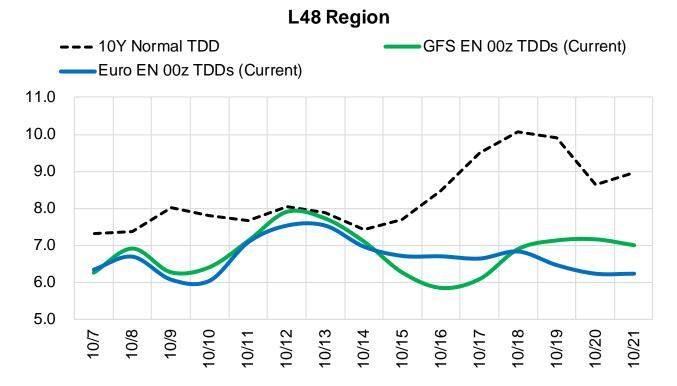
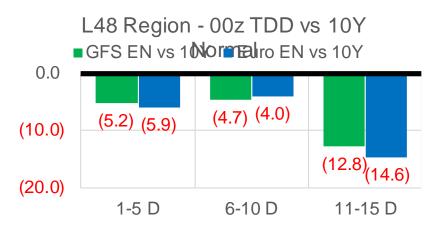




Short-term Weather Model Outlooks (00z)



Vs. 10Y Normal



Source: WSI, Bloomberg

Market Report

7 October 2021

Daily Balances

	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	DoD	vs.7D
Lower 48 Dry Production	92.7	93.1	93.3	93.2	92.7	92.2	93.0	A 0.9	0.2
Canadian Imports	5.5	5.4	5.5	5.4	5.2	5.0	4.8	-0.3	T -0.6
L48 Power	31.1	30.1	31.6	33.8	33.6	33.8	33.1	— -0.6	a 0.8
L48 Residential & Commercial	9.5	7.8	7.4	7.6	8.1	7.9	8.1	A 0.2	A 0.1
L48 Industrial	20.8	21.2	21.4	21.4	21.6	21.5	21.2	- 0.2	▼ -0.1
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.0	5.0	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.2	2.0	2.1	2.2	2.2	2.2	2.2	▼ 0.0	a 0.0
L48 Regional Gas Consumption	68.7	66.2	67.6	70.1	70.6	70.3	69.6	-0.7	0.7
Net LNG Delivered	10.08	10.60	10.39	10.25	9.07	8.95	9.98	1.0	0.1
Total Mexican Exports	6.7	6.4	6.4	6.7	6.7	6.5	6.6	0.1	0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	12.8	15.4	14.4	11.6	11.6	11.4	11.6		

Lower 48 Component Models

Daily Model Error

EIA Storage Week Balances

	27-Aug	3-Sep	10-Sep	17-Sep	24-Sep	1-Oct	WoW	vs. 4W
Lower 48 Dry Production	93.1	90.9	91.2	91.8	92.9	93.2	0.4	1.5
Canadian Imports	5.3	5.0	4.8	5.2	5.2	5.7	0.6	0.7
L48 Power	41.9	38.1	33.8	35.0	33.2	30.2	▼ -3.0	- 4.8
L48 Residential & Commercial	7.8	7.4	6.9	7.2	8.0	8.3	a 0.3	a 0.9
L48 Industrial	21.0	18.9	19.6	20.8	20.4	20.1	T -0.3	a 0.2
L48 Lease and Plant Fuel	5.1	5.0	5.0	5.0	5.1	5.1	0.0	a 0.1
L48 Pipeline Distribution	2.6	2.4	2.2	2.3	2.3	2.1	T -0.1	- 0.2
L48 Regional Gas Consumption	78.3	71.7	67.5	70.2	69.0	65.8	▼ -3.1	▼ -3.8
Net LNG Exports	10.6	10.5	11.0	10.2	9.9	10.3	0.4	T-0.1
Total Mexican Exports	6.8	7.0	6.7	6.6	6.8	6.7	▼ -0.1	▼-0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity	2.8 2.9	6.7 7.4	10.9 11.9	9.9 10.9	12.3 12.6	16.1	3.8	
Daily Model Error	-0.1	-0.8	-1.0	-1.0	-0.2			

Monthly Balances

	2Yr Ago	LY					MTD		
	Oct-19	Oct-20	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	МоМ	vs. LY
Lower 48 Dry Production	95.1	88.3	93.3	93.3	92.4	92.2	92.6	0.4	4.3
Canadian Imports	4.6	4.3	4.9	5.2	5.1	5.2	5.3	0.1	1.0
L48 Power	30.3	30.8	35.9	39.4	40.2	33.1	32.4	- 0.6	1 .7
L48 Residential & Commercial	15.3	15.3	8.8	8.1	7.7	7.6	8.1	A 0.5	▼-7.2
L48 Industrial	23.5	22.6	20.5	20.8	20.2	20.1	21.3	1.2	T -1.3
L48 Lease and Plant Fuel	5.1	4.8	5.0	5.1	5.0	5.0	5.0	0.0	a 0.2
L48 Pipeline Distribution	2.4	2.5	2.4	2.5	2.5	2.2	2.2	▼ -0.1	V -0.3
L48 Regional Gas Consumption	76.6	75.9	72.7	76.0	75.7	68.1	69.0	0.9	V -6.9
Net LNG Exports	6.7	8.0	10.2	10.8	10.5	10.3	9.9	▼ -0.4	1.9
Total Mexican Exports	5.4	6.0	7.4	7.1	6.9	6.7	6.6	▼ -0.2	0.6
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.1	2.7	7.8	4.6	4.5	12.2	12.4		

Source: Bloomberg, analytix.ai

Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

ENERGY

	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	DoD	vs. 7D
NRC Nuclear Daily Output	84.4	84.4	84.8	82.0	83.0	81.6	81.7	0.1	-1.7
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	20.4	20.5	20.1	22.8	21.9	23.3	23.2	-0.1	1.7
NRC % Nuclear Cap Utilization	85.9	85.8	86.2	83.4	84.4	82.9	83.1	0.1	-1.7

Wind Generation Daily Average - MWh (EIA)

	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	DoD	vs.7D
CALI Wind	1907	917	295	313	425	752	1812	1059	1043
TEXAS Wind	11385	11121	3603	1684	1553	2617	5609	2992	282
US Wind	43045	32138	13566	13223	14192	12934	23782	10848	2265

Generation Daily Average - MWh (EIA)

	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	DoD	vs.7D
US Wind	43045	32138	13566	13223	14192	12934	23782	10848	2265
US Solar	12647	12038	11689	13033	11970	10120	10144	23	-1773
US Petroleum	3279	4102	4456	4058	4016	4383	3362	-1021	-687
US Other	9315	9255	9167	8703	9100	12076	11773	-303	2171
US Coal	99622	103268	106201	99597	96694	103437	101665	-1772	195
US Nuke	87770	87822	87850	85063	85687	82373	81938	-435	-4156
US Hydro	25099	24195	24136	22657	22506	25444	25294	-150	1288
US Gas	163079	170011	173603	164196	170473	193482	182975	-10507	10501

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	27-Aug	3-Sep	10-Sep	17-Sep	24-Sep	1-Oct	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	91.9	90.2	90.3	86.7	85.9	85.1	-0.8	0.1
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	12.9	14.7	14.6	18.2	19.0	19.8	0.8	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (EIA)

	27-Aug	3-Sep	10-Sep	17-Sep	24-Sep	1-Oct	WoW	WoW Bcf/d Impact
CALI Wind	2052	2247	1236	2083	1936	2467	531	-0.1
TEXAS Wind	12600	7534	7327	9541	9780	10364	584	-0.1
US Wind	41912	35441	30659	42378	43250	43246	-4	0.0
					872.3			
					2%			

Generation Weekly Average - MWh (EIA)

								WoW
	27-Aug	3-Sep	10-Sep	17-Sep	24-Sep	1-Oct	WoW	Bcf/d
								Impact
US Wind	41912	35441	30659	42378	43250	43246	-4	0.0
US Solar	14469	13358	14254	14057	12185	12816	632	-0.1
US Petroleum	5323	3135	2072	2470	2594	2775	182	0.0
US Other	10131	9765	8934	9277	9125	8655	-470	0.1
US Coal	136177	136318	116993	115066	109063	94622	-14441	2.6
US Nuke	94358	92365	93162	89490	88789	88403	-385	0.1
US Hydro	30621	28181	26944	24138	25340	25136	-204	0.0
US Gas	216025	205503	181094	182116	175354	153503	-21851	3.9

See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

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.

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Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Jul-21	Aug-21	Sep-21	Oct-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
NRC Nuclear Daily Output	86.6	86.1	90.1	91.5	87.2	82.1	85.3	-5.1	-0.8
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	18.3	18.8	14.8	13.4	17.7	22.7	19.5	5.1	0.8
NRC % Nuclear Cap Utilization	88.0	87.6	91.6	93.0	88.7	83.5	86.8	-5.1	-0.8

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Jul-21	Aug-21	Sep-21	Oct-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	2001	1233	2338	2442	2020	1032	1854	-988	621
TEXAS Wind	8883	7319	7217	9901	9400	3755	8248	-5645	929
US Wind	35506	31514	29217	35830	40162	17895	36263	-22268	4749

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	Jul-21	Aug-21	Sep-21	Oct-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	35506	31514	29217	35830	40162	17895	36263	18368.2	4749
US Solar	8602	8939	14140	13787	13346	11035	12544	4 1509.1	3604
US Petroleum	4356	2846	4233	4484	2467	3857	2888	- 969	4 3
US Other	8412	8220	9327	9929	8998	10624	9394	T -1230	A 1174
US Coal	113372	83334	137228	137655	109998	101561	106066	4505	A 22732
US Nuke	93013	89329	92911	94062	90146	83827	87992	4165	T -1336
US Hydro	25237	25845	29941	28532	25606	24375	24961	586	▼ -884
US Gas	183195	172171	207823	210824	173464	178669	174174	a 26936	2003
US Total	472924	422256	524834	534937	464429	430510	454221	A 35504	a 31965



See National Wind and Nuclear daily charts

Source: Bloomberg, analytix.ai

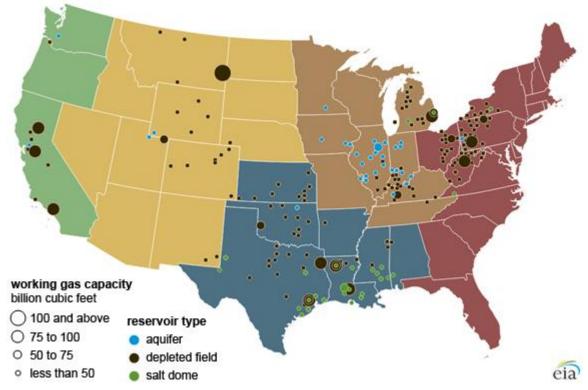


Regional S/D Models Storage Projection

Week Ending	1-Oct						
		Daily					
			Average	Weekly			
		Daily	Storage	Adjusted			
	Daily Raw	Adjustment	Activity	Storage			
	Storage	Factor	(Adjusted) *	Activity			
<u>L</u> 48	15.8	0.9	16.7	117			
East	3.7	0.5	4.3	30			
Midwest	5.9	-0.8	5.1	36			
Mountain	3.7	-3.3	0.4	3			
South Central	1.1	5.1	6.2	43			
Pacific	1.3	-0.5	0.7	5			

*Adjustment Factor is calcuated based on historical regional deltas

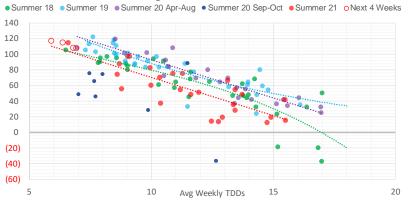
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

Next report and beyond		
Week Ending	GWDDs	Week Storage Projection
01-Oct	5.9	117
08-Oct	6.4	115
15-Oct	6.9	108
22-Oct	6.8	108

Weather Storage Model - Next 4 Week Forecast



Go to larger image

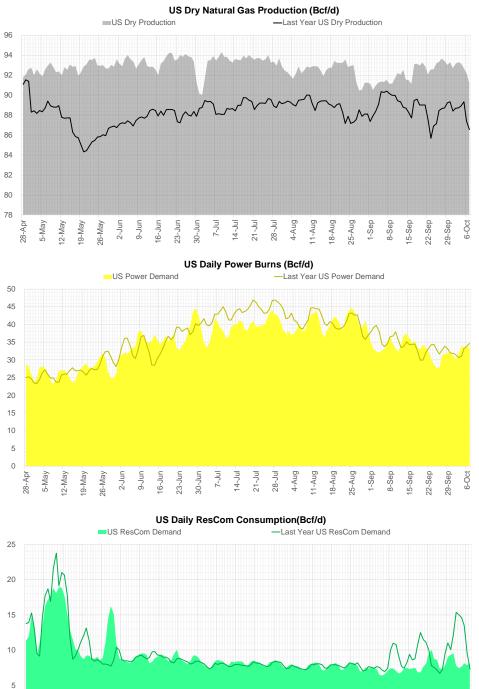


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28-Apr 5-May 12-May

19-May 26-May 2-Jun 9-Jun 16-Jun





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.

7-Jul 14-Jul 21-Jul 28-Jul 11-Aug 18-Aug 25-Aug

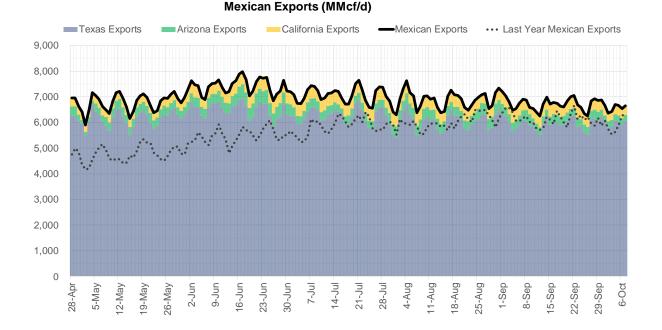
4-Aug

8-Sep 15-Sep 22-Sep 29-Sep 6-Oct

1-Sep

23-Jun 30-Jun





Sabine Pass Exports Cove Point Exports Cameron Exports Elba Exports Golden Pass Exports Lake Charles Exports Everett Exports Freeport Exports Chorpus Christie Import LNG Exports Neptune Exports Northeast Exports 12,000 10,000 8,000 6,000 4,000 2,000 0 (2,000)8-Sep 9-Sep 6-Sep 17-Sep 18-Sep 19-Sep 20-Sep 21-Sep 22-Sep 12-Sep 3-Sep 23-Sep 24-Sep 25-Sep 26-Sep 27-Sep 28-Sep 29-Sep 30-Sep 1-Oct 2-Oct 3-Oct 4-Oct 5-Oct 0-Sep 1-Sep 14-Sep 5-Sep 6-Oct 7-Oct

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

Source: Bloomberg

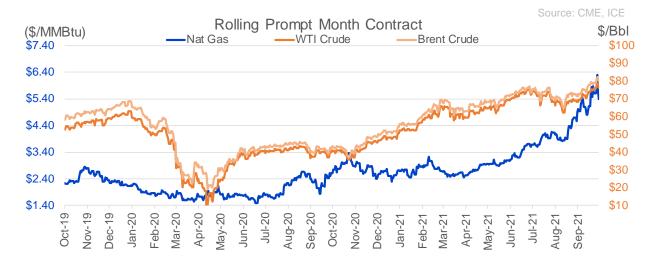


Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

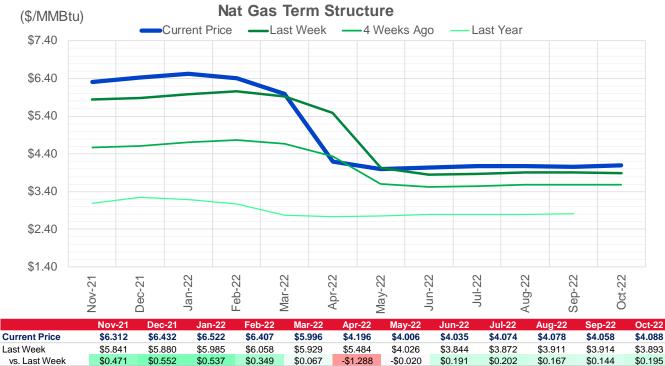
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
3	2022	С	8.00	5604	12	2021	Р	2.75	43912
11	2021	P	5.00	5405	12	2021	Р	2.50	38567
3	2022	P	3.50	5025	12	2021	Р	3.00	32186
3	2022	C	10.00	4718	12	2021	Р	4.00	31265
3	2022	P	4.00	4286	3	2022	С	10.00	30886
11	2021	P	4.50	4264	11	2021	Р	3.00	30169
11	2021	C	7.00	3678	11	2021	Р	4.50	26923
3	2022	P	4.50	3300	3	2022	С	8.00	26330
1	2022	C	6.00	3025	11	2021	Р	4.00	25959
1	2022	c	6.10	3005	12	2021	Р	3.50	25669
12	2021	P	5.00	2932	11	2021	Р	5.00	24747
3	2022	C	9.00	2751	11	2021	С	7.00	22985
3	2022	P	3.00	2701	12	2021	С	4.00	22526
4	2022	P	2.50	2635	3	2022	Р	3.50	20862
11	2021	P	4.00	2551	3	2022	С	5.00	20458
12	2021	P	4.50	2426	11	2021	С	4.00	20146
12	2021	C	15.00	2215	11	2021	Р	3.50	20080
11	2021	C	6.50	2173	4	2022	С	3.00	19760
12	2021	C	8.50	1892	11	2021	С	6.00	19092
11	2021	C	6.00	1788	1	2022	Р	3.50	18199
3	2022	č	7.00	1727	1	2022	С	5.00	18072
11	2021	c	6.75	1674	2	2022	Р	3.50	17720
11	2021	P	5.50	1669	12	2021	С	6.00	17649
1	2022	C	15.00	1620	2	2022	С	5.00	17376
12	2021	č	8.00	1604	3	2022	Р	2.50	16802
11	2021	P	4.25	1427	12	2021	С	7.00	16349
12	2021	P	5.50	1344	3	2022	Р	4.00	16184
1	2022	P	3.00	1332	3	2022	С	4.00	15831
12	2021	C	11.00	1295	11	2021	С	5.00	15152
1	2022	C	10.00	1261	1	2022	С	6.00	14934
2	2022	P	5.00	1179	11	2021	С	4.50	14904
2	2022	P	4.00	1050	4	2022	С	5.00	14521
1	2022	C	9.00	967	1	2022	C P	4.00	14503
2	2022	C	9.00	955	11	2021		2.50	14488
11	2021	P	4.75	940	11	2021	С	3.75	14480
1	2022	P	4.75	875	12	2022	C P	5.00	14372
3	2022	P	5.00	850	4 11	2022 2021	P	2.50 3.25	14225
11	2021	C	9.00	818	12	2021	P	2.00	14214 13885
4	2022	C	8.00	801	12	2021	F C	2.00 5.50	13730
12	2021	č	7.00	798	1	2021	P	5.50 4.00	13730
12	2021	C	6.00	779	11	2022	F C	4.00	13292
1	2022	c	20.00	776	12	2021	c	4.25 8.00	13263
11	2021	c	12.00	764	2	2021	c	6.00	13252
1	2022	P	4.25	751	1	2022	C	7.00	13242
3	2022	C	20.00	736	12	2022	C	5.25	13242
12	2021	P	4.75	705	12	2022	C	4.50	13115
11	2021	C	8.00	668	5	2022	c	3.00	13110
1	2022	c	8.00	657	2	2022	c	4.00	12914
2	2022	c	20.00	650	12	2022	č		
-		5	20.00		14	2021	Source	: CME, ICE	1201 1.0

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		Current	Prior	Daily Change
NOV 21	238576	252784	-14208	NOV 21	85991	87937	-1947
DEC 21	110489	111337	-848	DEC 21	80680	76585	4095
JAN 22	173203	174579	-1376	JAN 22	94372	94704	-333
FEB 22	62769	61118	1651	FEB 22	69662	69591	71
MAR 22	131026	129143	1883	MAR 22	75100	76016	-916
APR 22	122854	124794	-1940	APR 22	74754	74509	245
MAY 22	120351	121227	-876	MAY 22	70448	70751	-304
JUN 22	39111	37554	1557	JUN 22	54798	54591	207
JUL 22	32758	33390	-632	JUL 22	56822	56927	-106
AUG 22	31138	31287	-149	AUG 22	55964	55976	-12
SEP 22	34710	35250	-540	SEP 22	56886	56856	30
OCT 22	82185	89826	-7641	OCT 22	62509	62659	-150
NOV 22	31226	31416	-190	NOV 22	48545	48654	-109
DEC 22	25606	25445	161	DEC 22	51815	51927	-112
JAN 23	22703	24602	-1899	JAN 23	38255	38234	21
FEB 23	10212	10030	182	FEB 23	31671	31688	-18
MAR 23	12758	13337	-579	MAR 23	33391	33330	61
APR 23	12766	12427	339	APR 23	33002	33009	-7
MAY 23	7901	7936	-35	MAY 23	31875	31870	5
JUN 23	6276	6169	107	JUN 23	29626	29619	7
JUL 23	4296	4294	2	JUL 23	29855	29868	-12
AUG 23	3883	3377	506	AUG 23	29662	29659	3
SEP 23	4196	4632	-436	SEP 23	28785	28787	-2
OCT 23	5689	5754	-65	OCT 23	31841	31826	14
NOV 23	2668	2580	88	NOV 23	30258	30299	-41
DEC 23	2363	2363	0	DEC 23	28181	28224	-43
JAN 24	1180	1179	1	JAN 24	15680	15610	70
FEB 24	1071	1085	-14	FEB 24	13369	13174	195
MAR 24	3361	3361	0	MAR 24	18149	18028	121
APR 24	3422	3518	-96	APR 24	12347	12255	92



Market Report



\$3.522

\$0.513

\$2.754

\$1.281

\$3.551

\$0.523

\$2.793

\$1.281

\$3.584

\$0.494

\$2.802

\$1.276

\$3.591

\$0.467

\$2.789

\$1.269

\$3.577

\$0.511

\$2.817

\$1.271

vs. Last Week \$0.471 \$0.552 \$0.537 \$0.349 \$0.067 -\$1.288 -\$0.020 4 Weeks Ago \$4.568 \$4.615 \$4.704 \$4.764 \$4.669 \$4.324 \$3.608 vs. 4 Weeks Ago \$1.327 \$0.398 \$1.744 \$1.817 \$1.818 \$1.643 -\$0.128 \$3.193 Last Year \$2.520 \$3.096 \$3.239 \$3.071 \$2.770 \$2.724 vs. Last Year \$3.336 \$3.283 \$3.214 \$2.925 \$1.426 \$3.792 \$1.282

		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	5.89	8.82	2.93
TETCO M3	\$/MMBtu	5.18	5.19	0.01
FGT Zone 3	\$/MMBtu	5.21	5.59	0.38
Zone 6 NY	\$/MMBtu	5.21	5.34	0.13
Chicago Citygate	\$/MMBtu	5.72	5.32	-0.40
Michcon	\$/MMBtu	5.76	5.21	-0.55
Columbia TCO Pool	\$/MMBtu	5.11	4.83	-0.28
Ventura	\$/MMBtu	5.97	5.60	-0.37
Rockies/Opal	\$/MMBtu	6.00	5.36	-0.64
El Paso Permian Basin	\$/MMBtu	5.47	5.14	-0.33
Socal Citygate	\$/MMBtu	6.74	6.83	0.09
Malin	\$/MMBtu	6.10	6.18	0.08
Houston Ship Channel	\$/MMBtu	5.77	5.38	-0.39
Henry Hub Cash	\$/MMBtu	5.96	5.22	-0.74
AECO Cash	C\$/GJ	4.72	3.35	-1.37
Station2 Cash	C\$/GJ	4.54	6.69	2.15
Dawn Cash	C\$/GJ	5.74	5.29	-0.46

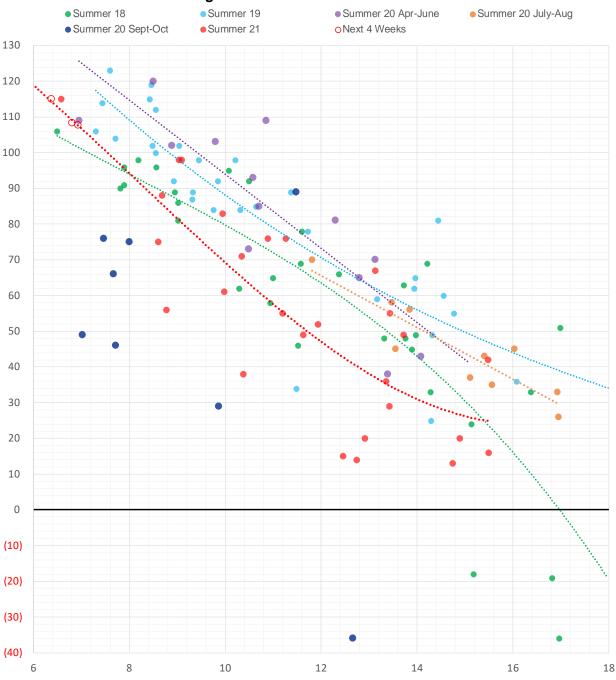
Source: CME, Bloomberg

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.

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				vs. 4 Weeks	
	Units	Current Price	vs. Last Week	Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224	a 0.000	a 0.927	2 .209
NatGas Oct21/Nov21	\$/MMBtu	-0.166	a 0.198	-0.214	-0.224
NatGas Oct21/Jan22	\$/MMBtu	0.047	a 0.213	-0.142	-0.246
NatGas Apr22/Oct22	\$/MMBtu	-0.066	-0.002	-0.022	-0.075
WTI Crude	\$/Bbl	77.43	a 2.600	a 8.130	3 7.480
Brent Crude	\$/Bbl	81.08	a 2.440	a 8.480	▲ 39.090
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	0.000	0.000	▲ 0.000
Heating Oil	cents/Gallon	244.20	a 13.450	a 30.560	1 28.120
Propane, Mt. Bel	cents/Gallon	1.50	a 0.210	a 0.311	a 0.992
Ethane, Mt. Bel	cents/Gallon	0.44	a 0.050	a 0.071	a 0.236
Coal, PRB	\$/MTon	12.30	0.000	0.000	▲ 0.000
Coal, PRB	\$/MMBtu	0.70			
Coal, ILB	\$/MTon	31.05	a 0.000	0.000	▲ 0.000
Coal, ILB	\$/MMBtu	1.32			



Weather Storage Model - Next 4 Week Forecast

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