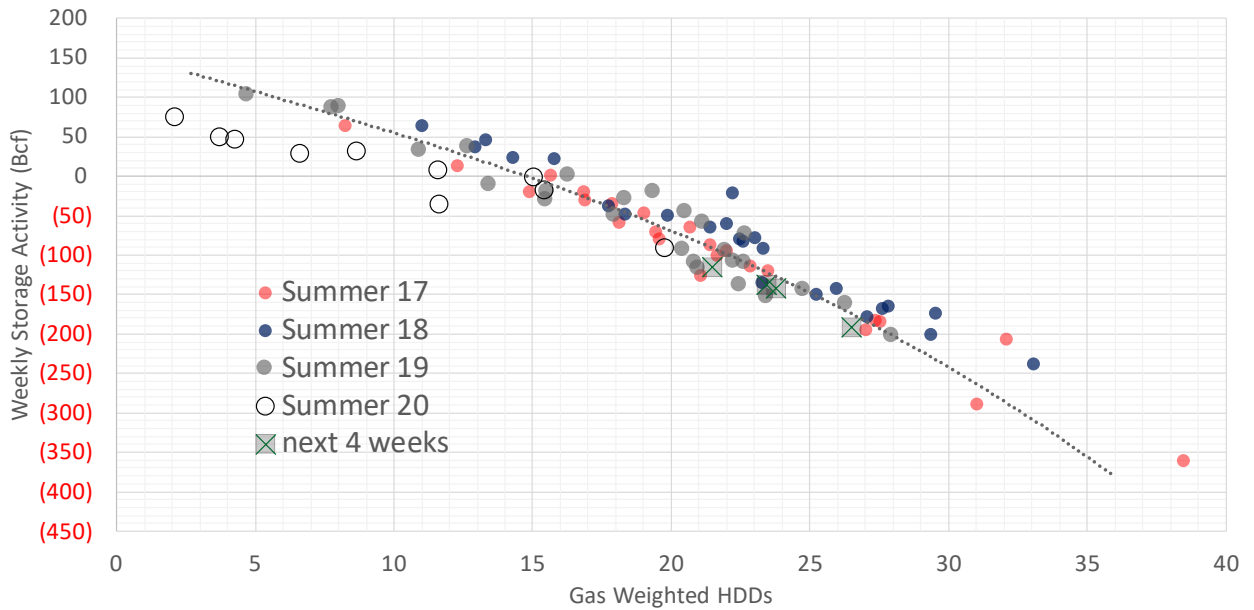


## Weather Model Storage Projection

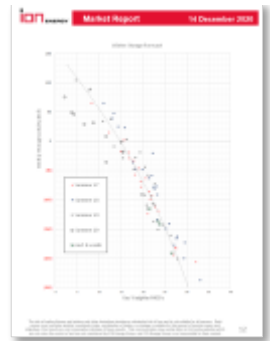
Next report  
and beyond

Week Ending	Temp	Week Storage Projection
11-Dec	21.5	-116
18-Dec	23.8	-142
25-Dec	23.4	-137
01-Jan	26.5	-191

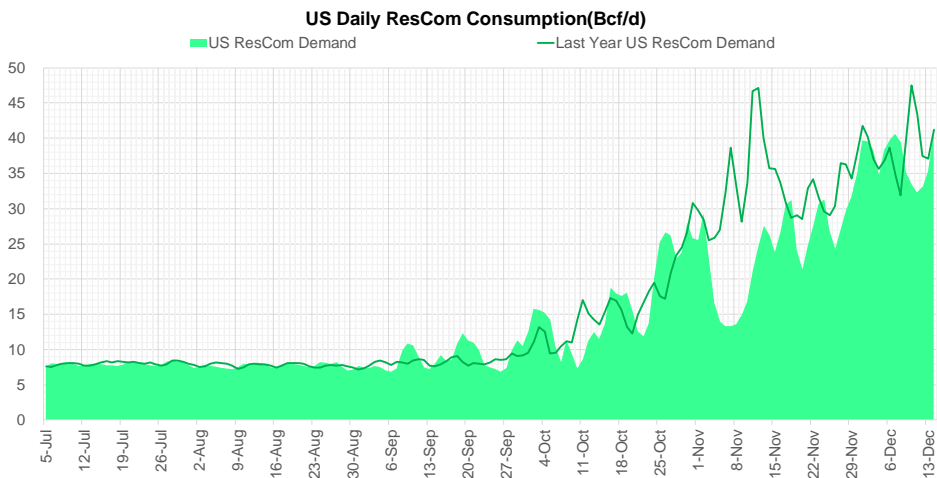
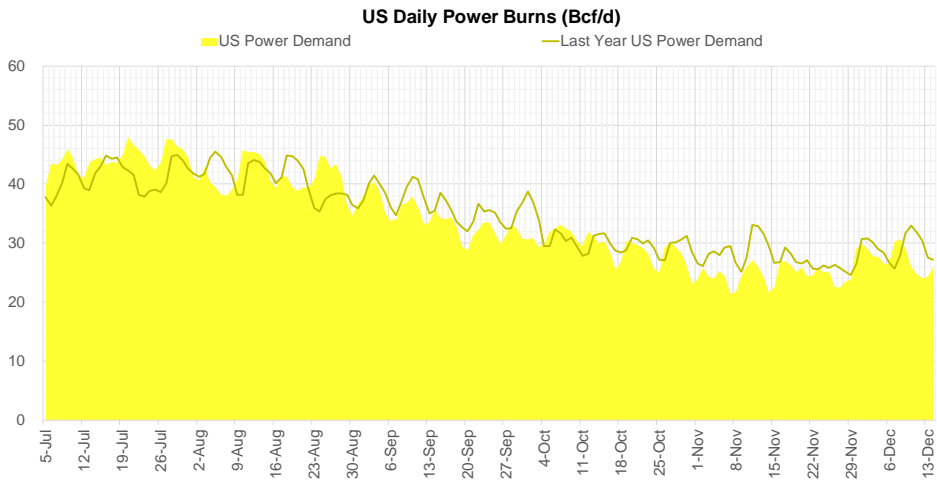
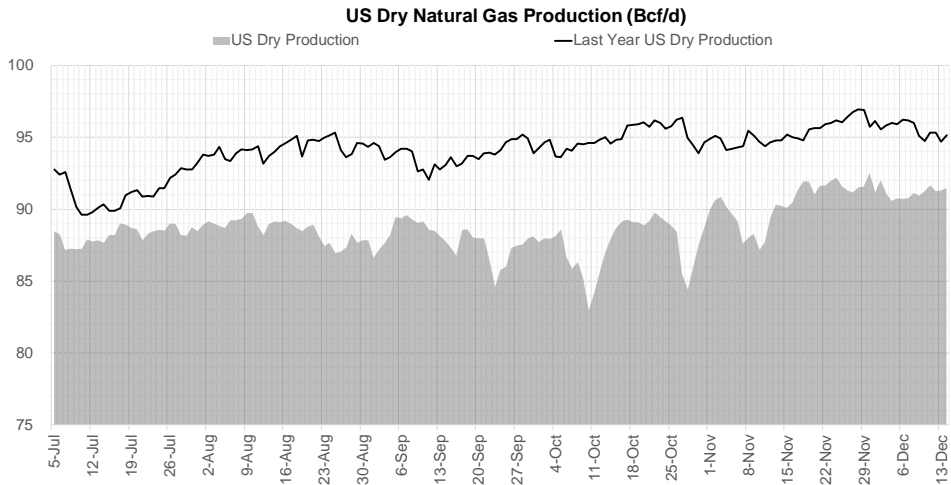
## Winter Storage Forecast



Go to larger image



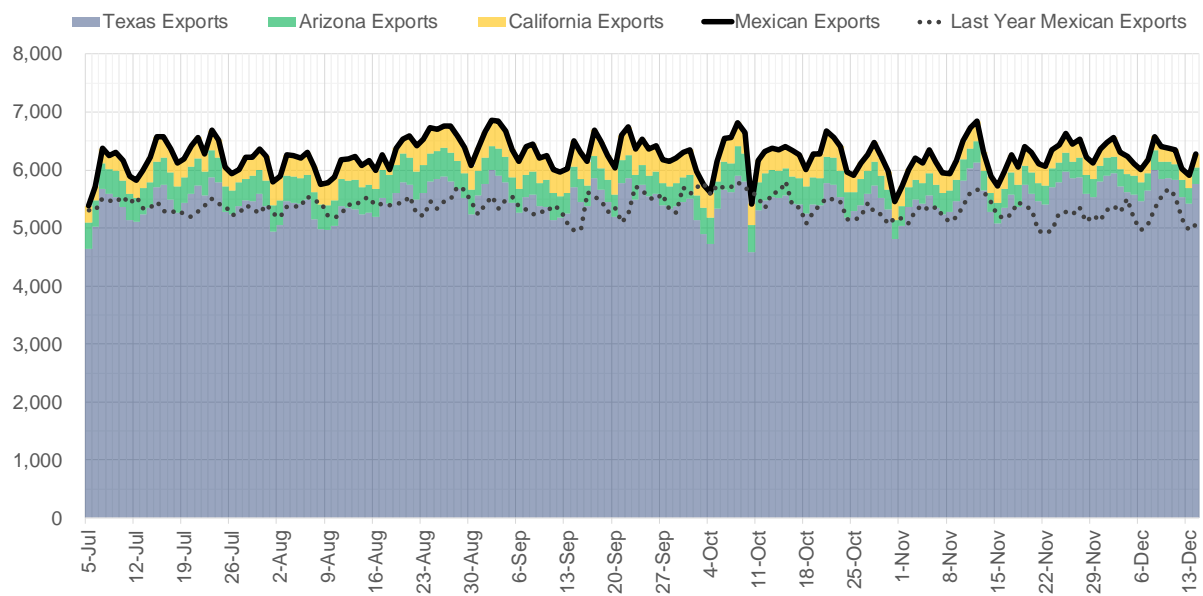
## Supply – Demand Trends



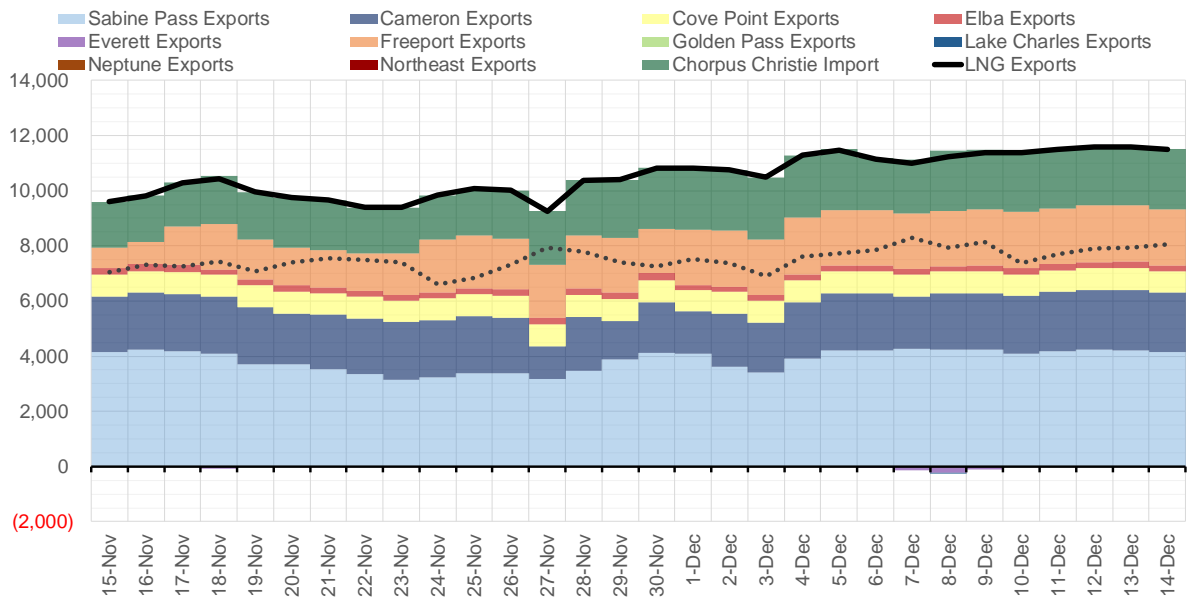
Source: Bloomberg

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### Mexican Exports (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

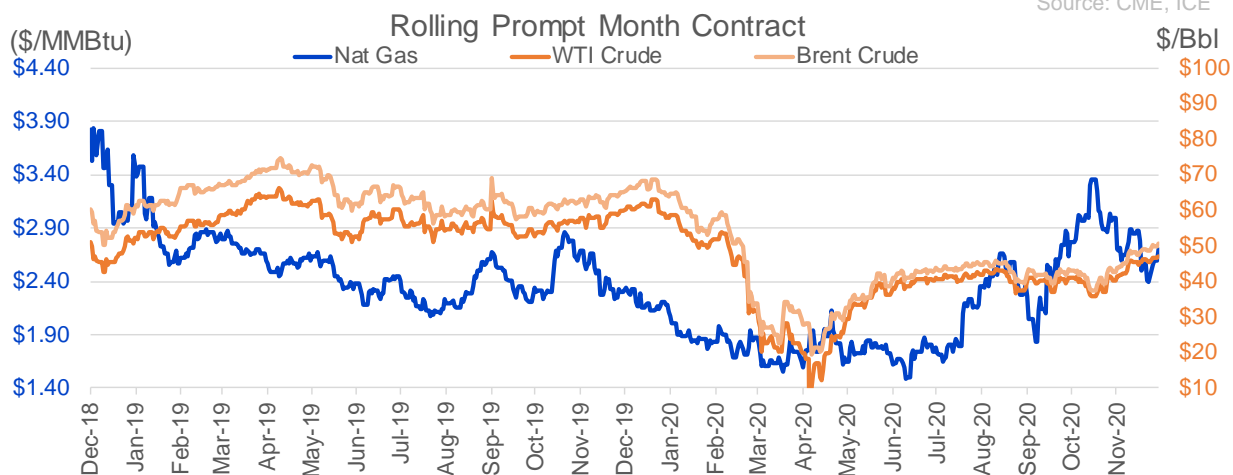
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
1	2021	C	3.50	6074	3	2021	P	2.00	42258
1	2021	C	3.00	5670	1	2021	C	3.50	38437
1	2021	C	2.90	5381	3	2021	C	5.00	37505
4	2021	C	3.50	4685	3	2021	C	6.00	35160
4	2021	C	3.25	4436	3	2021	C	4.00	33492
1	2021	P	2.25	2449	1	2021	P	2.50	32206
1	2021	C	2.75	2331	1	2021	C	3.00	29132
1	2021	P	2.00	2112	3	2021	C	3.00	29029
1	2021	P	2.50	2070	3	2021	C	3.25	28310
4	2021	C	4.00	2054	1	2021	C	4.50	27885
3	2021	C	5.00	2000	10	2021	C	4.00	27661
4	2021	C	4.75	2000	4	2021	C	4.00	26392
1	2021	C	2.80	1760	4	2021	C	3.25	25727
2	2021	C	3.50	1570	1	2021	C	4.00	25671
2	2021	P	1.80	1465	3	2021	C	4.50	25620
2	2021	P	2.00	1043	1	2021	C	5.00	25398
7	2021	C	4.00	1000	2	2021	P	2.25	24658
1	2021	P	2.40	916	3	2021	C	3.50	24548
2	2021	C	5.00	879	1	2021	P	2.25	24378
2	2021	C	4.25	876	10	2021	C	3.25	23592
4	2021	C	3.00	875	3	2021	P	2.50	23295
1	2021	C	2.60	860	1	2021	C	3.75	22303
5	2021	C	3.50	773	4	2021	C	3.00	21863
3	2022	P	1.75	750	3	2021	C	7.00	21656
3	2021	C	3.50	675	1	2021	C	6.00	21138
2	2021	P	1.75	672	2	2021	C	3.50	20005
3	2022	P	2.00	650	8	2021	C	4.00	20003
2	2021	P	2.40	623	2	2021	C	4.00	19631
2	2021	C	3.75	603	10	2021	C	5.00	19595
3	2021	P	1.75	574	2	2021	P	2.50	19303
1	2021	P	2.30	546	4	2021	C	2.75	19035
3	2021	C	2.75	546	1	2021	P	2.00	18909
3	2021	C	3.75	533	1	2021	C	2.75	18678
6	2021	C	2.60	500	4	2021	C	5.00	18653
6	2021	C	2.80	500	8	2021	P	2.25	18492
6	2021	C	3.50	500	5	2021	C	3.00	17981
2	2021	C	3.25	491	1	2021	C	3.25	17629
1	2021	C	2.70	490	2	2021	C	5.00	17217
2	2021	C	3.00	455	2	2021	P	2.00	16596
2	2021	C	4.00	449	2	2021	C	3.00	16557
1	2021	C	2.50	438	4	2021	P	2.00	15929
1	2021	C	3.25	405	6	2021	C	4.00	15671
1	2021	P	2.35	405	4	2021	C	3.50	15278
4	2021	P	2.00	400	5	2021	C	3.50	14828
1	2021	C	3.10	394	1	2021	P	2.75	14813
1	2021	P	1.65	380	10	2021	C	3.00	14516
2	2021	C	4.50	356	4	2021	P	2.25	14288
2	2021	P	2.25	348	1	2021	P	3.00	14201
1	2021	C	2.85	328	2	2021	C	4.50	13892
					1	2021	C	7	13527

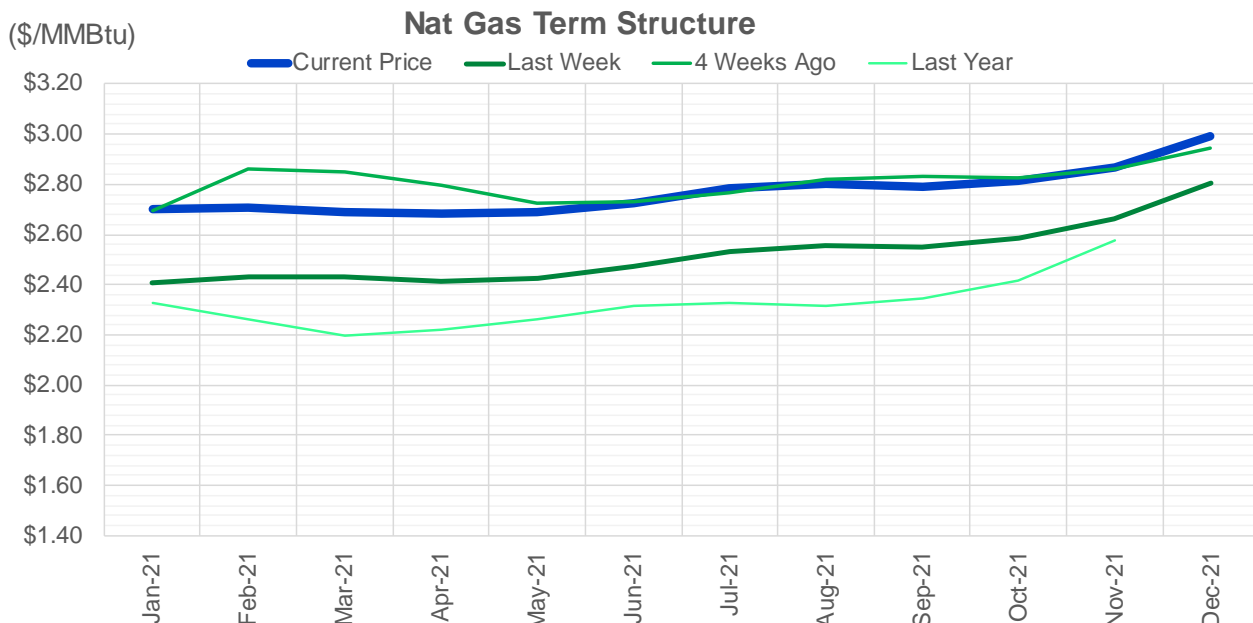
Source: CME, ICE



## 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
JAN 21	127708	155246	-27538	JAN 21	92261	91031	1229.5
FEB 21	156030	148245	7785	FEB 21	72289	72160	128.5
MAR 21	241981	222465	19516	MAR 21	98511	98192	318.5
APR 21	97344	95666	1678	APR 21	82827	82723	104
MAY 21	62468	60866	1602	MAY 21	76238	75451	787.5
JUN 21	38058	37255	803	JUN 21	62751	62525	226
JUL 21	30377	30522	-145	JUL 21	63906	63681	225.25
AUG 21	28124	27819	305	AUG 21	66705	66426	279.5
SEP 21	46543	44878	1665	SEP 21	61568	61269	298.75
OCT 21	90671	88703	1968	OCT 21	75012	75390	-378.5
NOV 21	45031	44659	372	NOV 21	50856	51117	-261.25
DEC 21	42954	42202	752	DEC 21	51183	50905	277.5
JAN 22	39562	39188	374	JAN 22	49290	49134	156.5
FEB 22	24457	24609	-152	FEB 22	38616	38576	40
MAR 22	27265	27387	-122	MAR 22	40131	40136	-5
APR 22	24691	24914	-223	APR 22	39262	39187	75
MAY 22	13071	13124	-53	MAY 22	33153	33024	129.25
JUN 22	6496	6469	27	JUN 22	31298	31243	54.75
JUL 22	5778	5800	-22	JUL 22	32917	32794	123
AUG 22	5003	5043	-40	AUG 22	31877	31805	72
SEP 22	4554	4751	-197	SEP 22	31439	31419	20.25
OCT 22	8331	8355	-24	OCT 22	37113	37068	44.75
NOV 22	6303	6293	10	NOV 22	31554	31479	75
DEC 22	6865	6807	58	DEC 22	34052	33975	76.75
JAN 23	4495	4495	0	JAN 23	15971	15939	31.5
FEB 23	1330	1460	-130	FEB 23	14578	14541	36.5
MAR 23	2715	2585	130	MAR 23	14111	14093	17.75
APR 23	2217	2221	-4	APR 23	13438	13475	-37.25
MAY 23	670	665	5	MAY 23	12499	12538	-38.75
JUN 23	675	672	3	JUN 23	12530	12542	-11.75





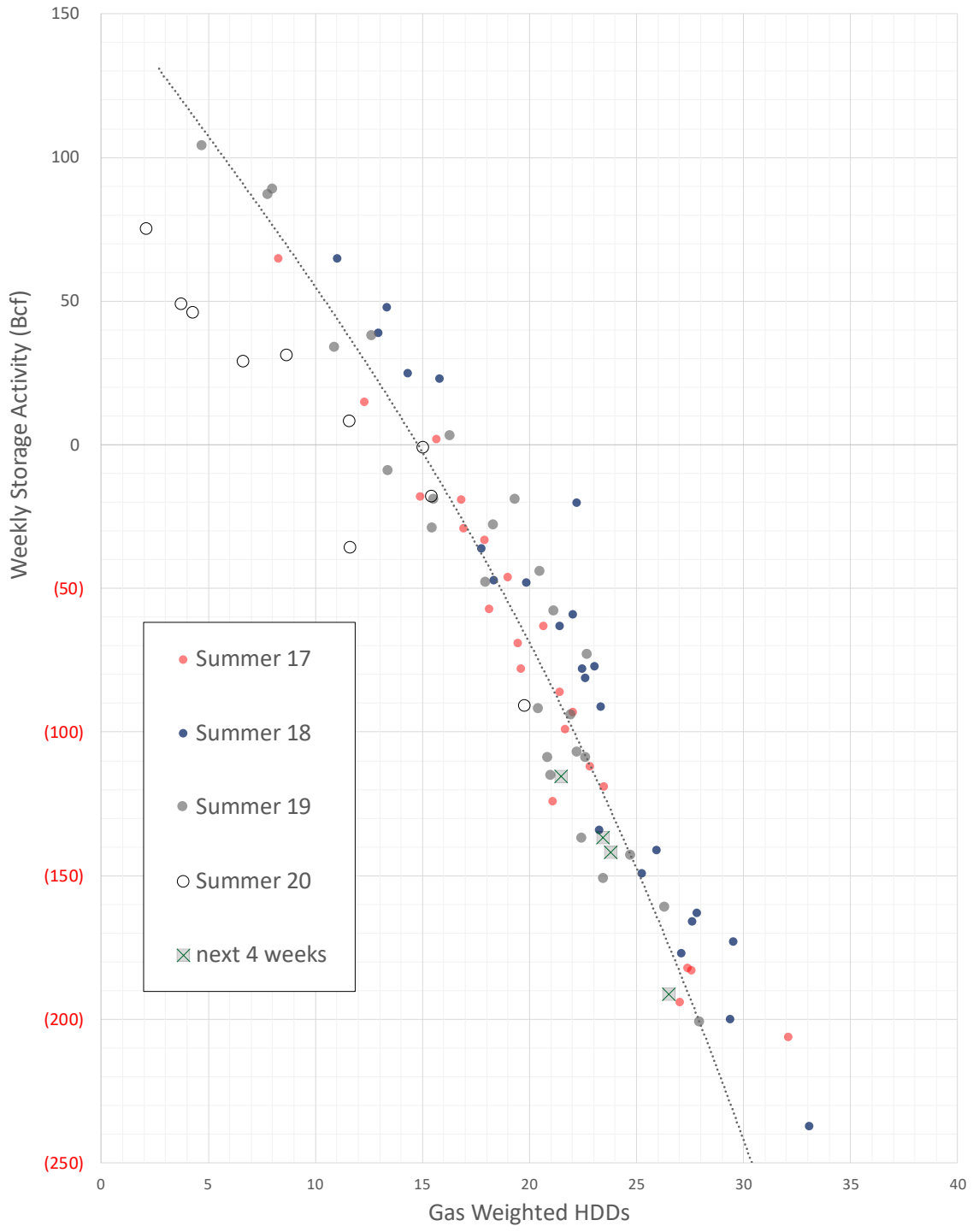
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
<b>Current Price</b>	<b>\$2.703</b>	<b>\$2.705</b>	<b>\$2.690</b>	<b>\$2.682</b>	<b>\$2.691</b>	<b>\$2.726</b>	<b>\$2.783</b>	<b>\$2.802</b>	<b>\$2.790</b>	<b>\$2.812</b>	<b>\$2.869</b>	<b>\$2.989</b>
Last Week	\$2.406	\$2.433	\$2.432	\$2.412	\$2.425	\$2.473	\$2.533	\$2.557	\$2.552	\$2.583	\$2.661	\$2.805
vs. Last Week	\$0.297	\$0.272	\$0.258	\$0.270	\$0.266	\$0.253	\$0.250	\$0.245	\$0.238	\$0.229	\$0.208	\$0.184
4 Weeks Ago	\$2.697	\$2.864	\$2.847	\$2.795	\$2.726	\$2.728	\$2.768	\$2.818	\$2.834	\$2.824	\$2.860	\$2.946
vs. 4 Weeks Ago	\$0.006	-\$0.159	-\$0.157	-\$0.113	-\$0.035	-\$0.002	\$0.015	-\$0.016	-\$0.044	-\$0.012	\$0.009	\$0.043
Last Year	\$2.341	\$2.326	\$2.265	\$2.200	\$2.218	\$2.265	\$2.314	\$2.325	\$2.313	\$2.343	\$2.414	\$2.577
vs. Last Year	\$0.362	\$0.379	\$0.425	\$0.482	\$0.473	\$0.461	\$0.469	\$0.477	\$0.477	\$0.469	\$0.455	\$0.412

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.20	4.26	2.06
TETCO M3	\$/MMBtu	2.00	3.08	1.08
FGT Zone 3	\$/MMBtu	2.00	2.43	0.43
Zone 6 NY	\$/MMBtu	2.00	3.99	1.99
Chicago Citygate	\$/MMBtu	2.41	2.35	-0.06
Michcon	\$/MMBtu	2.37	2.16	-0.21
Columbia TCO Pool	\$/MMBtu	2.37	1.92	-0.45
Ventura	\$/MMBtu	2.36	2.62	0.26
Rockies/Opal	\$/MMBtu	3.27	2.21	-1.06
El Paso Permian Basin	\$/MMBtu	2.24	2.18	-0.06
Socal Citygate	\$/MMBtu	4.35	3.04	-1.31
Malin	\$/MMBtu	3.20	2.84	-0.36
Houston Ship Channel	\$/MMBtu	2.55	2.39	-0.16
Henry Hub Cash	\$/MMBtu	2.54	2.24	-0.31
AECO Cash	C\$/GJ	2.10	1.83	-0.27
Station2 Cash	C\$/GJ	2.07	3.20	1.13
Dawn Cash	C\$/GJ	2.39	2.22	-0.17

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.021	▼ -0.027	▲ 0.117	▲ 0.381
NatGas Mar21/Apr21	\$/MMBtu	-0.008	▲ 0.012	▼ -0.077	▼ -0.257
NatGas Oct21/Nov21	\$/MMBtu	0.057	▼ -0.021	▼ -0.029	▼ -0.014
NatGas Apr21/Oct21	\$/MMBtu	0.130	▲ 0.307	▲ 0.126	▼ -0.180
WTI Crude	\$/Bbl	47.07	▲ 1.310	▲ 5.730	▼ -13.140
Brent Crude	\$/Bbl	50.54	▲ 1.750	▲ 6.720	▼ -14.800
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	145.43	▲ 5.510	▲ 22.540	▼ -55.020
Propane, Mt. Bel	cents/Gallon	0.59	▼ -0.007	▲ 0.034	▲ 0.068
Ethane, Mt. Bel	cents/Gallon	0.20	▲ 0.014	▼ -0.025	▲ 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	▼ -4.000
Coal, ILB	\$/MMBtu	1.32			

### Winter Storage Forecast



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