

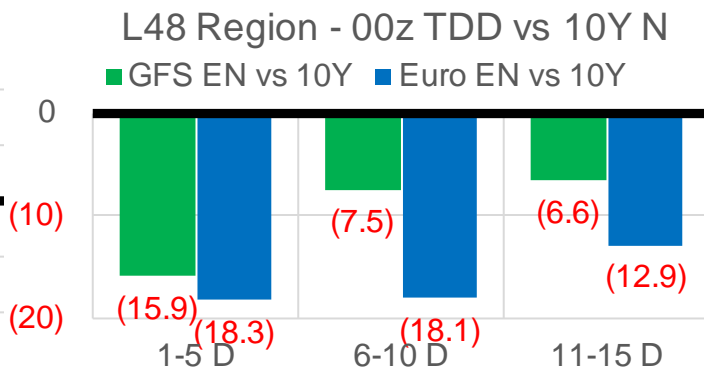
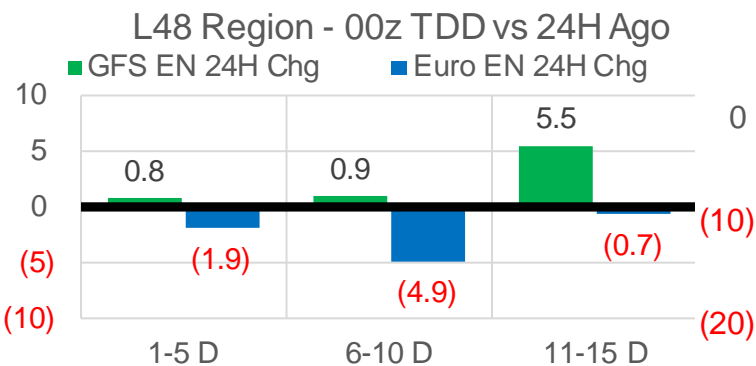
	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.39	▼ \$ (0.18)	▼ \$ (0.29)

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 45.75	▼ \$ (0.51)	▲ \$ 0.1

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 48.75	▼ \$ (0.50)	▲ \$ 0.2

Page Menu

- [Short-term Weather Model Outlooks](#)
- [Lower 48 Component Models](#)
- [Regional S/D Models Storage Projection](#)
- [Weather Model Storage Projection](#)
- [Supply – Demand Trends](#)
- [Nat Gas Options Volume and Open Interest](#)
- [Nat Gas Futures Open Interest](#)
- [Price Summary](#)



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	90.3	▼ -0.41	▼ -0.98

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	27.9	▲ 1.49	▼ -0.14

	Current	Δ from YD	Δ from 7D Avg
US ResComm	39.5	▼ -0.45	▲ 1.57

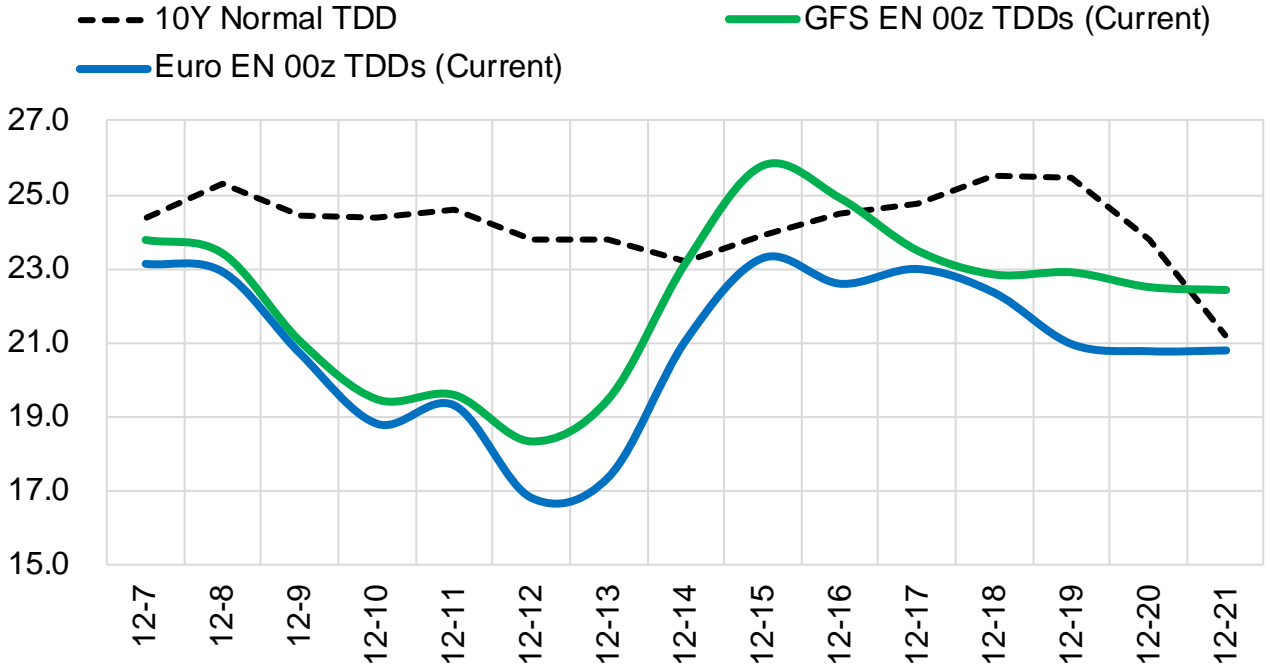
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	6.2	▲ 0.07	▲ 0.38

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	11.0	▼ -0.14	▲ 0.04

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.1	▲ 0.04	▼ -0.26

Short-term Weather Model Outlooks (00z)

L48 Region



Source: WSI , Bloomberg

Lower 48 Component Models

Daily Balances

	1-Dec	2-Dec	3-Dec	4-Dec	5-Dec	6-Dec	7-Dec	DoD	vs. 7D
Lower 48 Dry Production	91.2	92.0	91.1	90.6	90.7	90.7	90.3	▼ -0.4	▼ -0.8
Canadian Imports	5.7	5.9	6.3	5.7	5.9	6.1	6.2	▲ 0.1	▲ 0.3
L48 Power	29.8	29.1	27.8	27.6	26.5	26.4	27.9	▲ 1.5	▲ 0.0
L48 Residential & Commercial	39.6	39.5	38.2	34.7	38.3	39.9	39.5	▼ -0.4	▲ 1.1
L48 Industrial	24.0	23.5	23.0	22.1	22.0	21.8	21.7	▼ -0.1	▼ -1.0
L48 Lease and Plant Fuel	5.1	5.1	5.0	5.0	5.0	5.0	5.0	▼ 0.0	▼ 0.0
L48 Pipeline Distribution	3.2	3.1	3.0	2.8	3.0	3.0	3.1	▲ 0.0	▲ 0.0
L48 Regional Gas Consumption	101.7	100.3	97.1	92.3	94.7	96.1	97.1	▲ 1.0	▲ 0.1
Net LNG Delivered	10.81	10.78	10.48	11.28	11.48	11.15	11.01	▼ -0.1	▲ 0.0
Total Mexican Exports	6.5	6.6	6.4	6.4	6.2	6.1	6.1	▲ 0.0	▼ -0.3
Implied Daily Storage Activity	-22.1	-19.7	-16.5	-13.7	-15.8	-16.5	-17.7		
EIA Reported Daily Storage Activity									
Daily Model Error									

EIA Storage Week Balances

	30-Oct	6-Nov	13-Nov	20-Nov	27-Nov	4-Dec	WoW	vs. 4W
Lower 48 Dry Production	87.4	89.6	88.2	90.9	91.6	91.6	▼ 0.0	▲ 1.5
Canadian Imports	4.8	4.9	3.9	5.1	4.5	5.3	▲ 0.8	▲ 0.7
L48 Power	28.0	24.6	24.4	24.7	24.8	26.5	▲ 1.7	▲ 1.8
L48 Residential & Commercial	22.7	23.1	16.8	27.2	26.7	34.4	▲ 7.7	▲ 10.9
L48 Industrial	24.1	23.0	24.0	23.3	22.1	23.1	▲ 1.0	▲ 0.0
L48 Lease and Plant Fuel	4.8	4.9	4.9	5.0	5.1	5.1	▲ 0.0	▲ 0.1
L48 Pipeline Distribution	2.5	2.3	1.9	2.4	2.4	2.8	▲ 0.4	▲ 0.6
L48 Regional Gas Consumption	82.1	78.0	72.1	82.6	81.0	91.8	▲ 10.8	▲ 13.4
Net LNG Exports	9.2	10.2	10.4	10.2	9.7	10.4	▲ 0.7	▲ 0.3
Total Mexican Exports	6.2	6.0	6.3	6.1	6.3	6.4	▲ 0.1	▲ 0.2
Implied Daily Storage Activity	-5.3	0.3	3.4	-2.9	-0.9	-11.8	-10.9	
EIA Reported Daily Storage Activity	-5.1	1.1	4.4	-2.6	-0.1			
Daily Model Error	-0.1	-0.8	-1.1	-0.3	-0.8			

Monthly Balances

	2Yr Ago Dec-18	LY Dec-19	Aug-20	Sep-20	Oct-20	Nov-20	MTD Dec-20	MoM	vs. LY
Lower 48 Dry Production	87.5	95.1	88.6	87.8	87.5	90.4	90.9	▲ 0.5	▼ -4.2
Canadian Imports	4.8	4.5	4.9	3.8	4.3	4.6	6.0	▲ 1.4	▲ 1.5
L48 Power	24.4	28.9	41.0	34.1	29.4	24.6	27.9	▲ 3.2	▼ -1.0
L48 Residential & Commercial	39.3	39.1	7.7	8.8	16.2	24.2	38.5	▲ 14.3	▼ -0.6
L48 Industrial	22.4	24.4	20.3	19.2	22.3	23.0	22.6	▼ -0.5	▼ -1.9
L48 Lease and Plant Fuel	4.9	5.3	4.9	4.9	4.8	5.0	5.0	▲ 0.0	▼ -0.2
L48 Pipeline Distribution	2.8	3.1	2.4	2.2	2.2	2.3	3.0	▲ 0.8	▼ -0.1
L48 Regional Gas Consumption	93.9	100.7	76.3	69.1	74.9	79.2	97.0	▲ 17.9	▼ -3.7
Net LNG Exports	4.5	7.8	4.0	5.9	8.0	10.1	11.0	▲ 0.9	▲ 3.2
Total Mexican Exports	4.5	5.0	6.3	6.4	6.2	6.2	6.3	▲ 0.1	▲ 1.3
Implied Daily Storage Activity	-10.7	-13.9	6.8	10.2	2.7	-0.5	-17.4		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

Regional S/D Models Storage Projection

Week Ending 4-Dec

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	-12.0	1.0	-11.1	-77
East	-4.0	2.0	-1.9	-14
Midwest	-4.6	0.0	-4.5	-32
Mountain	2.8	-3.5	-0.7	-5
South Central	-6.0	2.6	-3.4	-24
Pacific	-0.3	-0.2	-0.4	-3

*Adjustment Factor is calculated based on historical regional deltas

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

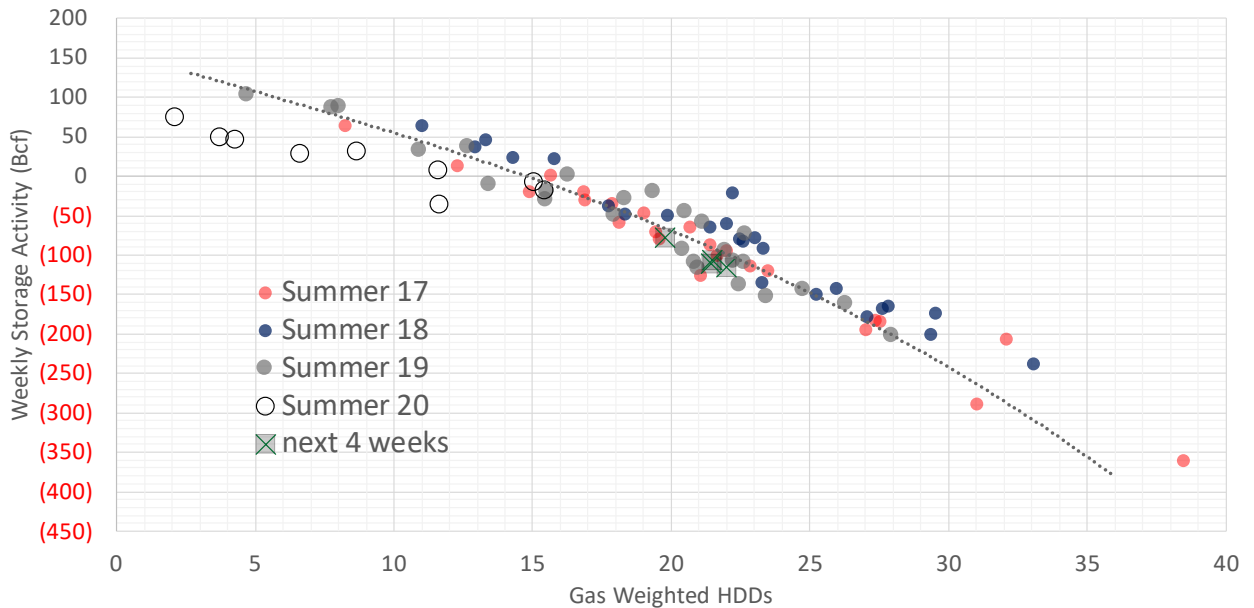


Weather Model Storage Projection

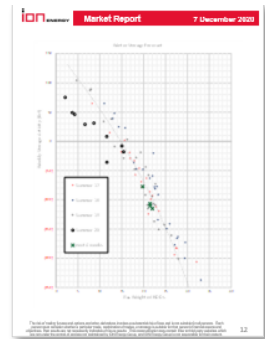
Next report
and beyond

Week Ending	Temp	Week Storage Projection
04-Dec	19.8	-77
11-Dec	21.5	-110
18-Dec	21.5	-107
25-Dec	22.0	-115

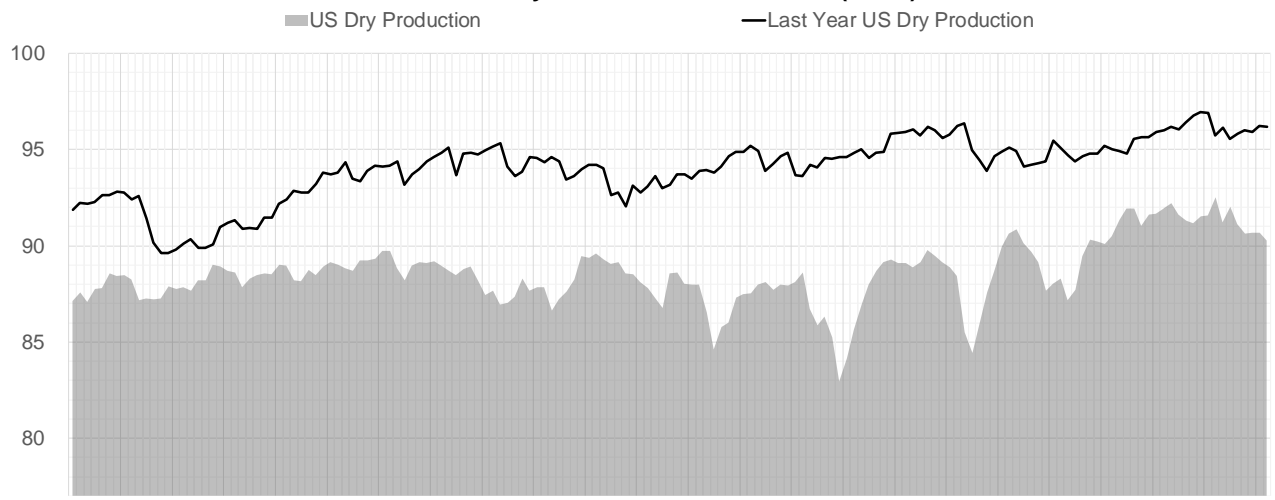
Winter Storage Forecast



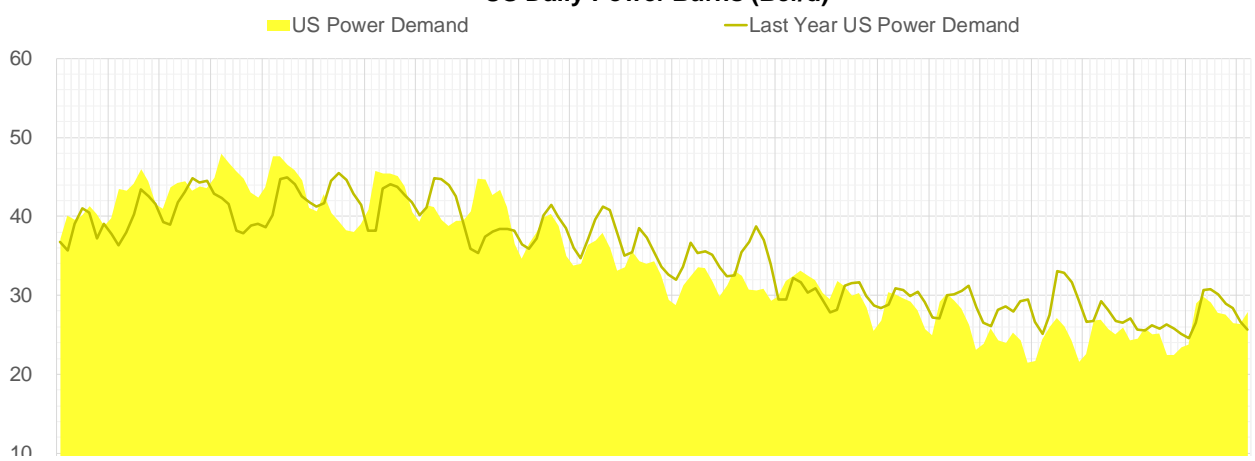
Go to larger image



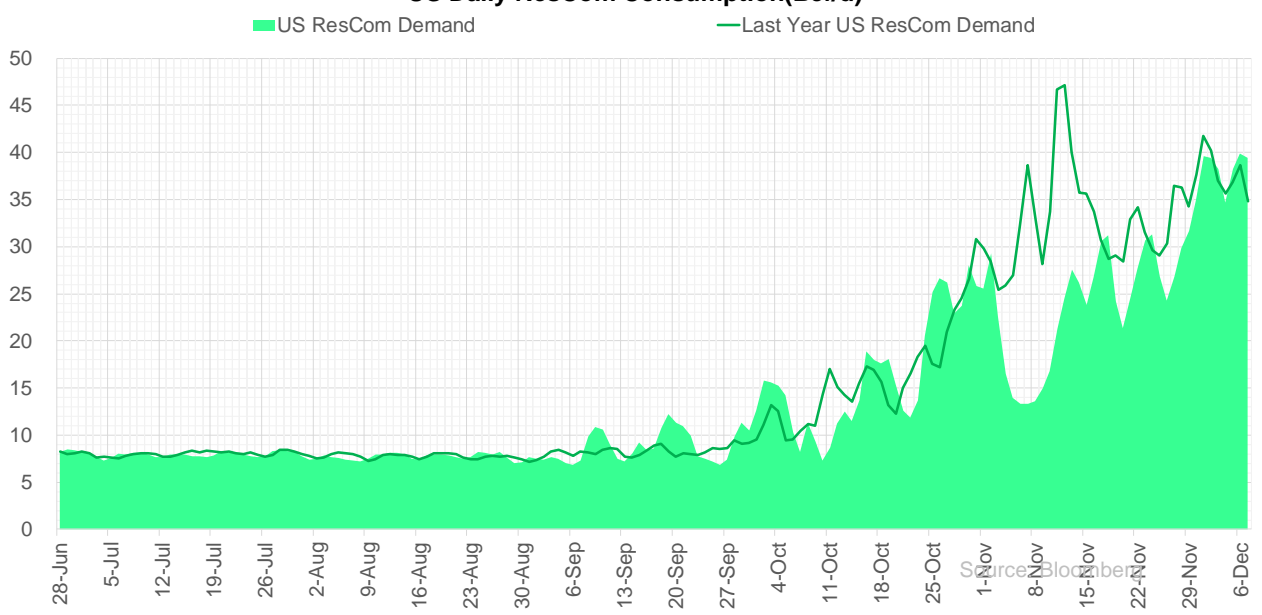
Supply – Demand Trends US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)

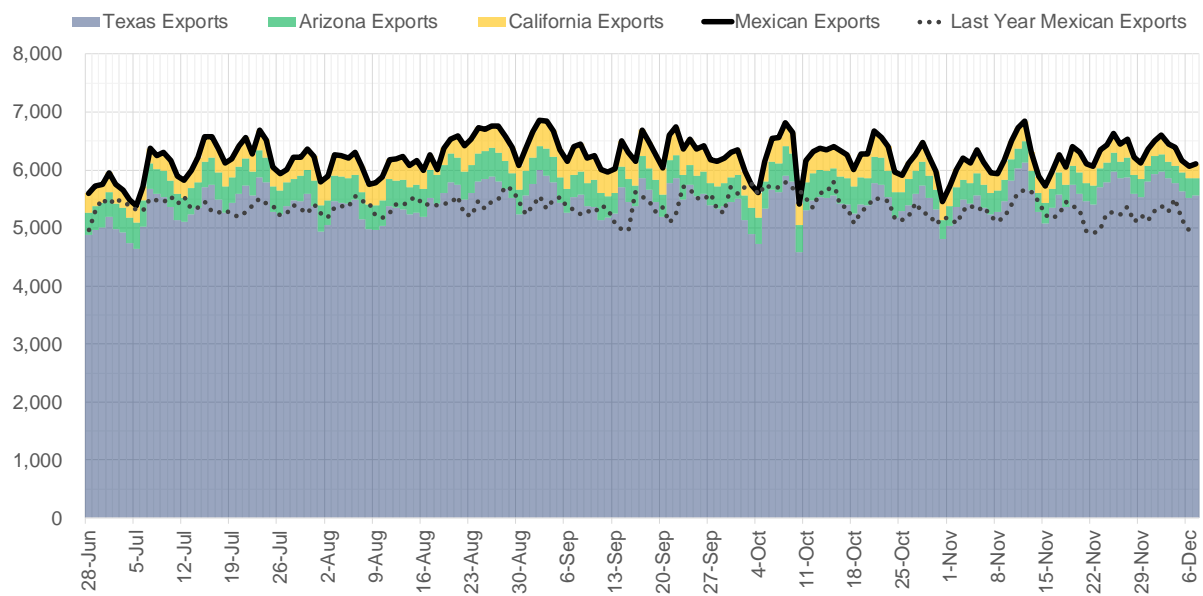


US Daily ResCom Consumption (Bcf/d)

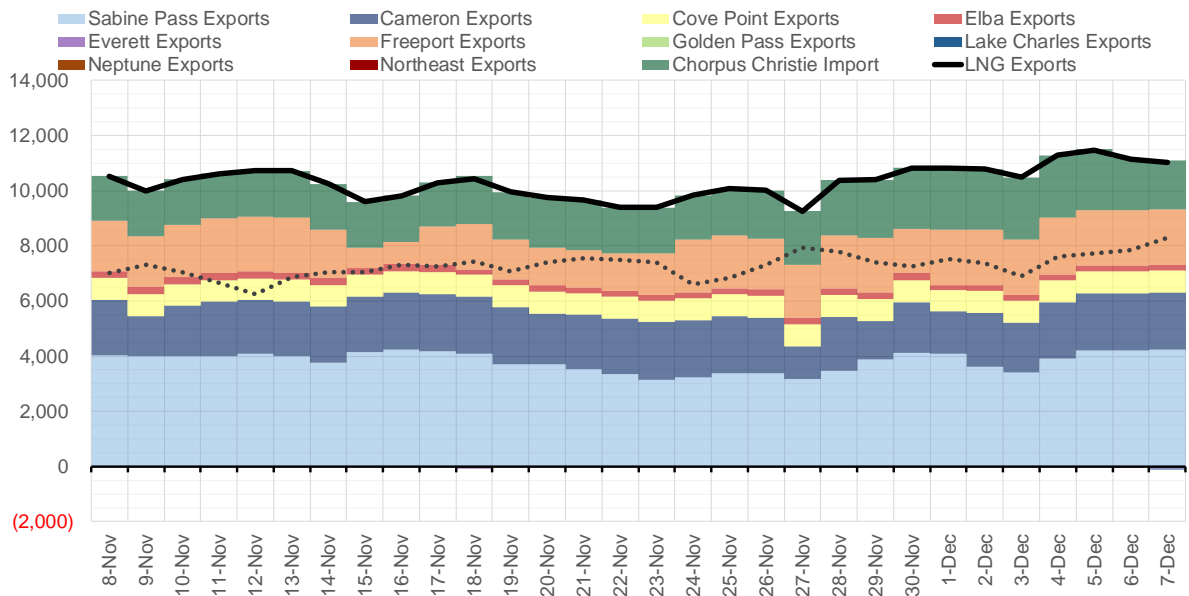


Source: Bloomberg

Mexican Exports (MMcf/d)



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



Source: Bloomberg

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.

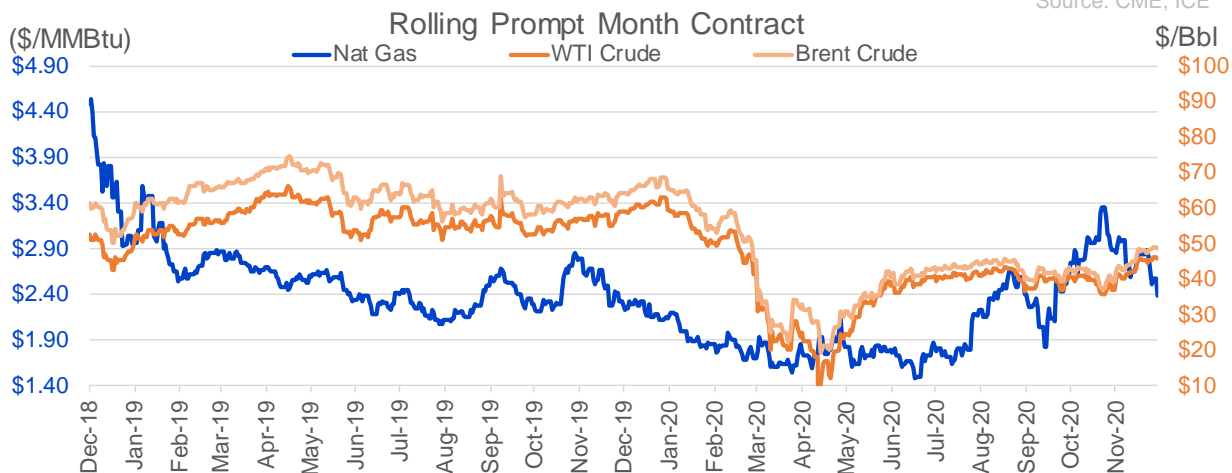
Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
3	2021	C	5.00	10836	3	2021	P	2.00	41932
3	2021	C	6.00	10267	1	2021	C	3.50	37956
1	2021	C	3.50	6525	3	2021	C	4.00	33804
1	2021	P	2.25	5718	1	2021	P	2.50	31711
3	2021	C	3.00	5274	4	2021	C	3.50	30581
4	2021	C	3.25	4904	4	2021	C	4.00	29287
1	2021	C	3.00	4146	3	2021	C	3.25	28273
2	2021	C	3.00	3805	10	2021	C	4.00	27961
1	2021	C	3.10	3384	1	2021	C	4.50	27823
2	2021	P	2.40	3178	1	2021	C	3.00	27735
1	2021	P	2.00	3156	3	2021	C	3.00	25932
2	2021	P	2.25	2767	3	2021	C	6.00	25841
1	2021	C	2.75	2609	1	2021	C	5.00	25370
8	2021	C	3.25	2375	3	2021	C	4.50	25043
4	2021	C	2.75	2350	1	2021	C	4.00	25010
3	2021	C	2.50	2329	10	2021	C	3.25	24945
8	2021	C	3.50	2300	3	2021	C	5.00	24758
1	2021	C	3.25	2207	2	2021	P	2.25	23822
2	2021	C	3.50	2137	3	2021	C	7.00	22907
1	2021	P	2.50	2080	3	2021	C	3.50	22414
3	2021	C	3.50	2064	1	2021	C	3.75	22399
2	2021	C	2.60	2038	3	2021	P	2.50	22162
3	2021	C	2.75	1982	1	2021	C	6.00	21138
2	2021	C	2.75	1877	2	2021	C	3.50	20055
2	2021	P	2.00	1868	1	2021	P	2.00	19677
11	2021	P	2.25	1850	1	2021	P	2.25	19599
3	2021	P	2.00	1805	8	2021	C	4.00	19203
11	2021	P	2.50	1800	2	2021	C	4.00	19126
2	2021	C	4.00	1669	4	2021	C	5.00	18953
4	2021	C	4.00	1656	4	2021	C	2.75	18900
3	2021	P	2.10	1613	2	2021	P	2.50	18789
5	2021	C	2.75	1600	10	2021	C	5.00	18575
4	2021	P	2.10	1584	8	2021	P	2.25	18367
5	2021	P	2.10	1575	5	2021	C	3.00	17986
6	2021	P	2.10	1575	4	2021	C	3.25	17817
7	2021	P	2.10	1575	2	2021	C	5.00	17511
8	2021	P	2.10	1575	4	2021	C	3.00	17439
9	2021	P	2.10	1575	1	2021	C	3.25	17140
10	2021	P	2.10	1575	2	2021	C	3.00	16599
5	2021	C	3.50	1560	5	2021	C	3.50	15323
2	2021	P	2.10	1547	2	2021	P	2.00	14984
5	2021	C	3.00	1540	6	2021	C	4.00	14671
3	2021	P	2.25	1533	4	2021	P	2.00	14528
11	2021	P	2.10	1500	1	2021	P	2.75	14395
12	2021	C	4.00	1500	1	2021	P	3.00	14163
12	2021	P	2.10	1500	10	2021	C	3.00	14144
10	2021	C	3.50	1300	1	2021	C	7.00	13527
5	2021	C	3.25	1150	1	2021	C	2.75	13510
4	2021	C	3.50	1142	2	2021	C	4.50	13475
					4	2021	P	2.5	13340.75

Source: CME, ICE

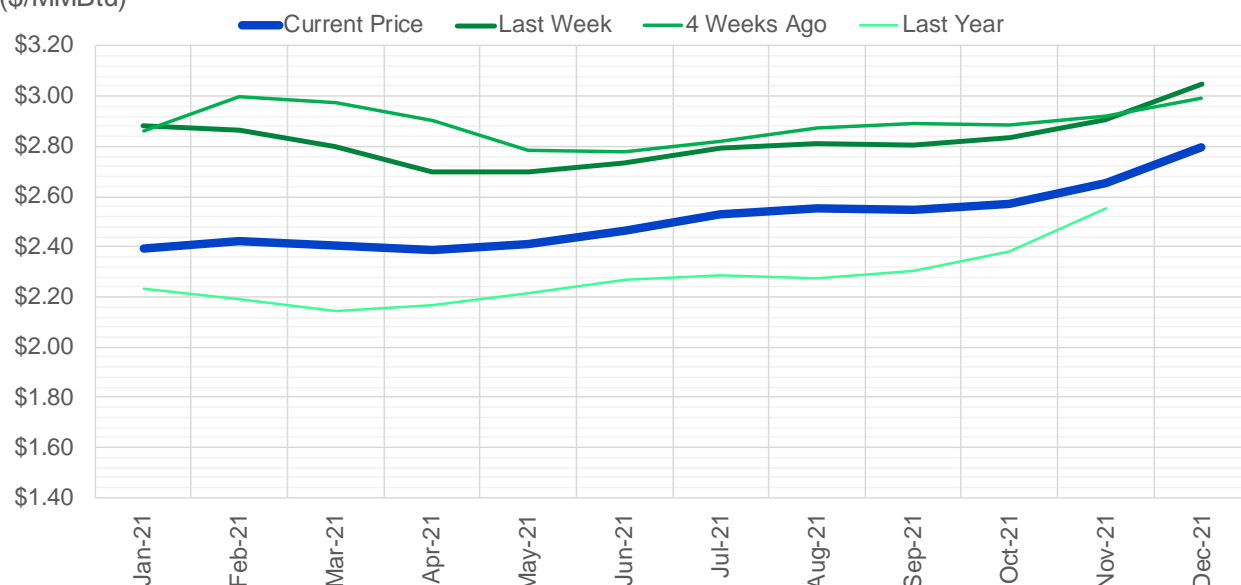
Nat Gas Futures Open Interest CME, and ICE Combined

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	291818	297838	-6020	JAN 21	98244	100435	-2190.5
FEB 21	97934	95441	2493	FEB 21	72084	71988	96
MAR 21	188986	192347	-3361	MAR 21	94659	94777	-118.25
APR 21	88732	88461	271	APR 21	80987	80379	607.75
MAY 21	55984	55584	400	MAY 21	72711	73361	-650
JUN 21	36713	36352	361	JUN 21	60832	60818	14.75
JUL 21	31386	30751	635	JUL 21	62171	62121	49.75
AUG 21	26905	26922	-17	AUG 21	65099	65402	-303
SEP 21	39617	38810	807	SEP 21	59483	59565	-81.75
OCT 21	91043	91653	-610	OCT 21	73575	75268	-1693.5
NOV 21	41802	40268	1534	NOV 21	50077	50716	-639.5
DEC 21	36892	34239	2653	DEC 21	50000	50136	-136.25
JAN 22	38206	38301	-95	JAN 22	47486	47390	95.75
FEB 22	24685	24704	-19	FEB 22	38145	38165	-20.25
MAR 22	26767	27401	-634	MAR 22	39536	39571	-35.5
APR 22	24000	23623	377	APR 22	39223	39093	129.5
MAY 22	13032	12854	178	MAY 22	32442	32099	342.75
JUN 22	6790	6780	10	JUN 22	30867	30872	-4.75
JUL 22	5903	5817	86	JUL 22	32640	32772	-132
AUG 22	5108	5096	12	AUG 22	31498	31349	149
SEP 22	4771	4555	216	SEP 22	31112	30804	307.75
OCT 22	8232	8278	-46	OCT 22	36588	36533	55
NOV 22	6217	5923	294	NOV 22	31640	31651	-10.75
DEC 22	6730	6555	175	DEC 22	34016	34027	-11.25
JAN 23	4593	4599	-6	JAN 23	15856	15723	132.75
FEB 23	1294	1294	0	FEB 23	14527	14506	20.5
MAR 23	2574	2574	0	MAR 23	14035	14089	-54.25
APR 23	2283	2160	123	APR 23	13340	13344	-4.5
MAY 23	652	518	134	MAY 23	12454	12458	-4.75
JUN 23	679	545	134	JUN 23	12475	12453	22.5



(\$/MMBtu)

Nat Gas Term Structure



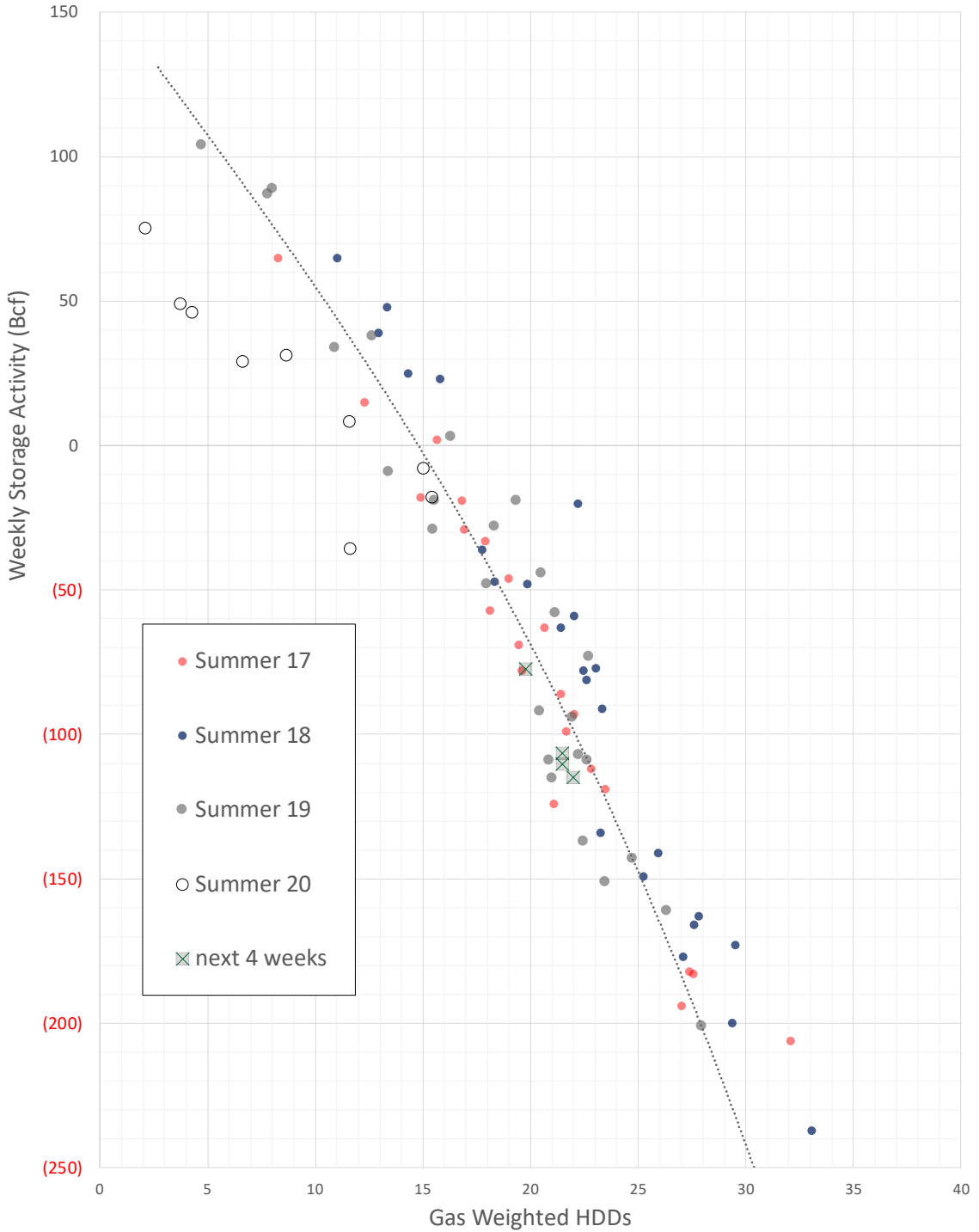
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Current Price	\$2.394	\$2.421	\$2.406	\$2.389	\$2.410	\$2.464	\$2.527	\$2.551	\$2.545	\$2.572	\$2.651	\$2.794
Last Week	\$2.882	\$2.865	\$2.799	\$2.701	\$2.698	\$2.736	\$2.791	\$2.812	\$2.806	\$2.833	\$2.903	\$3.046
vs. Last Week	-\$0.488	-\$0.444	-\$0.393	-\$0.312	-\$0.288	-\$0.272	-\$0.264	-\$0.261	-\$0.261	-\$0.261	-\$0.252	-\$0.252
4 Weeks Ago	\$2.859	\$2.999	\$2.974	\$2.904	\$2.785	\$2.776	\$2.821	\$2.875	\$2.892	\$2.882	\$2.918	\$2.991
vs. 4 Weeks Ago	-\$0.465	-\$0.578	-\$0.568	-\$0.515	-\$0.375	-\$0.312	-\$0.294	-\$0.324	-\$0.347	-\$0.310	-\$0.267	-\$0.197
Last Year	\$2.232	\$2.234	\$2.193	\$2.145	\$2.165	\$2.217	\$2.271	\$2.285	\$2.273	\$2.303	\$2.379	\$2.555
vs. Last Year	\$0.162	\$0.187	\$0.213	\$0.244	\$0.245	\$0.247	\$0.256	\$0.266	\$0.272	\$0.269	\$0.272	\$0.239

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	3.00	5.65	2.65
TETCO M3	\$/MMBtu	2.30	3.96	1.66
FGT Zone 3	\$/MMBtu	1.87	2.92	1.05
Zone 6 NY	\$/MMBtu	1.87	4.65	2.78
Chicago Citygate	\$/MMBtu	2.33	2.86	0.53
Michcon	\$/MMBtu	2.30	2.63	0.33
Columbia TCO Pool	\$/MMBtu	2.14	2.39	0.25
Ventura	\$/MMBtu	2.24	3.14	0.90
Rockies/Opal	\$/MMBtu	3.18	2.67	-0.51
El Paso Permian Basin	\$/MMBtu	2.24	2.67	0.43
Socal Citygate	\$/MMBtu	4.37	3.48	-0.89
Malin	\$/MMBtu	3.22	3.26	0.04
Houston Ship Channel	\$/MMBtu	2.49	2.88	0.39
Henry Hub Cash	\$/MMBtu	2.45	2.71	0.26
AECO Cash	C\$/GJ	1.85	2.18	0.33
Station2 Cash	C\$/GJ	1.82	3.75	1.93
Dawn Cash	C\$/GJ	2.30	2.73	0.43

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan21/Apr21	\$/MMBtu	-0.005	▲ 0.176	▲ 0.209	▲ 0.376
NatGas Mar21/Apr21	\$/MMBtu	-0.017	▲ 0.081	▼ -0.136	▼ -0.260
NatGas Oct21/Nov21	\$/MMBtu	0.079	▲ 0.009	▲ 0.006	▲ 0.009
NatGas Apr21/Oct21	\$/MMBtu	0.183	▲ 0.134	▲ 0.102	▼ -0.111
WTI Crude	\$/Bbl	45.75	▲ 0.410	▲ 5.460	▼ -13.270
Brent Crude	\$/Bbl	48.75	▲ 1.160	▲ 6.350	▼ -15.500
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	139.37	▲ 3.780	▲ 17.700	▼ -55.050
Propane, Mt. Bel	cents/Gallon	0.59	▲ 0.044	▲ 0.032	▲ 0.073
Ethane, Mt. Bel	cents/Gallon	0.19	▼ -0.028	▼ -0.029	▲ 0.015
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



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.