

	Current	Δ from YD	Δ from 7D Avg
Nat Gas Prompt	\$ 2.98	▲ \$ 0.07	▲ \$ 0.20

	Current	Δ from YD	Δ from 7D Avg
WTI Prompt	\$ 40.97	▼ \$ (0.49)	▼ \$ (0.0)

	Current	Δ from YD	Δ from 7D Avg
Brent Prompt	\$ 42.46	▼ \$ (0.70)	▼ \$ (0.5)

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](#)

00z GWDD Change

Cooler Change

Warmer Change

ECMWF Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	0.0	3.1	0.9	4.0
24 Hr Chg	-0.3	-1.6	3.3	1.4

GFS Ensemble 00z	1-5 Day	6-10 Day	11-15 Day	Total
12 Hr Chg	1.1	2.7	5.5	9.4
24 Hr Chg	-2.3	-1.7	6.1	2.2

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	88.3	▼ -0.35	▼ -0.42

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	30.3	▲ 0.88	▲ 2.13

	Current	Δ from YD	Δ from 7D Avg
US ResComm	13.8	▼ -2.57	▼ -3.28

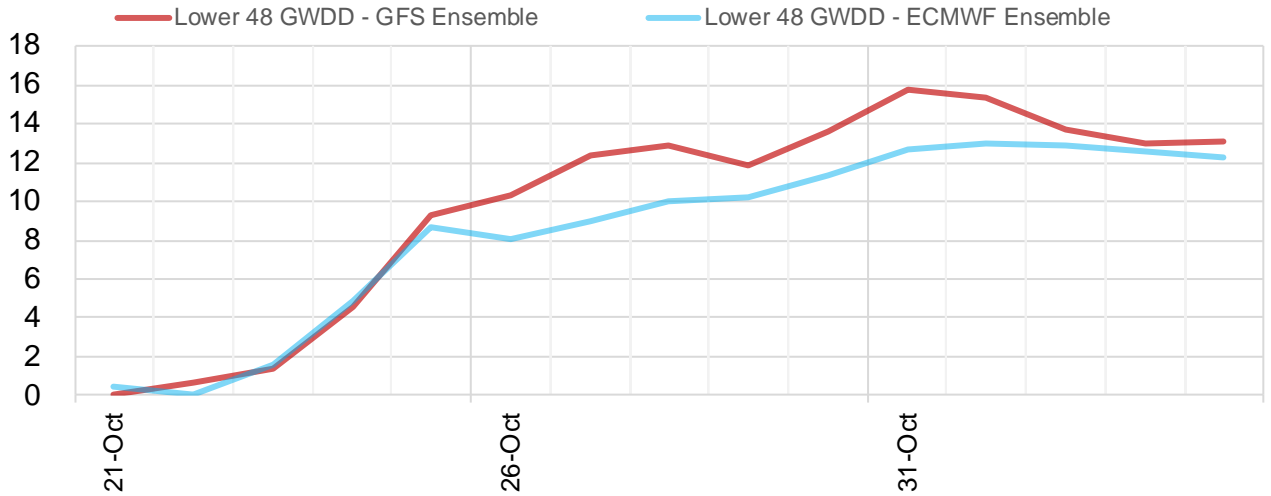
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	3.9	▲ 0.59	▲ 0.47

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	8.6	▲ 0.27	▲ 0.80

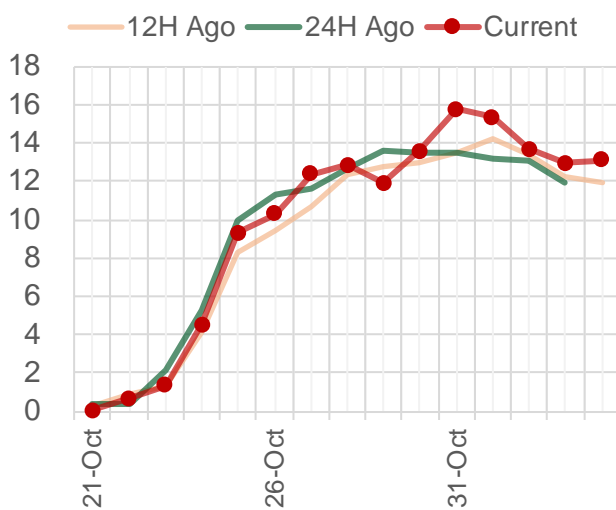
	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	6.5	▲ 0.11	▲ 0.23

Short-term Weather Model Outlooks (00z)

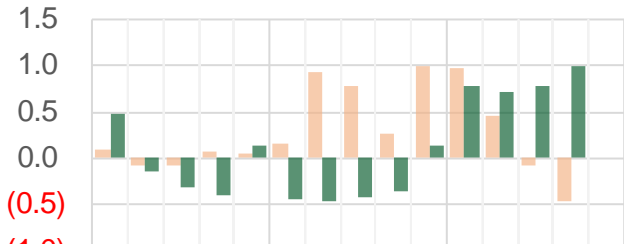
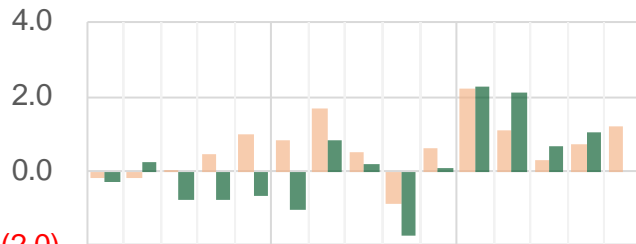
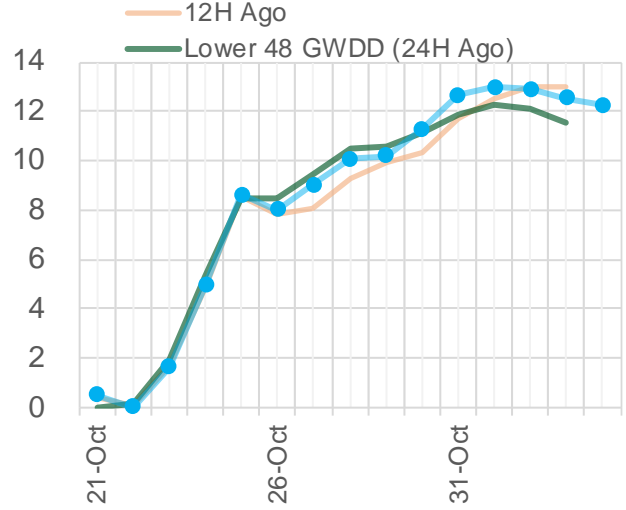
Lower 48 TDD Forecast



Lower 48 GWDD - GFS Ensemble



Lower 48 GWDD - ECMWF Ensemble



(2.0)

(0.5)
(1.0)

Source: WSI, Bloomberg

Lower 48 Component Models

Daily Balances

	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	DoD	vs. 7D
Lower 48 Dry Production	88.5	89.0	89.1	88.9	89.0	88.6	88.3	▼-0.3	▼-0.6
Canadian Imports	3.8	3.3	3.3	3.2	3.6	3.4	3.9	▲0.6	▲0.5
L48 Power	29.6	27.8	25.1	26.2	29.8	29.4	30.3	▲0.9	▲2.3
L48 Residential & Commercial	14.7	19.8	18.9	18.6	19.0	16.4	13.8	▼-2.6	▼-4.1
L48 Industrial	22.7	23.0	22.8	22.7	22.6	22.3	21.8	▼-0.5	▼-0.9
L48 Lease and Plant Fuel	4.9	4.9	4.9	4.9	4.9	4.9	4.9	▼0.0	▼0.0
L48 Pipeline Distribution	2.2	2.3	2.2	2.2	2.4	2.2	2.2	▼-0.1	▼-0.1
L48 Regional Gas Consumption	74.0	77.8	73.9	74.5	78.7	75.2	72.9	▼-2.3	▼-2.8
Net LNG Delivered	7.80	7.95	7.86	7.50	7.29	8.33	8.60	▲0.3	▲0.8
Total Mexican Exports	6.3	6.4	6.3	5.9	6.3	6.4	6.5	▲0.1	▲0.2
Implied Daily Storage Activity	4.2	0.1	4.4	4.3	0.3	2.0	4.2		
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	30.7	30.0	▼-0.7	▼-1.4
L48 Residential & Commercial	8.4	8.0	9.9	9.5	13.6	11.5	▼-2.0	▲1.3
L48 Industrial	19.7	21.3	21.1	22.2	21.7	22.1	▲0.5	▲0.6
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	70.4	▼-2.5	▲0.4
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	6.3	1.1	
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	-1.5			

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	87.2	▼-0.4	▼-7.8
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	▼-1.1
L48 Residential & Commercial	16.1	15.2	8.8	8.0	7.7	8.7	14.0	▲5.4	▼-1.2
L48 Industrial	22.6	24.0	19.2	19.3	20.6	21.0	22.1	▲1.1	▼-1.9
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	72.8	▲3.0	▼-4.6
Net LNG Exports	3.3	6.7	4.0	3.3	4.0	5.9	7.4	▲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	4.8		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

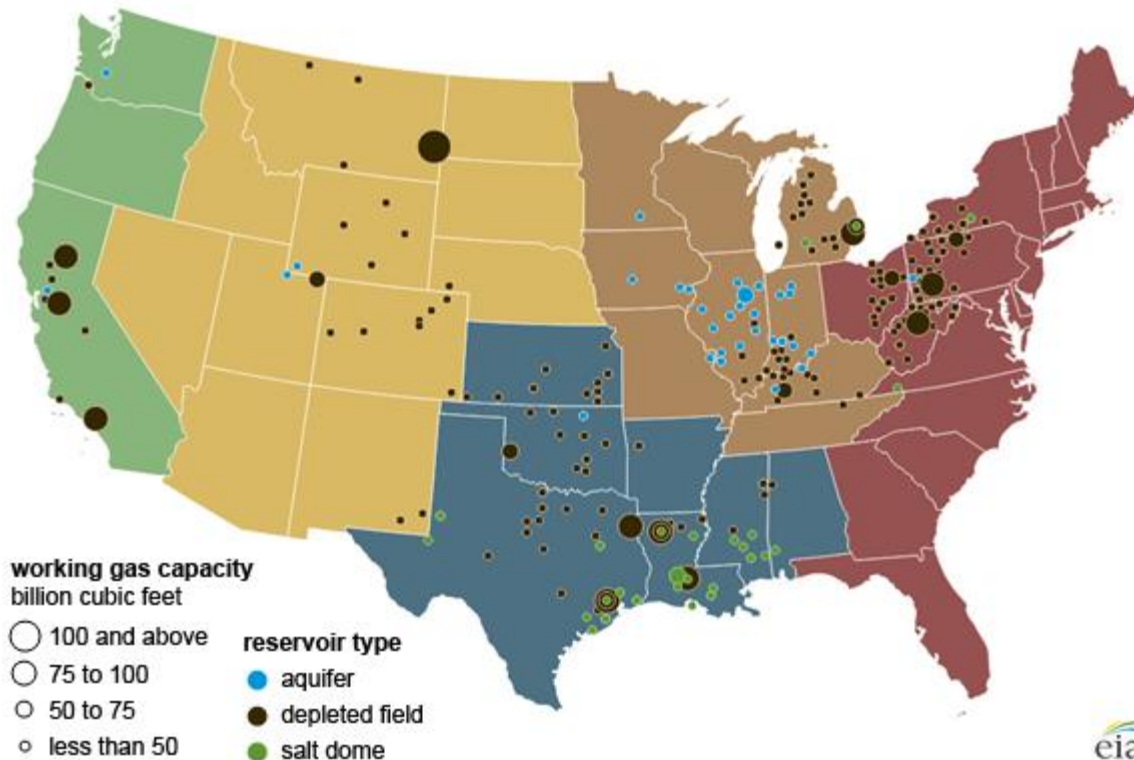
Regional S/D Models Storage Projection

Week Ending 16-Oct

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	6.0	1.7	7.7	54
East	0.4	1.6	2.0	14
Midwest	3.2	1.2	4.3	30
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

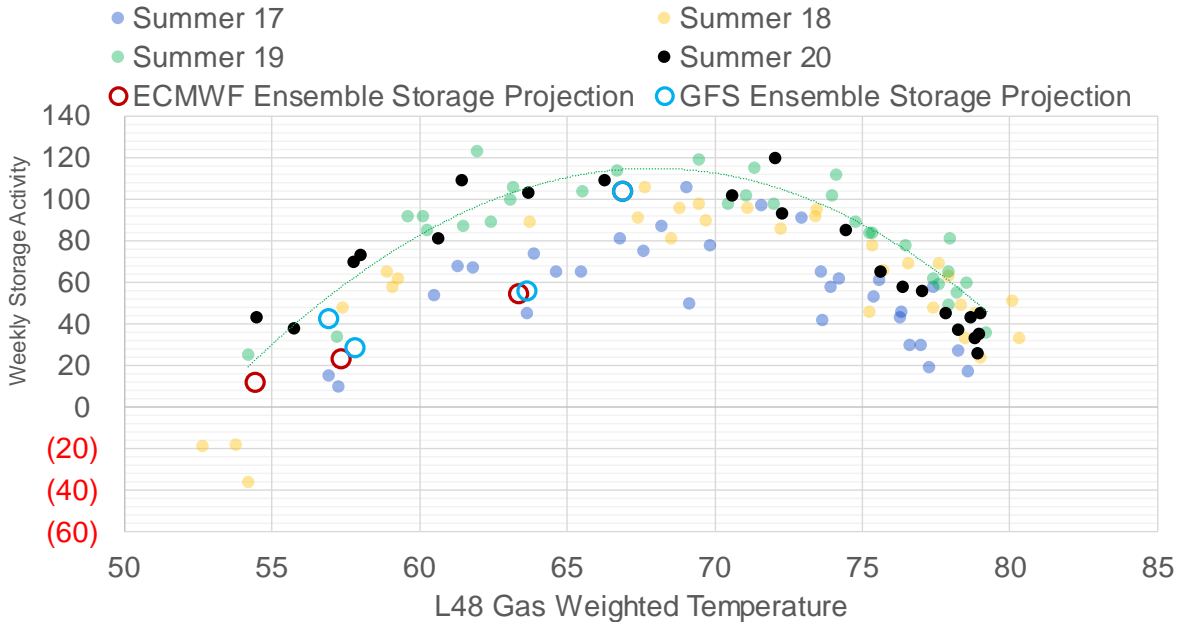
U.S. underground natural gas storage facilities by type (July 2015)



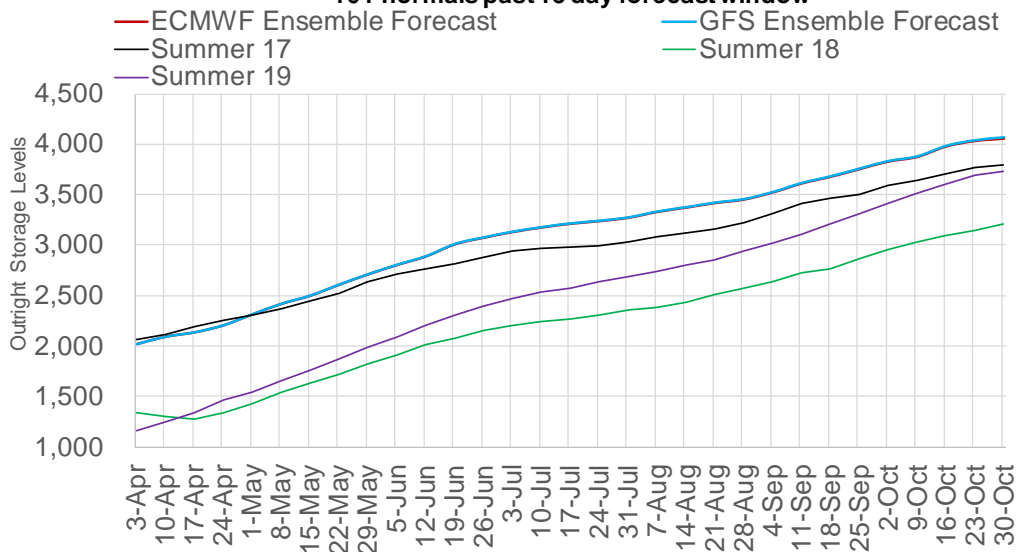
Weather Model Storage Projection

Next report and beyond	
Week Ending	Week Storage Projection
23-Oct	55
30-Oct	26
06-Nov	27

Weather Storage Model - Next 4 Week Forecast



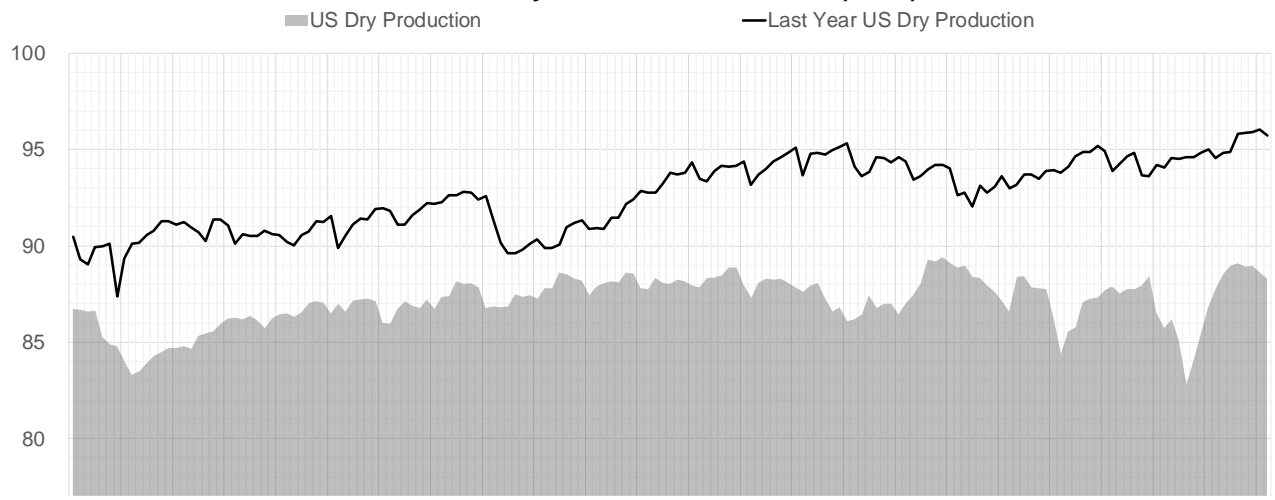
Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window



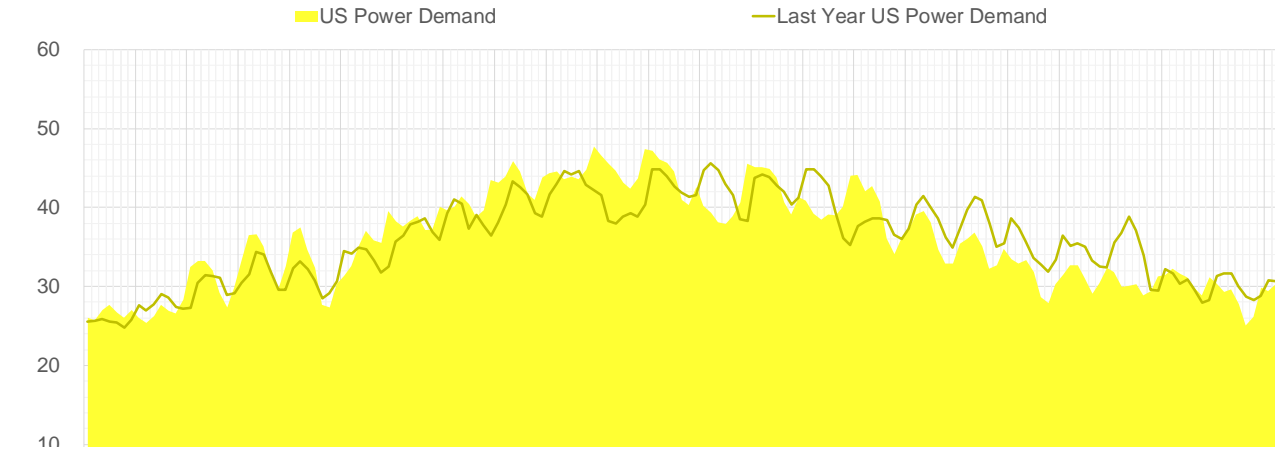
The risk of trading futures and options and other derivatives involves a substantial risk of loss and is not suitable for all persons. Each person must consider whether a particular trade, combination of trades, or strategy is suitable for that person's financial means and objectives. Past results are 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.

Supply – Demand Trends

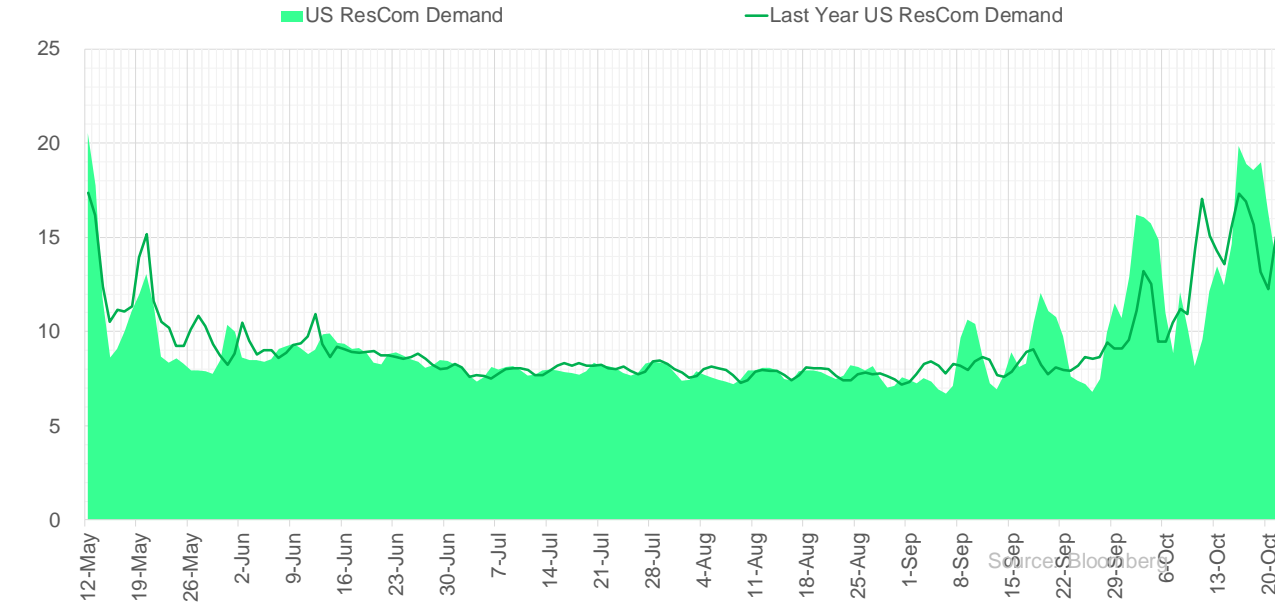
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)

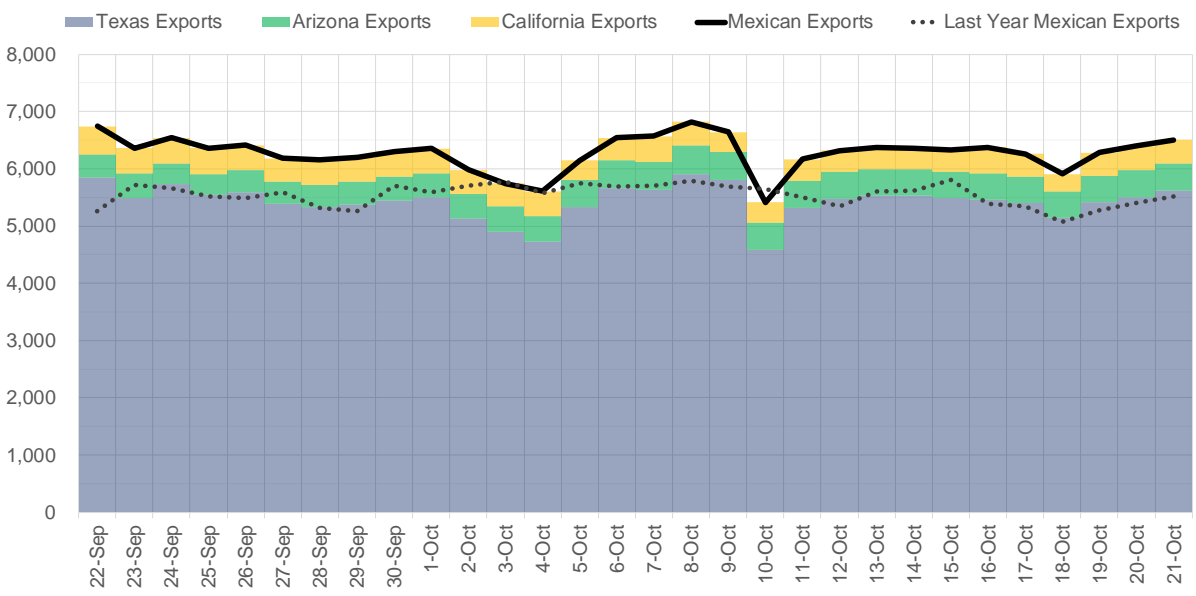


US Daily ResCom Consumption (Bcf/d)

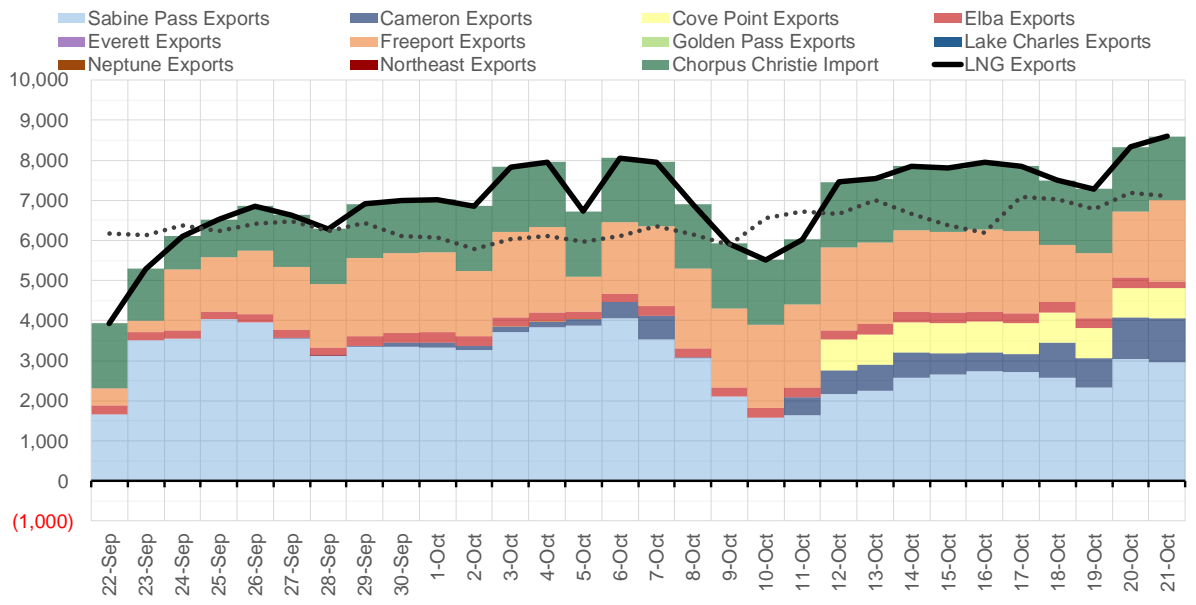


Source: Bloomberg

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

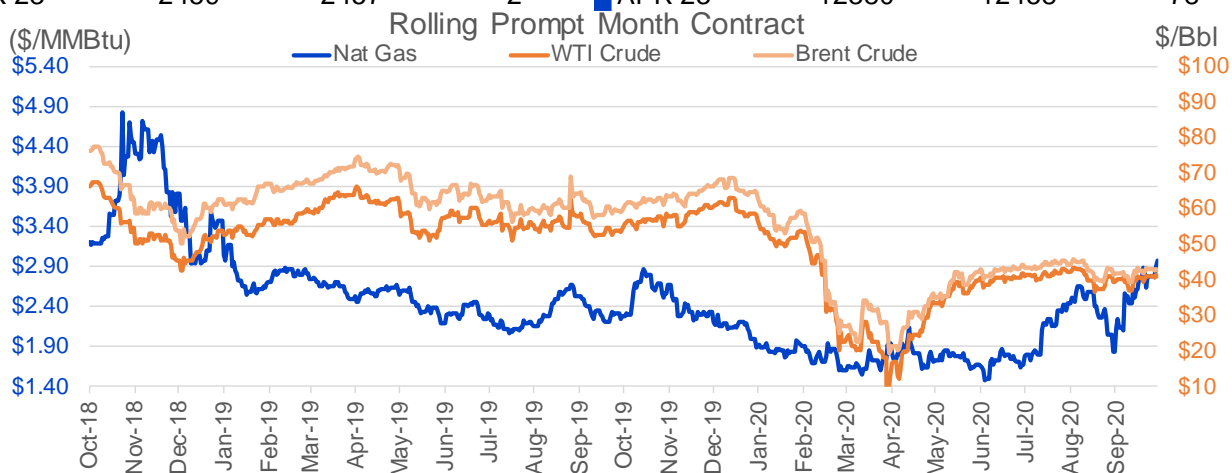
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
11	2020	C	3.50	16653	11	2020	P	2.00	56091
11	2020	C	3.25	12535	3	2021	P	2.00	36314
11	2020	C	3.00	9912	11	2020	C	3.25	33883
11	2020	P	2.50	5834	11	2020	C	3.50	32396
11	2020	P	2.75	5583	12	2020	P	2.00	32266
11	2020	C	3.75	5039	3	2021	C	5.00	30637
11	2020	P	2.60	4773	3	2021	C	6.00	30267
11	2020	C	4.00	3383	1	2021	C	4.50	29355
11	2020	P	2.40	3189	3	2021	C	3.25	28058
1	2021	P	2.75	3102	12	2020	P	2.50	27718
11	2020	C	3.15	3055	4	2021	C	5.00	26770
1	2021	P	2.25	3000	3	2021	C	4.00	26294
11	2020	C	3.20	2621	1	2021	C	3.50	26052
12	2020	P	3.00	2606	3	2021	C	7.00	25430
12	2020	C	3.50	2566	11	2020	C	4.00	24810
11	2020	C	2.80	2553	11	2020	C	3.00	24738
11	2020	P	2.80	2472	11	2020	P	2.25	23570
12	2020	C	4.25	2422	12	2020	C	4.00	23339
12	2020	C	3.75	2321	11	2020	C	5.00	22403
12	2020	C	5.00	2261	1	2021	C	6.00	21161
12	2020	C	4.00	2258	3	2021	C	3.00	21049
11	2020	C	3.30	2236	10	2021	C	3.25	20390
12	2020	P	2.00	2156	2	2021	C	5.00	20385
1	2021	C	4.50	1981	11	2020	P	2.50	20246
11	2020	C	2.90	1844	8	2021	C	4.00	20174
1	2021	C	5.00	1838	3	2021	C	3.50	20046
11	2020	P	2.70	1497	11	2020	P	1.75	19543
12	2020	C	5.50	1495	1	2021	C	5.00	19539
4	2021	C	3.50	1375	4	2021	C	4.00	19506
3	2021	C	5.00	1267	11	2020	C	2.75	19433
11	2020	C	3.10	1265	10	2021	C	4.00	19225
12	2020	C	3.25	1240	12	2020	C	3.75	18979
11	2020	C	3.40	1236	1	2021	P	2.25	18735
11	2020	P	2.55	1230	12	2020	C	4.50	18655
11	2020	P	2.65	1217	2	2021	P	2.25	18287
4	2021	C	4.50	1200	1	2021	P	2.50	18098
4	2021	C	4.00	1177	12	2020	C	3.50	17523
11	2020	C	3.05	1116	1	2021	C	3.00	17187
12	2020	P	2.30	1006	1	2021	C	3.75	17142
1	2021	C	4.00	1001	2	2021	C	3.50	17057
4	2021	C	6.00	1000	5	2021	C	4.00	16980
12	2020	C	4.50	785	8	2021	P	2.25	16892
4	2021	P	2.75	750	2	2021	P	2.50	16652
1	2021	C	6.00	722	11	2020	P	2.65	15885
3	2021	C	4.00	692	3	2021	P	2.50	15471
11	2020	C	2.85	654	12	2020	P	1.50	14450
11	2020	P	2.45	627	2	2021	C	4.00	14425
3	2021	P	2.50	600	1	2021	C	7.00	14406
1	2021	P	2.50	578	4	2021	C	3.00	14186
					1	2021	C	4	14074

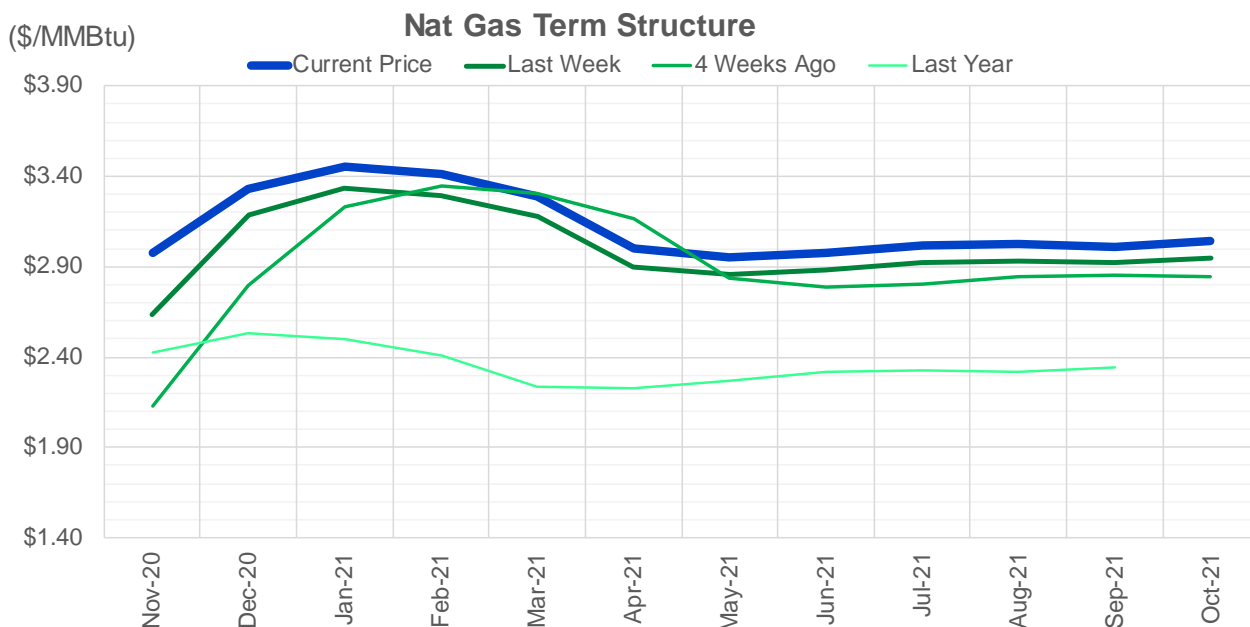
Source: CME, ICE

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	62622	71908	-9286	NOV 20	67192	69544	-2351.25
DEC 20	177335	173489	3846	DEC 20	77186	76766	420
JAN 21	203288	203527	-239	JAN 21	88325	88593	-267.75
FEB 21	82396	83066	-670	FEB 21	64355	64540	-184.75
MAR 21	137382	136207	1175	MAR 21	82682	84204	-1522
APR 21	81059	84104	-3045	APR 21	67095	69067	-1972
MAY 21	47909	47337	572	MAY 21	61306	60672	634.25
JUN 21	33328	33786	-458	JUN 21	56102	56083	19.5
JUL 21	27639	26629	1010	JUL 21	58270	58146	123.75
AUG 21	25769	26661	-892	AUG 21	60304	60253	51
SEP 21	39122	38312	810	SEP 21	56372	56440	-68
OCT 21	93486	92743	743	OCT 21	72856	73464	-607.5
NOV 21	33797	33734	63	NOV 21	50260	50014	246
DEC 21	28074	28409	-335	DEC 21	46775	46814	-38.75
JAN 22	30537	30437	100	JAN 22	43454	43257	196.5
FEB 22	18098	17426	672	FEB 22	35590	35252	337.5
MAR 22	20907	20446	461	MAR 22	38677	38333	344.5
APR 22	21179	21229	-50	APR 22	37305	36381	923.5
MAY 22	9589	8948	641	MAY 22	28647	28395	252
JUN 22	4928	4814	114	JUN 22	27378	27129	249.5
JUL 22	4201	4190	11	JUL 22	28947	28736	211.25
AUG 22	2990	2965	25	AUG 22	27512	27278	234.25
SEP 22	3144	2604	540	SEP 22	27064	26817	247
OCT 22	4321	4145	176	OCT 22	29412	29651	-239.5
NOV 22	3573	3560	13	NOV 22	25247	25186	60.75
DEC 22	3621	3503	118	DEC 22	29365	29303	62.75
JAN 23	3001	3001	0	JAN 23	14384	13982	402.25
FEB 23	909	908	1	FEB 23	13404	13173	230.25
MAR 23	830	834	-4	MAR 23	13548	13509	39.75
APR 23	2459	2457	2	APR 23	12380	12458	-78





	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	\$2.979	\$3.332	\$3.455	\$3.413	\$3.291	\$2.998	\$2.953	\$2.979	\$3.016	\$3.023	\$3.009	\$3.044
Last Week	\$2.636	\$3.189	\$3.332	\$3.294	\$3.181	\$2.898	\$2.854	\$2.883	\$2.924	\$2.935	\$2.922	\$2.951
vs. Last Week	\$0.343	\$0.143	\$0.123	\$0.119	\$0.110	\$0.100	\$0.099	\$0.096	\$0.092	\$0.088	\$0.087	\$0.093
4 Weeks Ago	\$2.125	\$2.794	\$3.229	\$3.348	\$3.303	\$3.165	\$2.834	\$2.783	\$2.807	\$2.843	\$2.856	\$2.844
vs. 4 Weeks Ago	\$0.854	\$0.538	\$0.226	\$0.065	-\$0.012	-\$0.167	\$0.119	\$0.196	\$0.209	\$0.180	\$0.153	\$0.200
Last Year	\$2.282	\$2.427	\$2.532	\$2.499	\$2.405	\$2.232	\$2.224	\$2.268	\$2.316	\$2.328	\$2.314	\$2.343
vs. Last Year	\$0.697	\$0.905	\$0.923	\$0.914	\$0.886	\$0.766	\$0.729	\$0.711	\$0.700	\$0.695	\$0.695	\$0.701

	Units	Cash Settled	Prompt Settle	Cash to Prompt
AGT Citygate	\$/MMBtu	2.15	3.43	1.28
TETCO M3	\$/MMBtu	1.44	2.28	0.84
FGT Zone 3	\$/MMBtu	1.48	2.68	1.20
Zone 6 NY	\$/MMBtu	1.48	2.43	0.95
Chicago Citygate	\$/MMBtu	2.68	2.53	-0.15
Michcon	\$/MMBtu	2.61	2.48	-0.13
Columbia TCO Pool	\$/MMBtu	2.14	2.25	0.11
Ventura	\$/MMBtu	2.70	2.52	-0.18
Rockies/Opal	\$/MMBtu	2.70	2.42	-0.28
El Paso Permian Basin	\$/MMBtu	0.50	1.14	0.64
Socal Citygate	\$/MMBtu	4.68	3.13	-1.55
Malin	\$/MMBtu	2.69	3.07	0.38
Houston Ship Channel	\$/MMBtu	2.84	2.61	-0.23
Henry Hub Cash	\$/MMBtu	2.57	2.46	-0.11
AECO Cash	C\$/GJ	2.48	2.00	-0.48
Station2 Cash	C\$/GJ	2.49	4.89	2.40
Dawn Cash	C\$/GJ	2.66	2.93	0.27

Source: CME, Bloomberg

	Units	Current Price	vs. Last Week	vs. 4 Weeks	
				Ago	vs. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.46	▼ -0.023	▲ 0.057	▼ -0.028
NatGas Mar/Apr	\$/MMBtu	-0.293	▼ -0.010	▼ -0.624	▼ -0.566
NatGas Oct/Nov	\$/MMBtu	0.88	▲ 0.343	▲ 0.209	▲ 0.806
NatGas Oct/Jan	\$/MMBtu	1.35	▲ 0.123	▲ 0.131	▲ 0.992
WTI Crude	\$/Bbl	40.97	▼ -0.070	▲ 1.040	▼ -15.000
Brent Crude	\$/Bbl	42.46	▼ -0.860	▲ 0.690	▼ -18.710
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	115.85	▼ -3.400	▲ 5.100	▼ -80.580
Propane, Mt. Bel	cents/Gallon	0.52	▼ 0.000	▲ 0.032	▲ 0.063
Ethane, Mt. Bel	cents/Gallon	0.22	▲ 0.008	▲ 0.021	▲ 0.030
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.100
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -4.500