

Market Report

19 August 2021



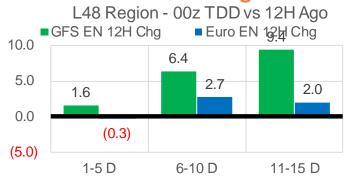
	С	urrent	Δ from YD		m 7D vg
WTI Prompt	\$	63.11	\$ (2.35)	~ \$	(4.6)

	_	urront	Δ from YD	∆ fro	m 7D
	C	urreni	םו וווטוו ב	A	vg
Brent	\$	66.06	\$ (2.17)	* \$	(3.0)
Prompt	Ψ	00.00	Ψ (2.17)	Ψ	(3.9)

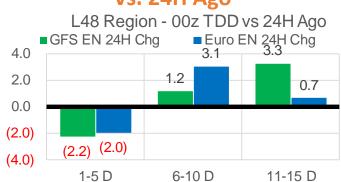
Page Menu

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

Vs. 12H Ago



Vs. 24H Ago



	Current	Δ from YD	Δ from 7D Avg
US Dry Production	91.1	▼ -1.22	▼ -1.19

П					
		Current	Δ from YD	Δ from 7D	
		Curteril	д пош тВ	Avg	
	US	79	y -0.06	A 0.26	

ResComm

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.6	- 0.18	▼ -0.20

	Current	Δ from YD	Δ from 7D Avg
US Power Burns	39.9	▼ -1.52	0.11

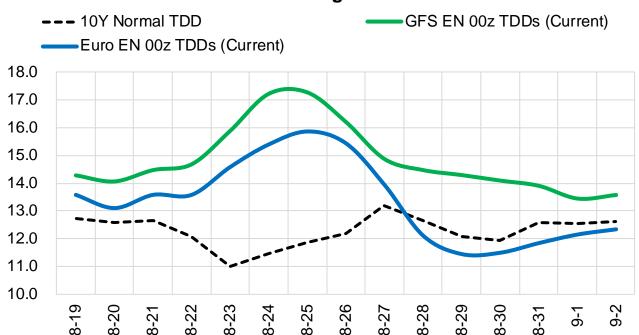
	Current	Δ from YD	Δ from 7D Avg
Canadian Imports	5.0	▼ -0.17	▼ -0.11

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.3	▲ 0.02	0.42

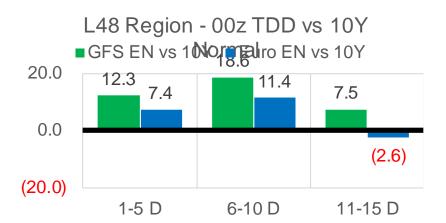


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Market Report

Lower 48 Component Models

Daily Balances

	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	DoD	vs.7D
Lower 48 Dry Production	92.7	92.3	91.7	92.1	92.4	92.4	91.1	▼-1.2	▼-1.1
Canadian Imports	5.3	4.8	4.6	4.9	5.0	5.1	5.0	▼-0.2	▲ 0.0
L48 Power	41.8	37.9	36.3	38.3	39.1	41.5	39.9	▼ -1.5	▲ 0.8
L48 Residential & Commercial	7.8	7.1	7.1	7.4	7.7	7.9	7.9	▼-0.1	0.3
L48 Industrial	20.7	20.8	21.1	21.1	21.1	20.9	20.5	▼-0.4	- 0.4
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	5.0	▼ -0.1	▼ -0.1
L48 Pipeline Distribution	2.4	2.2	2.1	2.2	2.3	2.4	2.3	▼ -0.1	0.1
L48 Regional Gas Consumption	77.9	73.1	71.6	74.2	75.3	77.8	75.7	▼ -2.1	0.7
Net LNG Delivered	11.08	10.53	11.06	11.00	11.01	10.82	10.64	▼-0.2	▼ -0.3
Total Mexican Exports	6.7	6.4	6.2	7.0	7.4	7.2	7.3	0.0	0.4
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	2.4	7.1	7.5	4.8	3.7	1.6	2.5		

EIA Storage Week Balances

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	vs. 4W
Lower 48 Dry Production	91.9	92.5	92.6	92.6	92.0	92.5	0.5	0.1
Canadian Imports	5.1	5.2	4.9	5.5	5.1	5.2	0.1	▲ 0.0
L48 Power	37.3	38.7	39.7	42.1	38.4	41.1	2.7	1.4
L48 Residential & Commercial	8.2	8.4	8.4	8.3	7.8	7.7	▼ -0.1	▼ -0.5
L48 Industrial	19.4	19.6	19.7	20.8	20.5	20.4	▼ -0.2	0.2
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.1	0.0	▼ 0.0
L48 Pipeline Distribution	2.1	2.2	2.3	2.4	2.2	2.4	0.1	0.1
L48 Regional Gas Consumption	72.1	74.1	75.2	78.7	74.1	76.7	2.6	1.2
Net LNG Exports	11.0	10.8	10.5	10.8	10.6	9.9	▼ -0.6	▼-0.7
Total Mexican Exports	7.1	7.1	7.1	7.0	6.9	6.8	▼ -0.1	▼-0.2
Implied Daily Storage Activity	6.8	5.6	4.6	1.7	5.5	4.2	-1.3	
EIA Reported Daily Storage Activity	7.9	7.0	5.1	1.9	7.0			
Daily Model Error	-1.1	-1.4	-0.5	-0.2	-1.5			

Monthly Balances									
•	2Yr Ago	LY					MTD		
	Aug-18	Aug-18	Apr-21	May-21	Jun-21	Jul-21	Aug-21	MoM	vs. LY
Lower 48 Dry Production	85.0	85.0	92.3	92.7	93.0	92.3	92.1	▼ -0.2	▲ 7.1
Canadian Imports	5.0	5.0	4.6	4.5	4.8	5.2	5.0	▼ -0.1	▲ 0.0
L48 Power	38.1	38.1	24.9	26.6	35.3	39.4	39.6	0.1	1.5
L48 Residential & Commercial	7.8	7.8	19.5	13.2	8.8	8.3	7.7	▼ -0.6	▼ -0.1
L48 Industrial	21.6	21.6	21.2	20.3	20.8	19.9	20.6	0.7	▼ -1.0
L48 Lease and Plant Fuel	4.7	4.7	5.1	5.1	5.1	5.1	5.1	▼ 0.0	0.4
L48 Pipeline Distribution	2.2	2.2	2.3	2.1	2.2	2.3	2.3	0.0	0.1
L48 Regional Gas Consumption	74.4	74.4	73.0	67.2	72.3	75.0	75.2	▲ 0.2	0.9
Net LNG Exports	3.3	3.3	11.5	10.8	10.2	10.8	10.4	▼ -0.4	7.1
Total Mexican Exports	4.9	4.9	6.7	6.8	7.4	7.0	6.9	▼ -0.1	2.0
Implied Daily Storage Activity EIA Reported Daily Storage Activity	7.4	7.4	5.7	12.4	8.0	4.6	4.6		
Daily Model Error									



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	DoD	vs. 7D
NRC Nuclear Daily Output	92.6	92.7	92.7	92.3	92.3	92.3	92.6	0.3	0.1
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	12.3	12.2	12.2	12.6	12.6	12.6	12.3	-0.3	-0.1
NRC % Nuclear Cap Utilization	94.2	94.3	94.3	93.8	93.9	93.9	94.2	0.3	0.1

Wind Generation Daily Average - MWh (EIA)

	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	DoD	vs. 7D
CALI Wind	2561	3629	4191	2822	2623	3042	3553	511	408
TEXAS Wind	16463	14046	7789	4346	2507	5411	5691	280	-2736
US Wind	54647	48561	26370	22914	27068	31339	31829	490	-3321

Generation Daily Average - MWh (EIA)

	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	DoD	vs. 7D
US Wind	54647	48561	26370	22914	27068	31339	31829	490	-3321
US Solar	13075	13885	13427	11447	12031	11810	12039	230	-573
US Petroleum	4803	5516	5347	3817	3268	3873	4700	827	262
US Other	10365	10185	10342	9383	8955	9168	10043	876	310
US Coal	149499	150898	152667	140750	128425	133603	136349	2747	-6291
US Nuke	95168	95067	95166	94844	94943	95017	95330	313	296
US Hydro	29190	30033	31082	27408	24827	27865	28238	373	-163
US Gas	223426	228724	230902	206041	184034	208222	210007	1785	-3551

See National Wind and Nuclear daily charts



Storage Week Average Generation Data

Nuclear Generation Weekly Average - GWh (NRC)

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	WoW Bcf/d Impact
NRC Nuclear Daily Output	89.5	90.7	90.7	89.3	90.6	91.5	0.9	-0.2
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0	
NRC Nuclear Outage	15.4	14.2	14.2	15.6	14.3	13.3	-0.9	
NRC % Nuclear Cap Utilization	0.1	0.1	0.1	0.1	0.1	0.1	0.0	

Wind Generation Weekly Average - MWh (EIA)

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	WoW Bcf/d Impact
CALI Wind	2604	3004	2064	1905	2237	2507	271	0.0
TEXAS Wind	3739	10817	7162	7913	5180	16319	11139	-1.9
US Wind	25698	36364	26446	29735	22376	49671	27295	-4.6

Generation Weekly Average - MWh (EIA)

	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug	13-Aug	WoW	WoW Bcf/d Impact
US Wind	25698	36364	26446	29735	22376	49671	27295	-4.6
US Solar	14165	14486	14023	13977	14130	14243	113	0.0
US Petroleum	4035	4282	3892	4729	4074	4647	573	-0.1
US Other	9159	9555	9336	9281	9058	9985	927	-0.2
US Coal	131318	131514	137623	146407	134740	140137	5397	-0.9
US Nuke	92359	93735	93488	92226	93269	94282	1012	-0.2
US Hydro	30134	30422	30196	29209	27738	26812	-927	0.2
US Gas	194603	199737	210463	224359	204525	207372	2847	

See National Wind and Nuclear daily charts

92.1



NRC % Nuclear Cap Utilization

Monthly Average Generation Data

Nuclear Generation Monthly Average - GWh (NRC)											
2Yr Ago LY MTE											
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY		
NRC Nuclear Daily Output	94.1	90.6	81.8	88.7	90.0	91.7	90.9	1.7	0.3		
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	10.7	14.3	23.1	16.2	14.9	13.1	14.0	-1.7	-0.3		

90.2

91.5

93.3

92.4

83.2

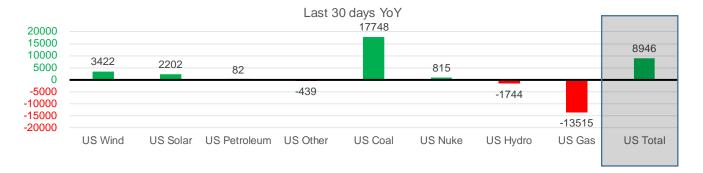
Wind Generation Monthly Average - MWh (EIA)

95.7

	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
CALI Wind	2139	2340	3402	2913	2338	2790	2488	451	148
TEXAS Wind	7954	8500	12259	9675	7217	9255	8516	2038	16
US Wind	25375	29201	46083	37299	29105	34503	32623	5398	3422

Generation Monthly Average - MWh (EIA)

Concretion monthly Avorage	2Yr Ago	LY				MTD			
	Same 30 days	Same 30 days	May-21	Jun-21	Jul-21	Aug-21	Last 30 days	MoM (MTD vs LY)	Last 30 days YoY
US Wind	25375	29201	46083	37299	29105	34503	32623	▼-1879.5	3422
US Solar	9134	11468	14489	14564	14195	13418	13670	251.4	2202
US Petroleum	5149	4326	3012	4150	4233	4375	4409	3 4	82
US Other	9243	9927	7439	8161	9324	9637	9488	▼ -149	▼ -439
US Coal	128017	121946	86419	121357	137228	137103	139695	2592	17748
US Nuke	100408	92794	85517	92175	92897	94409	93609	▼ -800	815
US Hydro	33131	29887	30681	32578	29939	27448	28143	696	▼ -1744
US Gas	220186	224627	139478	188815	207785	205873	211112	~ 744	▼- 13515
US Total	531842	523882	413549	499469	524889	526865	532827	3368	8946



See National Wind and Nuclear daily charts



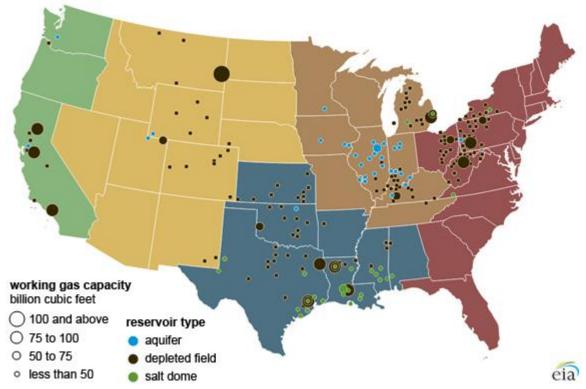
Regional S/D Models Storage Projection

Week Ending 13-Aug

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	3.9	1.3	5.1	36
East	1.2	1.4	2.6	18
Midwest	3.5	-0.2	3.3	23
Mountain	4.2	-4.2	0.0	0
South Central	-5.1	4.5	-0.6	-4
Pacific	0.1	-0.2	-0.2	-1

^{*}Adjustment Factor is calcuated based on historical regional deltas

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



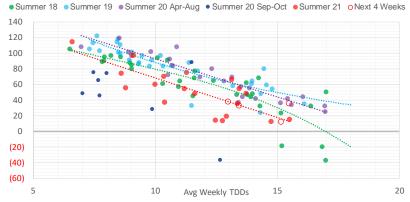


Weather Model Storage Projection

Next report and beyond

Week Ending	GWDDs	Week Storage Projection
13-Aug	15.5	36
20-Aug	13.4	33
27-Aug	15.2	12
03-Sep	13.0	38

Weather Storage Model - Next 4 Week Forecast



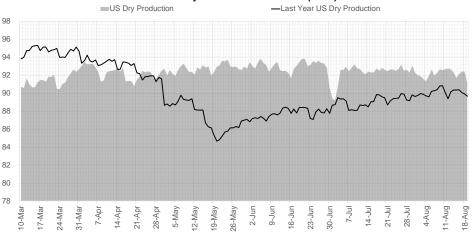
Go to larger image



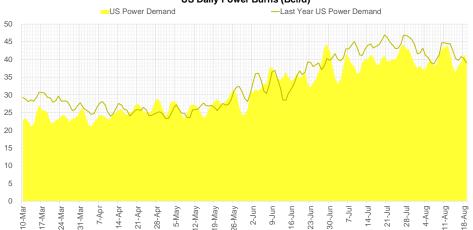


Supply - Demand Trends

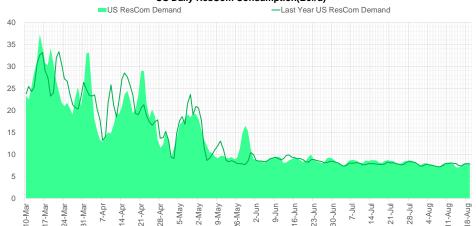
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



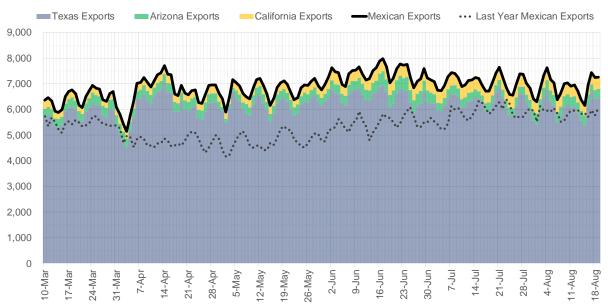
US Daily ResCom Consumption(Bcf/d)



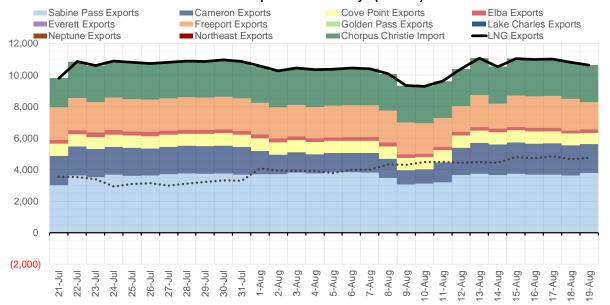
Source: Bloomberg



Mexican Exports (MMcf/d)



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



Source: Bloomberg





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

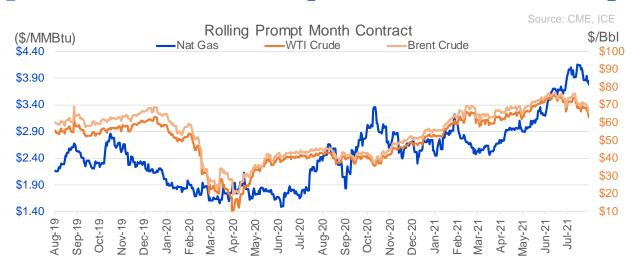
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
10	2021	С	4.50	9271	10	2021	С	5.00	42687
					12	2021	P	2.75	41770
10	2021	С	5.00	9001	10	2021	C	4.00	40388
9	2021	С	4.10	8298	12	2021	P	2.50	38528
9 9	2021 2021	C P	4.20 3.70	8129 5653	10	2021	r P	3.50	38244
9	2021	C	3.70 4.50	5397	10	2021	C	4.50	37010
9	2021	P	3.50		10	2021	Č	3.50	33004
9	2021	P P	3.85	4736 4503	9	2021	Č	4.00	31615
9	2021	C	3.90	4497	10	2021	P	3.00	30370
10	2021	C	4.10	4497	10	2021	Р	2.50	29844
10	2021	P	3.25	3679	9	2021	C	4.25	29216
10	2021	C	3.25 4.25	3668	10	2021	P	2.00	28650
10	2021	P	3.00	3664	10	2021	С	3.25	28196
9	2021	C	4.00	3614	10	2021	C	4.25	27534
9	2021	P	4.00 3.75	3498	10	2021	P	2.75	27246
9	2021	P P	3.75 4.00		9	2021	C	5.00	26581
				3332	12	2021	P	3.00	24927
9	2021	P	3.60	3319	10	2021	С	6.00	24499
10	2021	P	3.50	2967	9	2021	P	2.50	23385
9	2021	С	4.25	2740	11	2021	P	3.00	23045
10	2021	С	3.90	2498	11	2021	С	4.00	22819
9	2021	P	3.65	1911	9	2021	C	3.50	22612
9	2021	P	3.80	1880	9	2021	P	3.00	22432
11	2021	P	3.50	1874	12	2021	С	4.00	22142
10	2021	P	3.75	1763	9	2021	P	3.50	20557
11	2021	P	3.25	1668	9	2021	Р	2.00	20427
2	2022	С	4.00	1512	9	2021	С	4.75	20402
9	2021	C	3.85	1459	9	2021	C	4.50	20401
4	2022	P	2.50	1450	9	2021	Р	3.25	20089
11	2021	С	5.00	1413	10	2021	Р	2.25	19900
11	2021	С	4.75	1300	4	2022	С	3.00	19810
10	2021	Р	3.60	1265	9	2021	С	3.25	18994
1	2022	Р	3.00	1240	10	2021	С	3.00	18502
4	2022	С	4.50	1200	11	2021	С	5.00	18000
10	2021	С	6.00	1182	10	2021	Р	3.25	17737
11	2021	С	4.50	1118	10	2021	С	3.75	16815
10	2021	С	4.00	1108	1	2022	С	5.00	16285
4	2022	С	5.00	1080	9	2021	Р	2.75	15816
9	2021	Р	3.90	1060	3	2022	С	5.00	15473
12	2021	С	7.00	1015	3	2022	Р	2.50	15394
11	2021	С	5.25	1010	2	2022	С	5.00	15176
9	2021	С	4.35	1002	11	2021	С	3.75	15027
4	2022	Р	3.00	975	1	2022	С	4.00	14782
11	2021	С	4.25	925	9	2021	Р	4.00	14733
2	2022	С	4.50	910	9	2021	Р	3.75	14454
10	2021	С	3.85	894	3	2022	С	3.00	14448
12	2021	Р	3.30	858	11	2021	Р	2.50	14399
2	2022	С	6.00	836	3	2022	С	8.00	14153
12	2021	Р	3.50	822	12	2021	Р	2.00	13889
12	2021	С	6.00	752	9	2021	P	2.6	13814
							Source	e: CME, ICE	



Nat Gas Futures Open Interest

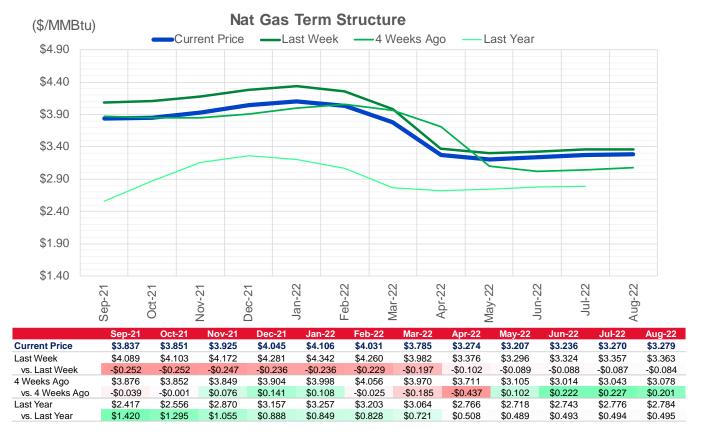
CME, and ICE Combined

OMETH	CME Henry Hub Futures (10,000 MMBtu) ICE Henry Hub Futures Contract Equivalent (10,000 MM										
CME Henry I				ICE Henry I			· · · · · ·				
	Current	Prior	Daily Change		Current	Prior	Daily Change				
SEP 21	83921	94400	-10479	SEP 21	81887	80765	1122				
OCT 21	223441	218674	4767	OCT 21	107602	107678	-76				
NOV 21	194059	190768	3291	NOV 21	69167	69417	-250				
DEC 21	84447	82842	1605	DEC 21	75658	75582	76				
JAN 22	137876	137861	15	JAN 22	78899	78016	883				
FEB 22	55220	55450	-230	FEB 22	69347	69199	149				
MAR 22	104606	103763	843	MAR 22	73887	73610	278				
APR 22	111533	112679	-1146	APR 22	69873	69517	357				
MAY 22	100453	100088	365	MAY 22	68284	68466	-182				
JUN 22	31226	31248	-22	JUN 22	53158	53186	-28				
JUL 22	26695	26387	308	JUL 22	54179	54091	88				
AUG 22	25457	25457	0	AUG 22	54407	54335	72				
SEP 22	26754	26672	82	SEP 22	54114	54044	70				
OCT 22	67073	67063	10	OCT 22	61703	61724	-21				
NOV 22	27853	27831	22	NOV 22	48058	48091	-34				
DEC 22	24618	24597	21	DEC 22	51511	51509	2				
JAN 23	18436	18020	416	JAN 23	33329	33348	-19				
FEB 23	6496	6436	60	FEB 23	28099	27973	126				
MAR 23	9011	8810	201	MAR 23	29924	29792	132				
APR 23	10785	10881	-96	APR 23	24722	24687	36				
MAY 23	6459	6460	-1	MAY 23	25760	25640	120				
JUN 23	5101	4785	316	JUN 23	23975	23770	206				
JUL 23	3904	4222	-318	JUL 23	23991	23871	120				
AUG 23	3157	3138	19	AUG 23	23863	23736	127				
SEP 23	3887	3885	2	SEP 23	23309	23194	116				
OCT 23	4913	4882	31	OCT 23	25084	24965	120				
NOV 23	1722	1622	100	NOV 23	25382	24759	624				
DEC 23	1741	1741	0	DEC 23	23694	23552	143				
JAN 24	985	984	1	JAN 24	13236	13235	1				
FEB 24	872	873	-1	FEB 24	11322	11293	29				





Market Report



		Cash		Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	3.89	3.37	-0.52
TETCO M3	\$/MMBtu	3.74	3.10	-0.64
FGT Zone 3	\$/MMBtu	3.87	4.14	0.27
Zone 6 NY	\$/MMBtu	3.87	3.03	-0.84
Chicago Citygate	\$/MMBtu	3.71	3.92	0.21
Michcon	\$/MMBtu	3.70	3.88	0.18
Columbia TCO Pool	\$/MMBtu	3.57	3.27	-0.31
Ventura	\$/MMBtu	3.67	3.87	0.20
Rockies/Opal	\$/MMBtu	3.60	3.81	0.21
El Paso Permian Basin	\$/MMBtu	3.50	3.84	0.34
Socal Citygate	\$/MMBtu	4.80	5.12	0.32
Malin	\$/MMBtu	4.16	4.13	-0.03
Houston Ship Channel	\$/MMBtu	3.80	4.02	0.22
Henry Hub Cash	\$/MMBtu	3.86	3.83	-0.03
AECO Cash	C\$/GJ	2.48	2.81	0.33
Station2 Cash	C\$/GJ	2.47	4.00	1.53
Dawn Cash	C\$/GJ	3.71	3.87	0.16

Source: CME, Bloomberg



						4 100 - 1		
			vs. 4 Weeks					
	Units	Current Price	VS.	Last Week		Ago	VS	. Last Year
NatGas Jul21/Oct21	\$/MMBtu	0.249		-0.205		-0.069		0.231
NatGas Oct21/Nov21	\$/MMBtu	0.073		0.001		0.018		0.024
NatGas Oct21/Jan22	\$/MMBtu	0.254		0.006		0.048	•	-0.020
NatGas Apr22/Oct22	\$/MMBtu	0.016		0.016		0.035	▼	-0.028
WTI Crude	\$/Bbl	65.46		-3.790		-4.840		22.530
Brent Crude	\$/Bbl	68.23		-3.210		-4.000		22.860
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	202.12		-8.460		-6.580		77.020
Propane, Mt. Bel	cents/Gallon	1.12		0.005		0.039		0.618
Ethane, Mt. Bel	cents/Gallon	0.34		-0.003		0.025		0.094
Coal, PRB	\$/MTon	12.30		0.000		0.000		0.000
Coal, PRB	\$/MMBtu	0.70						
Coal, ILB	\$/MTon	31.05		0.000		0.000		0.000
Coal, ILB	\$/MMBtu	1.32						



Weather Storage Model - Next 4 Week Forecast

