

139 East Fourth Street, R. 25 At II P.O. Box 960 Cincinnati, Ohio 45201-0960 Tel: 513-419-1837 Fax: 513-419-1846 <u>dianne.kuhnelll@duke-energy.com</u>

Dianne B. Kuhnell. Senior Paralegal

VIA HAND DELIVERY

May 15, 2009

Jeff Derouen Executive Director Kentucky Public Service Commission 211 Sower Boulevard Frankfort, Kentucky 40602-0615

MAY 1 5 2009 PUBLIC SERVICE COMMISSION

Re: Case No. 2008-00175

Dear Mr. Derouen:

Enclosed please find an original and twelve copies of *Duke Energy Kentucky, Inc.'s Final Report on Hedging Activity for April 1, 2008 through March 31, 2009 and Interim Report* and the *Petition of Duke Energy Kentucky, Inc. for Confidential Treatment Contained in the Hedging Report of April 1, 2008 through March 31, 2009, and Interim Report on Ongoing Hedging Activity.* Also enclosed is one copy of the Confidential Material (Attachment A and Report) to be Filed Under Seal as requested in the Petition for Confidential Treatment.

Please date-stamp the extra two copies of the Report and Petition and return to me in the enclosed envelope.

Sincerely,

Deanne Kuchell

Dianne Kuhnell Senior Paralegal

cc: Larry Cook (w/enclosures)

COMMONWEALTH OF KENTUCKY

RECEIVED

BEFORE THE PUBLIC SERVICE COMMISSION

)

)

)

)

MAY 15 2009

In the Matter of the:

PUBLIC SERVICE COMMISSION

APPLICATION OF THE UNION LIGHT, HEAT AND POWER COMPANY IMPLEMENT A HEDGING PROGRAM TO MITIGATE PRICE VOLATILITY IN THE PROCUREMENT OF NATURAL GAS

CASE NO. 2008-00175

DUKE ENERGY KENTUCKY, INC.'S FINAL REPORT ON HEDGING ACTIVITY FOR APRIL 1, 2008 THROUGH MARCH 31, 2009 AND INTERIM REPORT ON ONGOING GAS HEDGING ACTIVITY

In an Order dated August 19, 2005 in Case No. 2008-00175, the Commission approved Duke Energy Kentucky, Inc.'s (Duke Energy Kentucky) hedging program and required, among other things, periodic reports on the results of the hedging program. Duke Energy Kentucky's annual report on the final results of its hedging plan for April 1, 2008 through March 31, 2009 is attached herein as is the interim report on hedging activity for future gas deliveries, as required by such order. As demonstrated in Duke Energy Kentucky's report, the hedging plan successfully mitigated price volatility for Duke Energy Kentucky's firm sales customers.

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission accept for filing Duke Energy Kentucky's attached report of the final results of its hedging plan for April 1, 2008 through March 31, 2009, and interim report on hedging activity for future gas deliveries.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC

Roceo O. D'AscenzoSenior CounselAmy B. SpillerAssociate General CounselDuke Energy Shared Services, Inc.Room 2500, Atrium IIP. O. Box 960Cincinnati, Ohio 45201-0960Phone:(513) 419-5120Fax:(513) 419-3810e-mail: rocco.d'ascenzo@duke-energy.com

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing Report on Hedging was served to the

parties listed below by regular United States mail, postage prepaid, this 15 day

of May, 2009.

Rogco O. D'Ascenzo

Hon. Larry Cook Assistant Attorney General Capital Center Drive, Suite 200 Frankfort, Kentucky 40601-8204

COMMONWEALTH OF KENTUCKY

RECEIVED

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION MAY 15 2009

)

)

)

)

In the Matter of:

PUBLIC SERVICE COMMISSION

APPLICATION OF DUKE ENERGY KENTUCKY, INC. TO IMPLEMENT A HEDGING PROGRAM TO MITIGATE PRICE VOLATILITY IN THE PROCUREMENT OF NATURAL GAS

CASE NO. 2008-00175

PETITION OF DUKE ENERGY KENTUCKY, INC. FOR CONFIDENTIAL TREATMENT OF INFORMATION CONTAINED IN THE HEDGING REPORT OF APRIL 1, 2008 THROUGH MARCH 31, 2009, AND INTERIM REPORT ON ONGOING GAS HEDGING ACTIVITY

Duke Energy Kentucky, Inc. (Duke Energy Kentucky), pursuant to 807 KAR 5:001, Section 7, respectfully requests the Commission to classify and protect as confidential certain information that is contained in its Final Hedging Report for the Period of April 1, 2008 through March 31, 2009 and Interim Report on Ongoing Gas Hedging Activity Program (Report Period) in this proceeding, which is being filed contemporaneously with this petition. In support thereof, Duke Energy Kentucky states:

1. Duke Energy Kentucky has filed today documents containing sensitive and confidential information relating to the volumes of gas that Duke Energy Kentucky purchased through the use of hedging instruments for its hedging plan. Disclosure of this information would damage Duke Energy Kentucky by alerting suppliers as to how much gas Duke Energy Kentucky intends to purchase through hedging instruments at any particular point in time, which could allow suppliers to raise the cost of their hedging instruments to Duke Energy Kentucky, thus making it more costly to Duke Energy Kentucky to acquire hedging instruments for future gas supply. As required by 807 KAR 5:001, Section 7(2)(b), Duke Energy Kentucky is providing one copy of the hedging program volume information under seal.

2. The Kentucky Open Records Act exempts from disclosure certain commercial information. KRS 61.878 (1)(c). To qualify for this exemption and, therefore, maintain the confidentiality of the information, a party must establish that disclosure of the commercial information would permit an unfair advantage to competitors of that party.

3. The hedging volume information described above contains sensitive commercial information, the disclosure of which would injure Duke Energy Kentucky for the reasons stated above. Duke Energy Kentucky's purchases of hedging instruments are confidential. Public release of this information would allow other suppliers to have access to this information and could enable such suppliers to charge higher prices to Duke Energy Kentucky for hedging instruments. The Commission previously granted confidential treatment to similar information on May 31, 2008.

4. The information for which Duke Energy Kentucky is seeking confidential treatment is not known outside of Duke Energy Kentucky, and it is not disseminated within Duke Energy Kentucky except to those employees with a legitimate business need to know and act upon the information.

5. The public interest will be served by granting this Petition, in that Duke Energy Kentucky's ability to obtain low cost gas supplies will be fostered and the cost of gas to Duke Energy Kentucky's customers will thereby be minimized. WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission classify and protect as confidential the specific information described herein.

Respectfully submitted,

DUKE-ENERGY KENTUCK,Y, INC.

Rocco O. D'Ascenzo Senior Counsel Amy B. Spiller Associate General Counsel Duke Energy Shared Services, Inc. 2500 Atrium II 139 East Fourth Street Cincinnati, OH 45201-0960 (513) 419-1852 e-mail: rocco.d'ascenzo@duke-energy.com

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing Petition for Confidential Treatment

was served to the parties listed below by regular United States mail, postage

prepaid, this $\frac{29^{7}}{2}$ day of	of May, 2009.	
		<u>.</u>
1	Rocco O. D	'Ascenzo
Hon. Larry Cook	\mathcal{O}	

Hon. Larry Cook Assistant Attorney General Capital Center Drive, Suite 200 Frankfort, Kentucky 40601-8204

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

RECEIVED

MAY 1 5 2009 PUBLIC SERVICE COMMISSION

Annual Report on Hedging Activity For April 1, 2008 – March 31, 2009

And Report on Hedging Activity For Future Gas Deliveries

> By Duke Energy Kentucky

> > May, 2009

The Senior Vice President Ohio and Kentucky Gas Operations, General Manager of Gas Commercial Operations, Manager of Gas Resources, the Lead of Gas Procurement and Analysis and other personnel (Natural Gas Hedging Committee) met on a regular basis to review current market conditions for natural gas, short and long-term weather forecasts, gas industry trade publications, and price estimates to determine whether to enter into any hedging transactions. These meetings were scheduled at least monthly, but can occur more frequently depending on the season and market conditions. A brief summary of the decision made at each of these meetings during the 12 months ended March 2009 is attached, along with the information reviewed during each meeting (see Attachment A).

A summary of the amounts hedged during the 12 months ended March 31, 2009 is shown below, followed by details of the factors influencing Duke Energy Kentucky, Inc's ("Duke Energy Kentucky") decision to enter into a hedging agreement each time.



Summer 2010



There were no transactional costs associated with any of these arrangements. When the natural gas is delivered, the suppliers simply invoice Duke Energy Kentucky based on the hedged price. The portions of system supply hedged for each season are listed in the table below:

Season	Total System Supply	Total Hedged	% Hedged	
Summer 2008				
Winter 2008/09				
Summer 2009 (as of 3/31/09)				
Winter 2009/10 (as of 3/31/09)				
Summer 2010 (as of 3/31/09)				
Winter 20010/11 (as of 3/31/09)				
Summer 2011 (as of 3/31/09)				

Winter 2008-09 Collar with ______ – July 22, 2008

During the hedging meeting on July 22, 2008, the Natural Gas Hedging Committee decided to enter into a collar with a ceiling of \$15.00. Floors were shopped with and for a no-cost collar of \$9.12--\$15.00 for 1,000dth/day to be delivered at Columbia Gulf Onshore from November 1, 2008 through March 31, 2009.

The EIA storage report released on July 17, 2008 indicated that as of July 11, 2008, total U.S. amount of gas in storage was 2,312 bcf (51% full), which was 361 bcf lower than the previous year and 49 bcf lower than the 5-year average. Duke Energy Kentucky's storage with **Example to the storage** was approximately **Example 1** bcf (**Example 1**).

The table below compares the futures price data on July 22nd with the most recently available forecasts from CERA and EIA and the collared price that Duke Energy

Kentucky agreed to pay **mediate sector**. Since a single collar was locked in for all five months, a column showing the average price is provided for comparison purposes.

	Nov 08	Dec 08	Jan 09	Feb 09	Mar 09	Average
Price Forecasts				L		<u> </u>
CERA (6/20/08)	\$10.14	\$10.41	\$10.50	\$10.13	\$9.25	\$10.086
EIA (7/8/08)	\$13.02	\$13.10	\$13.19	\$13.29	\$12.62	\$13.044
NYMEX (7/22/08)						
High	\$10.71	\$11.06	\$11.27	\$11.25	\$11.04	\$11.066
Low	\$10.45	\$10.83	\$11.09	\$10.99	\$10.82	\$10.836
Close	\$10.619	\$10.989	\$11.194	\$11.164	\$10.954	\$10.984
No Cost Collar (7/2)	2/08)				L	
Floor						\$9.12
Ceiling			······	4444 *********************************		\$15.00

Winter 2008-09 Fixed Price with August 13, 2008

During the hedging meeting on August 12, 2008, discussion focused on the fundamentals of the market. In addition, the Natural Gas Hedging Committee discussed the Winter Strip flattening out after a significant decline in price, as well as, the recent price drop and the chances of the market retracing that drop. The Natural Gas Hedging Committee decided to fix a portion of base gas in Kentucky. Since winter supply had already been arranged, a portion of the supply from at **Exercise Structure Structure Structure** would be converted from FOMI to a fixed price of **Form** for December 2008 through February 2009.

The EIA storage report released on August 7, 2008 indicated that as of August 1, 2008, total U.S. amount of gas in storage was 2,517 bcf (56% full), which was 353 bcf lower than the previous year and 6 bcf lower than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately **b**cf (**Inter** full).

The table below compares the futures price data for August 13th with the most recently available forecasts from CERA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered December 1, 2008 through February 28, 2009 at Columbia Gulf onshore.

	Dec 08	Jan 09	Feb 09	Average
Price Forecasts				U
CERA (7/24/08)	\$10.06	\$10.76	\$10.55	\$10.457
EIA (8/12/08)	\$9.73	\$9.94	\$10.04	\$9.903
NYMEX (8/13/08)				
High	\$9.310	\$9.573	\$9.557	\$9.468
Low	\$9.085	\$9.330	\$9.350	\$9.255
Close	\$9.310	\$9.537	\$9.557	\$9.468

Fixed Price (8/13/2008)	
BP (1,500 dth/day 12/1/082/28/09)	\$9.250

Winter 2008-09 Collar with _____ – August 28, 2008

During the hedging meeting on August 22, 2008, the Natural Gas Hedging Committee decided that no additional hedging should take place at that time, but the market should be closely observed for an opportunity to lock in another no-cost collar or fixed price. On August 26, 2008 projected paths for Tropical Storm Gustav led straight into production areas. Natural gas prices on NYMEX immediately began to rise. By August 28th, experts were predicting that Gustav would grow to a Category 3 Hurricane as it headed towards the Louisiana coastline. It was determined that a collar would be more appropriate than a fixed price, to protect against a direct hit to production similar to 2005, but not lock in a fixed price in case Gustav takes a different path. Was contacted to get an indicative price from the firm base gas previously arranged at Texas Gas SL. The ceiling was set at was detailed a floor of \$7.65, which Duke Energy Kentucky accepted.

The EIA storage report released on August 28, 2008 indicated that as of August 22, 2008, total U.S. amount of gas in storage was 2,757 bcf (61% full), which was 200 bcf lower than the previous year and 71 bcf higher than the 5-year average. Duke Energy Kentucky's storage with a storage was approximately as bcf (for full).

The table below compares the futures price data on August 28th with the most recently available forecasts from CERA and EIA and the collared price that Duke Energy Kentucky agreed to pay . Since a single collar was locked in for all five months, a column showing the average price is provided for comparison purposes.

	Nov 08	Dec 08	Jan 09	Feb 09	Mar 09	Average
Price Forecasts						
CERA (8/20/08)	\$8.08	\$8.36	\$8.78	\$8.74	\$8.50	\$8.492
EIA (8/12/08)	\$9.46	\$9.73	\$9.94	\$10.04	\$9.12	\$9.658
NYMEX (8/28/08)						
High	\$9.000	\$9.380	\$9.585	\$9.470	\$8.810	\$9.249
Low	\$8.240	\$8.660	\$8.900	\$8.920	\$8.755	\$8.695
Close	\$8.472	\$8.897	\$9.125	\$9.145	\$8.980	\$8.924
No Cost Collar (8/28	3/08)	A			·	
Floor						\$7.65
Ceiling						\$12.00

Winter 2008-09 Fixed Price with September 30, 2008

During the hedging meeting on September 22, 2008, discussion focused on the fundamentals of the market. Due to a windstorm on September 14th, Jim Henning, Mike Brumback and Steve Niederbaumer were involved in the effort to restore electricity resulting in the largest outage in the Company's history. It was determined that Duke Energy Kentucky's level of hedging should be brought up to around 20% for the coming winter. The Natural Gas Hedging Committee decided to fix a portion of base gas in Kentucky. Since winter supply had already been arranged, a portion of the supply from at Columbia Gulf onshore would be converted from FOMI to a fixed price of for December 2008 through February 2009.

The EIA storage report released on September 18, 2008 indicated that as of September 12, 2008, total U.S. amount of gas in storage was 2,972 bcf (66% full), which was 142 bcf lower than the previous year and 61 bcf lower than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately **b**cf (**full**).

The table below compares the futures price data for September 30th with the most recently available forecasts from CERA and EIA and the locked in price that Duke Energy Kentucky agreed to pay BP for base gas to be delivered December 1, 2008 through February 28, 2009 at Columbia Gulf onshore.

	Dec 08	Jan 09	Feb 09	Average
Price Forecasts				
CERA (9/23/08)	\$8.06	\$8.48	\$8.39	\$8.310
EIA (9/09/08)	\$8.88	\$9.06	\$9.03	\$8.990
NYMEX (9/30/08)			······································	
High	\$7.788	\$8.030	\$8.070	\$7.963
Low	\$7.650	\$7.880	\$7.930	\$7.820
Close	\$7.788	\$8.020	\$8.055	\$7.954
Fixed Price (9/30/2008)				
(dth/day 12/1/0	8-2/28/09)			

Winter 2008-09 Fixed with _____ – October 22, 2008

During the hedging meeting on October 21, 2008, discussion focused on the fundamental of the market such as weather, storage, and analysts forecasts for future price movements. The Natural Gas Hedging Committee decided to fix a portion of base gas in Kentucky for the coming winter and hedge additional long-term supply (See <u>Summer 2009/Winter</u> 2009-10 Fixed Price with **D** – October 22, 2008). Since winter supply had already been arranged, a portion of the supply from **D** at Texas Gas Zone SL would be converted from FOMI to a fixed price of **D** for November 2008 through March 2009.

The EIA storage report released on October 16, 2008 indicated that as of October 10, 2008, total U.S. amount of gas in storage was 3,277 bcf (73% full), which was 87 bcf

lower than the previous year and 85 bcf higher than the 5-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately bcf (find full).

The table below compares the futures price data on October 22nd with the most recently available forecasts from CERA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered November 1, 2008 through March 31, 2009

	Nov 08	Dec 08	Jan 09	Feb 09	Mar 09	Average
Price Forecasts				A		
CERA (9/23/08)	\$8.08	\$8.06	\$8.48	\$8.39	\$8.15	\$8.232
EIA (10/07/08)	\$8.60	\$8.86	\$8.94	\$9.03	\$8.70	\$8.826
NYMEX (10/22/08)					1 I	10.00 Martin 10.00 Land 10.00
High	\$6.905	\$7.140	\$7.360	\$7.355	\$7.162	\$7.184
Low	\$6.760	\$6.940	\$7.210	\$7.260	\$7.162	\$7.066
Close	\$6.777	\$6.977	\$7.210	\$7.265	\$7.162	\$7.078
Fixed Price (10/22/0	8)				L	
(dth/day 11	/1/08-3/3	1/09)			ſ	

Summer 2009/Winter 2009-10 Fixed Price with October 22, 2008

During the hedging meeting on October 21, 2008, discussion focused on the fundamental of the market such as weather, storage, and analysts forecasts for future price movements. The Natural Gas Hedging Committee decided to hedge additional supply in Kentucky based on the fundamentals in the market and the need to hedge additional volumes to be in compliance with the Hedging Program. Duke Energy Kentucky contacted and requested a bid on dth/day on Columbia Gas Mainline for the period beginning April 1, 2009 through March 31, 2010. The responded with a bid of the Based on the NYMEX prices and the basis spread at that time, the bid met the requirements of Duke Energy Kentucky and the basis spread at that time, the bid met the requirements of Duke Energy Kentucky and the basis spread.

The EIA storage report released on October 16, 2008 indicated that as of October 10, 2008, total U.S. amount of gas in storage was 3,277 bcf (73% full), which was 87 bcf lower than the previous year and 85 bcf higher than the 5-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately bcf (full).

The table below compares the futures price data for October 22nd with the most recently available forecasts from CERA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered April 1, 2009 through March 31, 2010 at Columbia Gulf Mainline. Please note that EIA's forecast did not cover the entire term.

	Price Fo	orecasts	NYM	EX Futures I	Price	Fixed
Month	CERA	EIA	High	Low	Close	Price
Apr 09	\$8.710	\$8.240	\$7.180	\$7.042	\$7.042	
May 09	\$9.190	\$8.000	\$7.220	\$7.090	\$7.090	
Jun 09	\$9.280	\$7.760	\$7.340	\$7.192	\$7.192	
Jul 09	\$10.640	\$7.410	\$7.420	\$7.305	\$7.305	
Aug 09	\$9.970	\$7.210	\$7.500	\$7.387	\$7.387	
Sep 09	\$9.010	\$7.010	\$7.530	\$7.7.417	\$7.417	
Oct 09	\$8.200	\$7.260	\$7.610	\$7.497	\$7.497	
Nov 09	\$8.080	\$7.510	\$7.910	\$7.795	\$7.795	
Dec 09	\$7.530	\$8.220	\$8.250	\$8.135	\$8.135	
Jan 10	\$7.710		\$8.480	\$8.367	\$8.367	
Feb 10	\$7.300		\$8.480	\$8.367	\$8.367	
Mar 10	\$7.330		\$8.280	\$8.172	\$8.172	
Average	\$8.579	\$7.624	\$7.767	\$7.647	\$7.647	
Fixed Price (1	10/22/08)					
(dth	/day 4/1/093	/31/2010				

Winter 2009 Fixed Price with - November 14, 2008

A meeting was called on November 14, 2008, to discuss additional hedging in light of current market conditions. Information reviewed included weather, pricing information and the current position of Duke Energy Kentucky's Hedging Program. A determination was made to hedge additional volumes by fixing a portion of base gas in Kentucky. Since winter supply had already been arranged, the remainder of the supply from at Columbia Gulf onshore would be converted from FOMI to a fixed price of for January 1, 2009 through March 31, 2009.

The EIA storage report released on November 14, 2008 indicated that as of November 7, 2008, total U.S. amount of gas in storage was 3,467 bcf (77% full), which was 72 bcf lower than the previous year and 117 bcf higher than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately bcf (bcf full).

The table below compares the futures price data for November 14th with the most recently available forecasts from CERA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered January 1, 2009 through March 31, 2009 at Columbia Gulf onshore.

	Jan 09	Feb 09	Mar 09	Average
Price Forecasts				
CERA (10/22//08)	\$7.97	\$7.88	\$7.79	\$7.880
EIA (11/12/08)	\$7.05	\$7.13	\$6.74	\$6.973
NYMEX (11/14/08)				
High	\$6.468	\$6.546	\$6.590	\$6.535
Low	\$6.455	\$6.540	\$6.510	\$6.502
Close	\$6.468	\$6.546	\$6.546	\$6.520

Fixed Price (11/14/2008)	
BP (Various 1/1/093/31/09)	\$6.520

Summer 2009/Winter 2010-11 Fixed Price with _____ – December 3, 2008

During the hedging meeting on November 24, 2008, discussion focused on the fundamentals of the market such as weather, storage, and analysts forecasts for future price movements. In addition, discussed Winter and Summer Strip Charts based on technical analysis. The Natural Gas Hedging Committee decided to hedge additional supply in Kentucky based on these discussions. The term of the hedging would be for a 24 month period beginning April 2009 through March 2011. Three suppliers were contacted and asked to bid on this deal. The results were:

The EIA storage report released on November 26, 2008 indicated that as of November 21, 2008, total U.S. amount of gas in storage was 3,422 bcf (76% full), which was 109 bcf lower than the previous year and 88 bcf higher than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately bcf (fine full).

The table below compares the futures price data for December 3rd with the most recently available forecasts from CERA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered April 1, 2009 through March 31, 2011 at Columbia Gulf Mainline. Please note that EIA's forecast did not cover the entire term.

	Price F	orecasts	NYM	EX Futures	Price	Fixed
Month	CERA	EIA	High	Low	Close	Price
Apr 09	\$7.090	\$6.520	\$6.365	\$6.365	\$6.365	
May 09	\$7.210	\$6.450	\$6.435	\$6.415	\$6.425	
Jun 09	\$7.460	\$6.370	\$6.545	\$6.530	\$6.535	
Jul 09	\$7.850	\$6.320	\$6.670	\$6.640	\$6.657	
Aug 09	\$7.790	\$6.230	\$6.800	\$6.740	\$6.757	
Sep 09	\$7.310	\$6.150	\$6.850	\$6.795	\$6.805	
Oct 09	\$6.760	\$6.550	\$6.960	\$6.910	\$6.915	
Nov 09	\$6.890	\$6.840	\$7.340	\$7.280	\$7.295	
Dec 09	\$7.000	\$7.120	\$7.770	\$7.670	\$7.705	
Jan 10	\$7.010		\$8.020	\$7.920	\$7.955	
Feb 10	\$7.050		\$8.030	\$7.963	\$7.963	
Mar 10	\$7.040		\$7.865	\$7.785	\$7.785	
Apr 10	\$6.980	$\mathcal{A}_{i}^{\mathcal{A}} = \left\{ \begin{array}{c} \mathcal{A}_{i} \\ \mathcal{A}_$	\$7.270	\$7.255	\$7.255	
May 10	\$7.050		\$7.230	\$7.220	\$7.220	
Jun 10	\$7.110		\$7.340	\$7.315	\$7.315	
Jul 10	\$7.510		\$7.420	\$7.420	\$7.420	
Aug 10	\$7.580		\$7.500	\$7.500	\$7.500	
Sep 10	\$7.440		\$7.530	\$7.530	\$7.530	
Oct 10	\$7.200		\$7.610	\$7.610	\$7.610	
Nov 10	\$7.450		\$7.880	\$7.880	\$7.880	
Dec 10	\$7.500		\$8.200	\$8.200	\$8.200	
Jan 11	\$7.240		\$8.425	\$8.425	\$8.425	
Feb 11	\$7.060		\$8.410	\$8.410	\$8.410	
Mar 11	\$7.120		\$8.170	\$8.165	\$8.170	

Average	\$7.238	\$6.506	\$7.443	\$7.414	\$7.421	
Fixed Price (10	/22/08)					
(dth/d	lay 4/1/09—	3/31/2010				

Summer 2009/Winter 2010-11 Costless Collar with John Street - January 26, 2009

During the hedging meeting on January 22, 2009, discussion focused on the fundamentals of the market such as weather, storage, and analysts forecasts for future price movements. Absent from the hedging meeting were the Senior Vice President Ohio and Kentucky Gas Operations and the General Manager of Gas Commercial Operations. Based on the discussion, a determination was made to propose additional hedging opportunities to management. On Friday January 23, 2009, a presentation was made to management. After further discussion, determined that additional hedging should take place and the suppliers should be contacted to determine interest in a Costless Collar. The term of the hedging the additional volumes is for a 24 month period beginning April 2009 through March 2011. Three suppliers were contacted and asked to provide a floor for a ceiling set

at **The results were**:

was awarded the Costless Collar.

The EIA storage report released on January 23, 2009 indicated that as of January 16, 2009, total U.S. amount of gas in storage was 2,560 bcf (57% full), which was 20 bcf lower than the previous year and 31 bcf higher than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately bcf (1000 full).

The table below compares the futures price data for January 26th with the most recently available forecasts from CERA and EIA and the collared price that Duke Energy Kentucky agreed to pay **Exercise 1** for base gas to be delivered April 1, 2009 through March 31, 2011 at Columbia Gulf Mainline. Since a single collar was locked in for all 24 months, a column showing the average price is provided for comparison purposes. Please note that EIA's forecast did not cover the entire term.

	Price F	orecasts	NYM	EX Futures	Price	Collar
Month	CERA	EIA	High	Low	Close	Price
Apr 09	\$6.040	\$5.530	\$4.610	\$4.533	\$4.533	
May 09	\$5.980	\$5.300	\$4.690	\$4.540	\$4.613	
Jun 09	\$6.090	\$5.200	\$4.785	\$4.710	\$4.717	
Jul 09	\$6.140	\$5.160	\$4.920	\$4.842	\$4.842	
Aug 09	\$6.040	\$5.150	\$5.010	\$4.942	\$4.942	
Sep 09	\$6.020	\$5.090	\$5.070	\$5.000	\$5.000	
Oct 09	\$6.050	\$5.590	\$5.210	\$5.128	\$5.128	
Nov 09	\$5.980	\$6.170	\$5.735	\$5.718	\$5.718	
Dec 09	\$5.690	\$6.510	\$6.350	\$6.330	\$6.338	
Jan 10	\$6.180	\$6.540	\$6.640	\$6.608	\$6.608	
Feb 10	\$5.890	\$6.620	\$6.623	\$6.623	\$6.623	
Mar 10	\$6.520	\$6.340	\$6.490	\$6.483	\$6.483	
Apr 10	\$6.770	\$6.300	\$6.198	\$6.198	\$6.198	
May 10	\$6.850	\$6.280	\$6.198	\$6.198	\$6.198	
Jun 10	\$6.950	\$6.280	\$6.296	\$6.296	\$6.296	
Jul 10	\$7.090	\$6.270	\$6.416	\$6.416	\$6.416	

1.0	T \$< 000 T	A C 000	AC 501	AC 501	AC 501	
Aug 10	\$6.980	\$6.230	\$6.501	\$6.501	\$6.501	
Sep 10	\$6.950	\$6.200	\$6.533	\$6.533	\$6.533	
Oct 10	\$7.080	\$6.480	\$6.633	\$6.633	\$6.633	
Nov 10	\$7.030	\$6.730	\$6.963	\$6.930	\$6.963	
Dec 10	\$6.900	\$7.040	\$7.343	\$7.290	\$7.343	
Jan 11	\$6.870		\$7.595	\$7.495	\$7.578	
Feb 11	\$6.800		\$7.563	\$7.563	\$7.563	
Mar 11	\$6.920		\$7.348	\$7.348	\$7.348	
Average	\$6.492	\$6.048	\$6.155	\$6.120	\$6.130	
No Cost Collar	(1/26/09)					
Floor						\$5.250
Ceiling						\$8.000

Effect of Hedging Program on Gas Costs

The effect of the hedging activity on gas cost can be determined by comparing the price paid for any hedged gas with the published Inside FERC First of Month Index (FOMI) for the delivery point where physical delivery of the hedged gas was received (Columbia Gulf Onshore, Columbia Gulf Mainline or Texas Gas Zone SL). The hedged price includes the basis from Henry Hub to the point of delivery. This analysis shows that for the 12 months ended March 31, 2009 gas costs were about \$4.3 million higher when comparing the hedged price with the FOMI at the time of physical delivery than they would have been if no hedging had taken place. The following tables list each package of hedged gas and the impact on the total gas cost resulting from that hedge.

			Total	Receipt	Hedged Price	IFERC FOMI	Cost Increase/
Supplier	Туре	Dth/day	Dth	Point	\$/dth	\$/dth	(Savings)
April							
	Fixed			CGT		\$9.53	
	Fixed			CGT		\$9.53	
	Fixed			CGT-M		\$9.55	
	Fixed (Cost Avg.)			CGT-M		\$9.55	
May							
	Fixed			CGT		\$11.23	
	Fixed			CGT		\$11.23	
	Fixed			CGT-M		\$11.24	
	Fixed (Cost Avg.)			CGT-M		\$11.24	
June				-	•		
	Fixed			CGT		\$11.85	
	Fixed			CGT		\$11.85	
	Fixed			CGT-M		\$11.88	
	Fixed (Cost Avg.)			CGT-M		\$11.88	
July	·			_	•		
	Fixed	·· †,	·	CGT		\$13.09	
	Fixed			CGT		\$13.09	;

Summer Season 2008

Supplier	Туре	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
	Fixed			CGT-M		\$13.07	
	Fixed (Cost Avg.)			CGT-M		\$13.07	
August							
	Fixed			CGT	a de la companya de la compa	\$9.17	
	Fixed			CGT		\$9.17	
	Fixed			CGT-M		\$9.19	
	Fixed (Cost Avg.)			CGT-M		\$9.19	
September							
	Fixed			CGT		\$8.32	
	Fixed			CGT		\$8.32	
	Fixed			CGT-M		\$8.34	
	Fixed (Cost Avg.)			CGT-M		\$8.34	
October							
	Fixed			CGT		\$7.39	a second second
	Fixed			CGT		\$7.39	. •
	Fixed			CGT-M		\$7.39	
	Fixed (Cost Avg.)			CGT-M		\$7.39	
Season Tot	al						

Summer Season 2008 (Continued)

Winter Season 2008-09

Supplier	Туре	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
November							
	Fixed			CGT		\$6.42	
Ĩ	Fixed			CGT-M		\$6.42	· · ·
	Fixed			CGT-M		\$6.42	
	Fixed (Cost Avg.)			CGT-M		\$6.42	1.
	Collar (\$9.12\$15.00)			CGT		\$6.42	
	Collar (\$7.65\$12.00)			TGT		\$6.39	
	Fixed			TGT		\$6.39	
December							
	Fixed			CGT		\$6.86	
	Fixed			CGT-M		\$6.86	
	Fixed			CGT-M		\$6.86	
	Fixed (Cost Avg.)			CGT-M		\$6.86	
	Collar (\$9.12\$15.00)			CGT		\$6.86	
	Fixed			CGT		\$6.86	
	Collar (\$7.65\$12.00)			TGT		\$6.84	
	Fixed			CGT		\$6.86	
	Fixed			TGT		\$6.84	· .
January							
	Fixed			CGT		\$6.14	

Supplier	Туре	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
	Fixed			CGT-M		\$6.15	
	Fixed			CGT-M		\$6.15	
:	Fixed (Cost Avg.)			CGT-M	:	\$6.15	
	Collar (\$9.12\$15.00)			CGT		\$6.14	
	Fixed			CGT		\$6.14	F F F F F F F F F F F F F F F F F F F
	Collar (\$7.65\$12.00)			TGT		\$6.06	
	Fixed			CGT		\$6.14	
	Fixed			TGT		\$6.06	
	Fixed			CGT		\$6.14	
February							
	Fixed			CGT		\$4.46	
	Fixed			CGT-M		\$4.50	
	Fixed			CGT-M		\$4.50	
	Fixed (Cost Avg.)			CGT-M		\$4.50	
	Collar (\$9.12\$15.00)			CGT		\$4.46	
	Fixed			CGT		\$4.46	
	Collar (\$7.65\$12.00)			TGT		\$4.45	
	Fixed			CGT		\$4.46	1.1
	Fixed			TGT		\$4.45	
	Fixed			CGT		\$4.46	
March							
	Fixed			CGT		\$4.03	
	Fixed			CGT-M		\$4.07	
	Fixed			CGT-M		\$4.07	
	Fixed (Cost Avg.)			CGT-M		\$4.07	
	Collar (\$9.12\$15.00)			CGT		\$4.03	
	Collar (\$7.65\$12.00)			TGT		\$4.00	
	Fixed			TGT		\$4.00	
	Fixed			CGT		\$4.03	
Season Tota					1		a second second

Winter Season 2008-09 (Continued)

Due to the mechanics of the Gas Cost Adjustment (GCA) Clause, the effect of the hedging program on the gas cost portion of customer's bills will occur in stages. The Expected Gas Cost (EGC) component of each GCA included estimated gas costs based on a combination of hedged gas and gas at estimated market prices. Absent the hedging program, the EGC would have been calculated on market prices alone. The Actual Adjustment (AA) component of each GCA also includes the effect of the hedging program reflected in the actual gas costs, which are compared to GCA revenues to calculate the AA.

When the monthly EGCs were calculated, the forecasted natural gas requirements were priced out based on the weighted average of known hedged prices and the NYMEX

futures price on the day that the calculation was performed. To determine the impact of the hedging program on the EGC, the hedging transactions were removed from the original calculations to determine what EGC would have been filed if no hedging had taken place. This effect may differ from the ultimate impact on the GCA once actual costs are known and flow through the AA.

The following table shows the effect that hedging had on each separate GCA rate for the 12 months ending March 31, 2009. The prior year's hedging program continues to affect the AA portion of the GCA through August 31, 2008. Likewise, gas costs during the 12 months ended March 31, 2009 will continue to affect the AA portion of the GCA through August 31, 2009. A negative sign means that the rate was decreased due to the hedging program, and a positive indicates that the rate was increased. Rates are in dollars per ccf.

Month	Impact on EGC	Impact on AA *	Impact on GCA
April 2008	-\$0.0295	+\$0.0107	-\$0.0188
May 2008	-\$0.0330	+\$0.0107	-\$0.0223
June 2008	-\$0.1761	+\$0.0116	-\$0.1645
July 2008	-\$0.3279	+\$0.0116	-\$0.3163
August 2008	-\$0.1646	+\$0.0116	-\$0.1530
September 2008	+\$0.0171	+\$0.0084	+\$0.0255
October 2008	+\$0.0624	+\$0.0084	+\$0.0708
November 2008	+\$0.0509	+\$0.0084	+\$0.0593
December 2008	+\$0.0442	+\$0.0044	+\$0.0486
January 2009	+\$0.0680	+\$0.0044	+\$0.0724
February 2009	+\$0.0854	+\$0.0044	+\$0.0898
March 2009	+\$0.1030	+\$0.0046	+\$0.1076

*Includes impact on AA from previous year's hedging activity.

To determine the ultimate effect on the price paid by customers subject to the GCA, the total difference in gas cost due to the hedging program was divided by the annual total Ccf used in the calculation of the EGC as part of the GCA filing effective March 1, 2009. Based on this calculation, GCA customers will pay approximately //Ccf more than they would have paid absent the hedging program for natural gas purchased between April 1, 2008 and March 31, 2009, as shown below:

Effect of Hedging Program on Volatility

The hedging program increases costs when market prices are relatively low and decreases costs when market prices are high. This provides prima facie evidence that the hedging program meets its stated goal of reducing the volatility in gas prices and providing some protection against extremely high prices. Based on a more statistical definition of volatility, the hedging program reduced the standard deviation of the average commodity cost of gas by \$0.973/dth over the 12 months ended March 31, 2009.

		ge Commodity cludes Hedgin				Estimated Average Commodity Cost Gas Without Hedging		
	Commodity		Wgt.	Cost/	Commodity		Wgt.	
	Cost	Dth	Avg.	(Savings)	Cost	Dth	Avg.	
Apr-08							-	
May-08					•	\$		
Jun-08								
Jul-08			ada					
Aug-08								
Sep-08								
Oct-08								
Nov-08								
Dec-08								
Jan-09								
Feb-09								
Mar-09								
Standard I	Deviation							
Reduction	in Standard Dev	viation		L				

Weather Analysis

The table below lists heating degree days for November 2008 through March 2009 compared to normal.

	Nov	Dec	Jan	Feb	Mar	Total
Normal Heating Degree Days*	621	907	1,069	855	662	4,114
2008/2009						
Heating Degree Days	673	958	1,205	813	534	4,183
% Colder (Warmer) than Normal	8%	6%	13%	(5%)	(19%)	2%

* Based on 10-year average 1990-1999.

Summary

Gas prices for the 12 months ended March 2009 were extremely volatile. NYMEX settlement prices for the period ranged from \$13.105 for the close of July 2008 to \$4.056 for the close of March 2009. During this period some months realized savings due to the hedging program, while others saw cost increases. Although the hedging plan increased gas costs overall, the hedging strategy was in place to provide protection against extreme prices and reduce volatility. The hedging program was successful in reducing the impact of volatility on the GCA by 36%. While no purchasing strategy or plan could guarantee savings every month, especially when weather, national storage levels, drilling activity and the economy are constantly applying pressure to natural gas prices, the hedging plan did achieve its stated goal of reducing volatility and insulating GCA customers from extreme price increases.

Case No. 2008-00175 Attachment A-2009 Page 1 of 307

ATTACHMENT A

NATURAL GAS HEDGING COMMITTEE MEETING INFORMATIONAL PACKETS APRIL 1, 2008—MARCH 31, 2009

Support Page

Gas Commercial Operations Hedging Program Market Indicators Summary April 30, 2008

				The state of the s
Weather	Price Pressure	Term	Comments	
Long Term Weather Forecast		Long	NOAA predicting a normal MayJuly for Mid-Continent. Above in Southwest, Northeast and Florida.	10
Mid Term Weather (30-60 days)		Long	EarthSat is predicting a normal MayJuly for Mid-Continent.	11
6-10 day forecast	t	Short	Below temperatures over large section of US for Days 6 & 7, becoming normal on average by Day 10.	12
Tropical Storm Activity	t	Short	No activity in the near term. However, CSU (Dr. Gray) is predicting "a well-above-average hurricane season".	13
Storage Inventory			;	
EIA Weekly Storage Report	t	Long	Storage injections for the week ending April 18 were 24 BCF. Storage levels are 17.6% lower than last year at 1.29 TCF (1.9% below 5-year average 1.31 TCF).	14
Industry Publications				
Cambridge Energy Research Associates Summer 2008: \$8.380 Winter 08/09: \$7.660	Ļ	Both	Cold weather delayed the start of the injection season and caused storage to be drawn down below five-year levels. "Any hope of a springlime price thaw was dashed on April 9 when a gas leak on the independence Trail Pipeline caused all of the 1 Bcf per day of gas production to be shut in, possibly for several weeks". For 2008, CERA projects an average price of \$8.32 per MMBtu."	15
Paribas	t	Both	"Fundamentally, it seems that there just isn't enough in storage out there and people feel the need to pay up in order to fill the tanks".	16
Gas Daily	ţ	Long	A colder-than-normal winter prompted analysts at two banks to raise their 2008 gas price forecasts to the \$8-\$9/MMBtu range. Tristone Capital hiked its gas price forecast 20% to an average of \$9/MMBtu. Raymond James raised their forecast by 23% to average \$8/Mcf at Henry Hub for 2008.	17
Government Agencies				
Energy Information Administration Summer 2008: \$8.190 Winter 2008/09: \$8.462	¥	Long	"The Henry Hub spot price are expected to average about \$8.340/MMBtu in 2008 and \$8.083/MMBtu in 2009, according to EIA."	18
Technical Analysis				
Summer 2008 Strip Chart	t	Short	Closed above \$11.	19
Winter 2008-09 Strip Chart	1	Short	Closed at \$12	20
Economy				
Demand	¥	Long	EIA: Total natural gas consumption is expected to increase by 1.0% in 2008 and by 0.8% in 2009.	21
Supply	¥	Long	EIA: Total U.S. marketed natural gas production is expected to increase by 2.9 percent in 2008 and 0.2 percent in 2009. Imports of LNG are projected to be about 680 Bcf for 2008, representing a 12% decline from the record volume received in 2007.	21
Oil Market	4 >	Long	EIA: "The global oil market remains fundamentally tight entering the second quarter, despite a slowdown in U.S oil consumption and growing risks to global economic growth. The combination of rising world oil consumption and low surplus production capacity is putting upward pressure on oil prices." The spot price of West Texas Intermediate (WTI) crude averaged \$105.46 per barrel in March 2008 WTI crude oil prices, which averaged \$72 32 per barrel in 2007, is expected to average about \$101 per barrel in 2008 and \$92.50 in 2009.	21

Meeting Minutes: 10th Floor North Conference Room - 10:00 am

Attendees: Patty Walker, Jim Henning, Jeff Kern (by telephone), Mitch Martin, Don Schierenbeck, Steve Niederbaumer Reviewed fundamentals such as weather (current to L/T forecasts), storage levels, industry publications, governmental agency, technical analysis and supply and demand fundamentals. Determined that based on this data and the overreaction in the market not to effectuate any additional hedging at this time. However, we will continue to monitor pricing, storage levels and the Independence Trail Pipeline shut in and determine if hedging should occur prior to the next meeting.



 $\left. \right)$

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 04/28/08

Oct-09 Sep-09 Aug-09 Jul-09 Jun-09 May-09 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08 Nov-08

> Daily Base Estimated Base (Gross)

Amount Hedged Fixed Price (Community Fixed Price (Community Fixed Price (Community Cost Averaging (Community Total Hedged

<u>Monthly Base</u> Estimated Base (Gross)

Estimated Base (Gross) Hedged to date Fixed Price (Fixed Price Fixed Price (Fixed Price Fixed Price Fixed Price (Fixed Price Fixed P

5

Normal Load (City Gate) Hedged (City Gate) Storade Mithdrawal

Storage Withdrawal Market Total (arthour arthour % Hedged & Storage Seasonal %

1

Case No. 2008-00175 Attachment A-2009 Page 4 of 307 Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 04/28/08

Oct-10 Sep-10 Aug-10 Jul-10 Jun-10 Apr-10 May-10 Mar-10 Feb-10 Jan-10

Daily Base Estimated Base (Gross)

Amount Hedged Fixed Price (Fixed Price Total Hedged

Monthly Base

Estimated Base (Gross) % of Base Supply Hedged to date Fixed Price Fixed Price (Total Hedged

6

Seasonal % of Base

Normal Load (City Gate) % Hedged & Storage Storage Withdrawal Market Ø Seasonal % Hedged Total

Dec-09 Nov-09





8

ì

Hedging Meeting Next.xls

4/27/2008

CostAvg

COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

Case No. 2008-00175 Attachment A-2009 Page 7 of 307

	Histor	c Prices:			
	NYMEX CI	osing Price	 		
	5-yr. avg.	Last Year	CERA	EIA	NYMEX
	(03/04-07/08)	(2007-2008)	22-Apr-08	8-Apr-08	28-Apr-08
May	\$6.49	\$7.51	\$9.390	\$8.560	\$11.280
Jun	\$6.45	\$7.59	\$8.750	\$8.130	\$11.329
Jul	\$6.24	\$6.93	\$8.710	\$7.850	\$11.452
Aug	\$6.31	\$6.11	\$8.180	\$7.790	\$11.502
Sep	\$6.62	\$5.43	\$7.010	\$7.880	\$11.519
Oct	\$6.94	\$6.42	\$7.170	\$8.110	\$11.569
Nov	\$8.07	\$7.27	\$7.690	\$8.260	\$11.814
Dec	\$7.91	\$7.20	\$7.790	\$8.510	\$12.154
Jan	\$7.36	\$5.84	\$7.660	\$8.680	\$12.364
Feb	\$7.08	\$6.92	\$7.500	\$8.600	\$12.319
Mar	\$7.01	\$7.55	\$7.290	\$8.260	\$12.029
Apr	\$7.41	\$7.56	\$7.430	\$7.920	\$10.079
12 Month Avg	\$6.99	\$6.86	 \$7.881	\$8.213	\$11.618
Summe	er Average		 \$8.091	\$8.034	\$11.247
Winter A	verage		\$7.586	\$8.462	\$12.136



1

ł

ŧ

- - ...



....

4/27/2008



EarthSat's 30-60 Day Outlook

Wednesday, April 23, 2008

EarthSat Weather

Forecaster: MR/SS

Case No. 2008-00175 Attachment A-2009 Page 9 of 307

5



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]



EarthSat's 6-10 Day Forecast-Detailed

Tuesday, April 29, 2008

EarthSat Weather

Forecaster: AC/JS



1.2

Case No. 2008-00175 Attachment A-2009 Page 11 of 307

Gas Daily

Thursday, April 10, 2008

CSU predicts active Atlantic hurricane season

Colorado State University tropical weather forecasters on Wednesday said the Atlantic Basin will likely experience "a well-above-average hurricane season" based on current oceanic and atmospheric trends. In an ominous sign for an already-tight gas supply/demand balance, William Gray and his CSU team predicted 15 named storms forming in the Atlantic Basin between June 1 and November 30, with eight of those expected to become hurricanes. Of those, four are expected to develop into intense or major hurricanes of Category 3 or stronger. Long-term averages are 9.6 named storms, 5.9 hurricanes and 2.3 intense hurricanes per year, the university said. The team said it believes tropical cyclone activity this year will be 160% of the average season. By comparison, 2005 — when Hurricanes Katrina and Rita devastated the Gulf Coast and knocked out substantial gas and oil production in the

Gulf of Mexico — experienced activity that was about 275% of average. While the past two years have brought considerably less Atlantic hurricane activity than the CSU forecasters predicted, "based on our latest forecast the probability of a major hurricane making landfall along the US coastline is 69% compared with the last-century average of 52%," said Phil Klotzbach, a member of the CSU team. "We are calling for a very active hurricane season this year, but not as active as the 2004 and 2005 seasons."

In addition, the CSU team said it sees a 45% chance that a major hurricane will make landfall on the East Coast, including the Florida Peninsula, compared with the long-term average of 31%, and a 44% chance a major hurricane will hit the Gulf Coast from the Florida Panhandle west to Brownsville, Texas, vs. the long-term average of 30%.

The forecasters said conditions in the Atlantic Basin are "quite favorable" for an active storm season, adding that the current sea surface temperatures in the Atlantic are in a pattern that is typically observed before very active periods. The CSU team said high sea surface temperatures are likely to continue in the tropical and North Atlantic this year and said they believe the currently observed weak Azores High will likely promote weaker-than-normal trade winds over the next few months, enhancing warm sea-surface "anomalies" in the tropical and subtropical Atlantic.

In addition, the forecast team said it expects neutral or weak La Niña conditions in the tropical Pacific, "which, combined with a predicted warm north and tropical Atlantic, is a recipe for enhanced Atlantic Basin hurricane activity. These factors are similar to conditions that occurred during the 1950, 1989, 1999 and 2000 seasons." Those four seasons had well-above-average activity and Klotzbach and Gray predict the 2008 season will have activity in line with the average of those four years. — Jeff Barber

other formats: Sumn

Case No. 2008-00175 Attachment A-2009 Page 12 of 307

Gia Energy Information Administration

Official Energy Statistics from the U.S. Government

Home > Natural Gas > Weekly Natural Gas Storage Report

Weekly Natural Gas Storage Report

Released: April 24, 2008 at 10:30 A.M. (Eastern time) for the Week Ending April 18, 2008. Next Release: May 1, 2008

Working Gas in Underground Storage, Lower 48

Region	Stocks i	n billion cubic fe	eet (Bcf)	Historical Comparisons					
	04/10/00	04/11/08	Change	Year Ago (5-Year (2003-200				
	04/18/08		Change	Stocks (Bcf)	% Change	Stocks (Bcf)			
East	598	582	16	664	-9.9	599			
West	181	176	5	251	-27.9	212			
Producing	506	503	3	644	-21.4	500			
Total	1,285	1,261	24	1,559	-17.6	1,310			

Notes and Definitions

Summary

Working gas in storage was 1,285 Bcf as of Friday, April 18, 2008, according to EIA estimates. This represents increase of 24 Bcf from the previous week. Stocks were 274 Bcf less than last year at this time and 25 Bcf belo year average of 1,310 Bcf. In the East Region, stocks were 1 Bcf below the 5-year average following net inject Bcf. Stocks in the Producing Region were 6 Bcf above the 5-year average of 500 Bcf after a net injection of 3 I the West Region were 31 Bcf below the 5-year average after a net addition of 5 Bcf. At 1,285 Bcf, total workin within the 5-year historical range.



Working Gas in Underground Storage Compared with 5-Year Range

Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Jobs • About L

production have tightened the supply-demand balance, thereby contributing to price strength. Any hope of a springtime price thaw was dashed on April 9 when a gas leak on the Independence Trail Pipeline in the Gulf of Mexico caused all of the 1 billion cubic feet (Bcf) per day of gas production at the deepwater Independence Hub to be shut in, possibly for several weeks.*

The Henry Hub natural gas price averaged \$9.34 per million British thermal units (MMBtu) in March, a record for the month and an increase of more than 10 percent over the February price (see Table 1). Given the need to rebuild storage from now below-average levels, CERA expects prices to remain relatively flat during April and May, at \$9.45 and \$9.39, respectively, before beginning a decline as expected new supplies from domestic production come online and as LNG imports begin their customary summer increase.

This projection could be altered by unseasonably hot or mild weather this summer. Figure 1 shows the likely price effects of a summer that is 15 percent warmer than normal and one that is 18 percent cooler than normal.** In the hot summer case the gas price exceeds \$10 per MMBtu by August and averages \$9.53 for the entire summer season, compared with \$8.38 in the base case (normal weather).*** A cooler-than-normal summer would sharply reduce prices, which would fall below \$6 by September, with a summer average price of \$7.47 per MMBtu.

								Summer 2008				\$ 8,38
			Table 1				Summer 2008 Winter 2008-09				\$ 7.66	
Henry Hub Prices (nominal US dollars per MMBtu)												
	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	
January	5.39	6.03	6.17	8.76	6.33	7.93	7.667	6.63	6.85	6.39	7.31	
February	7.00	5.41	6.09	7.62	8.06	8.46	7.505	6.62	6.78	6.30	7.27	
March	6.37	5.38	6.91	6.88	7.10	9.34	7.29	6.60	6.64	6.37	7.16	
April	5.27	5.70	7.19	7.09	7.57	(9.45	7.43	6.42	6.49	6.14	7.63	
May	5.77	6.28	6.47	6.23	7.64	9.39	7.32	6.55	6.40	6.22	7.56	
June	5.80	6.26	7.17	6.26	7.40	8.75	7.25	6.54	6.48	6.31	7.55	
July	5.04	5.92	7.57	6.05	6.21	<u> </u>	7.10	6.55	6.39	6.35	7.45	
August	4.96	5.43	9.29	7.24	6.30	8.18	6.90	6.46	6.33	6.36	7.16	
September	4.61	4.99	12.11	4.95	5.98	7.01	6.85	5.85	6.22	6.95	6.57	
October	4.65	6.24	13.36	5.67	6.68	人7.17	6.59	6.53	6.00	6.91	7.02	
November	4.45	5.88	10.29	7.32	7.01	7.697	6.61	6.84	6.48	7.31	7.94	
December	6.12	6.63	12.98	6.83	7.08	7.79 S	6.67	6.89	6.50	7.36	8.01	
Year												
average	5.45	5.85	8.80	6.74	6.95	8.32	7.10	6.54	6.46	6.58	7.39	1

Sources: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003-February 2008 figures are derived from historical data as available; March 2008-13 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA com.

***Summer season is defined as April through October.

@ 2008, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent.

15

^{*}The shut-in occurred too late in the month to be factored into this outlook completely. The May Monthly Briefing will contain a full examination of its effects.

^{**}The weather bands were selected based on actual weather data for 2005 (hot summer case) and 1992 (mild summer case). These years were selected because they had the lowest regional variation in weather patterns and hence were more representative of weather extremes on a continentwide basis.

BNP Paribas Natural Gas Market Watch 23 April 2008

Commentary

At the beginning of today's session, it looked as though the correction to the downside had taken hold and we would see a lot of profit taking and further negative movement over the next week or 2. But then around midday, we turned right back around and rallied up through the 10.750 resistance and settled above at 10.781. Fundamentally, it seems that there just isn't enough in storage out there and people feel the need to pay up in order to fill the tanks. Technically, we may be seeing an extended 5th wave which could easily take us up over 11.00 to about 11.40 before we see a correction. One market of note was the Cal9 strip which has traded like an outright for the past 3 days and was quoted today anywhere from -11/-6 to +8/+13.

Gas Daily

Tuesday, April 8, 2008

Cold winter leads analysts to raise forecasts

A colder-than-normal winter prompted analysts at two banks on Monday to raise their 2008 gas price forecasts to the \$8-\$9/MMBtu range.

While the National Oceanic and Atmospheric Administration had called for a warmer-than-normal winter in January, Mother Nature gave forecasters a head fake and delivered significantly lower temperatures over the final 10 weeks of winter.

Tristone Capital hiked its gas price forecast 20% for 2008, calling for prices to average \$9/MMBtu on NYMEX. Likewise, Raymond James energy analyst Marshall Adkins raised his gas price forecast by 23%, predicting that prices will now average \$8/Mcf at Henry Hub for the entire year. An uncharacteristically bearish Adkins had called for gas prices to collapse in the final 10 weeks of winter as growing US supplies were greeted with slack demand from a warm winter.

"Our bearish gas call has looked pretty stupid as gas prices have continued to rally upward from the low \$8s to over \$10/Mcf," Adkins admitted Monday. "So, where did we miss it? The simple answer is weather. Over the final 10 weeks of the year, the weather averaged more than 13% colder than the 10-year average. The colder US weather generated nearly 400 Bcf (over 5 Bcf/d) more gas demand over the final 70 days of winter than normal weather."

"Instead of ending March with a very bearish 1,650 Bcf of gas in storage, we are now going to end the winter with a more normal 1,248 Bcf in storage," Adkins said.

On Monday, Adkins raised his second-quarter price forecast 38% to \$9/Mcf at Henry Hub and his third-quarter forecast 60% to \$8/Mcf from \$5/Mcf. He left his fourth-quarter call of \$7/Mcf unchanged.

But Adkins said the chance of a gas price collapse this summer has not gone away; it now stands at 50%, down from the 80% he predicted in January. "If summer weather is warmer than normal, summer gas prices hold up in the \$10/Mcf range," he said. "If the summer weather is mild (*i.e.*, colder than the10-year normal), then we still may see sub-\$6/Mcf gas later this summer."

If storage fills earlier than the traditional October 31 deadline, "then producers would be forced to shut in production and gas prices would likely collapse," he said.

"The most important variable and ultimate driver of our bearish tone is the magnitude of the US gas supply increase we see in 2008 and beyond," Adkins said. By his calculation, production from the Barnett and other US shale plays has jacked gas production up 7%, or 4 Bcf/d, over previous years.

Liquefied natural gas imports will not play a significant role in the supply/demand balance in 2008, Adkins said, with imports up only a modest 300,000 Mcf/d from 2007. At the same time, Adkins said Canadian imports should decline by 1 Bcf/d from 2007.

"We think US gas supply (including imports and exports) will be up 2.7 Bcf/d," Adkins concluded. "US gas demand, on the other hand, should be up only 0.5 Bcf/d. That leaves the US gas market 2.2 Bcf/d oversupplied relative to last summer."

10f2

Driving Tristone's price forecast was the 5% increase in heating degree-days and strong demand for LNG in Spain and Asia this winter, the firm said. Tristone raised its 2009 gas price forecast 27% to \$9.50/MMBtu and its longterm price call 33% to \$10/MMBtu as global demand for gas sucks up more and more LNG cargoes that would have gone to the US.

Additionally, Tristone said that drought-like water levels in Texas and the southeastern US could force nuclear plants to restrict their operations, driving up demand for gas-fired power and increasing prices even further.

The colder-than-normal winter surprised several analysts, Tristone said, particularly after NOAA had predicted the winter would be warmer than normal.

"This past winter rounded out to be much colder than initially forecasted at 4.7% colder than last year or 1.7% warmer than normal, which drove storage levels to within the 5-year average of 1.25 Tcf at the end of winter, a level not seen since 2005," Tristone noted. "Our estimates show a tightening year-to-year supply/ demand balance by the tune of 0.6 Bcf/d as a result of lower LNG and Canadian imports and increased power demand offsetting growth in domestic production levels." — *Bill Holland*

Case No. 2008-00175 Attachment A-2009 Page 17 of 307



From EIA Report 4/8/08 Stats





19



Winter Strip Nov08 - Mar09

Short-Term Energy and Summer Fuels Outlook

April 8, 2008 Release (Next Update: May 6, 2008)

Natural Gas

Consumption. Total natural gas consumption is expected to increase by 1.0 percent in 2008 and by 0.8 percent in 2009 (U.S. Total Natural Gas Consumption). The assumption of normal weather is expected to lead to limited growth in residential and commercial demand in 2008, while economic conditions are expected to limit industrial sector growth for the year. In 2009, consumption is projected to decrease slightly in the residential and commercial sectors, with a small increase expected in the industrial sector. Finally, milder summer temperatures are expected to leave natural gas consumption for electricity generation unchanged in 2008, after an increase of more than 10 percent in 2007. Consumption growth of 2.9 percent is expected in the electric power sector in 2009.

Production and Imports. Total U.S. marketed natural gas production is expected to increase by 2.9 percent in 2008 and by 0.2 percent in 2009. In 2008, the development of deepwater supplies is expected to drive production growth of 4.8 percent in the Gulf of Mexico. Production from the Lower-48 onshore region is expected to continue the upward trend of recent years, increasing by 2.7 percent, led by growth in unconventional production basins. In 2009, production growth will be offset partially by the absence of further increases in rigs drilling natural gas prospects; the natural decline in production from current wells, particularly in the offshore fields; and rising production costs. In 2009, natural gas production in the Gulf of Mexico is projected to decline by 0.7 percent while production in the Lower-48 onshore region is expected to increase by 0.3 percent.

Imports of liquefied natural gas (LNG) are projected to reach about 680 billion cubic feet (Bcf) for 2008, representing a 12-percent decline from the record volume received in 2007. Strong demand in Asia and Western Europe, which compete with the United States for LNG supplies, has greatly reduced the number of U.S.-bound LNG cargoes so far this year. Although current import volumes are low, EIA expects U.S. LNG imports to rebound slightly this summer as global demand wanes. An increase in global LNG supplies, particularly expansions in Nigeria and Norway, are expected to boost shipments of LNG to

21 Page 1052

the United States in 2009, when import volumes are projected to total about 950 Bcf.

Global Petroleum

The global oil market remains fundamentally tight entering the second quarter, despite a slowdown in U.S. oil consumption and growing risks to global economic growth. The combination of rising world oil consumption and low surplus production capacity is putting upward pressure on oil prices. The flow of investment money into commodities has contributed to crude oil price volatility. Inventories are improving in the Organization for Economic Cooperation and geopolitical concerns in Nigeria, Venezuela, and Iraq, a higher level of commercial inventories is desirable. The magnitude, breadth, and duration of any global economic slowdown will certainly influence market conditions over the near term. The increase in non-Organization of the Petroleum Exporting Countries (OPEC) production in the second half of the year, however, is expected to contribute to increases in OPEC surplus crude oil production capacity and price pressures toward the end of the year.

Crude Oil Prices. WTI crude oil prices, which averaged \$72.32 per barrel in 2007, are projected to average \$101 per barrel in 2008 and \$92.50 per barrel in 2009.

A significant uncertainty in this *Outlook* is the WTI crude oil price projection. Price sensitivity is a characteristic of the current tight petroleum markets. Any real or perceived disturbance to petroleum demand or supplies, such as unusual weather, unscheduled refinery disruptions, or geopolitical uncertainty in oilexporting regions, can result in large price increases in a short period of time. Prices can fall as rapidly under a different set of circumstances, such as easing of geopolitical tensions or further weakening of U.S. and world economic growth.

The last few months provide a good example of oil price volatility. Between mid Dovember 2007 and early December, the spot price of WTI crude oil fell by almost \$12 per barrel from \$99.16 per barrel on November 20 to a low of \$87.45 per barrel on December 5, then rebounded by January 2 to \$99.64 per barrel. By early February the WTI price was back down to \$87.16, but then rose steadily to over \$110 per barrel on March 13. The monthly average WTI price for March 2008 was \$105.46 per barrel and is expected to average near \$100 per barrel through the rest of this year.

Case No. 2008-00175 Attachment A-2009 Page 22 of 307

Gas Commercial Operations Hedging Program Market Indicators Summary May 16, 2008

				· ugo 22 01 507
		Hedgi ket Ind	ercial Operations ing Program icators Summary y 16, 2008	Support Page
Weather	Price Pressure	Term	Comments	
Long Term Weather Forecast		Long	NOAA predicting below normal June–Aug. for Iowa through Mid Florida. Above in West and Northeast.	8
Mid Term Weather (30-60 days)		Long	EarthSat is predicting a normal June—July for Mid-Continent. Above for June in 4 corner states and above for July from plains until west coast states.	9
6-10 day forecast	t	Short	Very little "Normal weather" in North America.	10
Tropical Storm Activity		Short	No activity in the near term. AccuWeather is predicting "a normal Gulf storm season".	11212
Storage Inventory	l	1		
EIA Weekly Storage Report	t	Long	Storage injections for the week ending May 9 were 93 BCF. Storage levels are 15 8% lower than last year at 1.53 TCF (.2% above 5-year average 1.53 TCF).	13
Industry Publications				
Cambridge Energy Research Associates Summer 2008: \$8.380 Winter 08/09: \$7.660	ļ	Both	Cold weather delayed the start of the injection season and caused storage to be drawn down below five-year levels. "Any hope of a springtime price thaw was dashed on April 9 when a gas leak on the Independence Trail Pipeline caused all of the 1 Bcf per day of gas production to be shut in, possibly for several weeks". For 2008, CERA projects an average price of \$8.32 per MMBtu."	14
Paribas	t	Both	The worst of the potential summer time problems lie ahead of the sector: hurricanes, storage deficits, heat waves/AC demand, driving season, independence platform problems, refinery issues, geopolitics, etc.".	15
Gas Daily	1	Long	Independence Hub restart delayed until mid-June. According to market analysts, the hub's closure—which one firm deemed the equivalent of a "silent hurricane"could have lasting repercussions, essentially ending any prospects for traditional springtime gas price softness.	16
Gas Daily	Î	Long	Given the lack of an immediate replacement for the Independence Hub, the lower rate of supply should result in slower injections and ultimately lower inventories at the end of October. That dynamic provides further support to higher prices during the injection season and beyond.	17
Conoco Morning Briefing	t t	Long	"We're starting to discern some significant declines in demand across the energy complex, including gasoline and natural gas. That says we'll have to retreat off this cliff soon."	18
Government Agencies				
Energy Information Administration Summer 2008: \$9.591 Winter 2008/09: \$9.834	ţ	Long	"The Henry Hub spot price are expected to average about \$9.405/MMBtu in 2008 and \$9.143/MMBtu in 2009, according to EIA."	19
Technical Analysis				24
Summer 2008 Strip Chart	1	Short	Closed at \$11.40	20
Winter 2008-09 Strip Chart	1	Short	Closed at \$12.50	21
Economy	- -			
Demand	Ļ	Long	EIA: Total natural gas consumption is expected to increase by 1.4% in 2008 and by 0.5% in 2009.	22
Supply	+	Long	EIA: Total U.S. marketed natural gas production is expected to increase by 4.6 percent in 2008 and then decline by 1.1 percent in 2009. Imports of LNG for the first 4 months totaled 115 Bcf, compared to 283 Bcf at this time last year. The shift of LNG away this year results from higher prices available in Asia and Europe. In 2007, LNG imports were 771 Bcf. The 2008 LNG forecast is 580 Bcf.	22
Oil Market	4	Long	EIA: "The oil supply system continues to operate at near capacity and remains vulnerable to both actual and perceived supply disruptions. The combination of rising global demand, fairly normal seasonal inventory patterns. slow gains in non-OPEC supply. and low levels of available surplus production capacity is providing firm support for prices." WTI crude oil prices, which averaged \$72 32 per barrel in 2007, is expected to average about \$110 per barrel in 2008 and \$103 in 2009.	22
Meeting Minutes: 10th Floor North Confere	nen Room	4.00 -		7

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm Attendees: Patty Walker, Jim Henning, Jeff Kern, Mitch Martin, Mike Brumback. Steve Niederbaumer

Reviewed and discussed fundamentals. Significant discussion evolved around the extended outage at the Independence Hub and that impact on prices in the future. Taking into account the "Market Indicators", historically high current prices as well as Duke's current position in the hedging programs (hedged at minimum levels) a decision was made not to immediately hedge any additional volumes. However, direction was given to monitor the market for additional upward trends and review the decisions if an upward trend continues to develop



4

Duke Energy Kentucky Hedging Program - Current Position November 2007 - October 2008

i Ì

 $\left(\widehat{ \left[\begin{array}{c} & & \\ & & \\ & & \end{array} \right]} \right)$

Case No. 2008-00175 Attachment A-2009 Page 23 of 307

Oct-09 Sep-09 Aug-09 90-luL Jun-09 . L. May-09 Apr-09 Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 05/15/08 Mar-09 Feb-09 Jan-09 Dec-08 Nov-08 Normal Load (City Gate) Hedged (City Gate) Seasonal % of Base Monthly Base Estimated Base (Gross) Storage Withdrawal Market Daily Base Estimated Base (Gross) Cost Averaging (C Total Hedged % of Base Supply Fixed Price (Fixed Price (Cost Averaging (Cost Hedged to date Fixed Price Amount Hedged Fixed Price (Fixed Price Total Hedged Total (M

% Hedged & Storage Seasonal %

5

Case No. 2008-00175 Attachment A-2009 Page 24 of 307 Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010

	Oct-10	7,500	0 1,000 1,000	232,500	0 31,000 31,000	7.2%	29,450 0 569,845 599,295 4,9%
	Sep-10 O	14,000 7	1,000 1,000			2.1%	28,500 2 0 391,724 56 420,224 59 6.8%
	Sep	14,(420,000	30,	00	28 391 420
	Aug-10	15,000	0 1,000	465,000	31,000	6.7%	29,450 0 433,722 463,172 6.4%
	Jul-10	15,000	0 1,000 1,000	465,000	0 31,000	31,000 6.7%	29,450 0 431,349 460,799 6.4%
	Jun-10	15,500	0 1,000 1,000	465,000	30,000	30,000 6.5%	28,500 0 433,749 462,249 6.2%
	May-10	16,600	0 1,000 1,000	514,600	0 31,000	31,000 6.0%	29,450 0 570,518 599,968 4.9%
2	Apr-10	13,500	0 1,000 1,000	405,000	0 30,000	30,000 7.4%	28,500 0 789,358 817,858 3.5%
October 201 15/08	Mar-10	16,091	1,000 1,000 2,000	498,821	31,000 31,000	62,000 12.4% 10.7%	58,900 140,119 <u>1,178,859</u> 1,377,878 14.4% 16.4%
November 2009 - October 2010 As of 05/15/08	Feb-10	21,620	1,000 1,000 2,000	605,360	28,000 28,000	56,000 9.3%	53,200 251,011 1,281,025 1,585,236 19,2%
Nove	Jan-10	20,872	1,000 1,000 2,000	647,032	31,000 31,000	62,000 9.6%	58,900 328,025 1,743,075 2,130,000 2,130,000
	Dec-09	21,880	1,000 1,000 2,000	678,280	31,000 31,000	62,000 9.1%	58,900 213,107 1,548,519 1,820,526 14.9%
	Nov-09	13,282	1,000 1,000 2,000	398,460	30,000	60,000 15.1%	57,000 102,597 973,581 1,133,178 14.1%
		Daily Base Estimated Base (Gross)	Amount Hedged Fixed Price (BP \$8.475 Mainline) Fixed Price (Tenaska \$8.650) Total Hedged	<u>Monthly Base</u> Estimated Base (Gross)	Hedged to date Fixed Price (BP \$8.475 Mainline)	Fixed Price (Tenaska po.gou) Total Hedged % of Base Supply Seasonal % of Base	Normal Load (City Gate) Hedged (City Gate) Storage Withdrawal Market Total (incl. Injections) % Hedged & Storage Seasonal %

6

Case No. 2008-00175 Attachment A-2009 Page 26 of 307

COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Historic Prices: NYMEX Closing Price								
	5-yr. avg.	Last Year	CERA	EIA	NYMEX				
	(03/04-07/08)	(2007-2008)	22-Apr-08	6-May-08	15-May-08				
Jun	\$6.45	\$7.59	\$9.390	\$9.620	\$11.230				
Jul	\$6.24	\$6.93	\$8.750	\$9.330	\$11.390				
Aug	\$6.31	\$6.11	\$8.710	\$9.180	\$11.485				
Sep	\$6.62	\$5.43	\$8.180	\$9.230	\$11.515				
Oct	\$6.94	\$6.42	\$7.010	\$9.700	\$11.580				
Nov	\$8.07	\$7.27	\$7.170	\$9.720	\$12.250				
Dec	\$7.91	\$7.20	\$7.690	\$10.020	\$12.630				
Jan	\$7.36	\$5.84	\$7.790	\$9.980	\$12.840				
Feb	\$7.08	\$6.92	\$7.660	\$9.950	\$12.780				
Mar	\$7.01	\$7.55	\$7.500	\$9.500	\$12.130				
Apr	\$7.41	\$7.56	\$7.290	\$9.140	\$10.390				
May	\$7.72	\$7.51	\$7.430	\$8.930	\$10.280				
12 Month Avg	\$7.09	\$6.86	\$7.881	\$9.525	\$11.708				
Summe	er Average		\$8.109	\$9.304	\$11.124				
Winter A	Verage		\$7.562	\$9.834	\$12.526				



• •



.,



EarthSat's 30-60 Day Outlook

Wednesday, May 14, 2008

EarthSat Weather

Forecaster: MR/SS



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]

7



EarthSat's 6-10 Day Forecast-Detailed

Thursday, May 15, 2008

Forecaster: AC/IS

EarthSat Weather

Forecast Temperature Deviations



<u>Today's Forecast:</u>

Storm Pushes Warmer Weather into the East Late With the strong warmth in the West moving into the 3 to 5 day time frame now, the focus of the forecast is moving eastward, where warmer trends are building late here. Temperatures by days 9 and 10 could be pushing into the 80s in the Eastern Midwest and in the Mid-Atlantic. Temperatures were also left somewhat warmer in California than was the case yesterday. The West is where models are differing in the most this morning, with the European being cold, and the American keeping temperatures warmer, possibly melting more NW snowpack. In this case, a compromise was taken between the two.



Case No. 2008-00175 Attachment A-2009 Page 29 of 307

www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

Gas Daily

Tuesday, May 13, 2008

AccuWeather sees 'normal' Gulf storm season

Defying forecasts issued by other firms, private weather service AccuWeather on Monday said the energy-producing region in the Gulf of Mexico is likely to experience only average hurricane activity this year while suggesting a heightened risk for landfall along the East Coast. "The Gulf of Mexico will have a normal distribution of tropical cyclone activity, with energy interests experiencing at least seven to 10 days with disruptions or threats of disruptions," said Joe Bastardi, chief long-range and hurricane forecaster for State College, Pennsylvania-based AccuWeather. Bastardi added that the forecast calls for two or three storms that will impact the energy infrastructure in and around the Gulf and "bring at least tropical storm force winds to the Gulf Coast, including one or two that bring hurricaneforce winds." He said the best chance for early storm development is in the western or central Gulf. "Although we are forecasting a total of 12 named storms in 2008, much more important than the forecast storm number are the facts that a relatively high percentage of tropical storms are expected to make landfall and that the major threat area is farther north than normal," Bastardi said. "We believe at least 40% of named storms will cause tropical storm or hurricane conditions on the US coastline, which is about 1.6 times the norm." The forecast compares with the prediction of "well-above-average" Atlantic Basin hurricane activity by Colorado State University meteorologists, who are calling for 15 named storms, and a forecast issued by WSI Corporation that calls for 14 storms (GD 4/10). The hurricane season runs from June 1 to November 30. At a press conference in Houston Monday, Bastardi said the AccuWeather.com Hurricane Center looked at 1985, 1989, 1996 and 1999 as years to compare with the 2008 season. "We have one mega-year in there, which is '85. That was a rough year in the Gulf," Bastardi told Platts before the conference. "I certainly don't see the type of situation we had in 2005, where we had two or three severe storms. But I see the kind of situation that could produce one storm that threatens major conditions in the Gulf." Bastardi, whose predictions are based on studying the behavior of past storms rather than a reliance on computer models, has often defied conventional wisdom in his forecasts and has been proven right. For example, following the extremely brutal 2005 storm season, which saw a

record number of storms and two major hurricanes in the Gulf, Bastardi correctly forecast that 2006 would be a calmer-than-normal year for Gulf storms. "No one seemed to pay any attention to that because they were worried about the Eastern Seaboard," he said.

"The difference between this year and 2006 is that, as I've identified in the analogs and the things I'm looking at, I cannot say that the Gulf is going to have a less-than-normal year. If there's development this year, I think it's going to be in the western and central Gulf, early. After May 25 I'm starting to get suspicious about the western Gulf, because the water's so warm."

Bastardi explained that the world is going through a cycle, similar to one seen in a period stretching from the 1930s through the 1950s, of increased storm activity in the Atlantic Basin. "The problem is we're getting into a cycle now where there's more bang for the buck. Instead of having a mega-number of storms — and there were a couple of years where we had a lot of storms where nothing really happened — what you may have this year is less storms but more impact given the total number," he said. For the Gulf producing region, however, storms are a way of life despite what's going on in other locales, Bastardi said. "The Gulf of Mexico gets big storms no matter what the cycle is. Every two or three years a big storm shows up in the Gulf." Since the devastating 2005 season, the offshore exploration-and-production and pipeline industries have worked with government officials to mitigate the impact of major storms, both offshore and onshore, Skip Horvath, president and

CERA Monthly Briefing

APRIL 22, 2008 / PAGE 2

Summer 2008

Winter 2008-09 \$ 7.66

Case No. 2008-00175 Attachment A-2009 Page 33 of 307

\$ 8,38

production have tightened the supply-demand balance, thereby contributing to price strength. Any hope of a springtime price thaw was dashed on April 9 when a gas leak on the Independence Trail Pipeline in the Gulf of Mexico caused all of the 1 billion cubic feet (Bcf) per day of gas production at the deepwater Independence Hub to be shut in, possibly for several weeks.*

The Henry Hub natural gas price averaged \$9.34 per million British thermal units (MMBtu) in March, a record for the month and an increase of more than 10 percent over the February price (see Table 1). Given the need to rebuild storage from now below-average levels, CERA expects prices to remain relatively flat during April and May, at \$9.45 and \$9.39, respectively, before beginning a decline as expected new supplies from domestic production come online and as LNG imports begin their customary summer increase.

This projection could be altered by unseasonably hot or mild weather this summer. Figure 1 shows the likely price effects of a summer that is 15 percent warmer than normal and one that is 18 percent cooler than normal.** In the hot summer case the gas price exceeds \$10 per MMBtu by August and averages \$9.53 for the entire summer season, compared with \$8.38 in the base case (normal weather).*** A cooler-than-normal summer would sharply reduce prices, which would fall below \$6 by September, with a summer average price of \$7.47 per MMBtu.

Table 1	
---------	--

2003 2004 2005 2009 2012 2013 2006 2007 2008 2010 2011 6.17 7.667 January 5.39 6.03 8.76 6.33 7.93 6.63 6.85 6.39 7.31 7.00 5.41 6.09 7.62 8.06 8.46 7.505 6.62 6.78 6.30 7.27 February 5.38 6.91 7.29 6.60 6.37 7.16 March 6.37 6.88 7.10 9.34 6.64 April 5.27 5.70 7.19 7.09 7.57 9.45 7.43 6.42 6.49 6.14 7.63 5.77 6.28 6.47 6.23 7.64 9.39 7.32 6.55 6.40 6.22 7.56 May 5.80 6.26 7.17 6.26 7.40 8.75 7.25 6.54 6.48 6.31 7.55 June 5.04 5.92 7.57 6.05 6.21 8.71 7.10 6.55 6.39 6.35 7.45 July 4.96 5.43 9.29 7.24 6.30 6.90 6.46 6.33 6.36 7.16 August 8.18 September 4.61 4.99 12.11 4.95 5.98 7.01 6.85 5.85 6.22 6.95 6.57 October 4.65 6.24 13.36 5.67 6.68 7.17 6.59 6.53 6.00 6.91 7.02 4.45 6.48 November 5.88 10.29 7.32 7.01 7.697 6.61 6.84 7.31 7.94 December 6.12 6.63 12.98 6.83 7.08 7.79) 6.67 6.89 6.50 7.36 8.01 Year average 5.45 5.85 8.80 6.74 6.95 8.32 7.10 6.54 6.46 6.58 7.39

Henry Hub Prices (nominal US dollars per MMBtu)

Sources: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003-February 2008 figures are derived from historical data as available; March 2008-13 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

***Summer season is defined as April through October.

© 2008, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent

^{*}The shut-in occurred too late in the month to be factored into this outlook completely. The May *Monthly Briefing* will contain a full examination of its effects.

^{**}The weather bands were selected based on actual weather data for 2005 (hot summer case) and 1992 (mild summer case). These years were selected because they had the lowest regional variation in weather patterns and hence were more representative of weather extremes on a continentwide basis.

CEO of the Natural Gas Supply Association, told Platts.

Horvath said that in the wake of the devastation caused by Hurricane Katrina, the industry resisted plans by the Minerals Management Service to take over the management of repair operations. "When Katrina hit, the government put forth a proposal to take over our crews and direct them. We respectfully asked them to refrain from that and allow us to do our job," he said.

Horvath added that government officials later said "that was the best thing that could have happened, to allow us to direct our own crews and to fix things as we saw the market needing them."

In another positive development in the aftermath of Katrina, the government has instituted a streamlined system for tracking offshore production volumes, using a producers' survey conducted by the Energy Information Administration, Horvath said. "They collect data from well operators directly, without going through the states," he said. "The government has better information on how much gas is available and where the outages are."

Horvath said the Katrina experience validated many of the industry's existing safety and security procedures. "You learn something every time you have a big event and those lessons were incorporated into the plans for evacuation and safety of the crews," he said.

Although a large number of offshore rigs were damaged or destroyed or moved off station by Katrina, Horvath noted that it is not possible to improve the design of rigs to make them hurricane-proof.

"The offshore rigs were already designed to withstand high-cat hurricane levels. You can't design them to withstand every possible thing nature can throw at you, but we did pretty well in that regard," he said.

Some lessons were learned with regard to buried undersea pipelines, however. "The pipeline companies learned that the shifting waters can shift the underground pipelines around, and when those were replaced, they were anchored in a more secure fashion," Horvath said.

"The main problem wasn't our rigs," he said, adding that most of the Gulf production that was knocked offline by Katrina resulted from flooding damage to onshore gas processing plants. "We have updated our contingency plans to take care of events that have nothing to do with our industry but that affect our industry by default." — Jim Magill

a, Energy Information Administration

Official Energy Statistics from the U.S. Government

Home > Natural Gas > Weekly Natural Gas Storage Report

Weekly Natural Gas Storage Report

Released: May 15, 2008 at 10:30 A.M. (Eastern time) for the Week Ending May 9, 2008. Next Release: May 22, 2008

Working Gas in Underground Storage, Lower 48

other formats: Sumn

Region	Stocks i	n billion cubic f	feet (Bcf)	Historical Comparisons				
	05/09/08	05/02/08	Change	Year Ago (5-Year (2003-200			
	03/09/08	05/02/08	Change	Stocks (Bcf)	% Change	Stocks (Bcf)		
East	743	690	53	821	-9.5	727		
West	210	197	13	284	-26.1	239		
Producing	576	549	27	711	-19.0	560		
Total	1,529	1,436	93	1,815	-15.8	1,526		

Notes and Definitions

Summary

Working gas in storage was 1,529 Bcf as of Friday, May 9, 2008, according to EIA estimates. This represents a increase of 93 Bcf from the previous week. Stocks were 286 Bcf less than last year at this time and 3 Bcf abov average of 1,526 Bcf. In the East Region, stocks were 16 Bcf above the 5-year average following net injection: Stocks in the Producing Region were 16 Bcf above the 5-year average of 560 Bcf after a net injection of 27 Bc the West Region were 29 Bcf below the 5-year average after a net addition of 13 Bcf. At 1,529 Bcf, total worki within the 5-year historical range.





Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

/3

Contact Us • Feedback • Privacy/Security • Jobs • About I

BNP Paribas Natural Gas Market Watch

14 May 2008

Commentary

The Energy Complex continues to trend higher and the fear factor remains high. <u>The worst of the potential summer time problems lie ahead of the sector: hurricanes, storage deficits, heat waves/AC demand, driving season, Independence platform problems, refinery issues, geopolitics, etc. The only potential bearish factor is demand destruction created by a weak economy. What's next is the million dollar question. I know I sound all bulled up but it's difficult to play the market from the short side with any conviction. Does that mean traders are long and strong or are they going to sell because everyone is getting all bulled up.</u>

15

Natural rallied last night on Globex after Enterprise announced the Independence pipeline will be down until Mid-June. The high was put in at 11.794, before we drifted lower to settle 11.598 up 17.6 cents. The Petroleum EIA storage stats were mixed, but the bias was BEARISH. Crude showed a smaller build then expected but runs were up, meaning they produced more products. Distillates (HO) showed a large build vs. an expected draw and HO has been driving the Petroleum products higher the past week. Actual: CL +0.2, Distillates +1.4, and MOGAS -1.7. Traders will be focusing on Thursday's EIA NG storage stats for the next catalyst. BNP Paribas EIA Survey is +87, and PIRA +88.

Gas Daily

Thursday, May 15, 2008

Independence Hub restart delayed until mid-June

After insisting that it was still on track to return the deepwater Independence Hub to service by mid-May, majority owner Enterprise Products Partners startled a jittery market late Tuesday by tacking on as much as a month to its already-delayed repair schedule for the 1 Bcf/d facility.

And according to market analysts, the hub's closure — which one firm deemed the equivalent of a "silent hurricane" — could have lasting repercussions, essentially ending any prospects for traditional springtime gas price softness.

Operators shut in the Independence Hub and connecting Independence Trail Natural Gas Pipeline on April 8 after they discovered a gas leak on a flex joint that joins the pipeline to the facility (GD 4/10). At the time, Enterprise estimated a repair schedule of between one and four weeks; it subsequently pushed back the completion to around May 15.

Now, Enterprise expects repairs to proceed until mid-June due to a "secondary issue" unrelated to the repairs of the stainless-steel o-ring that appeared to be the origin of the leak, according to company spokesman Rick Rainey.

Enterprise said it had to insert a specialty plug into the Independence Trail gas pipeline to isolate the flex joint during the replacement of the o-ring, but a "restriction" inside a 20-inch tee fitting on the platform prevented operators from installing the plug. Crews removed the tee from the platform in order to increase its diameter; once reinstalled, repair work will continue on track for a mid-June restart, assuming no weather-related delays.

Rainey said Wednesday that Enterprise's most recent estimate for the return of Independence Hub and Independence Trail "is based on how long we think we'll need to do the repairs properly."

The June NYMEX gas futures contract, which was already trading above \$11/MMBtu for much of May, partly due to the Independence Hub shutdown, leapt to new highs on the news of another delay in the repair schedule (*see story, page 1*) Analysts with Tudor Pickering Holt likened the extended hub shutdown to a silent hurricane and said Enterprise's statements rattled the trust of an uncertain market.

Because Enterprise had maintained until nearly the last minute that the facility would still be up by the middle of May, traders will likely question any further deadlines or statements from the company. "Only flowing gas will be fully trusted," Tudor Pickering said.

David Tameron, managing director of exploration and production with Wachovia Capital Markets, agreed, saying the schedule delay was undoubtedly bullish for the gas market.

"Any chance of natural gas price weakness during the shoulder season may have disappeared with this announcement," Tameron said. "The removal of 2% of supply will keep markets tight for another month, and assuming June start-up, we would be just entering the heart of summer and from there, summer weather, if normal, should continue to support prices."

Gas Daily

Friday, May 16, 2008

EIA reports 93-Bcf storage build; 5-year surplus returns

US gas storage operators injected 93 Bcf during the week ending May 9, raising nationwide stocks to 1.529 Tcf, the Energy Information Administration said Thursday.

The build was slightly above consensus expectations between 83 Bcf and 88 Bcf. As a result, the June NYMEX gas futures contract softened after the report's Release.

In the same week of 2007, EIA reported 1.815 Tcf in storage. As a result, the deficit from the year-ago level edged higher to 286 Bcf from 284 Bcf a week earlier, while the 11-Bcf deficit from the five-year average flipped to a 3-Bcf surplus.

<u>Nevertheless, many analysts believe that any bearishness in the storage picture</u> will be short-lived, primarily due to the ongoing shut-in of 900,000 Mcf/d from the Independence Hub in the Gulf of Mexico (*GD 4/10*).

Analysts with Barclays Capital noted that, given the lack of an immediate replacement for the Independence Hub, "the lower rate of supply should result in slower injections and ultimately lower inventories" at the end of October, all else being equal. The analysts lowered their season-ending storage prediction from 3.35 Tcf to 3.3 Tcf, assuming that the hub "is brought back to full service before mid-June."

That dynamic "provides further support to higher prices during

the injection season and beyond," the analysts added. Ed Kennedy, commodity adviser at Commercial Brokerage, agreed, noting that ongoing delays in bringing Independence Hub back into service are "a concern. I hope they don't find any more leaks. Luckily we are getting a break with

the weather." Teri Viswanath, director of fundamental energy research for Credit Suisse, noted that unusually high gas prices so far in the shoulder season have kept storage injections limited.

"Here we are sitting in May, halfway through the second quarter.

Typically this is the time period with low demand; it's the best time to build up stocks," she said. Although storage operators typically are able to inject 1 Tcf during the second quarter, "with the stronger demand picture, we probably won't get there."

According to EIA, inventories are now 16 Bcf above the five-year average of 727 Bcf in the East, 29 Bcf below the five-year average of 239 Bcf in the West, and 16 Bcf above the five-year average of 560 Bcf in the producing region.

— Melanie Tatum, Cheryl Buchta

ConocoPhillips

Monday, May 12, 2008

Today: Bearish 30-Day: Bearish

Bottom Line – The weather can only be described as energy neutral and supplies are rising. The "bubble" has to start losing some edge here soon. <u>We're starting to discern some significant</u> <u>declines in demand across the energy complex, including gasoline and natural gas. That</u> says we'll have to retreat off this cliff soon.

Yesterday's Market

• June moved higher Friday, again, pushing past upper-level resistance in tandem with crude, which settled at another record high. The front-month contract finished the day at \$11.537, up 27.4¢ on the day and very close to its daily high after trading from an early low of \$11.34. Meanwhile, June crude settled at \$125.96, up \$2.27 after trading between \$124.50 and a new all-time high of \$126.05. A key driver for liquids was June heating oil, which closed up 12.62¢ at \$3.636, giving signal to increase speculative buying across the complex, with some suggesting that buying for the sake of buying was the way of the market Friday.

Today's Market

• According to most weather services below-average temperatures are expected to hold steady over much of the East, the Plains and Texas, while above-average readings are seen for the bulk of the West. Seasonal temps are expected for south Florida and the California coast. All of that tells me to expect a significant decline in demand and much higher injection numbers starting this week. Trailing crude has become the predominant raison d'être, as it were, for natural gas with the storage deficit also playing on the minds of market participants. With this weather that storage deficit should start to diminish...without LNG, too. Today marks the Accuweather Hurricane Summit. I'll be participating in that conference this afternoon. Last year we saw some significantly increased hurricane hoopla after this meeting. I expect them to say elevated activity this year. Crude oil is lower prior to the open...expect lower today.

Case No. 2008-00175 Attachment A-2009 Page 38 of 307

Ł

.

.

	12007 6 55	
	Jan2007 6.55 Feb2007 8.00	
	Apr2007 7.60	
	May2007 7.64	
	Jun2007 7.35	
	Jul2007 6.22	
	Aug2007 6.19	
	Sep2007 6.08	
	Oct2007 6.74	
	Nov2007 7.10	
	Dec2007 7.11	Winter 07-08
1	Jan2008 8.01	\$ 8,038
	Feb2008 8.51	
SA DIFFERENCE MEET	Mar2008 9.46	
i, writin it	Apr2008 10.18	
	May2008 9.90	
000	Jun2008 9.62	
204,95	Jul2008 9.33	Summer 2008
~~~ \	Aug2008 9.18	\$ 9,591
	Sep2008 9.23	
	Oct2008 9.70	
E.Y. MOREN	Nov2008 9.72	
A A A	Dec2008 10.02	Winter 08-09
(	Jan2009 9.98	\$ 9,834
"hywerthat"	Feb2009 9.95	+ 1,001
and the second second	Mar2009 9.50	
	Apr2009 9.14	
m	May2009 8.93	
SIN SI	Jun2009 8.73	Summer 2009
000	Jul2009 8.62	\$ 8.823
à	Aug2009 8.64	7 8.0~~~
. /	Sep2009 8.84	
	Oct2009 8.86	
	Nov2009 9.07	
$\backslash$	Dec2009 9.45	

.

From EIA Report 5/6/08



Summer Strip 2008

20



Winter Strip Nov08 - Mar09

21

°.▲ •

# **Short-Term Energy Outlook**

May 6, 2008 Release (Next Update: June 10, 2008)

Natural Gas

**Consumption.** Total natural gas consumption is expected to increase by 1.4 percent in 2008 and by 0.5 percent in 2009. The residential and commercial sectors are expected to lead consumption growth in 2008 because of the projected 5.4-percent increase in heating degree-days compared with 2007. In contrast, the projected 12.4-percent decline in cooling degree-days from the warm summer of 2007 is expected to leave consumption of natural gas in the electric power sector relatively unchanged. Finally, the declining real value of the U.S. dollar and some recovery in the fertilizer market are expected to contribute to slight growth in industrial sector output and natural gas consumption in both 2008 and 2009.

*Production and Imports.* Total U.S. marketed natural gas production is expected to increase by 4.6 percent in 2008, then decline by 1.1 percent in 2009. Despite current repairs at the Independence Hub, production from the Federal Gulf of Mexico is expected to increase by 4.2 percent in 2008. Sustained high rig counts in the lower-48 onshore region are expected to lead to an increase in onshore production of 4.9 percent in 2008.

<u>Through the first 4 months of 2008 liquefied natural gas (LNG) imports totaled an estimated 115 Bcf,</u> <u>considerably lower than the import total of 283 Bcf at this time last year.</u> The shift of LNG away from the United States this year results from higher prices available to LNG suppliers for deliveries to both the Asia-Pacific region and Europe. Although EIA still expects significant additions to world LNG productive capacity through 2009, recent delays in bringing new liquefaction projects to full operational capacity and current high demand in other parts of the world will continue to constrain LNG shipments to the United States. In 2007, LNG imports totaled 771 Bcf. The 2008 LNG import forecast is revised downward to 580 Bcf from 680 Bcf in last month's *Outlook*.

Global Petroleum

<u>The oil supply system continues to operate at near capacity and remains vulnerable to both actual and perceived supply disruptions.</u> The supply and demand balance for the remainder of the year is tighter than in last month's *Outlook*. World oil markets are particularly tight during the first half of 2008, with year-over-year growth in world oil consumption outstripping growth in non-Organization of the Petroleum Exporting Countries (OPEC) production by over 1 million bbl/d. <u>The combination of rising global</u> <u>demand, fairly normal seasonal inventory patterns, slow gains in non-OPEC supply, and low levels of available surplus production capacity is providing firm support for prices.</u>

West Texas Intermediate (WTI) crude oil spot prices increased from \$101 to \$120 per barrel over the first 3 weeks of April as supply disruptions in Nigeria and the North Sea and continuing strong demand growth in the emerging market countries pressured oil markets. <u>WTI crude oil prices, which averaged \$72 per barrel in 2007, are projected to average \$110 per barrel in 2008 and \$103 per barrel in 2009. These projections are about \$9 per barrel higher than the projections in last month's *Outlook*.</u>

Case No. 2008-00175 Attachment A-2009 Page 42 of 307

## Gas Commercial Operations Hedging Program Market Indicators Summary June 27, 2008

		Hedgir ket Indi	rrcial Operations 1g Program 2ators Summary 27, 2008	Support Page
Weather	Price Pressure	Term	Comments	
Long Term Weather Forecast	<b></b>	Long	NOAA predicting above normal July-Sept. in Southwest and Northeast, equal chances of above, normal or below in rest of North America.	8
Mid Term Weather (30-60 days)	Ļ	Long	Based on population weighted CDD's July cooler than 10 yr., 30 yr. and Jul 2007. August significantly cooler that 10 yr. and Aug. 07 temperatures.	9
6-10 day forecast	<b>†</b>	Short	During the period-West is above, Mid-Atlantic below during early portion of period, turning above for later portion of period.	10
Tropical Storm Activity	<b></b>	Short	No activity in the near term.	
Storage Inventory	<b>.</b>	A		
EIA Weekly Storage Report	t	Long	Storage injections for the week ending June 20 were 90 BCF. Storage levels are 15.8% lower than last year at 2.03 TCF (2.7% below 5-year average 2.09 TCF).	11212
Industry Publications				
Cambridge Energy Research Associates Summer 2008: \$10.85 Winter 08/09: \$10.09	Ļ	Both	Production outages, unusually low gas storage inventories, and low level of LNG imports have created a tight market for natural gas supplies in the past few weeks, causing prices to surge above \$12 per MMBtu. Accordingly, CERA has raised the price outlook for 2008 and 2009 significantly.	13
Paribas	1	Both	"the market is working on fear. Hurricane Rita and Katrina changed how traders view the market this time of year. The hurricane fear is real and I feel is factoring a blg premium into prices."	14
Gas Daily	<b>↓</b> ↑	Both	"US gas prices could experience some downward pressure over the next several months, but over the longer term are facing sharp increases due to both global demand and to misguided climate-change policies".	15
Gas Daily	Ļ	Long	"Many are wondering why we are still holding onto our bearish outlook for US natural gas prices. The simple answer is that we continue to see unprecedented growth in US production that will eventually overwhelm the US gas market."	16
Government Agencies	*	•		
Energy Information Administration Summer 2008: \$11.249 Winter 2008/09: \$12.204	¥	Long	"The Henry Hub spot price are expected to average about \$11/MMBtu in both 2008 and 2009, according to EIA."	17
Technical Analysis				
Summer 2009 Strip Chart	1	Short	Closed at \$11.66	18
Winter 2008-09 Strip Chart	t	Short	Closed at \$13.92	19
Economy				
Demand	↓ ↓	Long	EIA: Total natural gas consumption is expected to increase by 2 2% in 2008 and by 0.9% in 2009.	20
Supply	Ļ	Long	EIA: Total U.S. marketed natural gas production is expected to increase by 6 percent in 2008 and by 1.5 percent in 2009. LNG imports this year are expected to total about 530 Bcf a decline of about 240 Bcf from the 2007 total.	20
Oil Market	<b>~</b> →	Long	EIA: "The combination of rising consumption, further downward revisions in the supply outlook for countries outside OPEC, and low surplus production capacity reinforce the perception that supply is having a difficult time keeping up with demand growth, accounting for much of the upward trend in oil prices." WTI crude oil prices, which averaged \$72.32 per barrel in 2007, is expected to average about \$122 per barrel in 2008 and \$126 in 2009	20

Meeting Minutes: Informal Discussion

 $\widehat{(\ldots)}$ 

Attendees: Jim Henning, Jeff Kern, Steve Niederbaumer

Discussed current market conditions, where Duke-Ohio and Duke-KY are relative to the hedging program, storage levels, analyst opinions as well as projections from governmental agencies and industry publications. Based on the current level of prices, analysts opinions, and supply/demand factors the decision was made not to hedge any additional volumes at this time.

Case NO 2008-00175 Attachment A-2009 Page 43 of 307



4

Duke Energy Kentucky Hedging Program - Current Position November 2007 - October 2008 As of 06/27/08

)

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 06/27/08

Oct-09 Sep-09 Aug-09 Jul-09 Jun-09 May-09 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08 Nov-08

> Daily Base Estimated Base (Gross) Amount Hedged Fixed Price (Fixed Price Fixed Price (Cost Averaging (Cost Ave

Monthly Base Estimated Base (Gross) Hedged to date Fixed Price (Construction)

Fixed Price (Control Fixed Price (Control Fixed Price (Control Fixed Price (Control Fixed Price)) (Control Hedged % of Base Supply Seasonal % of Base

5

Normal Load (City Gate) Hedged (City Gate) Storage Withdrawal Market Total (Catavan Hedged & Storage

Seasonal %

t

Case No. 2008-00175 Attachment A-2009 Page 44 of 307

Oct-10 • Sep-10 Aug-10 Jul-10 Jun-10 May-10 Apr-10 Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 Mar-10 As af 06/27/08 Feb-10 Jan-10 Dec-09 Nov-09 <u>Monthly Base</u> Estimated Base (Gross) Daily Base Estimated Base (Gross) Normal Load (City Gate) % Hedged & Storage Seasonal % of Base Hedged (Common Storage Withdrawal % of Base Supply Fixed Price Amount Hedged Hedged to date Fixed Price ( Fixed Price ( Total Hedged Total Hedged Market

-

Case No. 2008-00175 Attachment A-2009 Page 45 of 307

· ~.

Seasonal %

ŀ

## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

		ic Prices:								
	NYMEX Closing Price									
	5-yr. avg.	Last Year	CERA	EIA	NYMEX					
	(03/04-07/08)	(2007-2008)	20-Jun-08	10-Jun-08	27-Jun-08					
Aug	\$6.31	\$6.11	\$11.900	\$11.400	\$13.248					
Sep	\$6.62	\$5.43	\$10.380	\$11.380	\$13.291					
Oct	\$6.94	\$6.42	\$10.230	\$11.460	\$13.366					
Nov	\$8.07	\$7.27	\$10.020	\$11.540	\$13.606					
Dec	\$7.91	\$7.20	\$10.140	\$11.850	\$13.956					
Jan	\$7.36	\$5.84	\$10.410	\$12.120	\$14.151					
Feb	\$7.08	\$6.92	\$10.500	\$12.410	\$14.083					
Mar	\$7.01	\$7.55	\$10.130	\$12.660	\$13.811					
Apr	\$7.41	\$7.56	\$9.250	\$11.980	\$11.671					
May	\$7.72	\$7.51	\$9.230	\$11.150	\$11.491					
June	\$7.65	\$7.59	\$8.720	\$10.520	\$11.561					
July	\$7.81	\$6.93	\$8.250	\$9.960	\$11.649					
12 Month Avg	\$7.32	\$6.86	\$9.930	\$11.536	\$12.990					
	er Average		\$9.709	\$11.121	\$12.325					
Winter /	Average		\$10.240	\$12.116	\$13.921					





ţ

i jor €



# **#EarthSat's 30-60 Day Outlook**

Wednesday, June 25, 2008

EarthSat Weather

Forecaster: MR/SS

Attachment A-2009 Page 48 of 307



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]



# EarthSat's 6-10 Day Forecast-Detailed

Thursday, June 26, 2008

## EarthSat Weather

Forecaster: AC/JS

Forecast Temperature Deviations Forecast Valid: Tuesday, 7/1 Today's Forecast: Case No. 2008-00175 Attachment A-2009 Page 49 of 307 DAAG Cool Start In East May Warm To Aboves In Mid-Period The Mid-Atlantic continues to see below normal temperatures for the early part of the period, but a warming trend could quickly commence along the East Coast by the time the middle of the period approaches. This warm up may lead to above normal conditions for this time frame. The Southeast also has the potential to see warmer temperatures for the mid-period. The next trough is anticipated to Previous dive into the Midwest for the second half of the period, and the models are in fairly good agreement with this scenario. In the eastern parts of the Southwest and western parts of Texas, monsoonal moisture should keep mostly seasonal **Forecast Confidence: 7** readings over these areas for much of the period. Forecast Valid: Thursday, 7/3 THE VEILE WAT THE THEY DAY DAG D, B Ô Previous Previous **Forecast Confidence: 7** Forecast Confidence: 6 Eoreoasi Vallol Saturoay 7/5 TOTAL TANK THE PARTY AND DY NAM BY Ó N R Previous N М **Forecast Confidence: 5 Forecast Confidence: 5** Strong Above ......+15 or UP Strong Below .....-15 or Lower Normal -2F Much Above .....+8F to +14F +2E Much Below .....-8F to -14F Above .....+3F to +7F Below .....-3F to -7F

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

Case No. 2008-00175 Attachment A-2009

Page 50 of 307

# Gia Energy Information Administration

Official Energy Statistics from the U.S. Government

<u>Home</u> > <u>Natural Gas</u> > Weekly Natural Gas Storage Report

## Weekly Natural Gas Storage Report

Released: June 26, 2008 at 10:35 A.M. (Eastern time) for the Week Ending June 20, 2008. Next Release: July 3, 2008

#### Working Gas in Underground Storage, Lower 48

Region 06/20/08	Stocks i	n billion cubic fe	eet (Bcf)	Historical Comparisons				
	06/20/08	06/13/08	Change	Year Ago (	06/20/07)	5-Year (2003-200		
	00/20/08	00/13/08		Stocks (Bcf)	% Change	Stocks (Bcf)	Olo Chang	
East	1,059	997	62	1,205	-12.1	1,085		
West	289	279	·10	363	-20.4	315		
Producing	685	667	18	847	-19.1	689		
Total	2,033	1,943	90	2,415	-15.8	2,089	-2.7	

#### **Notes and Definitions**

#### Summary

Working gas in storage was 2,033 Bcf as of Friday, June 20, 2008, according to EIA estimates. This represents increase of 90 Bcf from the previous week. Stocks were 382 Bcf less than last year at this time and 56 Bcf belo year average of 2,089 Bcf. In the East Region, stocks were 26 Bcf below the 5-year average following net inject. Stocks in the Producing Region were 4 Bcf below the 5-year average of 689 Bcf a net injection of 18 Bcf. 9 West Region were 26 Bcf below the 5-year average after a net addition of 10 Bcf. At 2,033 Bcf, total working c the 5-year historical range.



#### Working Gas in Underground Storage Compared with 5-Year Range

Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Jobs • About (

other formats: Sumn

# Gas Daily

Friday, May 23, 2008

#### Gas supplies ample to fill storage by winter, NGSA official maintains

The US has enough gas to fill storage before winter at reasonable prices, the Natural Gas Supply Association's director of energy markets and government affairs said Thursday. "The storage of natural gas is on track to meet this year's expected winter demand, and the overall short term supply picture should help place downward pressure

on the market price," Jenny Fordham told a Chicago gathering of the Process Gas Consumers Group. Fordham said she expects the injection season to end with 3.6 Tcf in storage this year, compared with about 3.45 Tcf last year. Citing weather forecasts from the consultants at Arlington, Virginia-based Energy Ventures Analysis for a cooler-than-normal summer, Fordham said prices, which have gained 45% over the past year to top \$11/Mcf, should moderate.

"Electric utilities have been building more natural gas plants in recent years, which has increased the demand for natural gas in that sector, but demand has been relatively flat in the residential sector and declining in most of the industrial sector," Fordham said. "The only demand growth we see in the industrial sector this summer is from ethanol production."

Gas use by ethanol producers has tripled in the past six years and could triple again by 2012, Fordham said. And while gas supplies from the Gulf of Mexico have declined slightly, any gap is being made up by production of shale gas onshore in the US, she said. — *Bill Holland* 

#### Wednesday, June 18, 2008

#### Analyst raises price forecast 12%, predicts storage peak of 3.45 Tcf Spot gas prices will remain at historically high levels, but storage inventories will finish the injection season at around 3.45 Tcf, less than 100 Bcf shy of last year's peak, Bank of America analyst Michael Schmitz predicted Tuesday.

Schmitz raised his 2008 composite spot price forecast for US gas by 12% to \$9.50/MMBtu, projecting that second-quarter prices would average \$10.60/MMBtu and third-quarter prices would average \$10.50/MMBtu before dropping to \$8.50/MMBtu in the fourth quarter. The bank's composite is made up of 12 regional wellhead prices. Current spot prices of around \$11.90/MMBtu have already built in the possibility of a hotter-than-normal summer and hurricane-related production shut-ins, Schmitz said. "We believe that this premium is likely to remain in the natural gas price until late Q3 given that September is normally the peak of the hurricane season." Schmitz said he expects the pace of storage injections to pick up by 1.1 Bcf/d to 10.3 Bcf/d for the rest of the season, compared with last year's average of 9.2 Bcf/d. That is due in part to a 7% increase in US gas production from unconventional onshore plays and the resumption of 900,000 Mcf/d of offshore gas flowing through the Independence Hub (*GD 6/17*). Offsetting those supply gains will be declines in both Canadian gas imports and liquefied natural gas receipts, he said. — *Bill Holland* 

Friday, June 20, 2008

## Analysts: Storage deficit may be insurmountable

Storage operators injected a net 57 Bcf during the week ending June 13, raising nationwide stocks to 1.943 Tcf, the Energy Information Administration said Thursday. The injection fell shy of consensus expectations, which ranged between 59 Bcf and 64 Bcf. Nevertheless, the July NYMEX gas futures contract plunged after the report's release in what some analysts attributed to profit-taking. In the same week of 2007, EIA reported 2.319 Tcf in storage. As a result, the deficit from the year-ago level climbed to 376 Bcf from 343 Bcf a week earlier, while the deficit from the five-year average ballooned to 52 Bcf from 19 Bcf a week ago. Even with the bulk of the 2008 injection season still ahead, several analysts questioned whether storage inventories will ever be able to make up those deficits. "During periods of above normal temperatures, marginal demand for gas from the power sector will win out over the longer-term need to put gas into storage," analysts with Barclays Capital maintained. "Indeed, there are likely to be some weeks with net withdrawals this summer, given warm-enough temperature patterns." As such, the ability to reach 3.3 Tcf of working gas in storage by the end of October "is rapidly fading," the analysts added. "Much cooler weather or much higher prices are about the only paths left for gas markets this injection season." Several analysts pointed to sharply lower liquefied natural gas imports this year compared to 2007 as a key factor in keeping storage injections hobbled. Roger Read at Natixis Bleichroeder maintained, however, that ultimately LNG imports "will deliver significant increases in spite of the decline in 2008 so far." According to EIA, inventories are now 27 Bcf below the five-year average of 1.024 Bcf in the East, 24 Bcf below the five-year average of 303 Bcf in the West, and 1 Bcf below the five-year average of 668 Bcf in the producing region - Melanie Tatum
JUNE 20, 2008 / PAGE 2

Case No. 2008-00175 Attachment A-2009 Page 52 of 307

Oil prices rose sharply, topping \$139 per barrel in early June; and although gas remained at a significant discount to oil, the oil market surge gave an added psychological boost to gas prices, which jumped to \$12.71 per MMBtu on June 7. Moreover, a heat wave swept the eastern part of the United States and added price pressure, with the Florida citygate price coming within \$0.63 per MMBtu of parity to residual oil prices June 5–6. By June 12, however, that price differential had subsided to more than \$3 per MMBtu.

CERA's analysis suggests that the strong growth in natural gas prices since February represents a short-term squeeze attributable to storage inventories that remain below desired levels for this point in the injection season, rather than a fundamental long-term change in market conditions. Growing domestic production and a slowing economy are expected to lead to a redress in storage levels. Moreover, with global liquefaction capacity set to grow by 50 percent by 2011 and by around 20 percent in 2009 alone, LNG imports are poised to return to their upward trajectory. However, emerging short-term issues suggest that the road to recovery of storage inventories has gotten longer.

Although the Independence Hub is back online and onshore unconventional production continues to surpass expectations, LNG availability remains constrained. Operational difficulties at Norway's Snøhvit liquefaction plant continue, and maintenance outages and competition from European and Asian markets suggest a lower-than-expected path for LNG imports going forward. Hence, CERA does not expect storage levels to return to trend until 2009. As a result the price outlook for 2008 and 2009 has strengthened significantly. CERA now expects the Henry Hub cash price to average \$12.08 per MMBtu in June and \$11.90 in July, with a 2008 annual average of \$10.19 (see Table 1). In Canada CERA expects AECO-NIT prices to average C\$10.12 per gigajoule (GJ) (\$11.01 per MMBtu) in June and C\$9.82 per GJ (\$10.92 per MMBtu) in July, with a 2008 annual average of C\$8.65 per GJ (\$9.15 per MMBtu).

					Table	1		Sun Win	nmer .ter =	2008-	} 09	[≩] 10,85 \$10,09
					<b>nry Hub</b> I US dollar	Prices s per MMBtu	)					
	<u>2003</u>	2004	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	2009	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	
January	5.39	6.03	6.17	8.76	6.33	7.93	10.50)	6.63	6.85	6.39	7.31	
February	7.00	5.41	6.09	7.62	8.06	8.46	10.13	6.62	6.78	6.30	7.27	
March	6.37	5.38	6.91	6.88	7.10	9.34	9.25)	6.60	6.64	6.37	7.16	
April	5.27	5.70	7.19	7.09	7.57	(10.11	9.23	6.42	6.49	6.14	7.63	
May	5.77	6.28	6.47	6,23	7.64	/11.24	8.72	6.55	6.40	6.22	7.56	
June	5.80	6.26	7.17	6.26	7.40	12.08	8.25	6.54	6.48	6.31	7.55	
July	5.04	5.92	7.57	6.05	6.21	11.90	7.55	6.55	6.39	6.35	7.45	
August	4.96	5.43	9.29	7.24	6.30	<b>∖</b> 10.38	7.10	6.46	6.33	6.36	7.16	
September	4.61	4.99	12.11	4.95	5.98	10.23	7.05	5.85	6.22	6.95	6.57	
October	4.65	6.24	13.36	5.67	6.68	(10.02	6.79	6.53	6.00	6.91	7.02	
November	4.45	5.88	10.29	7.32	7.01	10.142	6.66	6.84	6.48	7.31	7.94	
December	6.12	6.63	12.98	6.83	7.08	10.41	6.67	6.89	6.50	7.36	8.01	
Year average	5.45	5.85	8.80	6.74	6.95	10.19	8.16	6.54	6.46	6,58	7.39	

Sources: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003-May 2008 figures are derived from historical data as available; June 2008-13 figures are CEFA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

© 2008, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise diatributed in any form without prior written coment.

13

Carl State

Case No. 2008-00175 Attachment A-2009 Page 53 of 307

BNP Paribas Natural Gas Market Watch 24 June 2008

#### Commentary

The same rhetoric persists in the crude market:

Nigeria, supply/demand imbalances, demand destruction, dollar weakness etc. The finger pointing is getting worse on who is to blame for high oil prices: OPEC blames the US, US blames the Saudi's, Politicians blame speculators, and the circle keeps going around. At the end of the day they are all blow hearts to support there own agenda and the average Joe is getting squeezed. Just wait until people have to fill the Oil tank this winter. Either way the market is working on fear. Hurricane Rita and Katrina changed how traders view the market this time of year. The hurricane fear is real and I feel is factoring a big premium into prices. Traders will be focusing on the petroleum EIA Stats on Wednesday.

14

.

Case No. 2008-00175 Attachment A-2009 Page 54 of 307

## Gas Daily

Friday, June 27, 2008

Climate policy, falling imports seen keeping gas prices lofty <u>US gas prices could experience some downward</u> <u>pressure over the next several months, but over the</u> <u>longer term are facing sharp increases due both to global</u> <u>demand and to misguided climate-change policies,</u> <u>speakers said Thursday at the Energy Business Watch</u> <u>Climate and Hurricane Forum in New York.</u> The amount of gas supplies available in the US has substantially increased, due both to new domestic production plays and to liquefied natural gas imports, which could help keep gas prices contained in the short term. <u>Yet, consumers are "still using more than we're producing,"</u> Andy Weissman, founder and chairman of the consulting firm Energy Ventures Group, said at a media briefing prior to the conference.

## Moreover, while many in the US expected LNG imports to cover any domestic shortfalls in supplies, LNG simply will not be able to keep pace with global demand, Weissman predicted.

Those dynamics, when combined, could become "a huge issue" for the national economy as early as 2013, with higher prices translating "into potentially severe consequences" for direct use of gas and for gas-dependent power generation, he said. "We're really at a critical time right now." Proposed measures to dramatically cut carbon emissions over the next several years will only make the supply/ demand problem worse, as the associated cutback in fossil-fuel use that would be required to meet such targets is impractical, said William Grav of Colorado State University's Department of Atmospheric Science. "We're not going to have enough energy" if fossil fuels are suddenly cut from the US supply picture, Gray said. Investments in wind, solar, and other renewable technologies are important, but they are "not going to make up for fossil fuels."

Indeed, "we're too hung up on [carbon dioxide] as a driver of climate change," Gray maintained, arguing that natural and inevitable factors such as salt variations in the planet's oceans play a substantial role as well. "CO2 is not the main driver of climate change; nature is," Gray said. — Melanie Tatum

## Gas Daily

Tuesday, May 20, 2008

## Analyst: Gas supply surge could collapse prices

After years of being bullish on the gas market, Raymond James energy analyst Marshall Adkins on Monday reiterated his bearish stance of late, warning that a hot summer will be required to hold off a collapse in gas prices later this year.

"<u>Many are wondering why we are still holding onto our bearish outlook</u> for US natural gas prices," Adkins said in a note to clients. "The simple answer is that we continue to see unprecedented growth in US gas production that will eventually overwhelm the US gas markets. This gas supply increase is driven by large independents and increasingly supported by growth from smaller private producers."

US gas production "is not only rising," Adkins said, "but the growth is accelerating. Given that the independent producers are expecting even higher gas production growth rates (15%-plus) in 2008 than the 13.8% growth rate seen in the first quarter of 2008, it is possible that growth in US gas supply, in the aggregate, will come in above 4 Bcf/d this summer."

Adkins said that in the first quarter of this year, gas production by supermajors and utility-oriented companies dropped 4% to 9.5 Bcf/d, while independent companies' output shot up 13.6% to 19.9 Bcf/d — for an overall US growth rate of 7% in the first quarter to 29.4 Bcf/d.

Shale plays, particularly Texas' Barnett Shale, are the driving force behind that growth, Adkins said, with a few independents like Oklahoma City-based Chesapeake and Fort Worth-based XTO Energy making out-sized contributions. <u>"Regardless of weather, one certainty remains — that unprecedented US</u> gas production growth is showing little signs of slowing anytime soon," <u>Adkins said.</u> "This means that an oversupplied gas market is still looming on the horizon. If it does not happen this summer, then it will likely show up next winter."

If the next few months are cooler than expected — which Adkins gives a 50% chance — "we very well could see sub-\$6 gas later this summer," he said. And Adkins said the price-suppressing effects of more supply coming to market could last for years to come.

"Eventually, gains in drilling efficiencies should gradually slow, at the same time as field decline rates trend higher and overall prospect quality diminishes," he said. "With the emergence of new shale plays nearly every month, it could be years before these US gas supply growth rates begin to taper off. That means gas prices are very likely going lower." — *Bill Holland* 

Case No. 2008-00175 Attachment A-2009 Page 56 of 307



From EIA Report 6/10/08

17



-







## **Short-Term Energy Outlook**

June 10, 2008 Release (Next Update: July 8, 2008)

### Natural Gas

**Consumption.** Total natural gas consumption is expected to increase by 2.2 percent in 2008 and by 0.9 percent in 2009. Year-over-year increases in the residential, commercial, and electric power sectors have been largely weather-driven. In 2009, residential and commercial sector consumption is expected to be decline slightly while natural gas consumption for electricity generation is expected to increase by 2.5 percent. Growth in the industrial sector, which increased by 4.8 percent in the first quarter of 2008 compared with the corresponding period last year, seems to be tied to export strength and some resurgence in natural-gas-intensive industries, such as fertilizers. In annual terms, natural gas consumption in the industrial sector is expected to increase by 1.3 percent in 2008 and 0.4 percent in 2009.

Production and Imports. Total U.S. marketed natural gas production is expected to increase by 6 percent in 2008 and by 1.5 percent in 2009. This projection includes an estimated expected hurricane-induced outage of about 78 Bcf for the offshore region in 2008. High rig counts in the lower-48 onshore region, particularly in unconventional reserve basins, are expected to lead to an increase in onshore production of 7.4 percent in 2008. In annual terms, marketed natural gas production in 2009 from the Federal Gulf of Mexico is projected to increase by 2.6 percent while the lower-48 onshore region is expected to increase by 1.4 percent.

Liquefied natural gas (LNG) imports remain substantially below last year. LNG supplies continue to flow to the higher-priced markets of Asia-Pacific and Europe. <u>LNG imports to the United States this year are</u> expected to total about 530 Bcf, a decline of about 240 Bcf from the 2007 total. In 2009, LNG imports are expected to reach about 850 Bcf as new liquefaction capacity increases world supply.

### Global Petroleum

<u>The combination of rising consumption, further downward revisions in the supply outlook for</u> <u>countries outside of the Organization of the Petroleum Exporting Countries (OPEC), and low surplus</u> <u>production capacity reinforce the perception that supply is having a difficult time keeping up with</u> <u>demand growth, accounting for much of the upward trend in oil prices.</u> Consumption in countries outside of the Organization for Economic Cooperation and Development (OECD) continues to grow rapidly, offsetting weaker consumption in OECD countries, especially the United States. Declining production in a number of non-OPEC nations, including Mexico, United Kingdom, and Norway, is largely offsetting increases in other countries. <u>Slow growth in non-OPEC supply is coinciding with disruptions in</u> <u>supplies from some OPEC countries, such as Nigeria. Ongoing geopolitical concerns in several</u> <u>producing countries, including Venezuela and Iran, have contributed to oil price volatility.</u>

West Texas Intermediate (WTI) crude oil prices were on a rollercoaster ride upwards over the last month, increasing from \$113 to \$133 per barrel over the first 3 weeks on May, then falling back to \$122 on June 4 before surging to over \$138 by June 6. <u>Supply uncertainties in several oil exporting regions, coupled with healthy demand growth in the emerging market countries, continued to pressure oil markets.</u> The overall picture of strong demand and tight supply is expected to continue. WTI prices, which averaged \$72 per barrel in 2007, are projected to average \$122 per barrel in 2008 and \$126 per barrel in 2009.

Case No. 2008-00175 Attachment A-2009 Support Page 8 9 Page 60 of 307

10

11212

13

14

15

16

17

18

19

20

20

20

#### **Gas Commercial Operations** Hedging Program Market Indicators Summary July 22, 2008

Weather	Price Pressure	Term	Comments
Long Term Weather Forecast	1	Long	NOAA predicting above normal AugOct. in South, Northeast and Northcentral portions of United States.
Mid Term Weather (30-60 days)	ļļ	Long	Based on population weighted CDD's August 9% cooler than 10 year average. September 9% cooler that 10 year average.
6-10 day forecast	<b>~~</b>	Short	During the periodAreas in West are above, Midwest is below, Central, South and East Coast normal.
Tropical Storm Activity	Î	Short	Tropical Storm Dolly tracking towards the South Texas Coast by Wednesday does not seem to be a significant threat to the energy complex. The climate phenomena known as La Nina is ending and neutral conditions are expected into the fall Chances for the continental US and the Caribbean Islands to experience a hurricane are higher during La Nina.
Storage Inventory			
EIA Weekly Storage Report	1	Long	Storage injections for the week ending July 17 were 104 BCF. Storage levels are 13.5% lower than last year at 2 31 TCF (2 1% below 5-year average 2.36 TCF).
Industry Publications			£
Cambridge Energy Research Associates Summer 2008: \$10.85 Winter 08/09: \$10.09	ļ	Both	Production outages, unusually low gas storage inventories, and low level of LNG imports have created a tight market for natural gas supplies in the past few weeks, causing prices to surge above \$12 per MMBtu Accordingly, CERA has raised the price outlook for 2008 and 2009 significantly.
Gas Daily	Î	Long	"The primary risks for US gas prices this summer "Lie to the upside " "Summer as hot as last summer, or a 100-Bcf hurricane disruption, o \$15/barrel stronger than 'base case crude,' could each add roughly \$1.00-\$1.50/MMBtu
Gas Daily	ļļ	Short	Andrew Weissman pointed to downward pressure from weaker prices in the petroleum complex in addition, private weather forecast call for relatively normal weather over the next couple of weeks, as a result, power-sector demand is not likely to be particularly strong, especially in light of record domestic production levels.
Conoco Morning Briefing	Ļ	Short	*market continued to scrutinize an increasingly bearish picture with no major heat and hurricanes to interrupt what looks like an increasingly healthy supply picture coming off a surprising large 104- Bcf build in Thursday's storage report."
Government Agencies			
Energy Information Administration Summer 2008: \$12.274 Winter 2008/09: \$13.044	<b>~~~</b>	Long	"The Henry Hub spot price are expected to average about \$11.50/MMBtu in 2008 and \$11.30/MMBtu in 2009, according to EIA "
Technical Analysis			
Summer 2009 Strip Chart	ł	Short	Closed at \$10 23
Winter 2008-09 Strip Chart	↓	Short	Closed at \$11.44
Economy			
Demand	Ļ	Long	EIA: Total natural gas consumption is expected to increase by 2.1% in 2008 and by 1.1% in 2009
Supply	Ļ	Long	EIA: Total U S marketed natural gas production is expected to increase by 6 4 percent in 2008 and by 1 6 percent in 2009 LNG imports this year are expected to total about 480 Bcf a decline of about 290 Bcf from the 2007 total.
Oil Market	<b></b> >	Long	EIA: "The oil market remains tight, evidenced by rising prices, low surplus production capacity, and the concern that global supply growth may not keep pace with demand growth over the near term " "World oil consumption continues to grow despite 7 consecutive years of rising prices" WTI crude oil prices, which averaged \$72.32 per barrel in 2007, is expected to average about \$127 per barrel in 2008 and \$133 in 2009

Meeting Minutes: 10th Floor North Conference Room--10:00 AM

,

Attendees Patty Walker, Jeff Kern, Don Schierenbeck, Mike Brumback. Steve Niederbaumer

Reviewed current and forecasted weather, storage inventory levels, current industry intelligence, summer and winter strip prices and supply/demand fundamentals Based on those discussions a decision was made to purchase a costless collar. Contacted and about entering into a costless collar for approximately bit/day. The ceiling was set by Duke at the provided and set the floor at the floor at

Case 140. 2000-00175 Attachment A-2009 Page 61 of 307



Estimated Base (Gross)

Daily Base

Amount Hedged

Fixed Price (

Normal Load (City Gate) Total (incl. Injections) % Hedged & Storage Estimäted Base (Gross) Seasonal % of Base Hedged (City Gate) Storage Withdrawal % of Base Supply Cost Averaging Cost Averaging Cost Averaging Cost Averaging Hedged to date Seasonal % Fixed Price ( Fixed Price (1 Fixed Price Fixed Price ( Fixed Price ( Fixed Price ( Fixed Price Fixed Price ( Total Hedged Fixed Price ( Fixéd Price ( Fixed Price ( Fixed Price ( Fixed Price **Fotal Hedged** Monthly Base Market Ĥ

	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09
		·	ł				3	. <u>)</u>		•		
(Gross)												
	ļ											
D)												
(Gross)									•**			
	1								ar t.	* 4 ,		
upply of Base										• •••		
ity Gate)												
Storage						•						
				•								

Case No. 2008-00175 Attachment A-2009 Page 62 of 307

,

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 07/21/08

> Amount Hedged Fixed Price Fixed Price Fixed Price Fixed Price Cost Averaging

Monthly Base Estimated Base (Gre Hedged to date Fixed Price (Fixed Pri

Seasonal % of Base Normal Load (City Gate) Hedged (City Gate) Storage Withdrawal Market Total (Compared) % Hedged & Storage

5

Seasonal %

•



Case No. 2008-00175 Attachment A-2009 Page 63 of 307

# Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 07/21/08

Amount Hedged Fixed Price Fixed Price (7 Total Hedged

Total Hedged % of Base Supply Seasonal % of Base Fixed Price

6

# Normal Load (City Gate)

% Hedged & Storage Seasonal % Storage Withdrawal Hedged ( Total (i Market

## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

Historic Prices:										
NYMEX Closing Price										
	5-yr. avg.	Last Year		CERA	EIA	NYMEX				
	(03/04-07/08)	(2007-2008)		20-Jun-08	8-Jul-08	21-Jul-08				
Aug	\$6.31	\$6.11		\$11.900	\$12.930	\$10.510				
Sep	\$6.62	\$5.43		\$10.380	\$12.980	\$10.585				
Oct	\$6.94	\$6.42		\$10.230	\$12.930	\$10.695				
Nov	\$8.07	\$7.27		\$10.020	\$13.020	\$11.045				
Dec	\$7.91	\$7.20		\$10.140	\$13.100	\$11.415				
Jan	\$7.36	\$5.84		\$10.410	\$13.190	\$11.630				
Feb	\$7.08	\$6.92		\$10.500	\$13.290	\$11.600				
Mar	\$7.01	\$7.55		\$10.130	\$12.620	\$11.375				
Apr	\$7.41	\$7.56		\$9.250	\$11.700	\$10.165				
May	\$7.72	\$7.51		\$9.230	\$11.150	\$10.025				
June	\$7.65	\$7.59		\$8.720	\$10.450	\$10.102				
July	\$7.81	\$6.93		\$8.250	\$10.110	\$10.192				
12 Month Avg	\$7.32	\$6.86		\$9.930	\$12.289	\$10.778				
Summe	er Average			\$9.709	\$11.750	\$10.325				
Winter /	Average			\$10.240	\$13.044	\$11.413				







## EarthSat's 30-60 Day Outlook

Wednesday, July 16, 2008

EarthSat Weather

Forecaster: MR/SS

Case No. 2008-00175 Attachment A-2009 Page 66 of 307



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]



## EarthSat's 6-10 Day Forecast-Detailed

Monday, July 21, 2008

## EarthSat Weather

Forecaster: AC/JS



**Bar Above** .....+3F to +7F

Much Below	8F to -14F	
Below	3F to -7F	

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]



### Page 1 of 1

Case No. 2008-00175 Attachment A-2009 Page 69 of 307

### Niederbaumer, Steve

From: Kern, Jeff L

Sent: Thursday, July 10, 2008 1:28 PM

To: Niederbaumer, Steve

Subject: La Nina Fizzling out, could reduce hurricane risk

FYI -

07/10 10:32 CDT La Nina fizzling out, could reduce hurricane risk

(AP) La Nina fizzling out, could reduce hurricane risk

By RANDOLPH E. SCHMID AP Science Writer WASHINGTON

The climate phenomena known as La Nina is ending and neutral conditions are expected into the fall, government forecasters said Thursday. The change can affect weather worldwide.

La Nina is a cooling of water in the tropical Pacific ocean, the opposite of the warm-water condition known as El Nino.

The federal Climate Prediction Center said a transition from La Nina to neutral conditions occurred during June as sea surface temperatures returned to near average conditions.

The transition to a neutral condition could be beneficial along the East and Gulf coasts with hurricane season under way, as the chances for the continental U.S. and the Caribbean Islands to experience a hurricane are higher during La Nina.

However, the forecast also noted that, as in past transitions first reported from changes in sea surface temperatures, La Nina's effects can linger in the atmospheric circulation, but with diminishing strength.

The National Oceanic and Atmospheric Administration's Atlantic hurricane outlook issued in May calls for 12 to 16 named storms including 6 to 9 hurricanes. Currently the second named storm of the season, Bertha, is churning in the mid-Atlantic.

While the forecast calls for neutral conditions to continue into the fall, the Climate Prediction Center said it could not rule out a change at that time, as El Nino-La Nina switches often occur in the second half of a year.

A change in the fall could affect winter weather across the country. Winters during El Nino periods tend to have a strong storm track across the southern part of the United States and milder-than-average conditions with less storminess across the North. A La Nina winter tends to be colder and stormier than average across the North and warmer and less stormy conditions across the South.

Case No. 2008-00175

Attachment A-2009 Page 70 of 307

## Energy Information Administration Official Energy Statistics from the U.S. Government (eld)

Home > Natural Gas > Weekly Natural Gas Storage Report

## Weekly Natural Gas Storage Report

Released: July 17, 2008 at 10:35 A.M. (Eastern time) for the Week Ending July 11, 2008. Next Release: July 24, 2008

#### Working Gas in Underground Storage, Lower 48

other formats: Sumn

Region	Stocks i	n billion cubic f	eet (Bcf)	Historical Comparisons					
	07/11/08	07/04/08	Change	Year Ago (	07/11/07)	5-Year (2003-	-200		
	07/11/08	07/04/08	Change	Stocks (Bcf)	% Change	Stocks (Bcf)	Γ		
East	1,245	1,177	68	1,382	-9.9	1,262			
West	325	314	11	390	-16.7	347	T		
Producing	742	717	25	901	-17.6	753	T		
Total	2,312	2,208	104	2,673	-13.5	2,361	Τ-		

**Notes and Definitions** 

#### Summary

Working gas in storage was 2,312 Bcf as of Friday, July 11, 2008, according to EIA estimates. This represents increase of 104 Bcf from the previous week. Stocks were 361 Bcf less than last year at this time and 49 Bcf be year average of 2,361 Bcf. In the East Region, stocks were 17 Bcf below the 5-year average following net inje-Bcf. Stocks in the Producing Region were 11 Bcf below the 5-year average of 753 Bcf a net injection of 25 Bcf. the West Region were 22 Bcf below the 5-year average after a net addition of 11 Bcf. At 2,312 Bcf, total worki within the 5-year historical range.



#### Working Gas in Underground Storage Compared with 5-Year Range

Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

12

Contact Us • Feedback • Privacy/Security • Jobs • About I

Case No. 2008-00175 Attachment A-2009 Page 71 of 307

## Gas Daily

Wednesday, July 2, 2008

## Analyst: Gas market bulls to have edge this summer

The primary risks for US gas prices this summer "lie to the upside," analyst Stephen Smith said in his latest monthly outlook.

Smith, principal of Natchez, Mississippi-based Stephen Smith Energy Associates, said Monday that the potential for a hotter-than-normal summer, higher crude oil prices and hurricane-related production shut-ins all could force gas prices higher.

Assuming a base West Texas Intermediate crude oil price of \$125/barrel in the third quarter, US gas prices should average \$12.85/MMBtu. But a "summer as hot as last summer, or a 100-Bcf hurricane disruption, or \$15/barrel stronger than 'base case crude,' could each add roughly \$1.00-\$1.50/MMBtu to our third-quarter base case estimate," he said.

Smith's third-quarter gas price estimate marks a nearly 12% increase from his prior estimate of \$11.50/MMBtu. Smith also nudged his estimated second-quarter gas price a dime higher to \$11.20/MMBtu, and boosted his fourth-quarter and full-year 2008 estimates to \$11 60/MMBtu and \$10 90/MMBtu — increases of 14% and 7%, respectively.

For 2009, Smith raised his gas price estimate to \$10.65/MMBtu from \$10.40/MMBtu, but dropped his 2010 price estimate to \$10.50/MMBtu from \$10.70/MMBtu in part due to growing domestic gas output.

"Total production has been ramping up sharply for the last two years," driven primarily by strong growth in unconventional resource plays, the analyst noted.

As such, "evidence is growing that the US gas market could become oversupplied in the second half of 2008, and this condition might extend through 2009," Smith said. However, if that occurs, liquefied natural gas imports "would likely remain depressed, and Canadian imports could decline sharply."

Moreover, monthly gas production in the US, "which has recently been showing year-over-year growth rates in excess of 6%, would slow substantially," he cautioned

Smith estimated that US gas supplies will outstrip domestic demand by 1.7 Bcf/d this year and 2 Bcf/d next year, but contracting prices in 2010 will lead to the supply surplus narrowing from 1.3 Bcf/d in 2010 to 400,000 Mcf/d in 2012. — *Melanie Tatum* 

14

## Gas Daily

Monday, July 21, 2008

## Cash prices drop more than \$1 in most markets

After tumbling more than \$3/MMBtu over a nine-session period, the August NYMEX gas futures contract regained its footing Friday to settle 3.3 cents higher at \$10.57. Spot prices plummeted across the board in reaction to Thursday's huge NYMEX loss and weak demand.

The NYMEX session was "remarkably quiet given the cooling demand that's emerged here," MF Global broker John Kilduff said. "It speaks to how bearish the market has turned, particularly given the injection number and the train wreck that is the natural gas chart." On Thursday, the Energy Information Administration estimated a largerthan-anticipated 104-Bcf injection into gas storage.

From here, Kilduff said, the contract could make a "rapid test" of support at \$10.20 and again at \$10.

FTI Consulting analyst Andrew Weissman also pointed to downward pressure from weaker prices in the petroleum complex. In addition, private weather forecasts call for relatively normal weather over the next couple of weeks, he said.

As a result, "power-sector demand is not likely to be particularly strong, especially in light of record domestic production levels," Weissman said.

15

## ConocoPhillips

## Monday, July 21, 2008

#### Yesterday's Market

• Having already spent the week giving back over \$1.30 last week alone and a clean \$3.00 in the past two weeks, August pulled itself together Friday as tropical stirrings brought a little short covering ahead of the weekend. However, the contract was still under pressure throughout the day, spending most of the session near its daily lows thanks to an ongoing bearish consensus and even more selling in the crude oil complex. Coming off a 23% plunge in the past nine days, the natural gas front month managed to pick up a minimal 3.3¢ to end the week at \$10.570, not far from its low of \$10.530 as the market continued to scrutinize an increasingly bearish picture with no major heat and hurricanes to interrupt what looks like an increasingly healthy supply picture coming off a surprisingly large 104-Bcf build in Thursday's storage report. Also keeping the storm outlook from giving much support to natural gas was a beleaguered August crude oil contract, which followed up a \$13.90 (10.75%) loss between Tuesday and Thursday with more losses Friday, shedding 41¢ to a settlement of \$128.88.

Case No. 2008-00175 Attachment A-2009 Page 74 of 307



From EIA Report 7/8/2008



Summer Strip 2009

ł



Winter Strip Nov08 - Mar09

## **Short-Term Energy Outlook**

July 8, 2008 Release (Next Update: August 12, 2008)

## Natural Gas

**Consumption.** Total natural gas consumption is expected to increase by 2.1 percent in 2008 and by 1.1 percent in 2009. Year-over-year increases are expected in every sector in 2008 and have been largely weather-driven thus far. In 2009, residential and commercial sector consumption is expected to be relatively unchanged while <u>natural gas consumption for electricity generation is expected to increase by 3.2</u> percent. Growth in the industrial sector continues its recent upward trend, while demand for natural-gas-based fertilizers is expected to increase in the near-term as growers begin to replant following floods in the Midwest. Consumption in the industrial sector is expected to increase by 1.6 percent in 2008 and by 0.6 percent in 2009.

**Production and Imports.** Total U.S. marketed natural gas production is expected to increase by 6.4 percent in 2008 and by 1.6 percent in 2009. Production from the Federal Gulf of Mexico, which is now expected to decline by 1.3 percent in 2008, has been limited due to unplanned repairs on key infrastructure in the region. Production in the Lower-48 onshore region is expected to increase by 7.9 percent in 2008, more than offsetting declining production in the Gulf. In 2009, marketed natural gas production from the Federal Gulf of Mexico is projected to increase by 2.5 percent while the Lower-48 onshore region is expected to increase by 1.4 percent.

Import volumes of liquefied natural gas (LNG) to the United States continue to sag. Through the first half of 2008, LNG imports were roughly 60 percent below the amount received during the corresponding period last year. While demand for LNG supplies remains strong in Asia-Pacific and Europe, prices in the United States are becoming more competitive and may attract additional shipments in the coming months. LNG imports in 2007 totaled about 770 billion cubic feet (Bcf), however, delays in new liquefaction projects and persistent world demand are expected to result in a 290-Bcf decline in U.S. LNG imports in 2008 compared with 2007. In 2009, LNG imports are expected to reach nearly 790 Bcf as new supply enters the global market.

### **Global Petroleum**

<u>The oil market remains tight, evidenced by rising prices, low surplus production capacity, and the</u> <u>concern that global supply growth may not keep pace with demand growth over the near term.</u> Preliminary estimates indicate that higher oil consumption in the second quarter and a modest increase in production left Organization for Economic Cooperation and Development (OECD) commercial inventories below the 5-year average at the end of June.

Saudi plans to raise production from 9.4 million bbl/d in June to 9.7 million bbl/d in July, a 27-year high for the nation, have not resulted in an easing of prices. Supply losses in Nigeria and heightened tensions between Iran and Israel raised new concerns about future supplies. Moreover, while the Saudi action adds supplies to the market, remaining available surplus production capacity during the third quarter is at the low level of about 1.2 million bbl/d, all concentrated in Saudi Arabia.

The spot price of West Texas Intermediate (WTI) crude oil increased from \$122 per barrel on June 4 to \$145 per barrel on July 3. Global supply uncertainties, combined with significant demand growth in China, the Middle East, and Latin America are expected to continue to pressure oil markets. WTI prices, which averaged \$72 per barrel in 2007, are projected to average \$127 per barrel in 2008 and \$133 per barrel in 2009.

#### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



Duke Energy--Total Previously Hedged Total



i da i ta

# THIS PAGE INTENTIONALLY LEFT BLANK

## Duke Energy Hedging Program November 2008 – March 2009

## August 28, 2008

- During the Hedging Meeting on August 22, 2008 it was decided that no additional hedging should take place at that time, but the market should be closely observed for an opportunity to lock in another no-cost collar or fixed price.
- On August 26, 2008 projected paths for Tropical Storm Gustav led straight into production areas. Natural Gas prices on NYMEX immediately began to rise.
- By August 28th, experts were predicting that Gustav would grow to a Category 3 Hurricane as it headed towards the Louisiana coastline.
- The winter strip for Nov08 Mar09 closed at \$9.35/dth on August 27th.

ł

- The weekly EIA Storage Report released at 10:35 am on August 28th revealed that 102 BCF had been injected into storage during the previous week.
- The bearish storage report overshadowed Hurricane fears, and prices began to decline to the point where the winter strip was selling around \$8.72/dth. This was lower than the closing price prior to TS Gustav (\$8.78).
- Since no hurricane is predictable, it was determined that a collar would be more appropriate than a fixed price, to protect against a direct hit to production similar to 2005, but not lock in a fixed price in case Gustav takes a different path.
- BP was contacted to get an indicative price for the firm base gas previously arranged at Texas Gas Zone SL. At this time, BP was the only option for a collared price from November to March excluding Gulf South or Springboro.
- The ceiling was set at \$12.00/dth and BP quoted a floor of \$7.65, which Duke Energy accepted.

Page 1 of 1



Case No. 2008-00175 Attachment A-2009 Page 81 of 307

## **Energy Information Administration** Official Energy Statistics from the U.S. Government

ome > Natural Gas > Weekly Natural Gas Storage Report

## Matural Gas Storage Report

Released: August 28, 2008 at 10:35 A.M. (Eastern time) for the Week Ending August 22, 2008. Next Release: September 4, 2008

Working Gas in Underground Storage, Lower 48 other formats: Summary T)									
	Stocks i	n billion cubic fe	eet (Bcf)	Historical Comparisons					
Region	08/22/08	08/15/08	Change	Year Ago (	08/22/07)	5-Year (2003-2	2007) Average		
		00/10/00		Stocks (Bcf)	% Change	Stocks (Bcf)	% Change		
East	1,609	1,540	69	1,644	-2.1	1,531	5.1		
West	371	363	8	410	-9.5	370	0.3		
Producing	777	752	25	903	-14.0	785	-1.0		
Total	2,757	2,655	102	2,957	-6.8	2,686	2.6		

Notes and Definitions

#### Summary

Working gas in storage was 2,757 Bcf as of Friday, August 22, 2008, according to EIA estimates. This represents a net increase of 102 Bcf from the previous week. Stocks were 200 Bcf less than last year at this time and 71 Bcf above the 5year average of 2,686 Bcf. In the East Region, stocks were 78 Bcf above the 5-year average following net injections of 69 Bcf. Stocks in the Producing Region were 8 Bcf below the 5-year average of 785 Bcf a net injection of 25 Bcf. Stocks in the West Region were 1 Bcf above the 5-year average after a net addition of 8 Bcf. At 2,757 Bcf, total working gas is within the 5-year historical range.





Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Jobs • About Us

Case No. 2008-00175 Attachment A-2009 Page 82 of 307

J		1		1	1	1 UVU VV	Van v	1	1
Oct 08	7.885	-0.723	1 Month	7.885	8.240	8.660	8.900	8.980	8.810
Nov 08	8.240	-0.725	2 Month	8.063	8.450	8.780	8.940	8.895	8.653
Dec 08	8.660	-0.668	3 Month	8.262	8.600	8.847	8.897	8.762	8.595
Jan 09	8.900	-0.643	4 Month	8.421	8.695	8.838	8.796	8.691	8.595 \$   8.585 1000   8.693 8.693   8.768 8.834   8.8840 8.882
Feb 09	8.980	-0 578	5 Month	8.533	8.718	8.769	8.733	8.664	8.693
09	8.810	-0.568	6 Month	8.579	8.681	8.721	8.703	8.741	8.768 ရွိ
Apr 09	8.495	-0.438	7 Month	8.567	8.652	8.697	8.764	8.799	8.834 9
May 09	8.480	-0.450	8 Month	8.556	8.640	8.751	8.811	8.852	8.840 2
Jun 09	8.555	-0.465	9 Month	8.556	8.694	8.794	8.857	8.856	8.882
Jul 09	9.125s	0.112	10 Month	8.613	8.739	8.837	8.860	8.892	8.948
Aug 09	9.145A	0.003	11 Month	8.661	8.783	8.842	8.893	8.951	9.055
Sep 09	9.225s	0.107	12 Month	8.708	8.792	8.873	8.947	9.048	9.142
Oct 09	8.885	-0.418	13 Month	8.722	8.825	8.925	9.037	9.129	9.197
Nov 09	9.220	-0.363	14 Month	8.757	8.876	9.010	9.113	9.182	9.169
Dec 09	9.540	-0.378	15 Month	8.810	8.959	9.083	9.163	9.156	9.121
	10.120A	-0.570		8.892	9.030	9.131	9.140	9.112	9.085
Jan 10			16 Month						
Feb 10	10.100A		17 Month	8.963	9.079	9.112	9.100	9.079	9.059
Mar 10	9.863s	0.085	18 Month	9.013	9.064	9.075	9.069	9.054	9.040
Apr 10	8.803s	0.055	19 Month	9.002	9.031	9.047	9.046	9.037	9.037
May 10	8.450	-0.258	20 Month	8.974	9.007	9.027	9.030	9.034	9.038
Jun 10	8.540	-0.243	21 Month	8.953	8.989	9.013	9.028	9.035	9.049
Jul 10	8.640	-0.238	22 Month	8.939	8.978	9.011	9.029	9.046	9.077
Aug 10	8.730	-0.218	23 Month	8.930	8.977	9.013	9.040	9.072	9.111
Sep 10	8.973s	0.055	24 Month	8.932	8.981	9.024	9.065	9.106	9.142
Oct 10	9.058s	0.055	25 Month	8.937	8.993	9.049	9.098	9.135	9.160
Nov 10	9.280A		26 Month	8.950	9.018	9.081	9.126	9.153	9.137
Dec 10	9.648s	0.050	27 Month	8.976	9.050	9.109	9.144	9.131	9.113
Jan 11	9.873s	0.050	28 Month	9.008	9.078	9.127	9.123	9.108	9.092
Feb 11	9.848s	0.050	29 Month	9.037	9.096	9.107	9.101	9.088	9.076
Mar 11	9.598s	0.050	30 Month	9.056	9.078	9.086	9.082	9.073	9.064
A - 11	8.563s	0.045	31 Month	9.040	9.059	9.068	9.067	9.061	9.053
, 11	8.473s	0.045	32 Month	9.022	9.042	9.055	9.056	9.051	9.045
	8.538s	0.040	33 Month	9.007	9.030	9.044	9.046	9.043	9.043
Jun 11	8.633s	0.040							
Jul 11			34 Month	8.996	9.020	9.035	9.039	9.045	9.058
Aug 11	8.703s	0.035	35 Month	8.988	9.012	9.028	9.041	9.056	9.075
Sep 11	8.723s	0.035	36 Month	8.981	9.006	9.030	9.051	9.072	9.090
Oct 11	8.808s	0.030	37 Month	8.976	9.009	9.041	9.067	9.087	9.098
Nov 11	9.093s	0.030	38 Month	8.979	9.020	9.057	9.082	9.094	9.078
Dec 11	9.428s	0.030	39 Month	8.991	9.036	9.071	9.089	9.075	9.058
Jan 12	9.648s	0.030	40 Month	9.007	9.050	9.079	9.071	9.056	9.040
Feb 12	9.623s	0.030	41 Month	9.022	9.058	9.061	9.052	9.039	9.026
Mar 12	9.373s	0.030	42 Month	9.030	9.042	9.043	9.035	9.025	9.014
Apr 12	8.353s	0.030	43 Month	9.015	9.024	9.027	9.022	9.013	9.003
May 12	8.283s	0.030	44 Month	8.998	9.009	9.014	9.011	9.003	8.995
Jun 12	8.358s	0.030	45 Month	8.984	8.996	9.003	9.001	8.994	8.993
Jul 12	8.458s	0.030	46 Month	8.972	8.986	8.993	8.992	8.993	8.999
Aug 12	8.528s	0.030	47 Month	8.963	8.977	8.985	8.991	8.998	9.009
Sep 12	8.553s	0.030	48 Month	8.954	8.970	8.984	8.996	9.008	9.018
Oct 12	8.628s	0.020	49 Month	8.948	8.969	8.989	9.006	9.017	9.022
Nov 12	8.913s	0.020	50 Month	8.947	8.974	8.999	9.015	9.021	9.005
Dec 12	9.248s	0.020	51 Month	8.953	8.984	9.008	9.019	9.021	8.988
and the second se	9.2468 9.473s	0.020	52 Month	8.953	8.993	9.008	9.003	8.988	8.988
Jan 13									
Feb 13	9.453s	0.020	53 Month	8.972	8.997	8.996	8.986	8.974	8.961
Mar 13	9.208s	0.020	54 Month	8.977	8.982	8.980	8.972	8.962	8.951
Apr 13	8.188s	0.020	55 Month	8.962	8.967	8.967	8.960	8.951	8.941
May 13	8.148s	0.020	56 Month	8.948	8.954	8.955	8.950	8.941	8.932
13	8.223s	0.020	57 Month	8.935	8.943	8.945	8.941	8.933	8.929
Jul 13	8.318s	0.020	58 Month	8.924	8.933	8.936	8.933	8.930	8.932
Aug 13	8.388s	0.020	59 Month	8.915	8.924	8.928	8.930	8.933	8.939
Sep 13	8.408s	0.020	60 Month	8.907	8.917	8.925	8.933	8.940	8.946
Oct 13	8.478s	0.015	61 Month	8.900	8.914	8.928	8.939	8.947	8.948
	8.763s	0.015	62 Month	8.898	8.917	8.935	8.946	8.949	8.937



<u>، م</u>

Winter Strip Nov08 - Mar09

т. н. 1

(* * ). (* )

## Gas Commercial Operations Hedging Program Market Indicators Summary August 22, 2008

		Hedgir et Indi	ercial Operations [/] 1g Program cators Summary st 22, 2008	Support Page
Weather	Price Pressure	Term	Comments	
Long Term Weather Forecast		Long	NOAA predicting above normal AugOct. in Southern boarder states and Northeast and portions of Mid-west. Normal weather in Central, Plains and western states.	10
Mid Term Weather (30-60 days)	<b></b>	Long	Based on population weighted DD's September 9% cooler than 10 year average. October 2% cooler that 10 year average.	11
6-10 day forecast	<b></b>	Short	During the period-Above temperatures pushing to the east followed by some below temperatures.	12
Tropical Storm Activity	1	Long	Models indicate TS Fay dissipating over land this weekend. Another system of interest in the Atlantic, but it has lots of time before developing. Colorado State's hurricane team increased the number of tropical storms it expects will form in the Atlantic this year. Increased named storms to 17 from 15, named hurricanes from 8 to 9 and Category 3 or above from 4 to 5. Revisions to previous forecast due to "more favorable hurricane-enhancing sea surface temperatures and sea level pressure patterns" in the tropical Atlantic.	13
Storage Inventory				
EIA Weekly Storage Report	Ļ	L.ong	Storage injections for the week ending August 15th were 88 BCF. Storage levels are 9.0% lower than last year at 2.655 TCF (1.0% above 5-year average 2.629 TCF).	14, 15 2 15A
Industry Publications	_1	L		
Cambridge Energy Research Associates Summer 2008: \$9.93 Winter 08/09: \$8.49		Short	CERA expects Henry Hub gas prices to decline to \$7.90 per MMBtu in September and then increase for the remainder of the year, with an average annual price of \$9.31 per MMBtu in 2008.	16
Paribas	Ļ	Long	"The longer term view is lower, possibly down to \$6.50 or maybe even \$6.00.	17
Gas Daily	Ļ	Long	"The growth in US gas supplies has outstripped demand, Lehman Brother said, predicting that prices will break below \$8/Mcf this fall to help bring the market into balance "	18
Gas Daily	ļļ	Long	"Shale gas production will soon have the US swimming in natural gas, two major energy analyst said Monday, predicting that without a hurricane or extreme cold, gas prices will dip below \$8/Mcf this winter."	19
Government Agencies				
Energy Information Administration Summer 2008: \$10.256 Winter 2008/09: \$9.658		Long	The Henry Hub spot price are expected to average about \$9.75/MMBtu in 2008 and \$8.76/MMBtu in 2009, according to EIA.	20
Technical Analysis				
Summer 2009 Strip Chart	↓	Short	Closed at \$9.026	21
Winter 2008-09 Strip Chart	ŧ	Short	Closed at \$8.970	22
Economy				
Demand	Ļ	Long	EIA: Total natural gas consumption is expected to increase by 3 0% in 2008 and by 1.7% in 2009.	23
Supply	Ļ	Long	EIA: Total U.S. marketed natural gas production is expected to increase by 8.0 percent in 2008 and by 3.7 percent in 2009. LNG imports this year are expected to total about 390 Bcf a decline of about 381 Bcf from the 2007 total.	23
Oil Market	Ļ	Long	EIA: Prospects for improved oil market fundamentals over the next 18 months point to an easing in the market balance and price weakness over the near term. WTI crude oil prices, which averaged \$72.32 per barret in 2007, are projected to average \$119 per barrel in 2008 and \$124 per barrel in 2009.	23

Meeting Minutes: 10th Floor North Conference Room - 1:00 PM

Attendees: Jim Henning, Patty Walker, Jeff Kem, Mitch Martin, Mike Brumback, Steve Niederbaumer

Discussed current market conditions including the impact of tropical storms and the increased domestic supply entering the market on natural gas prices. Discussed current Hedged position and the two most recent hedging deals. Discussed the possible election impacts on natural gas prices. Determined at this time based on Duke Energy's current hedged position to monitor the market for additional developments regarding pricing.

1.



Duke Energy Kentucky Hedging Program - Current Position November 2007 - October 2008 As of 08/21/08

Estimated System Supply (Gross) Daily System Supply

ţ

Amount Hedged

Cost Averaging Cost Averaging Fixed Price Fixed Price ( Fixed Price ( Fixed Price ( Fixed Price (I Fixed Price Fixed Price ( Fixed Price ( **Fotal Hedged** 

# Monthly System Supply

4

Estimated System Supply (Gross) Seasonal % of System Supply % of System Supply Cost Averaging Cost Averaging Fixed Price ( Hedged to date Fixed Price ( Total Hedged

Normal Load (City Gate)

% Hedged & Storage Storage Withdrawal Hedged Total 🕜 Market

Seasonal %

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 08/21/08

Oct-09 Sep-09 Aug-09 Jul-09 Jun-09 May-09 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08 Nov-08

## Daily System Supply



# Monthly System Supply



5

## Normal Load (City Gate) Hedged (

% Hedged & Storage Storage Withdrawal Seasonal % Total ( Market



Case No. 2008-00175 Attachment A-2009 Page 87 of 307
Attachment A-2009 Page 88 of 307

Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 08/21/08

(

<u>(</u>-

ŗ.

Oct-10 Sep-10 Dec-09 Nov-09

# **Daily System Supply**

Estimated System Supply (Gross) Amount Hedged Fixed Price ( Total Hedged

# **Monthly System Supply**

Estimated System Supply (Gross) Hedged to date Fixed Price ( Total Hedged

# Normal Load (City Gate)

% Hedged & Storage Hedged (Although Storage Withdrawal Seasonal % Total (i Market

Aug-10 Jul-10 Jun-10 May-10 Apr-10 Mar-10 Feb-10 Jan-10

ł

6

% of System Supply Seasonal % of System Supply

Î

### 8/21/2008

Case No. 2008-00175 Attachment A-2009 Page 89 of 307

### Duke Energy Ohio Hedging Program Current Position



Ì

Case No. 2008-00175 Attachment A-2009 Page 90 of 307

### Duke Energy Kentucky Hedging Program Current Position



## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histori	ic Prices:				
	NYMEX CI	osing Price	······································			
	5-yr. avg.	Last Year		CERA	EIA	NYMEX
	(03/04-07/08)	(2007-2008)		24-Jul-08	12-Aug-08	21-Aug-08
Sep	\$6.62	\$5.43		\$11.800	\$8.830	\$8.345
Oct	\$6.94	\$6.42		\$11.270	\$8.890	\$8.200
Nov	\$8.07	\$7.27		\$10.790	\$9.460	\$8.560
Dec	\$7.91	\$7.20		\$10.330	\$9.730	\$9.010
Jan	\$7.36	\$7.17		\$10.060	\$9.940	\$9.260
Feb	\$7.08	\$8.00		\$10.760	\$10.040	\$9.285
Mar	\$7.01	\$8.93		\$10.550	\$9.120	\$9.115
Apr	\$7.41	\$9.58		\$10.440	\$8.470	\$8.770
May	\$7.72	\$11.28		\$10.330	\$8.400	\$8.694
June	\$7.65	\$11.92		\$11.600	\$8.230	\$8.789
July	\$7.81	\$13.11		\$12.240	\$7.900	\$8.901
Aug	\$7.21	\$9.22		\$12.550	\$8.100	\$8.971
12 Month Avg	\$7.40	\$8.79		\$11.060	\$8.926	\$8.825
Summe	er Average			\$11.461	\$8.403	\$8.667
Winter A	verage			\$10.498	\$9.658	\$9.046







# EarthSat's 30-60 Day Outlook

Wednesday, August 20, 2008

## EarthSat Weather

Forecaster: MR/SS



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]



# EarthSat's 6-10 Day Forecast-Detailed

Thursday, August 21, 2008

Forecaster: AC/JS

SarthSat Weather

Forecast Temperature Deviations



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

 $\boldsymbol{D}$ 

Case No. 2008-00175 Attachment A-2009 Page 95 of 307

# Gas Daily

Wednesday, August 6, 2008

# CSU forecast team raises 2008 Atlantic hurricane count

Colorado State University's hurricane team on Tuesday increased the number of tropical storms it expects will form in the Atlantic this year, citing warm sea surface temperatures and low sea level pressures observed over the tropical Atlantic in June and July, combined with an active early season in the deep tropics.

In their updated outlook, CSU researchers Philip Klotzbach and William Gray said they expect to see 17 named storms in the 2008 Atlantic hurricane season, with nine becoming hurricanes. Of those, the researchers said five would become intense hurricanes of Category 3 or above.

In June, the CSU team predicted the 2008 season would bring 15 named storms, eight hurricanes and four intense hurricanes. The long-term average is 9.6 named storms, 5.9 hurricanes and 2.3 intense hurricanes, CSU said. The Atlantic hurricane season runs from June 1 through November 30.

Five named storms have been observed so far this season including Hurricane Bertha, which was the longest-lived tropical cyclone that has ever formed during July, and Hurricane Dolly, which made landfall as a Category 2 hurricane in south Texas on July 23.

"We have increased our forecast because there has already been a very active early tropical cyclone season in the deep tropics, and more favorable hurricane-enhancing sea surface temperatures and sea level pressure patterns in the tropical Atlantic have developed," Klotzbach said in a statement. "The primary concern with our current very active seasonal forecast numbers is the continued ocean surface warming in the eastern and central tropical Pacific. Although it seems unlikely at this point, there is a possibility that a weak El Niño could develop by the latter part of the hurricane season. If this happened, it would likely reduce the number of late season tropical cyclones."

For the month of August, the team expects four named storms, three hurricanes and one intense hurricane for the Atlantic basin. The team will issue its next updates on September 2 and October 1. — *Carla Bass* 

# Gig, Energy Information Administration

Home > Natural Gas > Weekly Natural Gas Storage Report

# Weekly Natural Gas Storage Report

Released: August 21, 2008 at 10:30 A.M. (Eastern time) for the Week Ending August 15, 2008. Next Release: August 28, 2008

## Working Gas in Underground Storage, Lower 48

	Stocks i	n billion cubic f	eet (Bcf)	Historical Comparisons						
Region	08/15/08	08/08/08		Year Ago (	5-Year (2003-200					
	08/15/08	08/08/08	Change	Stocks (Bcf)	% Change	Stocks (Bcf)	Γ			
East	1,540	1,473	67	1,602	-3.9	1,486				
West	363	358	5	410	-11.5	365				
Producing	752	736	16	908	-17.2	778	$\top$			
Total	2,655	2,567	88	2,919	-9.0	2,629	1			

#### **Notes and Definitions**

Note: EIA replaced its sample for the EIA-912 survey, "Weekly Underground Natural Gas Storage R a transition period that began with the release of the *Weekly Natural Gas Storage Report* on May 22 was complete with the release of June 12, 2008 (the affected working gas estimates were for week May 16, 2008, through June 6, 2008). Prior to implementation of the new sample in the published ( both samples were used in parallel to estimate weekly natural gas storage stocks from May 4, 2007 May 9, 2008. EIA prepared a special report that describes a change in sampling procedure for the cu sample and examines the differences between results from the old and new samples. The results a compared with the monthly data from the EIA-191 survey, as well as with each other. The report, *I* of the Sample Changes for the Weekly Natural Gas Storage Report, is available at <u>http://www.eia.doe.gov/oil_gas/natural_gas/ngs/samplechg.html</u>.

#### Summary

Working gas in storage was 2,655 Bcf as of Friday, August 15, 2008, according to EIA estimates. This represe increase of 88 Bcf from the previous week. Stocks were 264 Bcf less than last year at this time and 26 Bcf abc year average of 2,629 Bcf. In the East Region, stocks were 54 Bcf above the 5-year average following net inje Bcf. Stocks in the Producing Region were 26 Bcf below the 5-year average of 778 Bcf a net injection of 16 Bcf. the West Region were 2 Bcf below the 5-year average after a net addition of 5 Bcf. At 2,655 Bcf, total working within the 5-year historical range.



Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

#### Contact Us • Feedback • Privacy/Security • Jobs • About I

other formats: Summ

Wednesday, August 20, 2008

Storage may approach last year's record: Lehman analysts

The US could end its traditional natural gas injection season with 3.52 Tcf in storage at the end of October, just under last year's record 3.545 Tcf as mild summer weather, increased domestic production and reduced industrial sector demand begin to ease a tight supply picture, Lehman Brothers said.

In a report issued late Monday, Lehman said reported storage injections lagged behind 2007 for most of this year's injection season, reaching a peak year-over year deficit of 389 Bcf by July 4 and helping to push the front-month NYMEX gas contract to a peak of \$13.577/MMBtu on July 3.

The report said that after hitting the peak, the front month contract fell for three straight weeks, dropping to \$9.09/MMBtu on July 25 and declining to \$8.135/MMBtu on August 14. While Lehman said the decline occurred "within the context of a broader commodity sell off," it said the <u>"bulk of the price adjustment resulted from the sudden loosening of the supply and demand balance, as indicated by the weekly storage numbers."</u>

Where earlier in the summer the market was tighter than in 2007, "it now appears significantly looser year on-year through the remainder of the injection season, which should allow US inventories to nearly close the deficit to year-ago levels," the investment bank said.

Lehman attributed some of the "loosening" in the US gas supply and demand balance to a 7% to 9% year-over year growth in domestic production that has more than made up for the decline in liquefied natural gas imports in 2008.

Another factor in the improving supply picture, Lehman added, is a drop in demand from the industrial sector as the "advantages of less-expensive gas [compared with European and Asian prices] and the weak dollar seem to have finally been trumped by the global economic slowdown. It is no coincidence that this mid-summer industrial slowdown coincided with suddenly bearish storage numbers."

Lehman acknowledged that weather remains the wild card in its projection, saying that it expects August and September weather will be "significantly cooler" than last year and that tropical storm and hurricane-related supply EFH's long term gas hedging program has roughly 2.4 billion MMBtu sold forward shut-ins will not exceed 60 Bcf. — Jeff Barber

Friday, August 22, 2008

# EIA: 88-Bcf storage build flips deficit to surplus

US gas storage inventories grew by 88 Bcf during the week ending August 15, the Energy Information Administration reported Thursday, beating analysts' expectations and raising nationwide stocks to 2.655 Tcf.

The build was stronger than consensus predictions between 81 Bcf and 86 Bcf; some analysts said the build would have been around 10 Bcf higher without tropical storm and maintenance-related shut-ins last week.

In the same week of 2007, EIA reported 2.919 Tcf in storage. As a result, the deficit from the year-ago level plunged to 264 Bcf from 330 Bcf a week earlier, while the deficit from the five-year average flipped from 6 Bcf to a surplus of 26 Bcf.

Inventories are now 54 Bcf above the five-year average of 1.486 Tcf in the East, 2 Bcf below the five-year average of 365 Bcf in the West and 26 Bcf below the five-year average of 778 Bcf in the producing region.

Despite the bearish injection, the September NYMEX gas futures contract bounced 25.8 cents higher just after the report's release. But analysts said the contract was responding more to oil trading, with crude oil up \$6/barrel early Thursday.

Lehman Brothers analyst Ed Morse said in a report Monday that surprising growth in Domestic supply, along with demand destruction thanks to double digit gas prices at the start of the summer, has freed up considerable gas for storage injections.

"Combined with August and September weather that we forecast to be significantly cooler than last year, we expect gas inventories to reach 3.52 Tcf by the beginning of the heating season, nearly closing the deficit to last year's record level," Morse said.

First Enercast Financial principal Ben Smith noted that new gas supply out of Texas and the Rocky Mountains in particular "seems to be extra strong." He predicted that storage could end the season at around 3.35 Tcf but noted that his estimates account for possible production losses due to tropical activity in the Gulf of Mexico.

FirstEnergy Capital analyst Martin King said many people are getting overly optimistic about just how high storage levels can go this year — but he conceded that 3.5 Tcf is "more realistic than some of the very low numbers that were being kicked around a little more than a month ago."

King cautioned that the sudden plunge in gas prices — from above \$13/MMBtu in July to around \$8/MMBtu in mid-August — may ultimately backfire for storage operators as it could reignite enough demand to erode storage injections once again and undercut his projected 3.4-Tcf end-of-season prediction. — Stephanie Seay, Jessica Marron

15 A

#### CERA Monthly Briefing

AUGUST 20, 2008 / PAGE 4

Case No. 2008-00175 Attachment A-2009 Page 99 of 307

# Summer 2008 \$ 9,93 Winter 2008-09 \$ 8,49

#### Table 1

Winter	200

	Henry Hub Prices (nominal US dollars per MMBtu)											
	<u>2003</u>	2004	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	
January	5.39	6.03	6.17	8.76	6.33	7.93	8.78)	10.86	10.63	8.46	7.51	
February	7.00	5.41	6.09	7.62	8.06	8.46	8.74 {	9.12	10.53	7.80	7.55	
March	6.37	5.38	6.91	6.88	7.10	9.34	8.50,)	9.60	10.53	7.80	7.68	
April	5.27	5.70	7.19	7.09	7.57	(10.11	8.43	9.76	9.89	7.64	7.78	
May	5.77	6.28	6.47	6.23	7.64	11.24	9.93	9.65	9.82	7.59	7.75	
June	5.80	6.26	7.17	6.26	7.40	12.61	10.89	8.85	8.89	7.56	7.80	
July	5.04	5.92	7.57	6.05	6.21	711.32	11.99	9.44	9.06	7.66	7.89	
August	4.96	5.43	9.29	7.24	6.30	8.33	11.71	9.14	8.51	7.69	7.91	
September	4.61	4.99	12.11	4.95	5.98	7.90	11.22	10.50	8.69	7.63	7.48	
October	4.65	6.24	13.36	5.67	6.68	8.01	11.05	10.54	8.28	7.63	7.47	
November	4.45	5.88	10.29	7.32	7.01	8.087	10.17	10.96	8.96	7.56	7.47	
December	6.12	6.63	12.98	6.83	7.08	8.365	10.27	10.99	8.95	7.57	7.48	
Year average	5.45	5.85	8.80	6.74	6.95	9.31	10.14	9.95	9.39	7.72	7.65	

Source: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003-July 2008 figures are derived from historical data as available; August 2008-13 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

#### **Volatility in the Spot and Futures Markets**

Uncertainty surrounding the price outlook resulted in increased volatility in both the day-ahead and prompt month markets in July (see Figures 3 and 4). In both markets volatility remained well below the five-year average for the month but moved back into the five-year range. In June volatility was lower than it had been for the month of June in any of the preceding five years.

### **US GAS-RELATED DRILLING CONTINUES TO RISE**

As of August 15, 2008, US gas-related drilling had reached 1,586 rigs, an increase of 42 rigs over the course of the month. In view of increased budgets and company expectations for rig additions in many of the unconventional plays, CERA projects that gas-related rig counts will exceed 1,650 by year-end, assuming gas prices do not linger below \$6-\$7 per thousand cubic feet (Mcf).

Drilling activity remains high in the leading unconventional gas plays (see Table 2 and Figure 5). The August 15 rig count of 903 rigs in these plays is only 42 rigs below the peak of 945 rigs during the past year.

While some softness in activity has recently occurred in Colorado and Texas RRC Districts 5 and 6, drilling in north Louisiana has risen sharply. The large jump from 55 rigs to 80 rigs in mid-August reflects a buildup related to the Haynesville shale play, where 25 rigs are currently active. Companies have projected an increase in drilling in the Haynesville to 45 rigs by year-end 2008, 105 rigs by year-end 2009, and more than 175 rigs by year-end 2010. Owing to high initial production rates of 10–15 million cubic feet (MMcf) per day per well and the rapid

BNP Paribas Natural Gas Market Watch 19 August 2008

## Commentary

]

For all intents and purposes, Natural gas traded sideways today. We settled about 9 cents higher but that is nothing in a market that lost almost 40% of its value in 6 weeks. It was very quiet with a 37 cent range. The question is, which way will we go from here. Summer vacations are winding down so more players will be back in the market soon and all fundamentals appear bearish but before we move lower, we should see some larger short covering after that major down move. That is the short term look. The longer term view is lower, possibly down to \$6.50 or maybe even \$6.00. The amount that we move up in the short term could depend on Mother Nature but so far she has been in a pretty good mood.

Monday, August 11, 2008

Lehman: Market oversupplied, gas prices should dip below \$8

The growth in US gas supplies has outstripped demand, Lehman Brothers energy analyst Tom Driscoll said Friday, predicting that prices will break below \$8/Mcf this fall to help bring the market into balance.

"Our go-forward math suggests production will rise nearly 4 Bcf/d and that non-recurring demand will drop 1.7 Bcf/d," Driscoll said. "Offsets to these negative trends would be underlying demand growth and a decline in pipeline [Canadian] imports totaling 1.5 Bcf/d. In addition the look-back storage decline of 1 Bcf/d needs to be considered. The net supply/demand balance appears to be an oversupply of about 3 Bcf/d."

Demand could grow if this winter is cold and heating demand soaks up some of the oversupply, Driscoll said.

Even so, "the 7% colder-than-10-year-average weather of the last nine months and 14% hotter-than-average August-October 2007 will be tough to match," Driscoll said. "Hurricanes are unpredictable but seldom cause enough disruptions to meaningfully impact markets. We believe long-term prices will need to average nearly \$8 for producers to earn adequate returns; however prices could fall below that equilibrium this fall."

While the severe weather and drop in liquefied natural gas imports over the past year "may be repeated, a mere repetition of cold weather will likely not drive demand upwards — we need colder weather to do so," Driscoll said. — *Bill Holland* 

Tuesday, August 12, 2008

# Analysts: Gas glut to force winter prices down

Shale gas production will soon have the US swimming in natural gas, two major energy analysts said Monday, predicting that without a hurricane or extreme cold, gas prices will dip below \$8/Mcf this winter.

Merrill Lynch's Francisco Blanch and Raymond James' Marshall Adkins both produced notes Monday that said the phenomenal growth in US gas production will eliminate the need for liquefied natural gas and limit the amount of Canadian gas piped south of the border.

Adkins said his survey of publicly reporting gas companies shows a 6.7% increase, year-over-year, in gas production. "US gas supply is climbing by leaps and bounds," Adkins said. "Given that independent producers are expecting even higher gas production growth rates (15%-plus, on average) in 2008 than the 13.2% growth rate seen in the second quarter of 2008, it is very possible that year-over-year growth in US gas supply, in the aggregate, will come in above 5 Bcf/d this summer."

"Texas production is expanding at a rate of 2 Bcf/d on the back of a 13% quarteron-quarter increase in production in the Barnett Shale," Blanch noted. "Some of the new shale projects are even more impressive. Haynesville, a project that was not very well known only a few months ago, is now thought to be the largest gas shale deposit in the United States. Accounting for all five major shale plays, we now estimate that incremental domestic production growth could hit 1.9 Bcf/d next year."

The normally bullish Adkins has been banging the unfamiliar bear drum for several months, saying as far back as April that gas prices will stay in the \$8/Mcf to \$10/Mcf range for most of the year until breaking below \$7/Mcf in the last quarter of this year. Adkins did not change his forecast Monday.

Merrill Lynch's Blanch trimmed his gas price forecasts slightly to \$9.80/Mcf in the third quarter and \$10.50/Mcf in the fourth quarter. Blanch also produced his first forecast of 2009 prices, saying US gas would average \$9/Mcf next year. Heating oil is no longer the floor for natural gas prices, Blanch said. Coal, which has grown more expensive as international demand has grown, now sets the limits on how far gas prices will fall.

But coal's support is not foolproof, Blanch noted. A July 11 federal appeals court decision invalidating the Environmental Protection Agency's clean air interstate rule (CAIR) has eviscerated the market for sulphur dioxide and nitrous oxide offsets, making coal even cheaper relative to gas and removing incentives to clean up emissions.

"If polluters faced high emissions prices, the shift out of coal-fired generation would occur at an even faster pace as the gas-to-coal spread narrowed," Blanch explained. "But given the latest regulatory decision, SOx prices have collapsed, making coal more attractive again. So far, only two utilities have spoken about increased gas-fired generation at the expense of coal-fired generation, and the lower cost for high polluters will do little to encourage more natural gas-fueled electricity." — *Bill Holland* 

Case No. 2008-00175 Attachment A-2009 Page 103 of 307



\$9,747 2008-

2009-\$8.76

From EIA Report 8/12/08



Summer Strip 2009

1 1

1.



Winter Strip Nov08 - Mar09

( )

# **Short-Term Energy Outlook**

August 12, 2008 Release (Next Update: September 9, 2008)

### Natural Gas

**Consumption.** Total natural gas consumption is expected to increase by 3 percent in 2008 and by 1.7 percent in 2009. Consumption increases are expected in every sector in 2008. The strongest growth during the forecast period is expected to come from the electric power sector (3.4 percent in 2008 and 3.1 percent in 2009) as natural gas-fired generation continues to take on a larger share of electric power supply. Growth in natural gas consumption in the industrial sector has continued, although higher natural gas prices and the weakening economy add uncertainty to the current outlook. In annual terms, consumption in the industrial sector is expected to increase by 1.6 percent in 2008 and by 0.8 percent in 2009.

Production and Imports. Total U.S. marketed natural gas production is expected to increase by 8.0 percent in 2008 and by 3.7 percent in 2009. Robust growth from unconventional production basins in the Lower-48 onshore region is expected to continue, while production is projected remain unchanged in the Federal Gulf of Mexico in 2008. Marketed natural gas production from the Federal Gulf of Mexico is projected to increase by 3.5 percent in 2009 while sustained drilling activity is expected to lead to production growth next year of 3.9 percent in the Lower-48 onshore region.

Imports of liquefied natural gas (LNG) remain low as demand for natural gas in Asia-Pacific and Europe continues to attract cargoes with higher relative prices. On the supply side, repairs, maintenance and delays in new liquefaction projects have limited the availability of LNG so far this year. While a significant increase in global liquefaction capacity is projected in 2009, <u>continuing natural gas demand growth and higher relative prices in Europe and Asia are expected to attract much of the new supply. As reported on the Intercontinental Exchange (ICE), the recent price of natural gas for January delivery in the United Kingdom is about double the current January price for natural gas on the New York Mercantile Exchange (NYMEX). LNG imports are expected to total 390 billion cubic feet (Bcf) in 2008, and 480 Bcf in 2009, compared with 771 Bcf in 2007.</u>

# Global Petroleum

**Overview.** Prospects for improved oil market fundamentals over the next 18 months point to an easing in the market balance and price weakness over the near term. The combination of slower U.S. and global oil consumption growth, increased production capacity for crude oil and natural gas liquids in the Organization of the Petroleum Exporting Countries (OPEC) beginning in the third quarter 2008 and continuing through 2009, and higher non-OPEC supply, raises the prospect for a drop in demand for OPEC crude oil and an increase in surplus capacity. Downward price pressures would increase if the economic slowdown proves deeper or longer than expected, and if higher prices lead to lower consumption and lower demand for OPEC crude than currently anticipated. There is also a risk that any weakness in oil prices could be minimal or short-lived, especially if consumption growth exceeds current expectations or if oil production capacity expansion plans in either OPEC or non-OPEC nations turn out to be lower than expected. Supply risks in Iraq, Nigeria, and Iran, as well as threats of hurricanes over the near term, continue to influence market expectations. In addition, OPEC production behavior that would lead to voluntary production cuts aimed at keeping inventories fairly tight would also limit downward price pressure.

The spot price of West Texas Intermediate (WTI) crude oil increased from \$122 per barrel on June 4 to \$145 per barrel on July 3, in part because of perceptions of tenuous supply in several of the major exporting countries. By August 5, the price fell back to less than \$120 per barrel. <u>WTI prices, which averaged \$72 per barrel in 2007, are projected to average \$119 per barrel in 2008 and \$124 per barrel in 2009.</u>

#### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



Duke Energy-Total Previously Hedged Total

i de la compañía de

J



Case No. 2008-00175 Attachment A-2009 Page 108 of 307

#### **Gas Commercial Operations** Hedging Program **Market Indicators Summary** August 12, 2008

Weather	Price Pressure	Term	Comments	
Long Term Weather Forecast	1	1	NOAA predicting above normal Aug–Oct. in South, Northeast and North central portions of United States. No change from July 22nd meeting.	10
Mid Term Weather (30-60 days)		Long	Based on population weighted DD's September 9% cooler than 10 year average. October 3% cooler that 10 year average.	11
6-10 day forecast	+++	Short	During the period-Areas in West are above, Mississippi valley below, Central, South and East Coast normal.	12"
Tropical Storm Activity	1	Long	Two possible tropical storms in the Atlantic basin. Colorado State's hurricane team increased the number of tropical storms it expects will form in the Atlantic this year. Increased named storms to 17 from 15, named hurricanes from 8 to 9 and Category 3 or above from 4 to 5. Revisions to previous forecast due to "more favorable hurricane- enhancing sea surface temperatures and sea level pressure patterns" in the tropical Atlantic.	13
Storage Inventory				~
EIA Weekly Storage Report	<b></b> +	Long	Storage injections for the week ending August 1st were 56 BCF. Storage levels are 12.3% lower than last year at 2.517 TCF (0.2% below 5-year average 2.523 TCF).	14215
Industry Publications	- <b></b>	A		
Cambridge Energy Research Associates Summer 2008: \$11.42 Winter 08/09: \$10.43	Î	Both	LNG imports into North America have shrunk to minimum levels as a result of operational issues and global LNG demand North America will be the residual market for LNG. Import volumes will fluctuate depending upon global LNG market conditions. CERA expects LNG imports to average 1 Bcf per day in 2008 and 2009-the lowest volume in five years. CERA expects prices for natural gas to remain above \$10/MMBtu for the next three years.	10
Paribas	1	Both	"This market should trade sideways to lower with support at the \$8 40 and \$8.15 levels until the Olympics are over then energies should become very active due to geopolitical events but it is too early to tell which way the markets will go."	
Gas Daily	ļ	Long	"The growth in US gas supplies has outstripped demand, Lehman Brother said, predicting that prices will break below \$8/Mcf this fall to help bring the market into balance."	18
Gas Daily	ļ	Long	"Shate gas production will soon have the US swimming in natural gas, two major energy analyst said Monday, predicting that without a hurricane or extreme cold, gas prices will dip below \$8/Mcf this winter."	19
Conoco Morning Briefing	1	Short	"There's a different kind of weather threat, now. The hurricanes are back."	20
Government Agencies				
Energy Information Administration Summer 2008: \$12.274 Winter 2008/09: \$13.044		Long	"The Henry Hub spot price are expected to average about \$11.50/MMBtu in 2008 and \$11.30/MMBtu in 2009, according to EIA " No EIA update from July 22nd meeting.	
Technical Analysis	<b>.</b>			
Summer 2009 Strip Chart	ţ.	Short	Closed at \$9.00	21
Winter 2008-09 Strip Chart	ł	Short	Closed at \$9.24	22
Economy				
Demand	Ļ	Long	EIA: Total natural gas consumption is expected to increase by 2.1% in 2008 and by 1.1% in 2009. No EIA update from July 22nd meeting	
Supply	Ļ	Long	EIA: Total U.S. marketed natural gas production is expected to increase by 6.4 percent in 2008 and by 1.6 percent in 2009. LNG imports this year are expected to total about 480 Bcf a decline of about 290 Bcf from the 2007 total. No EIA update from July 22nd meeting.	_
Oil Market	t t	Long	"Oil fell to a three-month low on Tuesday, dropping for the third day in a row, after the International Energy Agency predicted supplies would be more adequate and Russia called a halt to the conflict in Georgia."	23

Meeting Minutes: Informal Meeting-August 12, 2008--1:00 PM

Attendees: Jim Henning, Jeff Kern, Steve Niederbaumer

, * ,

.

i de la composición de la comp

Discussed current market conditions including Winter Strip flattening out in terms of price after a significant decline Expectations of price declines due to additional supply and the 2 storms that were getting the attention of the traders and expectations of tropical storm activity through the remainder of the hurricane season. Discussed the recent price drop and the chances of the market retracing that drop. Decided to fix a portion of base gas in Ohio and Kentucky. Fixed volumes of This and volumes Of t lav

Support Page

Case No 2008-00175 Attachment A-2009 Page 109 of 307

Hedged

Total 🚛 Market



Duke Energy Kentucky Hedging Program - Current Position November 2007 - October 2008 As of 08/12/08

> Fixed Price Fixed Price

**Total Hedged** 

4



Oct-09

Sep-09



# Normal Load (City Gate)

% Hedged & Storage Storage Withdrawal Seasonal % Hedged ( Market Total 🦲

ì

Dec-08

Nov-08

Daily System Supply

Estimated System Supply (Gross) Amount Hedged Fixed Price

Cost Averaging Fixed Price ( Fixed Price Total Hedged Collar

Monthly System Supply

Hedged to date

Seasonal % of System Supply % of System Supply Collar (Conoco 🕽 Cost Averaging 🕶 Fixed Price Fixed Price 🕼 Total Hedged Fixed Price

.2

Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 08/12/08

1

(

Oct-10 Sep-10 Jul-10 Aug-10 Jun-10 Apr-10 May-10 Mar-10 Feb-10 Jan-10 Dec-09 00-voN

# Daily System Supply Estimated System Supply (Gross)

Estimated System Supply (Gros Amount Hedged Fixed Price (Control of Control o

# Monthly System Supply

Estimated System Supply (Gross) Hedged to date Fixed Price (Control of the Fixed Price (Control of Control of Control of System Supply)

# Normal Load (City Gate)

ĺ

Seasonal % of System Supply

Hedges Withdrawal Storage Withdrawal Market Total (Market % Hedged & Storage Seasonal %

- 14 - -Ϊ. Case No. 2008-00175 Attachment A-2009 Page 111 of 307

•

Case No. 2008-00175 Attachment A-2009 Page 112 of 307

8/12/2008

## Duke Energy Kentucky Hedging Program Current Position

· · · .

( )

1

Delivery	Syster	n Supply	Тс	l to Date otal	Next Target ( ) Required Allowed		
Month	Dth/day	Dth/mo	Dth/day	Dth/mo	dth/day	dth/day	
Nov-08 Dec-08 Jan-09 Feb-09 Mar-09 Winter 08/09							
Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Summer 2009							
Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Winter 09/10				j, J			
Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10 Summer 2010		Т Т Т Т					

Case No. 2008-00175 Attachment A-2009 Page 113 of 307

## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

		ic Prices:									
NYMEX Closing Price											
	5-yr. avg.	Last Year		CERA	EIA	NYMEX					
	(03/04-07/08)	(2007-2008)		24-Jul-08	8-Jul-08	12-Aug-08					
						,					
Sep	\$6.62	\$5.43		\$11.800	\$12.930	\$8.360					
Oct	\$6.94	\$6.42		\$11.270	\$12.980	\$8.422					
Nov	\$8.07	\$7.27		\$10.790	\$12.930	\$8.880					
Dec	\$7.91	\$7.20		\$10.330	\$13.020	\$9.280					
Jan	\$7.36	\$7.17		\$10.060	\$13.100	\$9.515					
Feb	\$7.08	\$8.00		\$10.760	\$13.190	\$9.525					
Mar	\$7.01	\$8.93		\$10.550	\$13.290	\$9.370					
Apr	\$7.41	\$9.58		\$10.440	\$12.620	\$8.890					
May	\$7.72	\$11.28		\$10.330	\$11.700	\$8.822					
June	\$7.65	\$11.92		\$11.600	\$11.150	\$8.919					
July	\$7.81	\$13.11		\$12.240	\$10.450	\$9.024					
Aug	\$7.21	\$9.22		\$12.550	\$10.110	\$9.089					
12 Month Avg	\$7.40	\$8.79		\$11.060	\$12.289	\$9.008					
Summe	er Average			\$11.461	\$11.706	\$8.789					
Winter /	Average			\$10.498	\$13.106	\$9.314					



1

÷ ...





# EarthSat's 30-60 Day Outlook

Wednesday, August 06, 2008

## EarthSat Weather

Forecaster: MR/SS



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]

15



# EarthSat's 6-10 Day Forecast-Detailed

Tuesday, August 12, 2008

## SarthSat Weather

Forecaster: AC/JS

Forecast Temperature Deviations Forecast Valid: Sunday, 8/17 **Today's Forecast:** DAY 6 Still Cool In Plains, MW; Warmth Exits West Late Conditions will continue to remain cool along the Mississippi Valley early in the period as an upper level low hovers over the region. Temperatures here are a little cooler than vesterday's thinking, and the risk will remain on the cool side into the middle of the period. Some cooler readings may even seep into the southern Midwest too. The East Coast could see occasional above normal readings for the mid-Previous period, but the chance for showers may hinder this brief warm up. Progression in the West should allow cooler air to gradually advance in after a warm start. The Northwest should take on mainly seasonal conditions as a trough **Forecast Confidence: 8** moves in for the start of next week. Forecast Valid: Tuesday, 8/19 Forecast Valid, Monday, 8/ DAY 7 DAYA. Previous Previous Forecast Confidence: 7 Forecast Confidence: 7 Forecast Valid: Wednesday, 8/20 Forecast Valid: Thursday, 8/21 DAY 10 DAY 9 Previous **Forecast Confidence: 5** Forecast Confidence: 4 Strong Above ......+15 or UP Normal -2F Strong Below .....-15 or Lower Much Above .....+8F to +14F Much Below ......-8F to -14F Above .....+3F to +7F Below ......3F to -7F

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 830( 5 (210) 833 830) www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

Case No. 2008-00175 Attachment A-2009 Page 117 of 307

# Gas Daily

Wednesday, August 6, 2008

# CSU forecast team raises 2008 Atlantic hurricane count

Colorado State University's hurricane team on Tuesday increased the number of tropical storms it expects will form in the Atlantic this year, citing warm sea surface temperatures and low sea level pressures observed over the tropical Atlantic in June and July, combined with an active early season in the deep tropics.

In their updated outlook, CSU researchers Philip Klotzbach and William Gray said they expect to see 17 named storms in the 2008 Atlantic hurricane season, with nine becoming hurricanes. Of those, the researchers said five would become intense hurricanes of Category 3 or above.

In June, the CSU team predicted the 2008 season would bring 15 named storms, eight hurricanes and four intense hurricanes. The long-term average is 9.6 named storms, 5.9 hurricanes and 2.3 intense hurricanes, CSU said. The Atlantic hurricane season runs from June 1 through November 30.

Five named storms have been observed so far this season including Hurricane Bertha, which was the longest-lived tropical cyclone that has ever formed during July, and Hurricane Dolly, which made landfall as a Category 2 hurricane in south Texas on July 23.

"We have increased our forecast because there has already been a very active early tropical cyclone season in the deep tropics, and more favorable hurricane-enhancing sea surface temperatures and sea level pressure patterns in the tropical Atlantic have developed," Klotzbach said in a statement. "The primary concern with our current very active seasonal forecast numbers is the continued ocean surface warming in the eastern and central tropical Pacific. Although it seems unlikely at this point, there is a possibility that a weak El Niño could develop by the latter part of the hurricane season. If this happened, it would likely reduce the number of late season tropical cyclones."

For the month of August, the team expects four named storms, three hurricanes and one intense hurricane for the Atlantic basin. The team will issue its next updates on September 2 and October 1. — *Carla Bass* 

# Gia Energy Information Administration

Official Energy Statistics from the U.S. Government

Home > Natural Gas > Weekly Natural Gas Storage Report

# Weekly Natural Gas Storage Report

Released: August 7, 2008 at 10:35 A.M. (Eastern time) for the Week Ending August 1, 2008. Next Release: August 14, 2008

#### Working Gas in Underground Storage, Lower 48

Region	Stocks i	n billion cubic f	eet (Bcf)	Historical Comparisons						
	08/01/08	07/25/08	Change	Year Ago (	5-Year (2003-200					
	00/01/00	07/25/00		Stocks (Bcf)	% Change	Stocks (Bcf)				
East	1,418	1,363	55	1,535	-7.6	1,399				
West	354	346	8	405	-12.6	355				
Producing	745	752	-7	931	-20.0	769	T			
Total	2,517	2,461	56	2,870	-12.3	2,523	Τ-,			

**Notes and Definitions** 

#### Summary

1 - -

Working gas in storage was 2,517 Bcf as of Friday, August 1, 2008, according to EIA estimates. This represent increase of 56 Bcf from the previous week. Stocks were 353 Bcf less than last year at this time and 6 Bcf below average of 2,523 Bcf. In the East Region, stocks were 19 Bcf above the 5-year average following net injection: Stocks in the Producing Region were 24 Bcf below the 5-year average of 769 Bcf a net withdrawal of 7 Bcf. Sto West Region were 1 Bcf below the 5-year average after a net addition of 8 Bcf. At 2,517 Bcf, total working gas the 5-year historical range.



Working Gas in Underground Storage Compared with 5-Year Range

Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Jobs • About 1

Case No. 2008-00175 Attachment A-2009 Page 118 of 307

other formats: Sumn

Friday, August 8, 2008

## Storage deficit could 'narrow significantly' this month

US gas storage inventories grew by 56 Bcf during the week ending August 1, raising nationwide stocks to 2.517 Tcf, the Energy Information Administration reported Thursday.

The build fell shy of consensus expectations, which ranged between 58 Bcf and 63 Bcf. As a result, the September NYMEX gas futures contract shot higher immediately after the report's release, though the rally was not sustained.

In the same week of 2007, EIA reported 2.87 Tcf in storage. As a result, the deficit from the year-ago level slipped to 353 Bcf from 357 Bcf a week earlier, while the deficit from the five-year average halved to 6 Bcf from 12 Bcf.

With 13 weeks remaining in the traditional refill season, storage operators would have to inject an average of 80 Bcf per week to surpass last year's record of 3.545 Tcf — a level most analysts believe is unapproachable due in part to a drop in year-over-year liquefied natural gas imports.

Reaching the 3.5-Tcf comfort level would require injections of 76 Bcf each week, which also appears unlikely, some analysts say, particularly since the threat of storm-related disruptions to Gulf of Mexico area production remains viable for the next several weeks.

To reach 3.4 Tcf, weekly average injections of 68 Bcf would be needed until the end of October 1; to hit 3.3 Tcf would require average weekly builds of 60 Bcf.

Judging from the rate of injection over the past 13 weeks, the high end of the spectrum may not be as unachievable as many analysts have suggested.

From May 9 to August 1, the average weekly build was just above 83 Bcf enough to establish a new storage inventory record of 3.598 Tcf if that trend were to continue through October 31.

In fact, the amount of gas injected into storage was below 80 Bcf only three times in the past 13 weeks — those ending June 13, July 25 and August 1 — and surpassed 100 Bcf during the weeks ending May 30 and July 11.

Weather remains a key variable, with most of August's traditional heat still ahead. But current weather forecasts appear "highly supportive for the year-on-year natural gas storage deficit to narrow significantly," said analyst Daniel Guertin of Lehman Brothers.

Exceptional heat last August meant a full-month injection of only 124 Bcf, well below the five-year average of 237 Bcf for August. This year, however, temperatures are expected to be closer to the norm, according to Guertin.

"Assuming this type of weather pattern, the year-over-year storage deficit should narrow by at least another 100 Bcf in the next few weeks, barring a major hurricane in the Gulf of Mexico," the analyst said.

According to EIA's data, storage stocks are now 19 Bcf above the five-year average of 1.399 Bcf in the East, 1 Bcf below the five-year average of 355 Bcf in the West, and 24 Bcf below the five-year average of 769 Bcf in the producing region. — *Melanie Tatum* 

CERA Monthly Briefing

Case No. 2008-00175 Attachment A-2009 Page 120 of 307

American natural gas market supplied is the growing productivity of the US lower-48 gas resource base. CERA estimates that since 2006 US lower-48 gas production has increased by 9.5 percent, or 4.7 Bcf per day, with continued, albeit slower, growth projected over the next five years.

Whether North American prices will continue to track European prices into the \$17-\$20 range projected by CERA for late 2008 through 2009 remains a key question. CERA's view is that US productive capacity will be sufficient to meet domestic needs at prices that will remain discounted from world oil prices, as has been the case since April 2007. However, other scenarios are also possible, including convergence with the European price level.*

CERA expects prices at Henry Hub to average \$10.51 per MMBtu in 2008 and now expects an increase to \$11.48 per MMBtu in 2009 in view of the tight global market for LNG (see Table 1). At AECO-NIT CERA expects prices to average C\$8.87 per gigajoule (GJ) in 2008 and C\$9.87 per GJ in 2009 (\$9.30 and \$10.12 per MMBtu, respectively).

For the immediate future, CERA projects a Henry Hub price of \$12.15 per MMBtu in July and \$11.80 per MMBtu in August. In Canada, CERA projects the AECO-NIT price to be C\$9.97 per GJ (\$10.41 per MMBtu) in July and C\$9.68 per GJ (\$10.11 per MMBtu) in August.

#### Volatility in the Spot and Futures Markets

Volatility in both the day-ahead cash market and the prompt-month futures market continues to decline, setting a five-year low for June (see Figures 2 and 3). This suggests that the North American gas market continues to function smoothly, with buyers and sellers finding the market-clearing price more easily than in years past, despite the rising level of gas prices. CERA's prior research has shown that volatility tends to increase with a tightening of market conditions. The lack of increased volatility is therefore surprising and tends to suggest that growing domestic supplies have played a role in muting volatility.

		Table 1						Su	mme	\$ 11.42		
				Henry Hub Prices (nominal US dollars per MMBtu)				$\omega$	inter	9-09	\$ 10.43	
	2003	2004	2005	<u>2006</u>	2007	2008	2009	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	
January	5.39	6.03	6.17	8.76	6.33	7.93	10.76)	11.34	9.68	9.16	8.49	
February	7.00	5.41	6.09	7.62	8.06	8.46	10.55	10.35	8.47	8.40	8.55	
March	6.37	5.38	6.91	6.88	7.10	9.34	ر 10.44	10.69	8.86	8.46	8.66	
April	5.27	5.70	7.19	7.09	7.57	(10.11	10.33	10.82	8.74	8.28	8.72	
May	5.77	6.28	6.47	6.23	7.64	11.24	11.60	10.81	8.99	8.22	8.56	
June	5.80	6.26	7.17	6.26	7.40	12.61	12.24	10.24	8.92	8.15	8.62	
July	5.04	5.92	7.57	6.05	6.21 1	512.15	12.55	10.21	9.13	8.35	8.78	
August	4.96	5.43	9.29	7.24	6.30 /	11.80	12.42	9.76	9.04	8.42	8.81	
September	4.61	4.99	12.11	4.95	5.98	11.27	13.38	10.19	9.52	8.37	7.99	
October	4.65	6.24	13.36	5.67	6.68	10.79	12.05	9.85	9.64	8.49	7.96	
November	4.45	5.88	10.29	7.32	7.01	[~] 10.33?	10.45	10.06	10.21	8.52	7.97	
December	6.12	6.63	12.98	6.83	7.08	10.065	10.94	10.22	10.26	8.27	7.99	
Year average	5.45	5.85	8.80	6.74	6.95	10.51	11.48	10.38	9.29	8.42	8.42	

Sources: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003-June 2008 figures are derived from historical data as available. July 2008-13 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

*See the CERA Private Report Atlantic Price Convergence: All at Sea?

© 2008, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent.

1 (0



# Case No. 2008-00175 Attachment A-2009 Page 121 of 307

### Commentary

Today's Natural gas market started out quiet in anticipation of the EIA storage number. We traded unchanged until the +58 bcf was reported. Estimates were in the low 60's so this number was close to neutral but the market took it as bullish and used it to flush out buy stops. We ran up over \$9.00 briefly but this was nothing more than a head fake to take some cash out of the market. With no fundamental news worth talking about and the downward trend still uninterrupted, we proceeded to drop right back off again and settled 20 cents lower than yesterday. This market should trade sideways to lower with support at the \$8.40 and \$8.15 levels until after the Olympics are over and then, based on news over the past several months, energies should become very active due to geopolitical events but it is too early to tell which way the markets will go.



Although the information in this report has been obtained from sources which BNP Paribas believes to be reliable, we do not represent or warrant its accuracy, and such information may be incomplete or condensed. All estimates and opinions included in this report constitute our judgement as of the date of the report and may be subject to change without notice. BNP Paribas or its affiliates may, from time to time, have a position or make a market in the financial products mentioned in this report, or in derivative instruments based thereon. BNP Paribas shall not be responsible for the consequences of reliance upon any opinion or statement contained herein or for any omission or error of fact. This report is confidential and is being submitted to selected recipients only. This report may not be reproduced (in whole or in part) to any other person without the prior written permission of BNP Paribas. Copyright © BNP Paribas (2006). All rights reserved.



17

Monday, August 11, 2008

1

Lehman: Market oversupplied, gas prices should dip below \$8

The growth in US gas supplies has outstripped demand, Lehman Brothers energy analyst Tom Driscoll said Friday, predicting that prices will break below \$8/Mcf this fall to help bring the market into balance.

"Our go-forward math suggests production will rise nearly 4 Bcf/d and that non-recurring demand will drop 1.7 Bcf/d," Driscoll said. "Offsets to these negative trends would be underlying demand growth and a decline in pipeline [Canadian] imports totaling 1.5 Bcf/d. In addition the look-back storage decline of 1 Bcf/d needs to be considered. The net supply/demand balance appears to be an oversupply of about 3 Bcf/d."

Demand could grow if this winter is cold and heating demand soaks up some of the oversupply, Driscoll said.

Even so, "the 7% colder-than-10-year-average weather of the last nine months and 14% hotter-than-average August-October 2007 will be tough to match," Driscoll said. "Hurricanes are unpredictable but seldom cause enough disruptions to meaningfully impact markets. We believe long-term prices will need to average nearly \$8 for producers to earn adequate returns; however prices could fall below that equilibrium this fall."

While the severe weather and drop in liquefied natural gas imports over the past year "may be repeated, a mere repetition of cold weather will likely not drive demand upwards — we need colder weather to do so," Driscoll said. — *Bill Holland* 

Tuesday, August 12, 2008

# Analysts: Gas glut to force winter prices down

Shale gas production will soon have the US swimming in natural gas, two major energy analysts said Monday, predicting that without a hurricane or extreme cold, gas prices will dip below \$8/Mcf this winter.

Merrill Lynch's Francisco Blanch and Raymond James' Marshall Adkins both produced notes Monday that said the phenomenal growth in US gas production will eliminate the need for liquefied natural gas and limit the amount of Canadian gas piped south of the border.

Adkins said his survey of publicly reporting gas companies shows a 6.7% increase, year-over-year, in gas production. "US gas supply is climbing by leaps and bounds," Adkins said. "Given that independent producers are expecting even higher gas production growth rates (15%-plus, on average) in 2008 than the 13.2% growth rate seen in the second quarter of 2008, it is very possible that year-over-year growth in US gas supply, in the aggregate, will come in above 5 Bcf/d this summer."

"Texas production is expanding at a rate of 2 Bcf/d on the back of a 13% quarteron- quarter increase in production in the Barnett Shale," Blanch noted. "Some of the new shale projects are even more impressive. Haynesville, a project that was not very well known only a few months ago, is now thought to be the largest gas shale deposit in the United States. Accounting for all five major shale plays, we now estimate that incremental domestic production growth could hit 1.9 Bcf/d next year."

The normally bullish Adkins has been banging the unfamiliar bear drum for several months, saying as far back as April that gas prices will stay in the \$8/Mcf to \$10/Mcf range for most of the year until breaking below \$7/Mcf in the last quarter of this year. Adkins did not change his forecast Monday.

Merrill Lynch's Blanch trimmed his gas price forecasts slightly to \$9.80/Mcf in the third quarter and \$10.50/Mcf in the fourth quarter. Blanch also produced his first forecast of 2009 prices, saying US gas would average \$9/Mcf next year. Heating oil is no longer the floor for natural gas prices, Blanch said. Coal, which has grown more expensive as international demand has grown, now sets the limits on how far gas prices will fall.

But coal's support is not foolproof, Blanch noted. A July 11 federal appeals court decision invalidating the Environmental Protection Agency's clean air interstate rule (CAIR) has eviscerated the market for sulphur dioxide and nitrous oxide offsets, making coal even cheaper relative to gas and removing incentives to clean up emissions.

"If polluters faced high emissions prices, the shift out of coal-fired generation would occur at an even faster pace as the gas-to-coal spread narrowed," Blanch explained. "But given the latest regulatory decision, SOx prices have collapsed, making coal more attractive again. So far, only two utilities have spoken about increased gas-fired generation at the expense of coal-fired generation, and the lower cost for high polluters will do little to encourage more natural gas-fueled electricity." — *Bill Holland*
# ConocoPhillips

## Tuesday, August 12, 2008

1

According to the Old Farmers Almanac, yesterday marked the last day of the Dog Days of Summer, but I'm still hot this morning. There's a different kind of weather threat, now. The hurricanes are back. Just about everyone is yakking about how active the rest of the season will be, which means more hurricanes and increased probability of supply disruption...which is bullish, of course. We started the week with two, count 'em, two tropical systems in the Atlantic Basin, and that reminded the market that the peak for tropical weather extreme remains in front of us, with the most acute tropical threat being from mid-August through mid-October. The NHC is tracking a tropical wave about 825 miles east of the Windward Islands and another large area of showers and thunderstorms 400 miles southwest of the Cape Verde Islands. The former ---Tropical Wave 92L -- is currently aimed towards Puerto Rico, a track that could follow through into the Gulf of Mexico, whereas the latter system looks more likely to hook out into the North Atlantic. Development is possible from either system, but they are both a long way from here. Remember, the more intense the systems become early, the more likely, from a geophysics and climatological and meteorological perspective they will be impacted by correolis and become a "fish storm" that goes into the Atlantic. That sounds all good and well, but these are hurricanes...not known for reading science.



Summer Strip 2009

ſ



Winter Strip Nov08 - Mar09

#### Oil falls to 3-month low, IEA, Georgia in focus



Tue, 12 Aug 2008 09:59:00 GMT

* Oil falls as IEA report shows demand edging higher, but supplies also rising

* Russia orders halt to military operations in Georgia

(Updates prices)

By Ikuko Kao

LONDON, Aug 12 (Reuters) - Oil fell to a three-month low on Tuesday, dropping for the third day in a row, after the International Energy Agency predicted supplies would be more adequate and Russia called a halt to the conflict in Georgia.

U.S. crude <u>CLc1</u> fell to a session low of \$112.48 a barrel, the lowest since early May, and was trading \$1.32 lower at \$113.13 by 1132 GMT. London Brent crude <u>LCOc1</u> was \$1.29 lower at \$111.38.

The IEA, the energy adviser to 27 industrialised countries, left its demand growth outlook virtually unchanged for this year, while raising its 2009 forecasts slightly. But it cut its estimate for 2008 demand for oil from OPEC and predicted supplies would grow. [IEA/M]

"Demand for OPEC oil is going to be lower than its production capacity. So the market is looking forward to seeing an inventory build, " Olivier Jakob with Petromatrix said.

U.S. crude has fallen by about \$35 from its record high above \$147 struck in July.

Oil markets have remained under pressure in spite of disruption from the key Turkish port of Ceyhan following an explosion at the Baku-Tblisi-Ceyhan (BTC) pipeline.

The explosion was not linked to a five-day war between Russia and Georgia, through which the BTC link runs.

Russian President Dmitry Medvedev ordered a halt to the military operations in Georgia on Tuesday just before French President Nicolas Sarkozy was to hold peace talks in Moscow.

A stronger U.S. dollar has added to the impetus to the oil sell-off and other dollar-denominated commodities, which become more expensive for non-dollar investors as the U.S. currency gains strength.

The U.S. dollar rose to a six-month high against the euro, which has weakened since European Central Bank President Jean-Claude Trichet said last week the euro zone economy was slowing more than policy-makers had expected. [USD/] (Additional reporting by Chua Baizhen in Singapore; editing by James Jukwey)

#### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



Duke Energy--Total Previously Hedged Total

{ }

#### Gas Commercial Operations Hedging Program Market Indicators Summary September 22, 2008

	Price Pressure	Term	Comments	Page Ref
Weather				
Long Term Forecast	¥	Long	NOAA predicing a 40% or greater chance of above normal winter for Dec-Feb throughout most of the U.S.	10
Mid Term Forecast (30-60 days)	+	Long	Slow start to winter with October predicted to be warmer than normal and November to be close to 30 year normal.	11
Short Term Forecast (6-10 days)	<b></b>	Short	Above normal, but theres not much heating or cooling load in September unless temperatures get extreme.	12
Tropical Storm Activity	<b>~</b> →	Short	About 1% of the 3,800 offshore oil and gas platforms were destroyed by lke, estimated at 84,000 mcf per day. Although Gustav and lke took similar paths to Katrina and Rita, they were weaker and had little effect on production or prices. No current activity.	13
Storage Inventory				
EIA Weekly Storage Report	ŧ	Long	Storage injections for the week ending September 12th were 67 BCF. Storage levels are at 2.972 TCF which is 4.6% lower than last year and 2.1% higher than the 5 year average.	14
Industry Publications				
Cambridge Energy Research Associates Winter 2008/09: \$8.49 Summer 2009: \$10.75	•	Long	CERA expects prices to stabilize around \$8 per MMBtu in the next two months and then to increase going into the winter and throughout 2009.	15
Gas Daily	+1	Long	Is gas price 'correction' over? Analysts disagree - 9/10/08 "energy analysist at Natixix Bleichroeder believe the recent downward correction in gas prices is over. But a lehman Brothers analyst said prices still could drop below \$6/MMBtu in the short term"	16
Government Agencies				
Energy Information Administration Winter 2008/09: \$8.85 Summer 2009: \$7.99	¥	Long	"conitnued growth in onshore production is expected to limit any large and sustained increases in the natural gas spot price."	17-18
Technical Analysis		4		<b></b>
Winter 2008-09 Strip Chart	1	Short	Multiple gaps as prices declined since June. Bottomed out at \$7.90	19
Summer 2009 Strip Chart	1	Short	Psychological floor at \$8.00	20
Economy				
Demand	<b>†</b>	Long	"Consumption in the industrial sector is expected to increase by 1.6 percent in 2008 and by 1.4 percent in 2009. However, fragile domestic economic conditions add significant uncertainty to the forecast."	17
Supply	ł	Long	Gas Daily 9/9/08 "Analyst slashes gas price forecast 33% on oversupply" "Analyst: US nearing period of oversupplied gas market"	21-22
Oil Market	ł	Long	"Benchmark crude futures continued their downward slide in August, approaching \$100/bbl in early September as fundamentals eased."	23

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm

Attendees: Patty Walker & Jeff Kern

t

Jim Henning, Mike Brumback and Steve Niederbaumer were all involved in the effort to restore electricity after the largest outage in the company's history due to the windstorm on September 14th, and were unavailable for a meeting. However, the information included here was discussed individually with Patty Walker and Jim Henning. It was determined that no additional hedging is necessary for Ohio, but that Kentucky's level of hedging should be brought up to around the for the coming winter. In addition, long term hedging should be arranged to cover the winter of 2009/2010 before October 31st.

Oct-09 Sep-09 Aug-09 90-luC 90-unc May-09 Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 09/19/08 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08 12.00 -Nov-08 Amt Hedged with Storage @ City G Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply Load Forecast (Mcf)
Load Forecast (Mcf)
Total Requirements (Mcf) Withdrawals (Mcf)
Withdrawals" (Mcf) Amount Hedged (dth/day) Fixed Price (dth/day) Fixed Price (dth/day) Collar (dth/day) Collar (dth/day) Total Withdrawals (Mcf) Cost Averaging (Cost Averaging (Cost Averaging (Cost Averaging (Cost Total Hedged (dth)) Storage Withdrawal Market -oad Forecast

( )

 $\left( \right)$ 

Case No. 2008-00175 Attachment A-2009 Page 130 of 307

% Hedged & Storage Seasonal %

Total

Hedged



( )

(

Oct-10

Load Forecast (Mcf) -oad Forecast

Nov-09

Injections (Mcf) otal Requirements (Mcf) Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

Amount Hedged (dth/day) Fixed Price (control of Fixed Price (control of the fixed Price (control of the fixed price))

Total Hedged (dth/day) Total Hedged (dth)

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

5

Amt Hedged with Storage @ City Gate Hedged A-market Total (main a storage % Hedged & Storage Storage Withdrawal Market

Seasonal %

1.1



Case No. 2008-00175 Attachment A-2009 Page 132 of 307

---

( )

#### 9/19/2008

Case No. 2008-00175 Attachment A-2009 Page 133 of 307

#### Duke Energy Kentucky Hedging Program Current Position



Ś

ł

Case No. 2008-00175 Attachment A-2009 Page 134 of 307

## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histori	ic Prices:				
i	NYMEX CI	osing Price	<b>V</b>	•		
i	5-yr. avg.	Last Year	CERA		EIA	NYMEX
	(03/04-07/08)	(2007-2008)		20-Aug-08	9-Sep-08	19-Sep-08
1						
Oct	\$6.94	\$6.42		\$8.010	\$8.070	\$7.520
Nov	\$8.07	\$7.27		\$8.080	\$8.630	\$8.010
Dec	\$7.91	\$7.20		\$8.360	\$8.880	\$8.370
Jan	\$7.36	\$5.84		\$8.780	\$9.060	\$8.580
Feb	\$7.08	\$6.92		\$8.740	\$9.030	\$8.600
Mar	\$7.01	\$7.55		\$8.500	\$8.630	\$8.401
Apr	\$7.41	\$7.56		\$8.430	\$8.290	\$8.180
May	\$7.72	\$7.51		\$9.930	\$8.130	\$8.183
June	\$7.65	\$7.59		\$10.890	\$8.010	\$8.271
July	\$7.81	\$6.93		\$11.990	\$7.920	\$8.369
Aug	\$7.21	\$6.11		\$11.710	\$7.820	\$8.444
Sept	\$7.31	\$5.43		\$11.220	\$7.730	\$8.476
12 Month Avg	\$7.46	\$6.86	L	\$9.553	\$8.350	\$8.284
Summe	er Average			\$10.311	\$7.996	\$8.206
Winter A	verage			\$8.492	\$8.846	\$8.392







10

۰.



# EarthSat's 30-60 Day Outlook

Wednesday, September 17, 2008

# EarthSat Weather

Forecaster: DS/SS

Attachment A-2009 Page 136 of 307



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]



# EarthSat's 6-10 Day Forecast-Detailed

Friday, September 19, 2008

## EarthSat Weather

Forecaster: AC/JS

Case No. 2008-00175 Attachment A-2009 Page 137 of 307



www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

The NewsRoom Release: #3879 Case No. 2008-00175 Attachment A-2009 Page 138 of 307 Date: September 18, 2008 Minerals Management Service Updates lke Damage Assessments Offshore Damage from Hurricane lke is Surveyed through MMS, Oil and Gas Industry and U.S. Coast Guard Over Flights NEW ORLEANS --- Minerals Management Service (MMS) reports that as of September 17, 2008, 49 of the 3,800 offshore oil and gas production platforms in the Gulf of Mexico have been destroyed by Hurricane Ike. Currently, MMS has no information on whether any of the destroyed platforms will be rebuilt by any operator. Oil and gas operators are also reporting damage to offshore infrastructure other than destruction. These reports are being analyzed by MMS and damage statistics will be released next week. Initial estimates are that the 49 destroyed production platforms produced a total of 13,000 barrels of oil per day and 84 million cubic feet of gas per day. (See table below.) Additional damage reported includes three jack-up and one platform drilling rigs destroyed and one jack-up drilling rig with extensive damage. On-going reports indicate that there are five gas transmission pipeline systems with damage. The full extent of damage will not be available until operators are able to test the systems. MMS is analyzing the impact that this may have on resuming production. MMS has been conducting helicopter fly-overs to investigate reports of oil spills/sheens. While it is too early for definitive reports, there are no reports of oil impacting the shoreline or affecting birds and wildlife from releases in the Gulf of Mexico federal waters. Production from the Gulf of Mexico accounts for 25 percent of the oil produced domestically and 15 percent of the natural gas produced domestically. As of June 2008, daily production estimates for the Gulf of Mexico were 1.3 million barrels of oil and 7.0 billion cubic feet of gas. Since that time, gas production from the Independence Hub facility increased and in August 2008 gas production from the Gulf was estimated at 7.4 billion cubic feet of gas per day. As of August 2008, there were more than 3,800 production platforms in the Gulf of Mexico; these structures range in size from single well caissons in water depths of ten feet to a large complex facility in water depth greater than 7,000 feet. Number of Destroyed **Classified by Daily Oil Production** Platforms as of Rates 9/17/08 44 Less than 1,000 barrels per day 5 1,000 to 5,000 barrels per day 0 Greater than 5,000 barrels per day

#### **Energy Information Administrat** Official Energy Statistics from the U.S. Government

<u>fome</u> > <u>Natural Gas</u> > Weekly Natural Gas Storage Report

# Mheekly Natural Gas Storage Report

Released: September 18, 2008 at 10:35 A.M. (Eastern time) for the Week Ending September 12, 2008. Next Release: September 25, 2008

#### Working Gas in Underground Storage, Lower 48

	Stocks i	n billion cubic fe	eet (Bcf)	Historical Comparisons				
Region 09/12/08	09/05/08	Change	Year Ago (	09/12/07)	5-Year (2003-2007) Average			
	09/12/08	09/05/08	Change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change	
East	1,771	1,723	48	1,775	-0.2	1,685	5.1	
West	399	387	12	412	-3.2	390	2.3	
Producing	802	795	7	926	-13.4	835	-4.0	
Total	2,972	2,905	67	3,114	-4.6	2,911	2.1	

**Notes and Definitions** 

#### Summary

Working gas in storage was 2,972 Bcf as of Friday, September 12, 2008, according to EIA estimates. This represents a net increase of 67 Bcf from the previous week. Stocks were 142 Bcf less than last year at this time and 61 Bcf above the 5year average of 2,911 Bcf. In the East Region, stocks were 86 Bcf above the 5-year average following net injections of 48 Bcf. Stocks in the Producing Region were 33 Bcf below the 5-year average of 835 Bcf after a net injection of 7 Bcf. Stocks in the West Region were 9 Bcf above the 5-year average after a net addition of 12 Bcf. At 2,972 Bcf, total working gas is within the 5-year historical range.

#### Working Gas in Underground Storage Compared with 5-Year Range



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Jobs • About Us

Glossa

Page 1 of 1

Case No. 2008-00175 Attachment A-2009

Page 139 of 307

other formats: Summary TXT CSV

nttp://www.eia.doe.gov/oil gas/natural gas/ngs/ngs.html

CERA ADVISORY SERVICE North American Natural Gas

# CERA Monthly Briefing

# REDUCED STORAGE DEFICIT EASES PRICE PRESSURE ON NORTH AMERICAN NATURAL GAS

#### **KEY IMPLICATIONS**

Natural gas prices declined sharply in mid-July as the storage inventory deficit diminished. The improvement in the storage picture eases the price pressure for the remainder of the injection season. The Henry Hub price declined from \$12.61 per million British thermal units (MMBtu) in June to \$11.32 in July and by mid-August was on track toward a monthly average price of \$8.33. CERA expects prices to stabilize around \$8 per MMBtu in the next two months and then to increase going into the winter and throughout 2009.

- Rising spot coal prices have narrowed the spread between gas and coal and increased the "coal floor"—the price at which gas-fired power generation would be dispatched in preference to coal-fired generation. While most coalfired generation is priced at lower contract prices, the higher coal spot price nevertheless provides some support for gas prices.
- The ongoing diversion of global liquefied natural gas (LNG) supplies away from North American markets is expected to continue for the medium term. More LNG will flow to Europe during 2010–13 than had been expected previously, leaving significantly less available for North American markets.
- CERA expects Henry Hub gas prices to decline to \$7.90 per MMBtu in September and then to increase for the remainder of the year, with an average annual price of \$9.31 per MMBtu in 2008. At AECO-NIT, CERA expects prices to average C\$6.73 per gigajoule (GJ) (\$6.86 per MMBtu) in August and C\$6.56 per GJ (\$6.68 per MMBtu) in September, with an annual average price of C\$7.96 per GJ (\$8.22 per MMBtu) for 2008.

Note: All prices are in US dollars unless otherwise indicated.

15

TERMS OF USE. This report was prepared by Cambridge Energy Research Associates, Inc. (CERA), and is not to be redistributed or reused in any manner without prior written consent, with the exception of client internal distribution as follows: CERA strives to be supportive of client internal distribution of CERA content but requires that CERA content and information, including but not limited to graphs, charts, tables, figures, and data, are not to be disseminated outside of a client organization to any third party, including a client's customers, financial institutions, consultants, or the public. Content distributed within the client organization must display CERA's legal notices and attributions of authorship. Some information supplied by CERA may be obtained from sources that CERA believes to be reliable but are in no way warranted by CERA as to accuracy or completeness. Absent a specific agreement to the contrary, CERA has no obligation to update any content or information provided to a client



An IHS Company

The CERA Monthly Briefing is part of CERA's Retainer Advisory Service. For more information, please call +1 617 866 5000 (USA) or +33 (0)1 42 44 10 10 (France), or e-mail info@cera.com. In the USA: 55 Cambridge Parkway, Cambridge. MA 02142, USA. In Europe: 21 boulevard de la Madeleine. 75038 Paris, Cedex 01, France. © 2008, All rights reserved, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent

DATE August 20, 2008 than 30 cents.

In the Midcontinent, ANR Pipeline in Oklahoma lost about 30 cents, while CenterPoint Energy Gas Transmission's East pool slid more than 25 cents.

"CenterPoint is having some production problems in its north pool so that's really edging up prices in its south pool," a trader said, referring to the pipeline's failure on its O line in the north pool in Arkansas.

Panhandle Eastern Pipe Line came off about 35 cents as eastbound Rockies supply was scheduled to near maximum capacity of about 901,000 Mcf/d on the Cheyenne Plains Pipeline, according to the pipeline's web site. "All that Rockies gas which usually comes down Rockies Express [Pipeline] is getting dumped on Panhandle and ANR right now," another trader said.

Rockies Express' interconnections with ANR and Panhandle continued not to trade because of hydrostatic testing on REX. — *Market Staff Reports* 

## Is gas price 'correction' over? Analysts disagree

Despite dropping their gas price forecasts for the second half of 2008 and all of 2009, the energy analysts at Natixis Bleichroeder believe the recent downward correction in gas prices is over.

But a Lehman Brothers analyst said prices still could drop below \$6/MMBtu in the short term, which could force some producers to curtail output.

"Natural gas prices have corrected quite considerably from the near-nosebleed levels of June," Natixis Bleichroeder's Roger Read and Jeff Spittel said in a note Monday. "Based on our expectations that storage levels will remain near normal levels through the winter, we believe that the recent correction in prices is effectively over."

While noting that US gas production is up this year, the analysts said half of those gains are due to one-time events: the start-up of the 1 Bcf/d Independence Hub and the opening of the western portion of the Rockies Express Pipeline.

Read and Spittel also said gas storage inventories have risen rapidly over the summer due to cooler-than-normal weather and that storage should end the season at 3.428 Tcf — above average but below last year's record-high 3.545 Tcf.

Given those shifts in supply/demand fundamentals, the pair cut their price forecasts 8% to \$9.50/MMBtu for 2008 and 10% to \$9/MMBtu next year.

On Tuesday, Lehman analyst Tom Driscoll said "eagerness to continue to drill and the confidence expressed about future production growth plans imply that prices may need to fall sharply, or stay low for a prolonged period of time, to moderate the current supply surge."

"While we retain our \$7.50/MMBtu natural gas price for 2009, we believe that the risk remains to the downside and that gas prices could potentially fall to \$5 to \$6/MMBtu in the short term if US supply remains strong and severe winter weather does not materialize," Driscoll predicted.

He said Lehman is concerned the exploration-and-production industry "is too complacent. If the companies are right about their own ability to deliver volume growth, there could be a continued period of oversupply." Driscoll said he believes US production grew 8% in the first half of 2008, with only a quarter of that increase attributable to Independence Hub and Rockies Express.

Driscoll said most drilling is profitable down to \$7/MMBtu but no company has given him an answer to the question: "At what price do you lay rigs down?"

"Companies have given the impression that drilling economics are very robust down to \$7/MMBtu or so," but some companies have high production costs "that could see slowing activity below \$8-9/MMBtu (this implies that many companies plan to drill through short-term weakness)," Driscoll said. — *Bill Holland* 

# Democrats in Congress to cite speculators' 'vast' size, influence

Democrats in the House of Representatives and Senate plan to unveil a report today on what they call the "vast size and influence" of speculators in the oil futures market.

Senators Byron Dorgan of North Dakota, along with Senator Maria Cantwell of Washington and Representative Bart Stupak of Michigan said in a statement that they will present the report at 9:30 am EDT at the US Capitol.

"The new independent report outlines how speculators drove oil prices to record levels this summer, and then suddenly switched their position and began a mass stampede for the exits" starting on July 15, the statement said.

Crude oil futures on the NYMEX reached an intraday record of \$147.27/barrel on July 11, shortly before President Bush announced he was lifting the presidential moratorium on offshore drilling in the US.

Prices have fallen 30% since then, closing Tuesday at \$103.26/barrel, as prospects for economic growth have cooled, the US dollar strengthened and expectations grew that Congress would accede to Bush's demand for more coastal drilling.

House and Senate Democrats have criticized the Commodity Futures Trading Commission's own interim report on speculation on crude oil futures. They said that the July draft incorrectly classified non-commercial, or speculative, traders as commercial, to make it appear as if speculators accounted for just over onethird of crude oil trading on the NYMEX, when the speculative traders accounted for nearly half.

House and Senate Democrats have asked the CFTC's own inspector general to investigate the interim report.

Also Tuesday, a group of financial trade associations said they have formed a coalition to fight the idea that speculators are behind high energy prices and urged Congress not to pass legislation that would increase federal authority over energy markets.

The Smart Energy Policy Coalition said its advocacy campaign "calls on Congress to reject proposals sold as 'quick fixes' that would actually impede energy markets."

The group specifically mentions H.R. 6604, a proposal by Minnesota Democratic Representative Collin Peterson, that would increase the authority of the Commodity Futures Trading Commission over speculative trading in natural gas and oil markets. Some groups, including Democratic lawmakers in Congress, insist that speculation is one of the main forces driving high energy prices.

"Rather than impose overly restrictive rules that could have unintended consequences, global markets will respond more favorably to a comprehensive solution that addresses the root causes of high energy prices," the group said in a written statement.

H.R. 6604 would "reduce significantly the liquidity in US commodity futures markets and in the over-thecounter markets in commodity swaps and commodity index swaps and will increase the susceptibility of US futures markets to manipulation," the group said. — Daniel Goldstein, Jason Fordney

3

#### Natural Gas

1 }

*Consumption.* Total natural gas consumption is expected to increase by 2.7 percent in 2008 and by 2.2 percent in 2009 (<u>Total U.S. Natural Gas Consumption Growth</u>). Consumption growth is expected in all sectors during the forecast period, led by the residential and commercial sectors in 2008 and electric power in 2009. Despite higher prices through the first half of 2008, natural gas consumption in the industrial sector increased by 3.7 percent compared with the corresponding period in 2007. Consumption in the industrial sector is expected to increase by 1.6 percent in 2008 and by 1.4 percent in 2009. However, fragile domestic economic conditions add significant uncertainty to the forecast.

*Production and Imports.* Total U.S. marketed natural gas production is expected to increase by 7.8 percent in 2008 and by 3.8 percent in 2009. Strong year-over-year production growth has been led by the development of onshore fields, particularly in Texas and Wyoming, where production increased by 16 and 12 percent, respectively, during the first 6 months of 2008 relative to year-ago levels. The increase in lower-48 production excluding the Federal Gulf of Mexico (GOM) has more than offset the year-over-year decline of almost 3 percent during the first half of 2008 in Federal GOM production. Federal GOM production in 2008 is projected to be slightly lower than in 2007, followed by a 4.3 percent increase in 2009. Production in the lower-48 non-Gulf region is expected to increase by 9.5 percent in 2008 and by 3.8 percent in 2009, though the projection of supply growth next year remains subject to expectations about natural gas prices.

U.S. imports of liquefied natural gas (LNG) have been severely hampered by global LNG demand growth and higher relative prices in the Asia-Pacific region and Europe. For 2008, LNG imports are expected to total about 350 billion cubic feet (Bcf), a decline of more than 50 percent, or 420 Bcf, from 2007, and then to total about 450 Bcf in 2009 as new global LNG supply is added to the market.

*Inventories.* On August 29, 2008, working 'natural gas in storage was 2,847 Bcf (<u>U.S.</u> <u>Working Natural Gas in Storage</u>). Current inventories are now 102 Bcf above the 5year average (2003–2007) and 148 Bcf below the level during the corresponding week last year.

*Prices.* The Henry Hub spot price averaged \$8.49 per Mcf in August, \$2.96 per Mcf below the average spot price in July. Mild temperatures, increasing production, and lower oil prices all contributed to the price decline. Cooling degree-days in August were 4 percent below normal and 14 percent below the 5-year average. In the near term, potential hurricane disruptions present the greatest uncertainty in the price

forecast. September has historically been the peak month for hurricane activity, and EIA's current *Outlook* assumptions include shut-in production of 65 Bcf for the remainder of the season attributable to Gulf Coast storms. Nevertheless, continued growth in onshore production is expected to limit any large and sustained increases in the natural gas spot price. On an annual basis, the Henry Hub spot price is expected to average about \$9.71 per Mcf in 2008 and \$8.55 per Mcf in 2009, a decline of \$0.33 and \$0.46 per Mcf, respectively, from the previous forecast.

## Electricity

*Consumption*. As noted above, August 2008 was much cooler than in recent years (<u>U.S. Summer Cooling Degree-Days</u>), with particularly mild temperatures in the Midwest region. The projected growth in electricity consumption during 2008 has been lowered from last month's *Outlook* to 0.8 percent (<u>U.S. Total Electricity</u> <u>Consumption</u>).

*Prices*. Some utilities increased electricity rates beginning in July and more increases are expected in the upcoming months. Average U.S. residential electricity prices are projected to increase by 5.7 percent in 2008 and by 9.5 percent in 2009 (<u>U.S. Residential Electricity Prices</u>).

#### Coal

*Consumption.* Electric-power-sector coal consumption grew by 1.9 percent in 2007. Although first-quarter 2008 electric-power-sector coal consumption grew by about 2 percent compared with first-quarter 2007, slow growth in total electricity consumption is expected to limit growth in the sector to just 0.7 percent in 2008. In 2009, a small increase in electricity consumption, combined with projected increases from other generation sources (nuclear, natural gas, hydroelectric, and wind), will lead to a very slight decline in electric-power-sector coal consumption (<u>U.S. Coal</u> <u>Consumption Growth</u>).

**Production and Inventories.** U.S. coal production (U.S. Annual Coal Production) fell by 1.4 percent in 2007. Growth in both domestic consumption and particularly in exports is expected to contribute to a 2.9-percent increase in coal production in 2008. Secondary (consumer-held) coal stocks, which grew to 159 million short tons in 2007, are expected to remain stable in 2008 and grow by an average of 2.8 percent in 2009.

*Exports.* In the first half of 2008, U.S. coal exports increased by 13 million short tons, or 50 percent, over first-half 2007 shipments. Strong global demand for coal, combined with supply disruptions in several key coal exporting countries (Australia,

. . . . .

18





÷

÷.



Summer Strip 2009

of the Transfer Act in its management of the funds. "In the Transfer Act language it did not specify what happens to the other money, so that's a question that will have to be addressed through the federal budgetary process. We don't have a position on it," he said.

He added that "the \$64.8 million is obligated and spent," leaving about \$47 million in the trust fund for Congress to determine how it should be distributed.

But Brown said the BLM and its parent, the Department of the Interior, were responsible for delaying the release of the left-over monies in the trust fund to the communities. "Part of the reason that the Congress drug its feet was because a Department of the Interior legal opinion questioned whether the funds could be released when enough money was accumulated," rather than after the cleanup had actually occurred, he said. — *Jim Magill* 

## Traders seek edge in counseling ... from page 1

they do," said Shull, the president and founder of Trader Psyches.

But lately, as volatility and electronic trading have exploded, traders are turning to a new medium to give them an edge — psychological counseling.

Brett Steenbarger, a trading coach who is an associate clinical professor of psychiatry and behavioral sciences at State University of New York Upstate Medical University in Syracuse and author of *The Psychology of Trading*, said he saw an explosion of requests for coaching from hedge funds and institutional investment firms in 2007 as volatility increased in the marketplace. He now has clients in Asia, the UK and the US.

"In 2005, when there was a nice bull market, the phone was not ringing," he said. "That's changed tremendously as a function of market conditions, particularly in energy. It's so global and there are so many participants. More fast money going in and out. That's made trading more challenging."

Steenbarger, who has traded since 1970, said the volatility makes it particularly difficult for longer-term traders or investors. "It's very easy to get shaken out of a position and lose conviction. People do lose their nerve because if it's a hedge fund environment, you have investors who want to see returns and you feel performance pressure and can't afford to lose a lot of money."

In the end, traders can get risk averse and start to trade not to lose. "That's a bad place to be psychologically," he said.

Electronic trading is also causing traders heartburn. "Now we're seeing it in the energy markets with NYMEX being one of the later ones to go from the floor to the screen," he said. "It's a huge, huge adjustment."

Steenbarger said learning to trade electronically in many ways is like learning a new profession. And in his experience, many don't make the transition well.

While Steenbarger said he believes good traders are talented just as outstanding athletes are, there is a learning curve. "So much of trading is pattern recognition," he said. "Being able to recognize shifts in those patterns over time, identify them and act quickly on them. It's a structured learning curve and a lot don't make it, or never survive the learning curve,"

For Shull, the key to being a successful trader is learning to read what other market participants will do. Traders basically bet on what the other person is going to do, fundamentals not withstanding, she said, so learning to read the market is essential.

But Shull said the proliferation of electronic trading has left many old-time traders struggling since they lack the sensory input the floor provides.

"On the screen, you don't have all those different types of information that you have in the pit," she said.

So Shull said she tries to persuade traders to just sit in front of the screen for three days doing nothing but watching the trade flow to get a feel for the market. Next, she tells them to pay attention to what their gut says when the market slows.

# Analyst slashes gas price forecast 33% on oversupply

TUESDAY, SEPTEMBER 9, 2008

With US oil and gas companies producing more and more natural gas, the US gas market's prices are headed for a "train wreck," Raymond James energy analyst Marshall Adkins said Monday, slashing his fourth-quarter price forecast by one-third to \$7.50/Mcf and his forecast for 2009 by 10% to \$6.75/Mcf.

The forecast cuts are the latest in a string of reductions Adkins has forecast throughout the year, several of which, early in the year, he admits were "dead wrong."

"The fact remains that U.S. gas supplies are screaming higher at a ridiculously high 8% annual growth rate," Adkins said. "Since gas demand growth is not growing nearly as fast as supply growth, the US gas market is still headed for a train wreck. Yes, we have had a meaningful pullback in natural gas prices over the past two months, but there is no reason it cannot get worse."

Adkins thinks the market is 500 Bcf/year over-supplied now, which has contributed to the rapid closing of the storage deficit from 400 Bcf to 150 Bcf. He predicts storage could end the heating season with 600 Bcf more in the tank than last year.

He noted that last winter was colder-than-normal and expects an average winter this year. He still includes normal economic growth in his model and sees the US gas market as oversupplied by 4.5 Bcf/d.

"In other words, it appears that 2008/2009 winterending storage is currently on track to end with a year-overyear surplus of over 600 Bcf," Adkins said, even accounting for fuel switching and increased industrial demand.

"Of course, it is possible that an extremely cold winter temporarily diminishes the problem, but it would not solve the problem. The solution is substantially lower natural gas prices," he concluded.

If prices move below \$7/Mcf, Adkins sees producers slowing or shutting in production until the market rebalances, and even below \$7/Mcf Adkins says he'd "take the under."

His predicted the decline in prices would have its biggest impact on marginal gas producers as well as service companies: pressure pumpers, land drillers and shallow water jackup drillers, as producers stop needing their services. --- Bill Holland

#### Correction

Targa Resources' Yscloskey plant in St. Bernard Parish, Louisiana, is still being repaired following Hurricane Gustav and is expected to be back in full service in a matter of weeks, according to Targa President Joe Bob Perkins. An article in Monday's Gas Daily incorrectly said Yscloskey was repaired and awaiting flow from upstream.

Canadian Enerdat	a gas storage s	survey, Aug	29
(in Bcf)	East	West	Total
Working gas	196.70	298.30	495.00
Weekly Change	7.20	11.30	18.40
% of capacity	78.39%	74.17%	75.79%
Working Gas Aug 31, 2007	213.80	317.20	531.00

The information contained in this report is obtained from sources considered to be reliable. However, the information contained herein cannot be guaranteed with respect to its accuracy or completeness. Canadian Enerdata Ltd. assumes no responsibility for either the direct or indirect use of the information contained herein.

GAS DAILY

but the point averaged in the low \$5.40s, up about \$1.40

Activity on Northwest Pipeline was negligible, however, as volumes faltered substantially at Northwest's south of Green River station and only a handful of deals were transacted at Northwest's Wyoming pool. However, prices at Cheyenne Hub fell in line with the rest of the region after at least a week of trading at a stiff premium. While volumes faltered, volatility at the point was high and prices swung between \$4.70 and \$5.50 to come in about \$1.20 higher than Friday.

In western Canada, AECO-NIT in Alberta traded around C\$6.20, up about 5 cents from its previous midpoint. "Fundamentals are still weak, but that REX outage might be adding a bit of strength," one trader said.

In California, volumes faltered at the Pacific Gas and Electric city-gate, as PG&E's Diablo Canyon-2 nuclear unit came back online. "You're not seeing that much [gas] going [north] for peaker loads," a trader said.

The PG&E city-gate picked up nearly 15 cents. El Paso Natural Gas in the San Juan Basin climbed nearly 40 cents, while El Paso Permian tacked on about 35 cents. — Market Staff Reports

## **Clean Energy buys natural gas home refueling maker**

Clean Energy Fuels said Monday it has agreed to buy FuelMaker Corp. from American Honda Motor for \$17 million in cash, giving Clean Energy control of the lead company building a home refueling appliance for natural gas vehicles.

The acquisition, which is expected to be completed within 25 days, will extend Clean Energy's gas fueling franchise to small fleets and consumers in the US and overseas. FuelMaker manufactures, distributes, installs and services NGV refueling appliances and accessories, the Canadian-based company said.

FuelMaker Chairman and CEO John Lyon told Platts the synergies of the acquisition "are amazing." Clean Energy has been focusing largely on large fleet operations while FuelMaker has concentrated on the small commercial and residential markets. FuelMaker has been serving an international market for several years and should be able to help Clean Energy boost its image abroad, he said.

Echoing Clean Energy's founder T. Boone Pickens, Lyon noted only a few natural gas-powered vehicles have penetrated the US market, but that is about to change. Like Pickens, Lyons said greater reliance on NGVs will result in less cash hemorrhaging out of the US for gasoline.

The company's key product is the Phill, a home refueling device that compresses natural gas for vehicles. Consumers using the Phill at home in Southern California have been paying as low as \$1.60/gallon, the company noted.

"The new era of high fuel prices has created a dramatic increase in demand for lower-cost natural gas fueling in all transportation sectors, ranging from trucking to consumers," said Andrew Littlefair, Clean Energy president and CEO. "Due to the greater worldwide acceptance of light-duty natural gas vehicles, we are broadening our strategic focus to offer fueling solutions for small fleets and consumers. With the Phill unit, customers can fill up at home as well as at stations."

The acquisition "also continues our business expansion outside the United States, where natural gas vehicle use has risen dramatically to more than 8 million vehicles worldwide," Littlefair added. "In Europe alone, there are many makes and models of natural gas-powered consumer vehicles produced by major manufacturers. We expect the majority of FuelMaker's sales to be international in the near term."

Honda announced in April 2005 it was buying a 20% stake in the Torontobased FuelMaker and was planning to lease the device to customers. Currently, the federal government offers consumers a \$4,000 tax deduction on the purchase of new, alternative-fuel vehicles like the Honda Civic GX, which is equipped to use a Phill unit.

"Clean Energy clearly has the resources and expertise to broadly market the

#### Analyst: US nearing period of oversupplied gas market

Domestic gas supplies in the near term will be tight, but over the long run the US market could face a supply glut during which it won't need imports to meet demand, a Credit Suisse analyst said in a report Friday.

"We would argue that natural gas prices are somewhat undervalued for the balance of 2008 and significantly overvalued for 2009 and 2010," Credit Suisse Director of Commodities Research Teri Viswanath said.

Viswanath slashed her 2008 price forecast by nearly 16% to \$9.30/MMBtu, down \$1.73/MMBtu from late June, but said the fair value of the front of the curve now should be 50 cents higher than it is.

"There are a number of probable supply events that could still prove disruptive to the balances and send prices higher before the end of the year," she said, citing hurricane-related supply disruptions.

"The development of the 10th named tropical storm of the season on the third anniversary of Hurricane Katrina gives us ample reasons to be apprehensive of becoming too bearish on prices," she said, estimating that as much as 170 Bcf of Gulf of Mexico production could be shut in before the hurricane season ends — 65 Bcf from Hurricane Gustav alone.

"These significant near-term risks will likely result in the continuation of the storage deficit into the winter," she wrote.

Beyond the near-term supply risks, however, Viswanath said the US is "just around the corner from being able to produce enough natural gas to satisfy domestic consumers," at least for the next four years. After that, demand will once again catch up to supply, particularly given the recent cancellation of coal plants that will likely require that more gas-fired generation capacity be built, she said.

"Key advancements in drilling technology have opened up opportunities for developing unconventional resources and set the country on the path toward selfreliance," the analyst said, citing recent successes with the Barnett, Haynesville, Fayetteville, Woodford and Marcellus shales.

"The increased drilling activity, with a focus on unconventional gas plays, and the investment in pipeline infrastructure to bring this gas to market will likely propel domestic production growth through 2012," Viswanath said.

Continuing an upward trend in domestic production, the report projected an additional 2 Bcf/d of supplies in 2009 while demand is expected to plateau just above 65.5 Bcf/d, leading to a record 3.97 Tcf in storage by end of October 2009.

Viswanath dropped her 2009 price estimate by nearly 27% from her June forecast to \$7.67/MMBtu and cut her 2010 estimate by nearly 17% to \$7.50/MMBtu.

"Between now and [2012], we believe the prices will likely continue to weaken unabated until producers respond by shutting in production or curtailing new development projects," she said.

In 2012, the report projects a shift toward a supply-demand balance again, based on growing demand for gas and the absence of viable alternatives.

"We estimate that this inflection point is about four years away and coincides with the period of time that a wave of new coal-fired power plants had been expected online but has since been cancelled," the report said. — Sheetal Nasta

3



#### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



Duke Energy--Total Previously Hedged Total

( .

_____ {_____

#### Gas Commercial Operations Hedging Program Market Indicators Summary October 21, 2008

}

	Price Pressure	Term	Comments	Page Ref
Weather	Tricosuic	•	I	
Long Term Forecast	+ ↑	Long	It may finish with another cold spell in late January and February".	10-11
Mid Term Forecast (30-60 days)	†	Long	December with perhaps the roughest winter month for much of the nation. It may finish with another cold spell in late January and February".Nov. and Dec. predicted to be 8% and 7% colder than 10 year normal. WSI predicts for Nov. slightly warmer-than-normal followed by a much colder December for key heating regions across the northern tier of the country.12ShortBelow and Much Below temperatures moving into Mid-West and Eastern portions of US.1ShortAbout 37% (2.7Bcf/d) of Gulf of Mexico supply still shut-in due to Hurricanes Ike and Gustav. No current activity.1LongStorage injections for the week ending October 10th were 79 BCF. 	
Short Term Forecast (6-10 days)	1	Short	portions of US.	14
Tropical Storm Activity	<b></b>	Short		15
Storage Inventory				
EIA Weekly Storage Report	<b>-</b> >	Long	Storage levels are at 3.277 TCF which is 2.6% lower than last year and 2.7% higher than the 5 year average. Due to lke and Gustav, storage inventories are not likely to rise meaningfully above the 5-year average	15-16
Industry Publications				
Cambridge Energy Research Associates Winter 2008/09: \$8.23 Summer 2009: \$9.29	1	Long	of 2008 and then to increase going into the winter and throughout 2009	17
Gas Daily	<b>†</b>	Long	Jefferies & Company analyst "Despite recent increases in domestic gas supply, increased consumption by gas-fired power plants will likely lift gas	18
Gas Daily	ł	Long	13% to \$6.75/MMBtu and for 2009 by 14% to \$6.60/MMBtu. Gas	19
Government Agencies				
Energy Information Administration Winter 2008/09: \$8.83 Summer 2009: \$7.56	+	Long	Households heating with natural gas in the Midwest are projecting a 17% increase in average household expenditures resulting from a 19% increase in price and a decline in consumption of 2% due to the forecast of slightly warmer weather than last winter.	20-21
Technical Analysis	/			r
Winter 2008-09 Strip Chart	<b>†</b>	Short	Closed at \$7.15	22
Summer 2009 Strip Chart	1	Short	Closed at \$7.30	23
Economy				
Demand	<b>↑</b>	Long	EIA: Total natural gas consumption is expected to increase by 2.4% in 2008 and by 1.9% in 2009. This winter, total residential consumption is expected to increase by 3.5% year-over-year based on the projected 2.4% increase in heating degree-days.	24
Supply	Gas Daily 10/17/08 & 10/3/08 Long FERC expects ample gas supplies this winter NGSA: Robust supply should keep prices in check.		25-26	
Oil Market	ŧ	Long	EIA: Oil markets are expected to remain relatively tight because of sluggish production growth Absent a major worldwide economic downturn that significantly impacts global demand, WTI crude oil prices are projected to average \$112 per barrel in 2008 and 2009.	24

Meeting Minutes: 10th Floor North Conference Room - 10:00 am

1

Attendees Jim Henning, Patty Walker, Jeff Kern, Joachim Fischesser, Mike Brumback, Steve Niederbaumer

Discussed market fundementals including weather, storage, consumption, supply, winter and summer strip charts, DEO and DEK's hedging program as well as analyst forecasts for future price movements. Based on these factors a decision was made to convert FOMI to a fixed price and to hedge some additional supply.

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 10/20/08

ļ

Oct-09

Sep-09

Load Forecast

Nov-08

Total Requirements (Mcf)

• Withdrawals (Mcf) a "Withdrawals" (Mcf) Total Withdrawals (Mcf)

Amount Hedged (dth/day) Fixed Price Fixed Price Collar Fixed Price Fixed Fixed Price Collar Fixed Price Collar Fixed Price Collar Fixed Price Collar Fixed Price Fixed Price

4

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply Amt Hedged with Storage @ City Gate

Hedged (4 ) Storage Withdrawal Market Total (4 ) % Hedged & Storage Seasonal %

Aug-09 Jul-09 Jun-09 May-09 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08

法律学会

Case No. 2008-00175 Attachment A-2009 Page 151 of 307



; )

Ĺ

Case No. 2008-00175 Attachment A-2009 Page 152 of 307

Oct-11 Sep-11 Aug-11 Jul-11 Jun-11 May-11 Duke Energy Kentucky Hedging Program - Current Position November 2010 - October 2011 As of 10/20/08 Apr-11 Mar-11 Feb-11 Jan-11 Dec-10 Nov-10 Amt Hedged with Storage @ City Gate Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply Total Requirements (Mcf) Total Requirements (Mcf) TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf) Amount Hedged (dth/day) TBD Total (* Storage % Hedged & Storage Seasonal % Total Hedged (dth/day) Total Hedged (dth) Storage Withdrawal Market Hedged ( Load Forecast TBD 6

()

Case No. 2008-00175 Attachment A-2009 Page 153 of 307

Case No. 2008-00175 Attachment A-2009 Page 154 of 307

## Duke Energy Kentucky Hedging Program Current Position

•

Delivery _ Month	System Supply Dth/mo	Hedgeo To Dth/day	to Date otal Dth/mo	Next Targe Required dth/day	t (10/31/08) Allowed dth/day
		•		·	
Nov-08 Dec-08 Jan-09 Feb-09 Mar-09 Winter 08/09					
Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Summer 2009					
Nov-09					
Dec-09	म्			1 ¹ .	÷e E
Jan-10					
Feb-10					
Mar-10					
Winter 09/10		•			ана сталов. 1944 - Селеков.
Apr-10					*( <b>5</b> 2)
May-10					
Jun-10					
Jul-10					
Aug-10 Sep-10					
Oct-10					
Summer 2010					
Nov-10			$\mathbf{v} \in [\mathbf{v}_{1}]$		
Dec-10					
Jan-11					19 19 19 19 19 19 19 19 19 19 19 19 19 1
Feb-11					
Mar-11					
Winter 10/11					

Case No. 2008-00175 Attachment A-2009 Page 155 of 307

## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histori	c Prices:				
	NYMEX CI	osing Price	······································			
	5-yr. avg.	Last Year		CERA	EIA	NYMEX
1	(03/04-07/08)	(2007-2008)		23-Sep-08	7-Oct-08	20-Oct-08
Nov	\$8.07	\$7.27		\$8.080	\$8.600	\$6.790
Dec	\$7.91	\$7.20		\$8.060	\$8.860	\$7.325
Jan	\$7.36	\$5.84		\$8.480	\$8.940	\$7.495
Feb	\$7.08	\$6.92		\$8.390	\$9.030	\$7.361
Mar	\$7.01	\$7.55		\$8.150	\$8.700	\$7.236
Apr	\$7.41	\$7.56		\$8.710	\$8.240	\$7.255
May	\$7.72	\$7.51		\$9.190	\$8.000	\$7.280
June	\$7.65	\$7.59		\$9.280	\$7.760	\$7.370
July	\$7.81	\$6.93		\$10.640	\$7.410	\$7.460
Aug	\$7.21	\$6.11		\$9.970	\$7.210	\$7.540
Sept	\$7.31	\$5.43		\$9.010	\$7.010	\$7.580
Oct	\$7.55	\$6.42		\$8.200	\$7.260	\$7.519
12 Month Avg	\$7.51	\$6.86		\$8.847	\$8.085	\$7.351
Summe	er Average			\$9.286	\$7.556	\$7.429
Winter A	verage			\$8.232	\$8.826	\$7.241



, <del>-</del> ',



#### AccuWeather: East to See Coldest Winter in Several Years

State College, Pa. (10/9)-AccuWeather.com Chief Long-Range Forecaster Joe Bastardi has released his 200809 Winter Season Forecast addressing issues of average temperature and precipitation impacting the nation. His forecast calls for one of the coldest winters in several years across much of the East.

The core of cold was centered across the Great Plains last year but is expected to be farther east this year. Bastardi says the winter of 2008-2009 will be viewed as the hardest in several years. "It may be a shock to some when compared with the above-average temperatures of last year in the East. It will put some 'brrrrrr' in the saddle of folks who have not had to deal with such things for a while," he cautions.

"In the eastern half of the nation, people will look at the winter as bookends of cold," Bastardi said. He says the overall colder and snowier winter will be off to a cold start in December with perhaps the roughest winter month for much of the nation. It may finish with another cold spell in late January and February.

Between the bookends of cold, Bastardi expects "the January thaw of old winter lore" but it will offer only a temporary break to consumers. "The winter as a whole in the population-dense eastern third of the nation will be a one-two punch of higher heating prices and lower temperatures. Given this economic environment, the winter could push some homeowners to the brink," he concludes. In some cases, homeowners trying to keep their residences as warm as last winter could spend hundreds of dollars more this heating season.

Temperatures across most of the West will be warmer than last year and should be warmer than normal, which will help consumers by keeping heating cost increases in check. The northern Rockies and Northwest will still have more snow than normal but not as much as last year, where some locations developed a snow pack that reached twice normal levels.

The Great Plains was blasted by snow last year and many communities ran very low on salt to keep roads clear of ice. Despite the elevated cost of salt this winter season, these areas will receive a break in the form of less snow than last year. Unfortunately, the East will not turn out as lucky, as more snowfall than last year is expected.

Peter Marrin, Peterm@btu.net, www.energyinstitution.org

}



# EarthSat's 30-60 Day Outlook

Wednesday, October 15, 2008

EarthSat Weather

Forecaster: MR/SS



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]

12

# Gas Daily

Tuesday, September 30, 2008

# WSI predicts warmer weather through November

Most of the eastern two-thirds of the US can expect above-normal temperatures over the next two months, followed by a much colder December for key heating regions, private weather forecaster WSI Corp. said Monday.

"The relatively cold sub-surface ocean temperatures in the tropical Pacific, along with recent trends in tropical surface Pacific Ocean temperature, now suggest that a return to at least weak La Niña conditions is likely later this fall," said WSI forecaster Todd Crawford, adding that current climate signals suggest a warm October and November across the Northeast quarter of the US, followed by a sharply colder December.

"Assuming that the La Niña even does emerge, there are many similarities to the year 2000, which was a very cold winter over much of the US," Crawford said. "At the current time, we feel that the most significant cold weather will occur in the north-center US this winter, although the Northeast will likely be cold for at least the first half of winter as well."

In October, WSI expects warmer-than-normal weather for most of the US, except in the western coastal region. For November, WSI forecasts indicate that slightly warmer-than-normal weather will stick around in the Southwest, Northeast and Central regions, while cooler weather will continue in the Southeast and Northwest.

In December, WSI forecasts indicate colder-than-normal weather in key heating regions across the northern tier of the country, with warmer-than-normal weather in the Southeast and South-Central regions. — *Valarie Jackson*
GAS DAILY

rising by more than 50 cents at some locations. In New England, the Algonquin Gas Transmission city-gates surged more than 55 cents and Tennessee zone 6 climbed more than 45 cents.

Farther south, Texas Eastern Transmission zone M-3 rose nearly 45 cents, while Transco's zone 6 non-New York ran up more than 45 cents. In Appalachia, Dominion Transmission climbed about 50 cents as temperatures in parts of West Virginia and Ohio are slated to near the freezing point tonight.

On the NYMEX, the November contract traded as high as \$7.087 on CME Globex and later dropped to a low of \$6.683. Open outcry deals started at \$7.02, rallied to \$7.05 and then hit a low of \$6.72.

"The first uptick at the beginning of the day was clearly weather-related, from our standpoint," an analyst said. "Then in the last hour it came crashing down." — Market Staff Reports

### WSI forecasts mild winter in most regions of US

The East and Southwest should experience warmer-than-normal weather over the three months beginning November 1, while only the Northwest quadrant of the country can expect below-normal temperatures throughout that period, private forecaster WSI said Monday.

"Ocean temperature signals in the Pacific Ocean are generally suggestive of a relatively warm period in most of the eastern US during late fall and winter, with the exception of December," WSI forecaster Todd Crawford said.

"Further, neither ocean temperatures in the Atlantic nor the snow cover build up at Arctic latitudes are suggestive of sustained cold and snowy weather in the East this upcoming winter," Crawford said. "We expect the best chances of sustained cold weather to occur prior to the New Year, with mild conditions prevailing after that."

In its latest seasonal outlook, Andover, Massachusetts-based WSI said November should bring below-normal temperatures to the Northwest, Southeast, and California, while the remainder of the country can expect above-average readings.

According to Energy Security Analysis Inc., which provides an energy market assessment of WSI forecasts, the November outlook means early-season heating demand for natural gas should be slightly below-average across the northern tier of the country.

For December, ESAI predicted below-normal temperatures in the Northeast, North Central and Northwest regions, with above-normal temperatures in the Southeast and most of the Southwest.

ESAI said the December forecast "should be bullish for natural gas demand and could help to spark an early rally for natural gas prices."

WSI said January will bring above-normal temperatures to the Northeast, Southeast and South Central regions, with below-normal temperatures elsewhere.

That forecast, ESAI said, "will provide a balanced outlook for natural gas demand in January with higher demand expected in the North Central region and slightly lower demand in the East. Strong seasonal starting inventories for natural gas this year should moderate supply concerns." — Jeff Barber

### Judge approves Eagle sale to French company

The judge overseeing the federal bankruptcy case of Lehman Brothers Holdings late Friday signed an order granting the sale of Lehman unit Eagle Energy Partners to EDF Trading North America, a subsidiary of France's EDF Group, for \$230 million in cash and the elimination of \$433 million in debt. Judge James Peck of the US Bankruptcy Court for the Southern District of New York said in his order that it will now be up to Lehman and its affiliate, Lehman Brothers Commodity Services, to determine which bankrupt unit

### Notice: 'Texas Eastern, M-1 (Kosi)' name change

TUESDAY, OCTOBER 21, 2008

As previously announced, Platts on November 1 will rename its "Texas Eastern, M-1 (Kosi)" pricing location in its daily and monthly survey to "Texas Eastern, M-1 30-inch (Kosi)" to more clearly differentiate from deliveries to the 24inch line in zone M-1, which Platts began listing in September.

### Hurricane, hedging impacts cause McMoRan to post \$6.1 million loss

McMoRan Exploration on Monday reported a net loss of \$6.1 million in the third quarter due to hurricane damage and unrealized mark-to-market gains. That compares with a \$52.2 million loss a year earlier.

Discounting those one-time impacts, the New Orleans-based company said it would have earned \$61.9 million in the latest quarter.

Because of Hurricane Ike, McMoRan said its oil and gas production averaged about 140,000 Mcf equivalent/d in September, down from 296,000 Mcfe/d in July and August. For the entire third quarter, the company's production averaged 225,000 Mcfe/d, up from 185,000 Mcf/d a year earlier.

"Based on reports from third-party operators of downstream facilities and pipelines, McMoRan expects significant additional production to be restored in the fourth quarter," the company said, adding that it included about \$152.6 million in Ike-related costs in its third-quarter results. McMoRan said it expects to recover much of hurricane-related costs through its insurance.

The company also posted \$82.3 million in unrealized mark-to-market gains in the third quarter. It has hedged about 12,6 Bcf of gas and 600,000 barrels of oil through 2010, or slightly less than 5% of its estimated reserves. — Carla Bass

### Devon's CEO tapped to chair API; Marathon CEO to serve as treasurer

Devon Chairman and CEO Larry Nichols has been elected chairman of the American Petroleum Institute by the group's board of directors, API said Monday. The first CEO of an independent oil and gas company to become chairman of API, Nichols will take the helm January 1.

The board also approved Jack Gerard as the new president and CEO of API, effective November 1, replacing Rex Caveney, who is retiring. Clarence Cazalot Jr., president and CEO of Marathon Oil, was elected API's treasurer, effective January 1.

The announcements were made at API's annual meeting in Scottsdale, Arizona.

As chairman of API's board, Nichols will also chair the group's 25-member Policy Committee and 10-member Executive Committee, API said.

Prior to joining API, Gerard was president of the American Chemistry Council and had earlier headed the National Mining Association. — *Richard Rubin* 



3 Copyright

13 A



EarthSat Weather

### EarthSat's 6-10 Day Forecast-Detailed

Monday, October 20, 2008

Forecaster: AC/IS

Case No. 2008-00175 Attachment A-2009 Page 161 of 307



Strong Below	15 or Lower
Much Below	8F to -14F 🗱
Below	-3E to -7E

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

## Gas Daily

Friday, October 17, 2008

### EIA reports 79-Bcf build, lifting storage to 3.277 Tcf

With some 37% of Gulf of Mexico supply still shut in, gas storage inventories grew by a less-than-expected 79 Bcf during the week ended October 10, raising nationwide stocks to 3.277 Tcf with three weeks left in the traditional refill season, the Energy Information Administration reported Thursday.

The build was below most analysts' expectations, which ranged from 83 Bcf to 87 Bcf, but it was much higher than the 39 Bcf reported a year earlier.

In the same week of 2007, EIA reported 3.364 Tcf in storage. The deficit from the year-ago level fell to 87 Bcf from 117 Bcf a week earlier, while the surplus over the five-year average climbed to 85 Bcf from 69 Bcf. The report was bullish news to futures traders, who pushed the November NYMEX gas contract up about 18 cents/MMBtu in morning trading.

Analysts at Stifel Nicolaus said that given the continued shut-in of about 2.7 Bcf/d in the Gulf due to Hurricanes Ike and Gustav, storage inventories are not likely to rise meaningfully above the five-year average by November 1. The analysts predicted a storage level on that date of 3.4 Tcf, which would be 2% above the five-year average and 4% below the year-ago level.

According to EIA's data, inventories now are 84 Bcf above the five-year average of 1.861 Tcf in the East, 17 Bcf above the five-year average of 423 Bcf in the West, and 15 Bcf below the five-year average of 907 Bcf in the producing region. — Stephanie Seay, Jessica Marron

### Energy Information Administration Official Energy Statistics from the U.S. Government

### Weekly Natural Gas Storage Report

Released: October 16, 2008 at 10:35 A.M. (Eastern time) for the Week Ending October 10, 2008. Next Release: October 23, 2008

### Working Gas in Underground Storage, Lower 48

Region	Stocks i	n billion cubic f	eet (Bcf)	Historical Comparisons						
	10/10/08	10/03/08	Change	Year Ago (	10/10/07)	5-Year (2003-200				
	10/10/08	10/03/08	Change	Stocks (Bcf)	% Change	Stocks (Bcf)				
East	1,945	1,899	46	1,925	1.0	1,861				
West	440	432	8	445	-1.1	423	Τ			
Producing	892	867	25	994	-10.3	907	Γ			
Total	3,277	3,198	79	3,364	-2.6	3,192	12			

**Notes and Definitions** 

### Summary

Working gas in storage was 3,277 Bcf as of Friday, October 10, 2008, according to EIA estimates. This represe increase of 79 Bcf from the previous week. Stocks were 87 Bcf less than last year at this time and 85 Bcf abov average of 3,192 Bcf. In the East Region, stocks were 84 Bcf above the 5-year average following net injection: Stocks in the Producing Region were 15 Bcf below the 5-year average of 907 Bcf after a net injection of 25 Bcf the West Region were 17 Bcf above the 5-year average after a net addition of 8 Bcf. At 3,277 Bcf, total workin within the 5-year historical range.

### torical range.



Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines in current and year-ago weekly periods.

16

Contact Us • Feedback • Privacy/Security • Careers • About

Fedstats • USA.gov • Dept. of Energy

other formats: Sumn

7

http://www.eia.doe.gov/oil_gas/natural_gas/ngs.html

( )

ĺ.,

Case No. 2008-00175 Attachment A-2009 Page 164 of 307

A comfortable level of storage inventories allowed gas markets to shrug off the hurricanes. Mild weather and continued strong domestic production resulted in a robust storage build in August that exceeded expectations by 159 billion cubic feet (Bcf). In the US Lower 48 the weather was 7 percent cooler than normal, significantly reducing the need for gas-fired power generation. Although production has dipped in the past two months, it remains high in comparison to recent years—1.5 Bcf per day greater than in August 2007—allowing storage inventories to rise above five-year average levels for the first time since February. In fact, this injection season so far (April through August) has been stronger than any since 2004. August injections of 13.8 Bcf per day set a record for the month. Henry Hub prices responded to the bearish fundamentals and declined to \$8.30 per MMBtu in August from \$11.32 in July.

Two major hurricanes—Gustav and Ike—caused a significant shut-in of production during the first half of September. CERA expects North American gas production to average only 64.6 Bcf per day in September, compared with 69.8 Bcf per day in August. However, September is a shoulder month for demand, which is projected to decline by 3.4 Bcf per day compared with August levels (assuming normal weather). As a result plenty of gas should remain available for storage injection, and CERA expects the injection season to end with inventories just under 4 trillion cubic feet (Tcf), slightly above average levels.

Given these trends CERA expects the Henry Hub price to decline to \$7.64 per MMBtu in September and to rise toward the \$8 level over the remainder of the year (see Table 1). CERA expects the Henry Hub price to average \$9.25 for 2008 as a whole. For AECO-NIT, CERA projects prices to average C\$5.98 per gigajoule (GJ) (\$5.95 per MMBtu) in September and C\$7.90 per GJ (\$8.11 per MMBtu) for the year.

The improvement in the storage picture over the past two months will have price effects that carry forward into 2009, despite the production losses from Gustav and Ike. When the natural

					Table	1		Wi	nter :	2008	09	\$ 9,23= \$ 9,286
				Ha	nry Hub			Su	mmer	200	q	9 9.286
(nominal US dollars per MMBtu)												
1	2003	<u>2004</u>	2005	2006	<u>2007</u>	2008	2009	<u>2010</u>	2011	<u>2012</u>	2013	
January	5.39	6.03	6.17	8.76	6.33	7.93	8.48)	7.71	8.43	7.31	7.31	
February	7.00	5.41	6.09	7.62	8.06	8.46	8.39 <b>≿</b>	7.30	8.03	7.27	7.55	
March	6.37	5.38	6.91	6.88	7.10	9.34	8.15	7.33	7.57	7.27	7.68	
April	5.27	5.70	7.19	7.09	7.57	10.11	8.71	7.55	7.79	7.64	7.78	
May	5.77	6.28	6.47	6.23	7.64	11.24	9.19	7.86	7.39	7.02	7.75	
June	5.80	6.26	7.17	6.26	7.40	12.61	9.28	7.72	7.33	6.96	7.80	
July	5.04	5.92	7.57	6.05	6.21	11.32	10.64	8.14	8.06	7.66	7.89	
August	4.96	5.43	9.29	7.24	6.30	8.30	9.97	8.17	8.01	7.69	7.91	
September	4.61	4.99	12.11	4.95	5.98	7.64	9.01	8.03	7.62	6.96	7.48	
October	4.65	6.24	13.36	5.67	6.68	7.86	8.20	8.36	7.69	7.13	7.67	
November	4.45	5.88	10.29	7.32	7.01	8.08]	8.08	8.48	7.79	7.23	7.80	
December	6.12	6.63	12.98	6.83	7.08	8.06 ⁵	7.53	8.41	7.78	7.00	7.68	
Year average	5.45	5.85	8.80	6.74	6.95	9.25	8.80	7.92	7.79	7.26	7.69	

Source: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003-August 2008 figures are derived from historical data as available; September 2008-13 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

© 2008, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent.

## Gas Daily

Wednesday, September 24, 2008

### Analyst: Power demand should lift prices past \$9

Despite recent increases in domestic gas supply, an industry analyst said Tuesday that increased consumption by gas-fired power plants will likely lift gas prices to between \$9 and \$10/MMBtu this winter.

Storage withdrawals to meet that demand growth should be strong enough to "keep gas prices propped," Subash Chandra, an exploration and production analyst with Jefferies & Company, said during a conference call. "There is a lot of room, assuming normal temperatures of course, for this natural gas demand to rise yet again on the power demand side."

In its Weekly Chart Book, Jefferies said it expects 3.1 Bcf/d of net supply growth this winter compared with a year ago to be more than offset by 1.9 Bcf/d of weather-sensitive demand growth and 2.1 Bcf/d of electric-generation growth. "An attractive natural gas/fuel oil parity, higher trend line growth in electric demand and normal weather are the factors," it said

The report noted that fuel oil prices "are trading at a big premium to natural gas. We believe fuel oil will retain a slim 1% market share in the generation of electricity and won't be a threat to the market share for natural gas unless gas prices spike over \$10/MMBtu. All we need is fairly normal temperatures to bear this out."

Jefferies also said gas demand to generate electricity is experiencing similar gains in both the winter and summer months. "As a result, we expect to see the total power demand to increase 1% this winter," which would cause a 1.2 Bcf/d equivalent of additional gas use, the report said.

"We expect positive year/year comparables for every month with the exception of February, which was colder than normal in each of the prior two years," the report noted. "We estimate natural gas will retain a 21% market share and liquids 0.7%, compared to 20% and 0.8% last winter. Demand for natural gas in the generation of electricity should rise [by] 1.9 Bcf/d."

In addition, the firm said it expects residential and commercial demand to rise 1.9 Bcf/d, or 5%, over last winter.

As for storage, "we are forecasting a storage withdrawal of 2.120 Tcf this winter, compared to a five-year average of 1.952 Tcf and last year's 2.320 Tcf," Jefferies said. "Our forecast could prove conservative if there is normal weather." — *Rodney White* 

Case No. 2008-00175 Attachment A-2009 Page 166 of 307

### Gas Daily

Thursday, October 16, 2008

### Barclays cuts its 2009 gas price forecast by 14%

A month after cautioning that gas prices might have to fall to between \$5/MMBtu and \$6/MMBtu to balance an oversupplied market, Barclays analyst Tom Driscoll on Wednesday slashed his gas price forecast for the rest of this year by 13% to \$6.75/MMBtu and for 2009 by 14% to \$6.50/MMBtu.

"Strong supply growth and a deteriorating demand outlook will likely weigh on gas prices," Driscoll said in a note to his clients.

At the same time, Driscoll urged his clients to jump back into exploration and production stocks, noting that they are cheap, having declined 57% on average since the start of the third quarter — outpacing the S&P 500 index's 23% drop in the same period.

Driscoll also cut his crude oil price assumption sharply — 25% for the rest of 2008 to \$75/barrel and 17% for all of 2009, also to \$75/barrel.

Driscoll said he expects the producers he covers to cut back on their gas production by up to 7% with an average reduction of 5% as a slowing economy does little to add to the market's need for gas.

"Gas demand growth may struggle to get into positive territory in 2009, thus the natural gas oversupply situation may be prolonged in the absence of strong economic growth," Driscoll said. — Bill Holland

Case No. 2008-00175 Attachment A-2009 Page 167 of 307



From EIA Oct 7th Release

### Projected Winter Fuel Expenditures by Fuel and Region

ì

The average household winter heating fuel expenditures discussed in this *Outlook* provide a broad guide to changes from last winter, but fuel expenditures for individual households are highly dependent on local weather conditions, market size, the size and energy efficiency of individual homes and their heating equipment, and thermostat settings.

*Natural Gas.* Households heating primarily with natural gas are expected to spend an average of \$155 (18 percent) more this winter. Nationwide, about 52 percent of all households depend on natural gas as their primary heating fuel. The increase in natural gas expenditures reflects the combined effects of a 17-percent increase in price and 1-percent increase in consumption. In the Midwest, where 72 percent of all households rely on natural gas, a projected 17-percent increase in average household expenditures results from a 19-percent increase in prices and a decline in consumption of 2 percent due to the forecast of slightly warmer weather than last winter.

*Heating Oil.* Households heating primarily with heating oil can expect to pay an average of \$449 (23 percent) more this winter. Only 7 percent of U.S. households depend on heating oil for winter fuel and most of these households are in the Northeast, where 31 percent of households use heating oil as their primary space heating fuel. In that region, the average household is projected to pay 24 percent more than last winter as a result of an 18-percent increase in prices and a 5-percent increase in consumption. Residential heating oil prices in the Northeast are projected to average about \$3.90 per gallon during the winter season compared with \$3.31 per gallon last winter. The projected increase is consistent with higher crude oil prices and projections of lower distillate inventories than last year going into the heating season.

**Propane**. Households heating primarily with propane can expect to pay an average of \$188 (11 percent) more this winter. Propane-heated households, which represent about 6 percent of total U.S. households, are projected to see an average increase of 11 percent in propane expenditures this winter, but that increase varies widely by region. Western households are expected to see an average increase in expenditures of 5 percent, while Southern homes are expected to spend 16 percent more this winter.

*Electricity*. Households heating primarily with electricity can expect to pay an average of \$89 (10 percent) more. Thirty-five percent of all U.S. households rely on electricity as their primary heating fuel, ranging from 12 percent in the Northeast to 59 percent in the South. On average, electricity expenditures during the winter are projected to rise by 10 percent because of increased consumption and prices.



цір/\$

Winter Strip Nov08 - Mar09

( ···· ·



Summer Strip 2009

. -

^{مری}م

### Short-Term Energy and Winter Fuels Outlook

October 7, 2008 Release (Next Update: November 12, 2008, Wednesday)

### Natural Gas

**Consumption.** Total natural gas consumption is expected to increase by 2.4 percent in 2008 and by 1.9 percent in 2009. Despite slower expected growth in 2009, consumption is expected to increase in all sectors during the forecast period. This winter, total residential consumption of natural gas in the United States is expected to increase by 3.5 percent year-over-year based on the projected 2.4-percent increase in heating degree-days. In addition to weather, worsening economic conditions add significant uncertainty to the forecast, particularly for the industrial sector. In annual terms, consumption in the industrial sector is expected to increase by 1.0 percent in 2008 and 1.1 percent in 2009.

### **Global Petroleum**

Strong global demand and low surplus production capacity contributed to the run-up to record crude oil prices in July. <u>The current slowdown in economic growth is contributing to the recent decline in oil demand and the sharp decline in prices since July. Nonetheless, oil markets are expected to remain relatively tight because of sluggish production growth. Absent a major worldwide economic downturn that significantly impacts global demand, West Texas Intermediate (WTI) crude oil prices are projected to average about \$112 per barrel in both 2008 and 2009.</u>

Case No. 2008-00175 Attachment A-2009 Page 172 of 307

### Gas Daily

Friday, October 17, 2008

1

### FERC expects ample gas supplies this winter

<u>Citing reduced commodity prices, robust production levels, strong</u> <u>storage volumes and some forecasts for relatively mild weather, the</u> <u>Federal Energy Regulatory Commission on Thursday expressed confidence</u> that natural gas will be readily available to meet winter demand.

"The prospects for the natural gas market this winter are looking better than just a few months ago," Arnie Quinn of the commission's Office of Enforcement said at FERC's regular monthly meeting.

While there are dissenting opinions among other forecasters, the National Oceanic and Atmospheric Administration is projecting mild weather across the country this heating season, Quinn related, adding that gas supply and pricing fundamentals are favorable for consumers.

Gas storage stocks are above the five-year average and are expected to remain that way through the end of the injection season later this month, Quinn told the commissioners. "The amount of gas in storage in November is a key benchmark of the gas industry's ability to flexibly respond to changes in winter weather," he said, adding that "substantially full storage will go a long way towards protecting the country from supply disruptions and prolonged high prices, assuming normal to warmer-than-normal winter weather."

A "key difference" from the supply/demand picture in the run-up to the last heating season is higher domestic gas production, said Quinn, noting that production through July of this year was up 9% over the comparable year-ago period.

He said that that supply growth has been "tempered somewhat" by falling imports of liquefied natural gas, which is averaging just 1 Bcf/d, a level that is expected to continue through the winter.

After a spike in gas spot prices at Henry Hub in June, July and August, price levels have slid below \$8/MMBtu in recent months, Quinn reported, noting that "since the height of the market in early July, prices have receded considerably."

But the full extent of the price drop will not be felt by all consumers. Quinn said, explaining that many local distribution companies earlier this year locked in their gas supplies through the heating season.

"Expectations for growth in winter gas demand are not quite as robust as the growth in supply," he continued. In addition to forecasted warm weather, "any slowdown in economic activity would erode some of this growth in demand."

Quinn pointed to other market fundamentals that may influence gas use, including the fact that gas currently is less expensive than heating oil, residual fuel oil, "and in some places even coal. This could put upward press on gas needs if these relationships persist." Commissioner Marc Spitzer said that while the market has operated efficiently in sending signals to boost gas production, particularly in unconventional plays, "there's a role for government" as well. "This commission has been very diligent" in processing applications to build new gas storage, LNG and pipeline facilities, he said, asserting that "it is essential that the government continue to work so the market will be able to accommodate price signals."

The discussion turned to the US LNG sector and its diminished send-out volumes. While Quinn reported the slowdown, he stressed that the "outlook is very dynamic, with recent news changing some of our expectations" for the future.

For instance, the US for years has suffered at the hands of a sharp price differential compared with Europe and Asia. But that may be changing, he said, reporting that "spot LNG prices in Asia recently came into parity with Europe at around \$14/MMBtu" and "seem to be dropping along with oil prices."

As the price gap tightens, US LNG terminals, which primarily operate on the spot market, will be able to attract more cargoes, Quinn and others predicted.

And there's more good news on the infrastructure front, where 5.9 Bcf/d of new LNG regasification capacity was added in the US this year. What's more, global liquefaction capacity is expected to grow by more than 5 Bcf/d, or 24%, next year, "providing more potential supplies to the US and other competing markets," Quinn said. — Chris Newkumet

25 (Cont.)

## Gas Daily

Friday, October 3, 2008

### NGSA: Robust supply should keep prices in check

Natural gas prices are expected to remain stable this heating season, driven by a projected 8% increase in domestic production, a flagging economy, adequate storage inventories and flat demand, a trade group representing gas producers said Thursday.

"In response to what continues to be a tight energy market, natural gas producers have responded to market signals, resulting in a forecast for gas production to reach the highest levels since the early to mid-1970s," said Patrick Kuntz, chairman of the Natural Gas Supply Association, which issued its winter outlook in Washington.

Kuntz, who is also Marathon Oil's vice president of natural gas and oil sales, said a rapid rise in gas well development and technological advances in drilling are behind the surge in onshore domestic drilling. NGSA anticipates that the industry will complete almost 750 more wells this year than it did in 2007.

Most major domestic supply indicators are expected to be up this winter, including annual well completions, rig counts and an average production level of 57 Bcf/d. However, Canadian imports are expected to drop from 8 Bcf/d last winter to 7.5 Bcf/d this winter, according to NGSA.

Storage stocks are expected to be robust this heating season, with 3.4 Tcf of gas expected to be in storage at the end of October — slightly below last year's record season-ending inventory, NGSA said.

As for demand, the association said the sluggish economy will put downward pressure on gas prices; the group relied on Global Insight's determination that the domestic economy will be "stagnant" this winter. Global Insight predicts a 1.2% year-on-year increase in gross domestic product, a nearly 6% increase in unemployment from last winter, a 1.6% decline in manufacturing and a 4.3% increase in the consumer price index.

Weather is the biggest wild card for demand and prices, Kuntz told reporters, noting that federal forecasters predict slightly above-normal temperatures this winter. "The severity of winter weather may likely have the biggest single impact on the market," he said.

Gas consumption during the 2008-09 heating season is expected to rise 2.4% compared with last year, which is about half the growth rate that occurred last winter.

Looking farther ahead, uncertainty about the availability of credit could curtail efforts by producers to continue expanding their operations in unconventional gas fields. "If prolonged, this kind of credit crunch can have an impact on drilling," Kuntz said. "It's hard to escape the belief that eventually there could be an impact." But Kuntz said gas producers and utilities are used to an unsteady financial environment because of the cyclical nature of commodity prices. Still, he said, the way the recent credit market meltdown plays out will be a significant factor in investment decisions.

Ť,

Ì

The discovery of major unconventional fields, particular high-profile shale plays in Texas, Louisiana, Arkansas and Pennsylvania, has changed the supplyside dynamics in the US. Billions of dollars are being spent to develop shale gas that had been inaccessible without modern drilling technology, NGSA noted.

What does the promise of unconventional gas plays do for the US market for liquefied natural gas imports? "Relatively speaking, unconventional gas is still in its infancy," Kuntz said. "I'm not ready to say our problems are now solved by our domestic production, so we'll never need LNG again."

While LNG import capacity has increased, Kuntz said increased domestic production and high foreign LNG prices will continue to dampen LNG imports to the US. — Joel Kirkland

26 (cont.)

.

GAS DAILY

where the track she is the state of

Extending the rule to upstream production, operational and supply decisions "would create a substantial risk of disrupting competitive activity in petroleum markets," API argued. "Any final rule should clarify that upstream conduct that is not connected to particular purchases or sales falls outside the scope of the rule."

Meanwhile, CME Group, IntercontinentalExchange and other members of the futures industry called on the FTC to exclude futures and options trading from the rule.

CME, ICE, the Futures Industry Association, the Managed Funds Association and the National Futures Association said the Energy Independence and Security Act of 2007, which authorized the FTC rulemaking, did not overrule a Commodity Exchange Act provision giving the Commodity Futures Trading Commission exclusive jurisdiction over all futures and options trading.

"Price manipulation is corrosive to any market, and especially to the price discovery, price dissemination and hedging functions markets are designed to perform," they said. "We therefore applaud the efforts of the commission to pursue manipulative and deceptive practices in markets falling outside the purview of the CFTC's exclusive jurisdiction. But attempting to impose an additional layer of regulation on futures markets and abandoning well-settled principles of futures manipulation doctrine are not authorized by law, and would operate to harm substantially the US energy futures and related markets."

The CFTC shared the futures industry's concerns, saying it "looks forward to working in close cooperation with the FTC to efficiently prosecute illegal activity in the petroleum industry where our agencies share jurisdiction."

"With respect to the trading of commodity futures and options on regulated futures exchanges, though, we urge the FTC to take to heart the poet's wisdom that good fences make good neighbors, and to incorporate a specific exception from its rule for futures trading activity that is subject to the CFTC's exclusive jurisdiction under CEA."

The FTC has scheduled a public workshop on the rulemaking for November 6. — Gerald Karey, Bill Loveless

### EIA: Proved gas reserves hit new record high in 2007

TUESDAY, OCTOBER 21, 2008

Record additions to US gas reserves pushed total proved reserves in the country to an all-time high of 237.7 Tcf at year-end 2007, a full 13% higher than the year-end 2006 level, the Energy Information Administration reported last week.

The US added 46.1 Tcf to proved reserves last year, more than double the 19.5 Tcf actually produced during the year, EIA noted.

<u>The additions mostly reflect the rapid development of unconventional gas resources. including shale, coalbed</u> <u>methane and tight low-permeability formations, EIA</u> explained. Such reserves are now economic to develop due to advanced technologies like hydraulic fracturing. Proved shale reserves alone grew 50% in 2008 and now account for about 9% of the US total, the agency added.

Texas posted the largest increase in year-end proved reserves last year at 17%, or a gain of 10.3 Tcf. Rocky Mountain states also saw large increases, including Wyoming with a 26% or 6.2 Tcf increase; Colorado at 27% or 4.7 Tcf; and Utah with 24% or 1.2 Tcf.

In contrast, <u>EIA noted that proved reserves in the Gulf</u> of <u>Mexico federal offshore region fell by 1%, or 1 Tcf, and</u> <u>New Mexico's declined by 4% or 700 Bcf.</u>

EIA also noted that US proved oil reserves rose for the first time in four years, with the addition of 2 billion barrels of reserves outpacing actual oil production of 1.7 billion barrels. Year-end proved oil reserves stood at 21.3 billion barrels, or 2% higher than at the end of 2006.

Much of that increase came from Alaska, where 2007 proved oil reserves grew by 7% or 284 million barrels. EIA also cited the rapid development of unconventional oil resources in the Bakken Formation of North Dakota. — Stephanie Seay



Copyright @ 2008 The McGraw-Hill Companies

26A

### **Duke Energy** Hedging Program Remaining Base Not Yet Locked In Winter 2008-09

÷

Total



7,161,220 19.1% 37,482,703

### INAUE SEUHEI

### Gas Commercial Operations Hedging Program Market Indicators Summary November 24, 2008

	Price Pressure	Term	Comments	Page Ref
Weather				
Long Term Forecast	t.	Long	NOAA predicing a 40% or greater chance of above normal winter for Dec- Feb throughout Mid-Continent area.	10
Mid Term Forecast (30-60 days)	1	Long	Dec. and Jan. predicted to be 7% and 6% colder than 10 year normal. Note differences in NOAA forecast above.	11
Short Term Forecast (6-10 days)	<b>↑</b>	Short	Below and some Much Below temperatures in Mid-West and Eastern portions of US.	12
Tropical Storm Activity		Short	As of November 14th, about 2.5 Bcf/day is still off line as a result of Hurricanes Ike and Gustav. No current activity,	
Storage Inventory				
EIA Weekly Storage Report	↓↓	Long	Storage injections for the week ending November 14th were 16 BCF. Storage levels are at 3.488 TCF which is 1.4% lower than last year and 4.2% higher than the 5 year average. Injections reported came in well above consensus expectations. The higher-than-expected injection could be the result of reduced demand due to the economic slowdown according to a Bank of America analyst.	13-14
Industry Publications				
Cambridge Energy Research Associates Winter 2008/09: \$7.790 Summer 2009: \$9.734	1	Long	Assuming normal weather, CERA projects the Henry Hub price to be \$7.63 per MMBtu in November and to remain in the range of \$7.63 to \$7.97 throughtout the winter.	15-16
Gas Daily	+	Long	Raymond James analyst even with a brief winter spike, US natural gas prices will have to tank in 2009 to rebalance a glutted market.	17
Gas Daily		Long	REX gas will create "gridlock" in Northeastinflux of gas from the West will coincide with increased shale gas supplies resulting in significant downward Northeast pricing pressure starting in June 2009.	18
Government Agencies	-			
Energy Information Administration Winter 2008/09: \$6.964 Summer 2009: \$6.370	ł	Long	The impact of the economic downturn on demand is lowering current and expected natural gas prices. The Henry Hub natural gas spot price is projected to average \$8.985 per MMBtu in 2008 and \$6.623 per MMBtu in 2009.	19
Technical Analysis				
Winter 2008-09 Strip Chart	<b>▲→</b>	Short	Closed at \$6.51	20
Summer 2009 Strip Chart	<b>←→</b>	Short	Closed at \$6.75	21
Economy	·····	r	The Telefort and the second telefort and the intercent by 4 40% in	r
Demand	↓ ↓	Long	EIA: Total natural gas consumption is expected to increase by 1.1% in 2008 and fall by 0.2% in 2009. 2009 decline caused by a 2.2% decline in industrial sector consumption.	22
Supply	↓ ↓	Long	EIA:Total U.S. marketed natural gas production is expected to increase by 6% in 2008 and by 2% in 2009.	22
Oil Market	Ļ	Long	EIA: The current U.S. and global economic downturn has lead to a decrease in global energy demand and a rapid and substantial reduction in crude oil and other energy prices. The annual average Weat Texas Intermediate price is projected to be \$101.45 per barrel in 2008 and \$63.50 in 2009.	22

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm

ſ

Attendees. Jim Henning, Patty Walker, Joachim Fischesser, Steve Niederbaumer

Discussed market fundementals such as weather, storage inventory levels, and economic factors such as supply and demand. Discussed the CERA and EIA forecasts as well as analyst predictions concerning price expectations. In addition, discussed Winter and Summer Strip Charts based on Technical Analysis. Discussed our current postions within Ohio and Kentucky'd hedging plans. Based on the review of this data it was determined to hedge additional volumes in both states for a 24 month period beginning April 2009 through March 2011.

:

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 11/24/08

į

;

Oct-09 Sep-09 Aug-09 Jui-09 Jun-09 May-09 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08 Nov-08

## Load Forecast

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

Tenaska "Withdrawals" (Mcf) TCO FSS Withdrawals (Mcf) Total Withdrawals (Mcf)

## Amount Hedged (dth/day Fixed Price

otal Hedged (dth/day) rotal Hedged (dth) Cost Averaging, Fixed Price Fixed Price Fixed Price Fixed Price⁴ Fixed Pricet Fixed Price Collar 🗧 Collar (

4

## Embedded Hedged Cost

Summer Winter

Seasonal % of System Supply Estimated System Supply (Gross) % of System Supply

Amt Hedged with Storage @ City Gate Hedged (City Gate) Storage Withdrawal Fotal (incl. Injections) % Hedged & Storage Seasonal % Market

ç



Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 11/24/08

ł

•

Oct-10

Sep-10

Aug-10

Jul-10

Jun-10

May-10

Apr-10

Mar-10

Feb-10

Jan-10

Dec-09

Nov-09

Load Forecast City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

## Amount Hedged (dth/day)

Total Hedged (dth/day) Total Hedged (dth) Fixed Price Fixed Price #

Embedded Hedged Cost

Summer Winter

5

Seasonal % of System Supply Estimated System Supply (Gross) % of System Supply

# Amt Hedged with Storage @ City Gate

% Hedged & Storage Seasonal % Total (incl. Injections) Hedged (City Gate) Storage Withdrawal Market



Case No. 2008-00175 Attachment A-2009 Page 180 of 307



Ŀ

į

Case No. 2008-00175 Attachment A-2009 Page 181 of 307

`,

### 11/24/2008

Case No. 2008-00175 Attachment A-2009 Page 182 of 307

Duke Energy Kentucky Hedging Program Current Position										
	System	Hedged		Next Targe						
Delivery _ Month	Supply Dth/mo	Tot Dth/day	al Dth/mo	Required dth/day	Allowed dth/day					
Nov-08 Dec-08 Jan-09 Feb <del>:</del> 09 Mar-09 Winter 08/09 Storage Gas				- - -						
Excluding Storage					<u></u>					
Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09	l I I	چير و يو	<u></u>							
Summer 2009		1 Marco 1								
Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Winter 09/10										
Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10 Summer 2010				and and a second						
Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Winter 10/11										
Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11_			-		<u> </u>					
Summer 2011		*.	÷							

÷.





### EarthSat's 30-60 Day Outlook

Wednesday, November 19, 2008

EarthSat Weather

Forecaster: MR/SS

Attachment A-2009 Page 185 of 307



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 ©2007 [30-60 Day-Outlook, Version 2.1] www.mdafederal.com/wx/



### EarthSat's 6-10 Day Forecast-Detailed

Monday, November 24, 2008

### EarthSat Weather

Forecaster: AC/JS

Case No. 2008-00175 Attachment A-2009

Forecasi Temperature Deviations BOTERESE VALIDAS SETURA STATUTA Today's Forecast: DAVG Cold Air Lingers In Midwest; Late Cold Shot MayBe More Potent Looks like more cold pushes will be making their way across the eastern half of the nation, mainly for the Midwest. The East Coast could hold a warmer risk on Saturday ahead of a ηM cold front. Then, a cold shot of air settles into the East afterwards, but is not expected to be as cold as this weekend's temperatures. The more potent cold shot appears at the Previous end of the period where much belows hamper the Plains and Midwest. A front ahead of this cold air may project warmer conditions into the Southern Plains, Deep South, and Southeast for the second half of the period. SoCal may **Forecast Confidence:8** be warmer in the mid-period, depending on a trough nearby. Soffees availed Mondey, 194 THE TOTE HE SHARE SUMPRISED AND D ME Previous Previous Forecast Confidence: 7 Forecast Confidence: 6 Forecast Valida mesdav Forceserventiente NYKI D. SA P MB Previous Ň Forecast Confidence: 4 Forecast Confidence: 3 Strong Above ......+15 or UP

	Much Abov	ve+8F to +14F	
1005	Above	+3F to +7F	

+2F Normal -2F

Strong Below	15 or Lower 🚾
Much Below	
Below	3F to -7F 🗔

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

Case No. 2008-00175 Attachment A-2009 Page 187 of 307

Energy Information Administration Official Energy Statistics from the U.S. Government

<u>Home > Natural Gas</u> > Weekly Natural Gas Storage Report

### Weekly Natural Gas Storage Report

Released: November 20, 2008 at 10:35 A.M. (Eastern time) for the Week Ending November 14, 2008. Next Release: November 27, 2008

### Working Gas in Underground Storage, Lower 48

Region	Stocks i	n billion cubic fee	et (Bcf)	Historical Comparisons					
	11/14/08	11/07/08	Change	Year Ago (3	5-Year (2003-20				
	11/14/08	11/0//08	Change	Stocks (Bcf)	% Change	Stocks (Bcf)			
East	2,041	2,041	0	1,994	2.4	1,938			
West	473	468 R	5	476	-0.6	441			
Producing	974	963 R	11	1,069	-8.9	969			
Total	3,488	<b>3,472</b> R	16	3,539	-1.4	3,348			

**R=Revised.** The reported revisions caused the stocks for November 7, 2008 to change from 3,467 Bcf to 3,472 Bcf, and the stocks to change from 3,405 to 3,412. As a result, the implied net change between the weeks ending October 24 and October 31 changed Bcf, and the net change between October 31 and November 7 changed from 62 Bcf to 60 Bcf.

### Notes and Definitions

### Note: The stock estimates for October 31, 2008, and November 7, 2008, were revised to r resubmissions of data by one or more respondents.

### Summary

Working gas in storage was 3,488 Bcf as of Friday, November 14, 2008, according to EIA estimates. This represent increase of 16 Bcf from the previous week. Stocks were 51 Bcf less than last year at this time and 140 Bcf abc year average of 3,348 Bcf. In the East Region, stocks were 103 Bcf above the 5-year average following no net storage levels. Stocks in the Producing Region were 5 Bcf above the 5-year average of 969 Bcf after a net inje Bcf. Stocks in the West Region were 32 Bcf above the 5-year average after a net addition of 5 Bcf. At 3,488 Bc working gas is within the 5-year historical range.



### Working Gas in Underground Storage Compared with 5-Year Range

Note: The shaded area indicates the range between the historical minimum and maximum values for th weekly series from 2003 through 2007.

13

I;

http://www.eia.doe.gov/oil_gas/natural_gas/ngs/ngs.html

11/20/2008

other formats: Sumn

4.2

## Gas Daily

Friday, November 21, 2008

### Storage injection of 16 Bcf includes 5-Bcf revision

US gas storage inventories grew by 16 Bcf during the week ending November 14, raising inventories to 3.488 Tcf as the Energy Information Administration revised data in two recent storage reports.

The survey reflects two upward revisions to previously reported levels for the weeks ending October 31 and November 7 as a result of resubmittals by one or more survey respondents, EIA noted.

The agency raised the total inventory for October 31 to 3.412 Tcf from 3.405 Tcf, and the November 7 total to 3.472 Tcf from 3.467 Tcf. As a result, the total inventory on the November 7 report increased by 5 Bcf.

Even with the revisions, <u>the injection reported Thursday came in well above</u> <u>consensus expectations</u>, which ranged from a withdrawal of 2 Bcf to an injection of 2 Bcf. The December NYMEX gas futures contract immediately dropped 8% after the report was released to trade as low as \$6.26/MMBtu before recovering later in the day.

The build was a "bearish miss on expectations and was also bearish compared with the Five year average net withdrawal of 2 Bcf," said analyst Tim Evans of Citi Futures Perspective. He said that as a result of the injection and EIA's revision, storage is 21 Bcf higher than where the market thought it was a week ago.

Analysts at Bank of America noted that temperatures last week were 11% lower than last year and 4.7% above than the 10-year average. <u>The higher-than-expected injection</u> could be the result of reduced demand due to the economic slowdown, added BoA analyst Michael Schmitz.

In the same week of 2007, EIA reported 3.539 Tcf in storage. As a result, the deficit from the year-ago level shrank to 51 Bcf from 72 Bcf a week earlier, while the surplus over the five-year average climbed to 140 Bcf from 117 Bcf. Inventories are now 103 Bcf above the five-year average of 1.938 Tcf in the East, 32 Bcf above the five-year average of 441 Bcf in the West, and 5 Bcf above the five-year average of 969 Bcf in the producing region. — *Stephanie Seay* 

### **CERA Monthly Briefing**

Date: October 22, 2008

### Monthly Gas Briefing: a tenuous balance

### **Key Implications**

Despite continued supply outages, the North American natural gas market enters the winter season with an adequate level of storage inventories and with flowing gas supplies available at the lowest prices of the year. The market appears to be in balance. However, recently prices have been slightly lower than long-run production costs, and given the precarious nature of the global economy, this tenuous balance could easily be upset. There are signs that the natural gas market is continuing to soften.

• <u>Prices steady</u>. If the balance between softening demand and reduced drilling holds, prices should firm up in the coming months as winter weather strengthens gas demand, particularly in the residential and commercial sectors. <u>Assuming</u> <u>normal winter weather, CERA projects the Henry Hub price to increase from</u> <u>\$7.18 per million British thermal units (MMBtu) in October to a range of \$7.63 to</u> <u>\$7.97 per MMBtu throughout the winter (November through March).</u> CERA Monthly Briefing



Figure 1 **Gas Price Weather Sensitivities** 

Source: Cambridge Energy Research Associates. 81002-11

Winter 2008/09 \$7,790 Summer 2009 \$9,730

### Table 1

**Henry Hub Prices** (nominal US dollars per MMBtu)

				•	( · · · · · · · · · · · · · · · · · · ·									
	2003	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>			
January	5.39	6.03	6.17	8.76	6.33	7.93	(7.97	7.71	8.43	7.31	8.31			
February	7.00	5.41	6.09	7.62	8.06	8.46	7.88	7.30	8.03	7.27	8.20			
March	6.37	5.38	6.91	6.88	7.10	9.34	(7.79	7.33	7.79	7.27	7.68			
April	5.27	5.70	7.19	7.09	7.57	10.11	8.71	7.55	8.34	7.43	7.77			
May	5.77	6.28	6.47	6.23	7.64	11.24	9.76	7.86	8.06	7.28	7.73			
June	5.80	6.26	7.17	6.26	7.40	12.61	9.85	7.95	8.05	7.38	7.68			
July	5.04	5.92	7.57	6.05	6.21	11.32	11.64	8.59	8.46	7.66	7.69			
August	4.96	5.43	9.29	7.24	6.30	8.30	10.97	8.58	8.41	7.69	7.61			
September	4.61	4.99	12.11	4.95	5.98	7.70	9.01	8.03	7.79	7.61	7.48			
October	4.65	6.24	13.36	5.67	6.68	7.18	8.20	8.36	7.69	7.84	7.67			
November	4.45	5.88	10.29	7.32	7.01	7.63	8.08	8.48	7.79	8.03	7.80			
December	6.12	6.63	12.98	6.83	7.08	7.68 <b>Š</b>	7.53	8.41	7.78	8.25	7.68			
							•							
Year average	5.45	5.85	8.80	6.74	6.95	9.12	8.95	8.01	8.05	7.58	7.77			

Source: Cambridge Energy Research Associates. Historical data derived from Platts *Gas Daily*. Note: The 2003–September 2008 figures are derived from historical data as available; CERA projections October 2008–13. Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

÷.,

## Gas Daily

Tuesday, November 11, 2008

### Gas prices need to fall in order to balance 2009 market

Echoing recent sentiments by other market observers, Raymond James analyst Marshall Adkins said Monday <u>that even with a brief winter spike, US natural gas prices</u> <u>will have to tank in 2009 to rebalance a glutted market.</u>

Adkins, a notable gas bull who has become increasingly bearish this year, said he wasn't ready yet to revise his \$6.75/MMBtu Henry Hub target price for 2009 downward. "We would probably take the 'under' on our 2009 gas price forecast of \$6.75, but we will not officially change our estimates until we get better visibility on winter weather," Adkins said.

Adkins said his model, which is based on 30-year average weather, shows the US reaching a theoretical 4.25 Tcf of gas in storage at the end of 2009's injection season based on gains in US gas production and a slackening of demand along with the larger economy.

"This cannot physically happen (due to storage constraints)," Adkins said, noting that there is only about 3.75 Tcf of US gas storage available. "This means that gas prices must fall sufficiently to whack the gas rig count and force some producers to shut in gas production over the next year. For that to happen, the gas market will need to take prices even lower than our current forecast to rebalance the system."

He also cautioned against using rig count declines as a predictor of gas production, noting that producers tend to shut down their least efficient rigs first. In geographic terms, Adkins said lowered gas prices imply rigs in the Rockies and Midcontinent will be shut in first, while shale gas wells will stay online, doing little to slacken overall production growth. — *Bill Holland* 

## Gas Daily

Wednesday, November 12, 2008

À

- .

### Bentek: REX gas will create 'gridlock' in Northeast

The start-up of Rockies Express Pipeline's Eastern leg next summer will create a supply glut in the Appalachian region, prompting intense competition among pipelines to move that gas to premium-priced Northeast markets, according to a report released by Bentek Energy on Tuesday.

"Neither the demand infrastructure nor the pipeline capacity in the Northeast is adequate to absorb these new supplies," Bentek said. "Consequently, REX-East will launch an interregional battle for market share that is likely to persist for years, regardless of the impact of the financial meltdown."

"We expect to see a traffic jam of huge proportions, with no immediate solution on the horizon to alleviate the gridlock," Bentek Managing Director Rusty Braziel said in an accompanying news release. "To some extent, the pricing pressures experienced by Rockies and Texas producers will move eastward into Northeast pricing hubs that have traditionally enjoyed premium pricing."

Next June, REX-East is set to begin delivering about 1.6 Bcf/d of Rockies gas to Lebanon, Ohio, a key hub with several interconnections to the major Northeastbound legacy pipes such as Columbia Gas Transmission and Texas Eastern Transmission, among others.

REX will hit its ultimate termination point, Clarington, Ohio, in November 2009, according to operator Kinder Morgan's last schedule update. <u>According to Bentek's report, the influx of gas</u> from the West will coincide with the uptick of Midcontinent shale gas supplies and the ramp-up of <u>Appalachian production, namely from the Marcellus Shale. As a result, "Northeast pricing</u> premiums west of regional pipeline capacity constraints will experience significant downward pressure starting in June 2009. Appalachian producers may be among the hardest hit."

One immediate impact will be a volatile pricing environment in the Northeast as players adapt to new pipeline flows, Braziel told Platts on Tuesday. In addition, Lebanon spot prices could flatten out to Henry Hub cash levels.

He said a proxy for a Lebanon price would be Columbia Gas Transmission, which averaged \$7.315/MMBtu, according to *Gas Daily's* price survey Monday. Henry Hub averaged \$7.075/MMBtu.

REX already has had a disruptive effect on other markets. When REX-West came online in May, hitting the Panhandle Eastern Pipe Line interconnection in Audrain County, Missouri, the result was a considerable softening of Panhandle basis.

Platts forward data shows Panhandle basis early in the year before REX-West's start-up was minus 68 cents — or a 68-cent discount to the NYMEX Henry Hub contract. On Monday, the prompt-month Panhandle basis was minus \$1.625.

Among the slew of post-REX pipelines in the works to move Rockies gas from Lebanon and Clarington, few have signed up shippers. Bentek noted those who emerge as winners are likely to be holders of firm transportation capacity away from Lebanon.

Throwing another wrench in the works is the December start-up of the Millennium Pipeline, which will bring supplies into gas-starved New York State.

"New Millennium supplies are expected to put downward pressure on a number of premium Northeast markets, tightening spreads between upstream markets and key pricing hubs" at Northeast city-gates markets, the report said.

The net impact of all those pipeline builds and supply competition is an unsettled pricing environment. "We expect to see significant volatility in regional price differentials for a while to come," Braziel said. — Samantha Santa Maria

18 (cont.)

;

Case No. 2008-00175 Attachment A-2009 Page 194 of 307



EIA Forecast 11/12/08

L



Winter Strip Nov08 - Mar09




Case No. 2008-00175 Attachment A-2009 Page 197 of 307

## **Short-Term Energy Outlook**

November 12, 2008 Release (Next Update: December 9, 2008)

## Natural Gas

Consumption. <u>Total natural gas consumption is expected to increase by 1.1 percent in 2008 and fall</u> by 0.2 percent in 2009. Consumption in 2008 is projected to be higher in every sector except for electric power, led by 4.1- and 3.2-percent growth in the residential and commercial sectors, respectively. <u>While</u> very slight growth is expected in the residential and commercial sectors in 2009, the contracting economy is expected to cause a 2.2-percent decline in industrial sector consumption next year. The weakness in global economic growth could limit U.S. exports of natural-gas-intensive products and further reduce natural gas consumption by industrial consumers.

Production and Imports. Total U.S. marketed natural gas production is expected to increase by 6 percent in 2008 and by 2 percent in 2009. Production activity from unconventional fields in the States of Texas, Wyoming, and Oklahoma is expected to increase supply from the Lower-48 non-GOM by almost 10 percent this year. While continued onshore production growth is expected in 2009, lower average prices and poor economic conditions are expected to limit the expansion of supplies to 1.9 percent. For 2008, Federal GOM production is now expected to decline by 14.8 percent as repairs to supply infrastructure continue, while 2009 growth of 2.7 percent reflects the expectation of further recovery and less shut-in production during the 2009 hurricane season.

Strong global demand, supply constraints, and lower relative U.S. natural gas prices have all contributed to the decline in <u>U.S. imports of liquefied natural gas (LNG), which are expected to fall from 770 billion</u> <u>cubic feet (Bcf) in 2007 to 350 Bcf in 2008, a reduction of 55 percent. LNG imports are expected to total about 410 Bcf in 2009.</u> The limited natural gas storage facilities in LNG-consuming nations outside of the United States could lead to higher U.S. LNG import growth in 2009, particular during the storage injection season (April to September) as more global LNG capacity is brought online.

## Global Petroleum

The current U.S. and global economic downturn has led to a decrease in global energy demand and a rapid and substantial reduction in crude oil and other energy prices. As a result, projections for both energy demand and prices are considerably lower than last month's *Outlook*.

The monthly average price of West Texas Intermediate (WTI) crude oil fell from over \$133 per barrel in July to about \$77 per barrel in October, indicative of the abrupt decline in world petroleum demand growth. The annual average WTI price is now projected to be \$101.45 per barrel in 2008 and \$63.50 in 2009.

### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



;

## Duke Energy Hedging Program November 2008 – March 2009

## November 14, 2008

- On November 13, 2008, in a conversation between Jim Henning and Jeff Kern as the result in changes in the market, a decision was made to review Duke Energy's hedged portfolio and determine if changes should be made.
- On November 14, 2008, Jim Henning, Jeff Kern and Steve Niederbaumer met to discuss additional hedging in light of current market conditions.
- Information reviewed included weather, pricing information and the current positions in both the Ohio Hedging Program and the Kentucky Hedging Program.
- After much discussion, a determination was made to hedge additional volumes in Ohio and Kentucky converting FOMI gas to a fixed price.
- A bid was received from BP and accepted by Duke Energy to convert two packages of gas in Ohio and one package of gas in Kentucky to a fixed rate for the months of January 2009 through March 2009. The rate accepted was \$6.52.



http://www.cpc.ncep_noaa.gov/products/predictions/long_range/lead01/off01_temp.gif 11/14/2008



Very cold Pather Neveriping East rient weeks in pist of Colorest pre Thankson, weeks in pist of EarthSat's 30-60 Day Outlook m

Wednesday, November 12, 2008

## EarthSat Weather

ţ





MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]

)



Winter Strip Nov08 - Mar09

3

Case No. 2008-00175 Attachment A-2009 Page 203 of 307

GAS DAILY

FRIDAY, NOVEMBER 14, 2008

still have a way to go before margins turn negative.

Gerdes said that at \$6/MMBtu gas and \$60/barrel oil, the frac spread is still around \$2/MMBtu — and margins need to turn negative for an extended period of time before ethane extraction slows.

For a slowdown in price-sensitive processing, gas prices would need to push above \$8/MMBtu while oil prices drop to \$50/barrel or lower; "then, it starts to make some sense," Gerdes said.

He was also somewhat more conservative on the amount of gas supply that would be pushed onto the market, pegging the figure only as high as 1.5 Bcf/d.

The declining price of oil has also prompted a slew of players to slash their outlooks for oil sands projects in Canada as these labor-intensive projects become uneconomic, according to Alaron Trading analyst Phil Flynn. And if a large number of projects are delayed, he said, that could in turn free up additional gas, which is used in various oil sands extraction processes.

"Because the price of oil is so low, the oil sands are less competitive, and demand for natural gas to make the sands is lower," Flynn said. "We're seeing a significant shift — last year there was such a panic to make as much as we can in the oil sands."

But FirstEnergy Capital analyst Martin King said the effect of declining oil sands production will be minimal for gas demand — and may not happen until 2010 or beyond.

"A lot of the projects in the hopper near-term probably will not be stopped," King said. "In the here and now, other than project delays that have been going on for years ... there's no huge negative impacts on gas demand."

King projects gas demand used in oil sands production will total 1.2 Bcf/d in 2008 and will rise to approximately 1.45 Bcf/d by 2010. In the event of a pronounced cutback in oil sands mining, he said that figure would probably decline by only 50,000 Mcf/d to 60,000 Mcf/d.

Meanwhile, a more traditional fuel-switching scenario — where power generators swap between gas and residual fuel oil — is also becoming increasingly likely given recent price dynamics, some analysts said.

Andrew Weissman, senior energy adviser with FTI Consulting, said Monday that the gas futures contract last week was only slightly below the break-even price with fuel oil.

"If residual fuel oil declines ... natural gas could be pushed even lower even if weather in late November and December is very cold" as generators take advantage of a more favorable fuel oil price, he said.

Weissman said the impact on gas prices is dependent on the direction the petroleum market takes over the longer term. "If residual fuel oil prices continue to decline ... even if weather conditions are very cold, the winter-month [gas] contracts could quickly be forced to the mid-\$6/MMBtu range, if not lower," he said.

But, much like his outlook on the impact of oil sands production, King does not

Natural gas hub flow, Nov 13

Hub Name	Scheduled	+/-	%	Daily			
	Flow		Change	Price	Flow	Price	
ANR, La.	498	63	14.49	6.595	403	6.613	
Dracut, Mass.	123	5	3.84	7.120	150	7.086	
Rorida city-gates	1,484	86	6.13	7.100	1,422	6.951	
Iroquois, receipts	838	-30	-3.47	7.105	919	7.015	
Kern River, Opal plant	768	78	11.32	3.295	818	3.520	
Niagara	569	-17	-2.85	7.015	728	6.930	
Northern, Ventura	678	-202	-22.97	6.200	691	6.262	
Northern, demarc	1,531	-34	-2.20	3.445	1,599	3.778	
Northwest, Can. bdr. (Sumas)	680	19	2.92	5.675	710	5.854	
PG&E, Malin	900	197	28.05	5.975	909	5.916	
Stanfield, Ore.	31	-53	-62.78	5.835	98	5.860	
Transco, zone 3	1,889	-1	-0.03	6.715	1,802	6.675	
Transco, zone 6 N.Y.	1.551	-42	-2.61	7.265	1.406	7.213	

Volumes in 000 MMBtu; prices in \$/MMBtu. For more information, contact Bill Murphy at 720-548-5485.

Source: Platts Energy Advantage

## NYMEX Henry Hub gas futures contract, Nov 13

	Settlement	High	Low	+/-	Volume	
Dec 2008	6.318	6.410	6.300	-8.7	76733	
Jan 2009	6.477	6.475	6.320	-8.3	44564	
Feb 2009	6.560	6.540	6.530	-7.3	8569	
Mar 2009	6.545	6.545	6.540	-5.9	12244	
Apr 2009	6.535	6.400	6.400	-1.9	9754	
May 2009	6.600	6.630	6.400	-1.4	6295	
Jun 2009	6.720	6.690	6.630	-1.6	1171	
Jul 2009	6.853	6.820	6.760	-1.5	1064	
Aug 2009	6.943	6.935	6.860	-1.0	324	
Sep 2009	6.978	6.995	6.910	-0.8	332	
Oct 2009	7.060	7.040	6.980	-0.6	2286	
Nov 2009	7.408	7.370	7.350	-0.3	446	
Dec 2009	7.785	7.740	7.710	-0.1	289	
Jan 2010	8.030	7.990	7.970	-0.1	1511	
Feb 2010	8.035	7.990	7.970	+0.4	380	
Mar 2010	7.860	7.830	7.830	+0.4	528	
Apr 2010	7.280	7.320	7.230	+2.4	406	
May 2010	7.250	7.200	7.200	+2.4	37	
Jun 2010	7.345	7.290	7.290	+2.4	19	
Jul 2010	7.455	7.400	7.400	+2.4	57	
Aug 2010	7.535	7.480	7.480	+2.4	7	
Sep 2010	7.565	7.540	7.490	+2.4	7	
Oct 2010	7.640	7.580	7.580	+2.4	29	
Nov 2010	7.910	7.910	7.910	+2.4	29	
Dec 2010	8.250	8.250	8.250	+1.9	13	
Jan 2011	8.480	8.480	8.480	+1.9	163	
Feb 2011	8.465	8.465	8.465	+1.9	3	
Mar 2011	8.225	8.225	8.225	+1.9	3	
Apr 2010	7.475	7.475	7.475	+2.9	0	
May 2011	7.395	7.395	7.395	+2.9	3	
Jun 2011	7.475	7.475	7.475	+2.9	1	
Jul 2011	7.575	7.575	7.575	+2.9	2	
Aug 2011	7.655	7.655	7.655	+2.9	11	
Sep 2011	7.685	7.685	7.685	+2.9	0	
Oct 2011	7.760	7.760	7.760	+2.9	0	
Nov 2011	8.000	8.000	8.000	+1.9	0	

Contract data for Wednesday

Volume of contracts traded: 167,622

Front-months open interest: DEC: 64,117 ; JAN: 111,313; FEB: 40,567 Total open interest: 751,480

## Henry Hub/NYMEX spread



	(\$/b)	(\$/MMBtu)		
Gulf Coast spot				
1% Resid	40.15-40.25	6.39		
3% Resid	34.15-34.25	5.44		
Crude spot				
WTI (Nov )	58.24-58.28	10.00		
New York spot				
No.2	78.12-78.33	13.43		
0.3% Resid HP	48.05-48.25	7.66		
0.3% Resid LP	52.90-53.10	8.43		
0.7% Resid	38.70-38.90	6.17		
1% Resid HP	39,20-39,40	6.25		

7

į

%

## Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09

		November	December	Dth/Day January	February	March	Total	System Supply
Duke Energy Ohio Previously Hedged Iberdrola BP Gas & Power NET	Gulf South CGT Onshore Texas Gas-Champlin							
Shell A Tenaska A Total System Supply	CGT Onshore Springboro						••••••••••••••••••••••••••••••••••••••	
Duke Energy Kentucky Previously Hedged BP Gas & Power ~ Tenaska ^ Total				· · · ·				
System Supply								

5

Duke Energy--Total Previously Hedged Total

## NATURAL GAS MARKET INDICATORS AMERICAN GAS ASSOCIATION UPDATE: NOVEMBER 14, 2008

Reported Prices – although natural gas futures prices had moved to \$7.25 per MMBtu and above for December 2008 through March 2009, they also fell quickly with, for example, no settlement price for the 2008-09 winter heating season on November 12, 2008 exceeding \$6.63 per MMBtu. Cash prices at Henry Hub, on the other hand, remained in the \$6.50 to \$7.00 range until November 10, finally breaking the \$7.00 level after a ten-day forecast from the National Weather Service of colder temperatures than the prior ten-day period, then fell back once more as oil commodity prices continued to plunge. While cash prices at Henry Hub were \$7 and more, prices in the midcontinent and Rockies tended to be as much as \$2 lower. Confused? This winter heating season may just be that - confusing - as traditional winter heating season demand bumps up against strengthening supply and less robust consumption due to broader economic issues.

Weather – the three month temperature outlook for the nation published by the National Atmospheric and Oceanographic Administration in mid-October estimated above average temperature conditions for the central portion of the country with average temperatures for the east and west coasts during November, December and January. Of course, this outlook may change as the winter progresses. However, the first full week of the traditional winter heating season (November 1- March 31) was actually 31.9 percent warmer than normal with the warmest conditions in the central portion of the country and the Atlantic coast.

*Working Gas in Underground Storage* – working gas inventories grew another 12 Bcf to 3,405 Bcf as of October 31, 2008 and will likely grow for at least one week more as the winter heating season becomes more firmly entrenched. Natural gas in underground storage is 2.3 percent above the five-year average and only 3.7 percent behind last year at this time. When examined on a regional basis and compared to the history of the past eight years, inventories are strongest in the consuming East and West regions.

*Natural Gas Production* – if natural gas Henry Hub prices remain in the \$6-7 per MMBtu range, it will be interesting to watch whether shale gas development continues at the pace seen when prices were 50 to 100 percent higher during the past year. Growth in domestic natural gas production has been tempered since September 2008 by continued losses of over 2 Bcf per day from the hurricane activity this past year and reductions in wellhead prices. Production today, at about 52.6 Bcf per day after extraction losses, is about the same as in November 2007, according to *Bentek Energy LLC*. In addition, the *National Energy Board* (NEB) of Canada projects a six percent decline in Canada's natural gas production from 2007 to 2010. However, the NEB points to the potential for shale gas development in the country to impact that forecast with positive production capability growth. A report from *Tristone Capital Inc*. estimates that 5.1 Bcf per day may be collectively produced from the Montney and Horn River formations in Northeast British Columbia by 2018. With production now at 15-16 Bcf per day in Canada, a 5.1 Bcf addition to daily natural gas production capability would be significant.

Case No. 2008-00175 Attachment A-2009 Page 206 of 307



Total Requirements (Mcf)

Load Forecast

Total Withdrawals (Mcf)

Amount Hedged (dth/day

Fixed Price Fixed Price

Fixed Price Fixed Price

Collar

( )

# Amt Hedged with Storage @ City Gate

Seasonal % of System Supply

Texas Gas Inj Hedging Total Hedged (dth/day)

Cost Averaging Collar Fixed Price

z

Fixed Price

Total Hedged (dth)

Hedged (City Gate) Storage Withdrawal Market

1

Total (incl. Injections) % Hedged & Storage Seasonal %

:



Case No. 2008-00175 Attachment A-2009 Page 207 of 307

1

## 11/13/2008

Case No. 2008-00175 Attachment A-2009 Page 208 of 307

## Duke Energy Ohio Hedging Program Current Position

	System	Hedged to Date	Next Targe	et (3/31/09)
Delivery	Supply	Total	Required	Allowed
Month	Dth/mo	Dth/day Dth/mo	dth/day	dth/day
Nov-08				
Dec-08				
Jan-09	• • • • • • • •			
Feb-09			•	
Mar-09				
Winter 08/09				4
				Ϋ́Γ Ρ
Apr-09				
May-09	2			E. S. F
Jun-09	1	а тал түрүүдэг ни		
Jul-09				
Aug-09			• * *	
Sep-09				
Oct-09			1	
Summer 2009				
			.t	
Nov-09				
Dec-09	14. 			624 -
Jan-10	6			
Feb-10			a da da	
Mar-10		AND A		and the second
Winter 09/10				
				e -
Apr-10	a M			pri f mi
May-10			Ś.	24
Jun-10		್ಷ ಪ್ರತಿ ಕ್ರಮ ಕ್ರಮ ಕ್ರಮ ಗ್ರಾಮ ಗ್ರಾಮ ಕ್ರಮ ಕ್ರಮ ಕ್ರಮ ಕ್ರಮ ಕ್ರಮ ಕ್ರಮ ಕ್ರಮ ಕ್ರ		
Jul-10				
Aug-10				
Sep-10				
Oct-10				
Summer 2010				
				in it it is
Nov-10		- 「「「我」会議		
Dec-10			a state	
Jan-11				
Feb-11				
Mar-11				
Winter 10/11		A CARACTER AND A		
	t.	· · · · · · · · · · · · · · · · · · ·	muses from the state	
Apr-11		an frank a second a s	90° y 1000,	
May-11				
Jun-11	a an	27 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -	· · · · ·	
Jul-11				**
Aug-11	<b>4</b>		• • • • • •	
Sep-11			, ion	
Oct-11 Summer 2011	1 · · ·		1490 - S. S. S.	
Summer 2011				
			Ļ	

( )

(_____)

Case No. 2008-00175 Attachment A-2009 Page 209 of 307

		Hedging Program Current Position			
	System	Hedged to Date	Next Taro	et (3/31/09)	
Delivery	Supply	Total	Required	Allowed	
Month	Dth/mo	Dth/day Dth/mo	dth/day	dth/day	
			•		
Nov-08			•		
Dec-08					
Jan-09					
Feb-09	1	1112	•••••••		
Mar-09				a well a cantage	
Winter 08/09	****	·			
Storage Gas					
<b>- - - - -</b>		in the second	ار بر میشد. چرو بیشند، درمینه		
Excluding Stora					
Including Storag	e Gas	ali na serie de la Companya de la C	يوني مريد م		
A					
Apr-09	r -	and the second	ية		
May-09					
Jun-09					
90-luL				Sec. N.	
Aug-09 Sep-09	· · ·	· · · · · · · · · · · · · · · · · · ·		N. A. B	
Oct-09	Ť.	an search an 1995 the state of the transmission of the state of the country of the state	÷.		
Summer 2009				2	
Summer 2009		n an	1 <b>2</b> 7.		
	Liter -		میں ایک		
Nov-09	2 <b>7</b>				
Dec-09	514 				
Jan-10			يسور ارتد الجنور الم		
Feb-10	ter en			jî lê	
Mar-10	. E .	المراجع المراجع المراجع المراجع			
Winter 09/10	en er e	ц. 1.16			
				2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	
Apr-10		مر المراجع الم المراجع المراجع			
May-10		المالية المحصور بمستعد المستعلم المستعلم المستعلم المستعلم المستعلم المستعلم المستعلم المستعلم المستع			
Jun-10			Star Star		
Jul-10		The second s	and the second		
Aug-10	h i	مر المراجع الم المراجع المراجع			
Sep-10		and the second		ang a sa s	
Oct-10_	-		;+**		
Summer 2010	and the second	in the second			
		a a set a		n 🕅	
New 10		inder Sectors in a sector of the sector in a sector of the		4	
Nov-10 Dec-10		Ar 《学家》是461 年	14 14	補助	
Jan-11		the the			
Feb-11	and the second se	San	- inter		
Mar-11		ى دە يېلىق ئەت ئەر بىرى بىرىكى دە. بىرىدىي بىرىق	-		
Winter 10/11		· · · ·	and the second second		
www.contonit			وب.		
1		م هید اور	÷.		
Apr-11		and a second			
May-11	E.				
Jun-11	77	n an			
Jul-11			11 11 11 11 11 11 11 11 11 11 11 11 11		
Aug-11		100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100	ion and inthe gravit		
Sep-11		and the second sec	· · · · · · · · · · · · · · · · · · ·	the second second	
Oct-11	See.	and the second se			
Summer 2011			to Marine Street		
	1				

## Duke Energy Kentucky Hedging Program Current Position

•

. )

(----) (----)

11

### Gas Commercial Operations Hedging Program Market Indicators Summary December 19, 2008

	Price Pressure	Term	Comments	Page Ref
Weather	Litessuie	I	L	1.07
Long Term Forecast	<b>↓</b>	Long	NOAA predicting a 40% or greater chance of above normal winter for Dec- Feb throughout Mid-Continent area.	10
Mid Term Forecast (30-60 days)	<b>~</b>	Long	Jan. and Feb. predicted to be 5% and 1% colder than 10 year normal. Note differences in NOAA forecast above.	11
Short Term Forecast (6-10 days)	1 1	Short	Below and some Much Below temperatures over much North America.	12
Tropical Storm Activity	Î	Long	As reported December 4th, nearly 21% of the Gulf of Mexico's normal gas production of 7.4 Bcf/day remains shut in due to Gustav and Ike. The 2008 Atlantic hurricane season is tied as the fourth-most active since 1944 with 16 named storms and 5 major hurricanes. Colorado forecasters expect busy 2009 hurricane season–14 named storms, including 7 hurricanes–3 major.	13-14
Storage Inventory				
EIA Weekly Storage Report	ţ	Long	Storage withdraws for the week ending December 5th were 67 BCF. Storage levels are at 3.291 TCF which is 1.3% lower than last year and 3.5% higher than the 5 year average Withdraws reported came in well below consensus expectations. "It just shows that higher production and lower dernand are resulting in storage changes that are very, very bearish" according to a IAF Advisors analyst.	15-16
Cambridge Energy Research Associates				
Winter 2008/09: \$7.036 Summer 2009: \$7.353	† 1	Long	Assuming normal weather, CERA projects the Henry Hub price to be \$7 06 per MMBtu in December and average \$7.22 for 2009.	17
Gas Daily	ţ	Long	Barclays analyst "Gas markets appear vastly oversupplied, Gas prices of less than \$5 may be necessary to force drilling activity downward". A rig count decrease of roughly one-third could be required to balance the gas market by the 4th quarter of 2009.	18
Gas Daily	Î	Long	It will take until the second half of next year for drilling cutbacks to affect natural gas prices according to Barclays analysts. Henry Hub prices below \$7.50/MMBtu will moderate drilling, but below \$7/MMBtu they expect rig count to fall enough to keep production flat. Add in a tighter credit market, the analysts contended, and all the ingredients for cuts in U.S. production will be in place.	19
Gas Daily	Ť	Long	Cheniere Energy's Patricia Outtrim stated that the spike in supplies coming from unconventional shale gas plays is "temporary" and should ease within the next two years-making room for additional LNG receipts.	20-2 <i>1</i>
Government Agencies				
Energy Information Administration Winter 2008/09: \$6.53 Summer 2009: \$5.70	Ļ	Long	The current global economic slowdown is now projected to be more severe and longer than in last month's <i>Outlook</i> . The Henry Hub natural gas spot price is projected to average \$8 91 per MMBtu in 2008 and \$6.07 per MMBtu in 2009.	22
Technical Analysis				
Winter 2008-09 Strip Chart	<b></b>	Short	Closed at \$5.78	23
Summer 2009 Strip Chart	<b>4</b>	Short	Closed at \$6.11	24
Economy Demand	Ļ	Long	EIA: Total natural gas consumption is expected to increase by 0.5% in 2008 and remain flat in 2009. 2009 consumption in the residential, commercial, and electric power sectors is expected to grow, slightly. Consumption in the industrial is expected to decline by 2.4% in 2009.	25
Supply	Ļ	Long	EIA: Total U.S. marketed natural gas production is expected to increase by 54% in 2008 and by 0.9% in 2009. Lower-48 onshore production is expected to increase by 9.1% in 2008. Lower-48 production is expected to increase only by 0.8% in 2009 due to the dip in drilling activity resulting from lower prices and poor economic conditions.	25
Oil Market	ţ	Long	EIA: The condition of the global economy and production decisions by OPEC are expected to remain the crucial factors driving world oil prices. The annual average West Texas Intermediate price is projected to be \$100 per barrel in 2008 and \$51 in 2009. Goldman Sachs, which earlier this year had predicted \$200 per barrel oil, halved its 2009 price forecast for U.S. crude to \$45 and said the price could fall to \$30 in the short term.	25-2

Meeting Minutes: 10th Floor North Conference Room - 8:30 am

Attendees: Jim Henning, Patty Walker, Joachim Fischesser, Steve Niederbaumer

Discussed market fundamentals including weather, storage inventory levels, CERA and EIA forecasts for the remainder of Winter 2008/09 and Summer 2009, independent analysts projections of supply and demand and the impact on gas prices, economic influences on supply and demand and technical analysis on Summer and Winter Strip prices. In addition, reviewed DEO and DEK's hedging program to date and discussed the holidays impact on trading. Based on these factors, a decision was made to closely monitor market conditions and be ready to place additional hedges around the first of the year if market conditions warrant.

Case No. 2008-00175 Attachment A-2009 Page 211 of 307



Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009

. . . .

1

Load Forecast City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

Tenaska "Withdrawals" (Mcf) Total Withdrawals (Mcf) TCO FSS Withdrawals (Mcf)

Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Collar Collar Fixed Price Fixed Price Fixed Price

Ц

Embedded Hedged Cost

Fotal Hedged (dth/day) Total Hedged (dth) Cost Averaging

Summer Winter

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

Amt Hedged with Storage @ City Gate Hedged (City Gate) Storage Withdrawal Total (incl. Injections) % Hedged & Storage Seasonal % Market



ĺ

0ct-10

Sep-10

Aug-10

Jul-10

Jun-10

Jan-10

Dec-09

00-voN



Load Forecast City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

## ٩

Amount Hedged (dth/day)	Fixed Price -	Fixed Price (manual field)	Fixed Price (	Fixed Price	Total Hedged (dth/day)	Total Ladrad (dth)
Amount Hedge	Fixed Price	Fixed Price	Fixed Price	Fixed Price	Total Hedged	

Total Hedged (dtn)

Embedded Hedged Cost Winter

Summer

5

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

# Amt Hedged with Storage @ City Gate Hedged (City Gate) Storage Withdrawal

Total (incl. Injections) % Hedged & Storage Seasonal % Market



Case No. 2008-00175 Attachment A-2009 Page 213 of 307

Duke Energy Kentucky Hedging Program - Current Position November 2010 - October 2011 As of 12/17/08

Ì

0a-11

Sep-11

Jun-11

May-11

Mar-11

Feb-11

Jan-11

Dec-10

Nov-10

Load Forecast City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

Amount Hedged (dth/day) Fixed Price

Total Hedged (dth/day) Total Hedged (dth) TBD

Embedded Hedged Cost

Summer Winter

6

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

Amt Hedged with Storage @ City Gate Hedged (City Gate) Storage Withdrawal Market

Total (incl. Injections) % Hedged & Storage Seasonal %



12/17/2008

Case No. 2008-00175 Attachment A-2009 Page 214 of 307

### **Duke Energy Kentucky Hedging Program Current Position** System Hedged to Date Next Target (3/31/09) Total Delivery Supply Required Allowed Month Dth/mo Dth/day Dth/mo dth/day dth/day Nov-08 Dec-08 10 Jan-09 Feb-09 Mar-09 Winter 08/09 Storage Gas Excluding Storage Gas Including Storage Gas Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Summer 2009 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Winter 09/10 Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10 Summer 2010 Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Winter 10/11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Summer 2011

8

Case No. 2008-00175 Attachment A-2009 Page 215 of 307

## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histor	ic Prices:				-
	NYMEX C	osing Price	••••••••••••••••••••••••••••••••••••••			•
	5-yr. avg.	Last Year		CERA	EIA	NYMEX
	(03/04-07/08)	(2007-2008)		20-Nov-08	9-Dec-08	17-Dec-08
Jan	\$7.36	\$7.17		\$7.040	\$6.510	\$5.751
Feb	\$7.08	\$8.00		\$7.100	\$6.640	\$5.781
Mar	\$7.01	\$8.93		\$7.130	\$6.520	\$5.803
Apr	\$7.41	\$9.58		\$7.090	\$6.030	\$5.833
May	\$7.72	\$11.28		\$7.210	\$5.730	\$5.901
June	\$7.65	\$11.92		\$7.460	\$5.640	\$6.050
July	\$7.81	\$13.11		\$7.850	\$5.580	\$6.170
Aug	\$7.21	\$9.22		\$7.790	\$5.510	\$6.221
Sept	\$7.31	\$8.39		\$7.310	\$5.500	\$6.300
Oct	\$7.55	\$7.47		\$6.760	\$5.930	\$6.388
Nov	\$8.47	\$6.47		\$6.890	\$6.480	\$6.813
Dec	\$8.31	\$6.89		\$7.000	\$6.800	\$7.268
Month Avg	\$7.57	\$9.03		\$7.219	\$6.073	\$6.190
Summe	er Average			\$7.353	\$5.703	\$6.123
Winter A	\verage			\$7.032	\$6.590	\$6.283



.)



10-Revised

12/18/2001

Y





EarthSat Weather

1

## EarthSat's 30-60 Day Outlook

Wednesday, December 17, 2008

Forecaster: MR/SS



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]

11- Revised



EarthSat Weather

## EarthSat's 30-60 Day Outlook

Wednesday, December 10, 2008

## Forecaster: MR/SS

Case No. 2008-00175 Attachment A-2009



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2007 [30-60 Day-Outlook, Version 2.1]



## EarthSat's 6-10 Day Forecast-Detailed

Friday, December 19, 2008

## EarthSat Weather

Forecaster: AC/JS

Case No. 2008-00175 Attachment A-2009

Case



1)- Revised

©2008 [Morning Basic-Page 3, Version 2.0]

www.mdafederal.com/wx/



## EarthSat's 6-10 Day Forecast-Detailed

Wednesday, December 17, 2008

## EarthSat Weather

Forecaster: AC/JS



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2008 [Morning Basic-Page 3, Version 2.0]

## Gas Daily

Monday, December 1, 2008

)

## NOAA says 2008 Atlantic hurricane season fourth most active since 1944

The 2008 Atlantic hurricane season, which ends Sunday, is tied as the fourth-most active since 1944 with 16 named storms and five major hurricanes and tied for fifth in total hurricanes with eight, the National Oceanic and Atmospheric Administration said Wednesday.

The agency said the 2008 season's number of named storms, total hurricanes and major hurricanes of Category 3 strength or above fell within the ranges NOAA predicted in its pre- and mid-season outlooks in May and August. The August outlook called for 14 to 18 named storms, seven to 10 hurricanes and three to six major hurricanes. An average season has 11 named storms, six hurricanes and two major hurricanes.

"This year's hurricane season continues the current active hurricane era and is the tenth season to produce above-normal activity in the past 14 years," said Gerry Bell, lead seasonal hurricane forecaster at NOAA's Climate Prediction Center.

NOAA said that in 2008 for the first time on record, six straight tropical cyclones --- Dolly, Edouard, Fay, Gustav, Hanna and Ike --- made landfall on the US mainland and a record three major hurricanes --- Gustav, Ike and Paloma --- struck Cuba.

This is also the first Atlantic season to have a major hurricane form in five consecutive months — Bertha in July, Gustav in August, Ike in September, Omar in October and Paloma in November, it said.

Bell attributed the above-normal season to several factors, including an ongoing multi-decadal signal, or a combination of ocean and atmospheric conditions that has spawned increased hurricane activity since 1995; a lingering La Niña that reduces wind shear that can prevent hurricanes from forming; and warmer ocean temperatures in the tropical Atlantic.

The annual Atlantic hurricane season runs from June 1 through November 30. — Jeff Barber

## **Colorado Forecasters Expect Busy '09 Hurricane Season**

FORT COLLINS, Colo. (AP) -- Hurricane forecasters at Colorado State University on Wednesday <u>predicted above-average activity in the Atlantic next year: 14</u> <u>named storms, including seven hurricanes-- three major.</u>

The 50-year average is 9.6 named storms, 5.9 hurricanes and 2.3 major hurricanes.

Researchers William Gray and Phil Klotzbach said in their extended-range forecast there is a 63 percent chance that at least one major hurricane will make landfall on the U.S. coastline.

The long-term average probability is 52 percent.

ł

( ·

This is Gray's 26th year of forecasting hurricanes. His predictions are watched closely by emergency responders and others, but many say such long-range forecasts don't have a lot of practical value beyond focusing public attention on the dangers.

The hurricane season runs from June 1 to Nov. 30. <u>Klotzbach cautioned that the</u> <u>December prediction includes "a large amount of uncertainty" because the season</u> is so far in the future.

Last December, Gray and Klotzbach predicted 13 named storms for the 2008 season, including seven hurricanes, three of them major. In June they revised that to 15 named storms, eight hurricanes _ four major. The season produced 16 named storms, eight hurricanes, with five major.

Klotzbach said the new forecast is based on factors including warm Atlantic sea surface temperatures and the likely absence of El Nino conditions.

El Nino is a warming in the Pacific Ocean that can have such far-reaching effects as changing wind patterns in the eastern Atlantic, which can disrupt the formation of hurricanes.

## Energy Information Administration Official Energy Statistics from the U.S. Government

Iome > Natural Gas > Weekly Natural Gas Storage Report

## **Neekly Natural Gas Storage Report**

Released: December 18, 2008 at 10:35 A.M. (Eastern time) for the Week Ending December 12, 2008. Next Release: December 24, 2008

## Working Gas in Underground Storage, Lower 48

	Stocks i	n billion cubic fe	et (Bcf)	Historical Comparisons					
Region	12/12/08	12/05/08	Change	Year Ago (	12/12/07)	5-Year (2003-2	007) Average		
12/12/03	12/12/00	12/03/00	Change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change		
East	1,780	1,871	-91	1,778	0.1	1,757	1.3		
West	454	465	-11	437	3.9	401	13.2		
Producing	933	955	-22	992	-5.9	895	4.2		
Fotal	3,167	3,291	-124	3,208	-1.3	3,053	3.7		

## lotes and Definitions

Effective Thursday, January 8, 2009, EIA will return to the original release time of 10:30 a.m. for standard releases of the Weekly Natural Gas Storage Report (WNGSR). The official schedule with dates and times for release of the WNGSR are available at http://www.eia.doe.gov/oil_gas/natural_gas/ngs/schedule.html.

### Summary

Working gas in storage was 3,167 Bcf as of Friday, December 12, 2008, according to EIA estimates. This represents a net decline of 124 Bcf from the previous week. Stocks were 41 Bcf less than last year at this time and 114 Bcf above the 5year average of 3,053 Bcf. In the East Region, stocks were 23 Bcf above the 5-year average following net withdrawals of 91 Bcf. Stocks in the Producing Region were 38 Bcf above the 5-year average of 895 Bcf after a net withdrawal of 22 Bcf. Stocks in the West Region were 53 Bcf above the 5-year average after a net drawdown of 11 Bcf. At 3,167 Bcf, total arking gas is within the 5-year historical range.



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2003 through 2007. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Careers • About EIA

Fedstats • USA.gov • Dept. of Energy

http://www.eia.doe.gov/oil gas/natural gas/ngs/ngs.html

Attachment A-2009 Page 224 of 307

Case No. 2008-00175

other formats: Summary TXT CSV

Gloss

12/18/2008

## Energy Information Administration Official Energy Statistics from the U.S. Government

lome > Natural Gas > Weekly Natural Gas Storage Report

## **Neekly Natural Gas Storage Report**

Released: December 11, 2008 at 10:35 A.M. (Eastern time) for the Week Ending December 5, 2008. Next Release: December 18, 2008

## Working Gas in Underground Storage, Lower 48

	Stocks i	in billion cubic f	eet (Bcf)		Historical Comparisons					
Region 12/05/08	12/05/08	11/28/08	Change	Year Ago (	12/05/07)	5-Year (2003-2	2007) Average			
	11/20/00	Change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change				
East	1,871	1,929	-58	1,860	0.6	1,835	2.0			
West	465	466	-1	456	2.0	416	11.8			
Producing	955	963	-8	1,020	-6.4	930	2.7			
<b>Fotal</b>	3,291	3,358	-67	3,336	-1.3	3,181	3.5			

ŀ

**Iotes and Definitions** 

## Summary

Working gas in storage was 3,291 Bcf as of Friday, December 5, 2008, according to EIA estimates. This represents a net decline of 67 Bcf from the previous week. Stocks were 45 Bcf less than last year at this time and 110 Bcf above the 5-year average of 3,181 Bcf. In the East Region, stocks were 36 Bcf above the 5-year average following net withdrawals of 58 Bcf. Stocks in the Producing Region were 25 Bcf above the 5-year average of 930 Bcf after a net withdrawal of 8 Bcf. Stocks in the West Region were 49 Bcf above the 5-year average after a net drawdown of 1 Bcf. At 3,291 Bcf, total working gas is within the 5-year historical range.

## Working Gas in Underground Storage Compared with 5-Year Range



Note: The shaded area indicates the range between the bistorical minimum and maximum values for the weekly series from 2003 through 2007. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

> Contact Us • Feedback • Privacy/Security • Careers • About EIA Fedstats • USA.gov • Dept. of Energy

Case No. 2008-00175 Attachment A-2009

Page 225 of 307

other formats: Summary TXT CSV

rage 1 o

Gloss

15

A CREATE THE ADDRESS OF THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY.

## Gas Daily

Friday, December 12, 2008

## 67-Bcf storage withdrawal well below expectations

The Energy Information Administration on Thursday reported a 67-Bcf drawdown from gas storage inventories, a much smaller-than-expected pull that left some analysts scratching their heads.

"That number should have been much, much higher" given cold weather across most of the nation last week, said Kyle Cooper, an analyst with IAF Advisors. <u>"It just shows that higher production</u> and lower demand ... are resulting in storage changes that are very, very bearish. It's as simple as that."

Ron Denhardt, vice president of natural gas and power with Strategic Energy & Economic Research, pegged the smaller-than-anticipated withdrawal to potential fuel-switching away from gas to residual fuel oil.

"Oil prices are low enough now to move some gas out," he said, estimating that switching could displace as much as 1 Bcf/d of gas.

The drawdown was well below consensus expectations, which ranged from 82 Bcf to 87 Bcf, and as a result the January NYMEX gas futures contract tumbled. Nationwide inventories now stand at 3.291 Tcf.

In the same week of 2007, EIA reported 3.336 Tcf in storage. As a result, the deficit from the year-ago level shrank to 45 Bcf from 107 Bcf a week earlier, while the surplus over the five-year average swelled to 110 Bcf from 69 Bcf.

According to EIA's data, inventories now are 36 Bcf above the five-year average of 1.835 Tcf in the East, 49 Bcf above the five-year average of 416 Bcf in the West and 25 Bcf above the five-year average of 930 Bcf in the producing region.

In three of the past four weeks, consensus estimates of what EIA would report in its weekly storage update have been well off the mark, prompting some analysts to become introspective.

"It's CSI: Gas Storage," quipped Citi Futures Perspective analyst Tim Evans, referring to a popular forensics television show. "All we get is a storage number that drops like a bomb, and all we can do is reassemble the fragments to try to determine who the manufacturer of the bomb was."

But analysts are still in the middle of the episode, Evans said, with the metaphorical "crime" yet unsolved.

Denhardt, however, said there "doesn't seem to be a consistent pattern of overestimating or underestimating. If you average a couple of weeks together, people seem to be pretty much on target." — Jessica Marron, Stephanie Seay

## CERA Monthly Briefing

Case No. 2008-06175 Attachment A-2009 Page 227 of 307

growth. Production continues to exceed expectations, and this month's outlook incorporates an upward revision in CERA's projections for US lower-48 productive capacity. Electric power demand growth is expected to slow with the economic recession, reducing the growth in gas demand from this sector; and sharply declining oil prices raise a real risk of fuel switching from gas to residual fuel oil for power in some regions.

Over the next three years, the likelihood of higher liquefied natural gas (LNG) imports is now greater than was expected only a few months ago. Global liquefaction capacity is set to increase by 48 percent between 2008 and 2012. If gas demand growth in Europe and Asia falters with the recession, much of that new supply will seek a market in North America, where unconventional gas production remains strong, despite a slowdown in rig activity. Additionally, the decline in oil prices will be reflected in oil-linked European gas contracts after a lag of several months. If oil prices were to stay at \$50 per barrel, this raises the possibility that Europeans may maximize their takes of oil-linked pipeline gas by mid-2009 and into 2010, freeing up more LNG to flow to North America.*

All in all, the signs have turned bearish for gas prices. CERA has reduced the outlook for Henry Hub prices for the rest of this year and throughout 2009. We expect the Henry Hub price to average \$6.85 per million British thermal units (MMBtu) in November and \$7.06 in December (see Table 1).

With the recent mild weather, the slowing economy, higher expected production, and the possible advent of greater LNG imports in 2009, CERA now expects North America to end the winter with 106 billion cubic feet (Bcf) more gas in storage than had been expected last month, with storage inventories 293 Bcf higher than the five-year average (see Figure 1). By October 2009, CERA now expects storage levels to be 211 Bcf higher than we had expected in last month's Monthly Briefing, or 272 Bcf higher than the five-year average. As a result of

					Table nry Hub			unter	- 200 1er 21	08   09 009	₹- \$7,	7,036 3 <i>53</i>
	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	
January	5.39	6.03	6.17	8.76	6.33	7.93 (	7.04	7.01	7.24	6.78	7.73	
February	7.00	5.41	6.09	7.62	8.06	8.46	7.10	7.05	7.06	6.77	7.89	
March	6.37	5.38	6.91	6.88	7.10	9.34 (	7.13	7.04	7.12	6.86	8.01	
April	5.27	5.70	7.19	7.09	7.57	10.11	7.09)	6.98	7.15	6.91	7.60	
Мау	5.77	6.28	6.47	6.23	7.64	11.24	7.21	7.05	7.31	7.03	7.64	
June	5.80	6.26	7.17	6.26	7.40	12.61	7.46	7.11	7.28	7.05	7.71	
July	5.04	5.92	7.57	6.05	6.21	11.32	7.85	7.51	7.64	7.15	7.68	
August	4.96	5.43	9.29	7.24	6.30	8.30	7.79	7.58	7.56	7.17	7.56	
September	4.61	4.99	12.11	4.95	5.98	7.70	7.31	7.44	6.99	6.80	7.12	
October	4.65	6.24	13.36	5.67	6.68	6.75	6.76J	7.20	6.81	6.83	7.05	
November	4.45	5.88	10.29	7.32	7.01	6.857	6.89	7.45	6.93	7.00	7.05	
December	6.12	6.63	12.98	6.83	7.08	7.06∫	7.00	7.50	6.95	7.34	7.16	
Year average	5.45	5.85	8.80	6.74	6.95	8.97	7.22	7.24	7.17	6.97	7.52	

Source: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2003–October 2008 figures are derived from historical data as available; November 2008–13 figures are CERA projections. Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

*See the CERA Market-Briefing Global-LNG:-The-Two-year Test of Resolve for Sellers.

© 2008, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused/or otherwise distributed in any form without orior written consent

_____ And the second second

## Gas Daily

Monday, December 15, 2008

## Analysts: Sub-\$5 gas needed to eliminate gas glut

Two more energy analysts said Friday that prices need to fall to \$5/Mcf or less to soak up the excess gas on the market.

Barclays Capital's Tom Driscoll said prices will need to be between \$4/Mcf and \$5/Mcf for at least 90 days next year to rebalance supply and demand, particularly in the wake of the smaller-than-expected 67-Bcf storage withdrawal reported Thursday.

"Gas markets appear vastly oversupplied," he wrote in a note to clients. "Gas prices of less than \$5 may be necessary to force drilling activity downward."

For supply holders, "the near term is bad news," Driscoll said later. "The thing that people haven't focused on is, how low gas can go? Storage ends 10% above record levels? The market isn't going to let that happen."

The burden of cutting supply "will likely fall on US producers," Driscoll maintained. "We think that budget cuts are likely to lag oil and gas declines in 2009. <u>A gas rig count decrease of roughly one-third could be required to balance the gas market by the fourth quarter of 2009."</u>

Driscoll said the initial 20% to 30% budget reductions many gas producers have announced may not be enough to eliminate the gas glut. As a result, he foresee a possible second round of drilling cuts starting in mid-winter.

"The initial round of cuts may fall disproportionately on Rocky Mountains and Midcontinent basins," Driscoll said. "The driver of the second round of cuts could be sustained with Gulf Coast prices of less than \$5."

FBR Capital Markets analyst Rehan Rashid slashed his gas price forecast for 2009 from \$6/Mcf to \$5/Mcf, noting that gas at \$5/Mcf or less will be needed to rebalance the domestic market.

"We are of the opinion that, if you see no capital expenditure cuts from 2008 levels, then 2009 would be oversupplied by 3 Bcf/d, growing to 10 Bcf/d by 2011," Rashid said. "The reality is that capex cuts have begun, and our analysis suggests the industry needs to reduce capital spending by \$12.5 billion/year for the next three years."

As production from the "five shales" — Haynesville, Marcellus, Barnett, Fayetteville and Woodford — increases overall supply at relatively low finding and development costs, that gas will begin to displace conventional gas on the Gulf Of Mexico shelf and then the Midcontinent, Rashid theorized.

"At \$5/Mcf, the shelf, Gulf Coast, Texas-Louisiana onshore and the Midcontinent are below cash break-even, and we project that approximately 10.8 Bcf/d will be priced out, about equal to the market imbalance coming by 2011," he concluded.

Analysts at Tudor Pickering Holt generally agreed with both Driscoll and Rashid — but with a certain Christmas spirit. "Too much gas!" they proclaimed Friday. "We are asking Santa for fewer drilling rigs, less supply and a bit more demand. If he can't deliver, then gas markets [will] remain sloppy until production growth moderates." — *Bill Holland* 

Case No. 2008-00175 Attachment A-2009 Page 229 of 307

## Gas Daily

Monday, December 1, 2008

## Drilling cutbacks to hit gas prices by mid-2009: Barclays

It will take until the second half of next year for drilling cutbacks to affect natural gas prices, analysts with Barclays Capital said Wednesday.

"<u>While some in the industry have forecasted a plunge in drilling in</u> early 2009, we expect a slower but accelerating pullback through the year," Barclays said.

"The US rig count is unlikely to drop to the level needed to just maintain US production, a number we peg at 1250-1300 rigs, until the second half of 2009," the analysts said. "This is simply a function of time required for producers to pull back on their drilling programs."

Henry Hub prices below \$7.50/MMBtu will moderate drilling, the analysts said, but below \$7/MMBtu they expect the rig count to fall enough to keep production flat. Add in a tighter credit market, the analysts contended, and all the ingredients for cuts in US production will be in place.

The industry has experience with drastically curtailing production, the analysts noted. In 2001, "industry cut 160 gas rigs one quarter after the drilling peak, 346 two quarters after the peak, and 458 three quarters after the peak. Should this yardstick apply today [with a peak in September 2008], it suggests that the rig count could fall to our 1250-1300 level by the second half of 2009."

Slowing any reduction in rig count, the analysts acknowledged, are producers who aggressively hedged their 2009 production at prices well above the current strip.

The wild card in all these calculations? Weather, Barclays said.

- .

n internet of the main of the second second

"A colder-than-normal pattern could alleviate some of the supply overhang and provide near-term support to prices, which would in turn lessen the urgency of drilling cuts," the analysts explained.

"In contrast, a warmer-than-normal winter could exacerbate the weakness in demand and prices, forcing producers to take a sharper turn in drilling plans." — Bill Holland

## Gas Daily

Friday, December 5, 2008

## Officials say LNG imports to rise, but with risks

The surge in US gas production wil be short-lived and won't preclude the need for increased liquefied natural gas imports in the coming years, energy project developers and economists agreed Thursday in New Orleans.

In talks and papers presented to the US Association of Energy Economists, <u>most researchers said they think</u> <u>LNG will make up a larger portion of the overall US gas supply mix</u>. But several said the Gulf Coast is the wrong place for new regasification terminals.

"The recent increase in US domestic production of natural gas is temporary," University of Wisconsin economist Julie Urban said, adding that the country will become more reliant on imported LNG to meet growing demand.

Patricia Outtrim, LNG terminal developer Cheniere Energy's vice president of governmental affairs, told the conference that that the spike in supplies coming from unconventional shale gas plays is "temporary" and should ease within thenext two years — making room for additional LNG receipts.

Outtrim also made the case that Cheniere's investment in Gulf Coast LNG terminals is a more efficient use of capital than the proposed Alaska pipeline that would move trapped North Slope gas to markets in the Lower-48 states.

"Compared to the pipeline, which would bring 4 Bcf/d at a cost of \$30 billion or \$40 billion, we have capacity for 4 Bcf/d at \$3 billion along the Gulf," Outtrim said. "It's one of the better ways to bring supplies into the country."

But growing LNG imports can be a double-edged sword, according to Urban's research. "As LNG reliance increases, the United States could face high volatile prices not only for petroleum but for natural gas as well," she cautioned.

Urban also cited potential national security implications. "In light of current overcapacity, building additional LNG receiving terminals may not be economically feasible," she wrote. "Looking forward, the physical and market conditions for natural gas look very reminiscent of the petroleum situation faced by the United States 30 years ago. Does the United States wantto expand its foreign dependency beyond petroleum into natural gas as well?"

Urban said she "questions the continual investment in expansion of LNG," particularly along the Gulf Coast. "LNG prices will go up and Europe and Asia will pay them. LNG investment may be depriving the nation of investments in alternatives."

She noted that few LNG cargoes made it to the Gulf Coat this past summer and "the situation is going to get worse."

Shell market analyst Ning Lin agreed that the Gulf Coast is overbuilt. After presenting a paper that mathematically analyzed the business decision process used by large LNG exporters and importers, Lin said, "I don't understand why they were built" on the Gulf Coast.

Lin said shale gas production already faces difficulty getting out of that region, and the addition of LNG into what is the same transportation grid makes the situation "fairly challenging."

Another handicap US LNG importers face is the domestic market's pricing mechanisms, which are heavily reliant on weather and supply disruptions rather than being linked, as much of the world's LNG is, to crude oil prices, according to economists at the Federal Reserve in Dallas.

Economist Obindah Wagbara of the UK's University of Dundee agreed, saying the lack of an efficient pricing mechanism tends to delay LNG infrastructure development as investors prefer the security of long-term contracts or indexes to crude oil.

20

His research focused on the effect of new LNG contrads traded on the Dubai Mercantile Exchange on LNG prices and investment in liquefaction trains.

"While competitive LNG trade is recessary for the attainment of efficient pricing, it is not sufficient to replace long-term contracts nor oil-price indexation — primary determinants of investments in liquefaction infrastructure," Wagbara said. "Furthermore, insufficient feed gas and inadequate construction capacity (rising costs) are stronger factors constraining investments. The lack of competitive price discovery is, therefore, not significantly responsible for the tight LNG supply situation." — *Bill Holland* 

-

Case No. 2008-00175 Attachment A-2009 Page 232 of 307

		Jan2008	8.01					
	1	Feb2008	8.51					
		Mar2008	9.46					
2008		Apr2008	10.18					
		May2008	and a second sec					
		Jun2008	12.68					
		Jul2008	11.11					
		Aug2008	8.26					
		Sep2008	7.65					
		Oct2008	6.74					
		Nov2008	6.67	)				
		Dec2008	6.31	/				,
20.7	1	Jan2009	6.51	\$	6.5	3 -	Winter	08/09
		Feb2009	6.64					
		Mar2009	6.52					
		Apr2009	6.03					
		May2009	5.73	1				
	Į	Jun2009	5.64		\$ 5,7	0 -	Summer	2009
	1	Jul2009	5.58	ſ		-		
		Aug2009	5.51					
		Sep2009	5.50					
		Oct2009	5.93	)				
		Nov2009	6.48					
		Dec2009	6.80					
	$\sim$							

-

EJA Forecust 12/9/08

22
Case No. 2008-00175 Attachment A-2009 Page 233 of 307



Winter Strip Nov08 - Mar09

 $\langle \cdot \rangle$ 

. 4.,

23



Summer Strip 2009

24

#### **Short-Term Energy Outlook**

December 9, 2008 Release (Next Update: January 13, 2009)

#### Natural Gas

**Consumption.** Total natural gas consumption, which is more weather-driven than oil consumption, is expected to increase by 0.5 percent in 2008 and remain flat in 2009. Consumption is projected to be higher in every sector in 2008, except for electric power, primarily due to the projected 5.3-percent increase in heating degree-days compared with last year. In 2009, consumption in the residential, commercial, and electric power sectors is expected to grow, albeit slightly. However, poor economic conditions both domestically and worldwide are expected to hamper U.S. industrial production activities through the forecast period. As a result, natural gas consumption in the industrial sector is expected to decline by 2.4 percent in 2009.

Production and Imports. Total U.S. marketed natural gas production is expected to increase by 5.4 percent in 2008 and by 0.9 percent in 2009. Domestic natural gas production continues to surge behind strong growth in the Lower-48 onshore, where annual average production is expected to increase by 9.1 percent this year. However, a dip in recent drilling activity, reflecting lower average prices and poor economic conditions, is expected to limit onshore production growth to 0.8 percent in 2009. Production outages in the Federal Gulf of Mexico (GOM) caused by Hurricanes Gustav and Ike led to a decline in offshore production of 14.5 percent in 2008. Production in the Federal GOM is expected to increase by 1.8 percent in 2009. U.S. imports of liquefied natural gas (LNG) are expected to total about 360 billion cubic feet (Bcf) in 2008 and slightly over 400 Bcf in 2009, remaining well below the 2007 level.

#### **Global Petroleum**

( . .

**Overview.** The increasing likelihood of a prolonged global economic downturn continues to dominate market perceptions, putting downward pressure on oil prices. World real gross domestic product (GDP) growth is projected to slow from about 4 percent in 2006 and 2007 to about 2.7 percent this year and 0.5 percent in 2009. Last month's *Outlook* assumed world GDP would increase by 1.8 percent in 2009. The condition of the global economy and production decisions by members of the Organization of Petroleum Exporting Countries (OPEC) are expected to remain the crucial factors driving world oil prices.

The monthly average price of West Texas Intermediate (WTI) crude oil has fallen by more than half between July and November, reflecting the fallout from the rapid decline in world petroleum demand. <u>The annual average WTI price is now projected to be \$100 per barrel in 2008 and \$51 in 2009.</u>

#### **Oil falls towards \$45, Goldman cuts forecast**

#### Fri, 12 Dec 2008 11:25:00 GMT

By Jane Merriman

LONDON, Dec 12 (Reuters) - Oil fell below \$45 a barrel on Friday, after the collapse of a \$14 billion rescue for U.S. automakers caused heavy losses across global financial markets and Goldman Sachs predicted oil could fall to \$30 a barrel.

U.S. crude oil for January delivery was down \$3.17 at \$44.81 a barrel by 1253 GMT.

Prices rallied more than \$4 on Thursday to a session high of \$49.12 a barrel before dropping back in late trading.

Oil sank to \$40.50 last Friday, its lowest in 4 years.

London Brent crude was down \$3.10 at \$44.29.

The plight of the big U.S. auto firms, including General Motors Corp and Chrysler, illustrates the severity of the global economic downturn that has hit demand for oil.

"The collapse in world oil demand in the fourth quarter of 2008 as the global credit crunch intensified, now threatens to push oil prices below \$40 a barrel in the near term," Goldman Sachs said in a research note.

"The impact of the global economic recession has swung the oil market from pricing demand destruction in 2008 to pricing supply destruction in 2009."

The U.S. bank, which earlier this year had predicted \$200 per barrel oil, virtually halved its 2009 price forecast for U.S. crude to \$45 and said the price could fall to \$30 in the short term.

Goldman analyst Arjun Murti, who predicted a super-spike in oil to \$100 in 2005, said prices would hit a trough in the first quarter.

The bank said a cut of an extra 2 million barrels per day was needed from OPEC, which meets next on Dec. 17 in Algeria.

French bank BNP Paribas cut its 2009 price forecast to \$53 a barrel from \$75 previously.

Crude has shed two-thirds of its value over the last five months, down about \$100 from a record of \$147.27 in July.

It rebounded more than 10 percent on Thursday in anticipation of a big supply cut from the Organization of the Petroleum Exporting Countries.

OPEC's President Chakib Khelil has called for more "severe" supply cuts at next week's meeting.

Russia's President Dmitry Medvedev has also weighed in, saying the country was ready to work with OPEC on possible oil output cuts.

Japan's Nippon Oil said it expected OPEC to agree to cut 1.5-2.0 million bpd next week.

"Chances for a 2.5 mln bpd cut are possible, but that would put increased criticism on OPEC amidst the economic slowdown, so I think the likely cuts are up to 2 mln bpd," Kazuyoshi Takayama, Nippon Oil's general manager, told reporters on Friday.

(Additional reporting by Jennifer Tan in Singapore and Osamu Tsukimori in Tokyo, Editing by Peter Blackburn)

26

#### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



l

#### Gas Commercial Operations Hedging Program Market Indicators Summary January 22, 2009

ł

ŧ

ţ

	Price Pressure	Term	Comments	Page Ref
Weather		<b>.</b>	**************************************	
Long Term Forecast	↓ ↓	Long	NOAA predicting a 33% or greater chance of above normal winter for Feb- Apr throughout majority of CONUS.	10
Mid Term Forecast (30-60 days)	<b>†</b>	Long	Feb. and Mar. predicted to be 3% and 1% colder than 10 year normal. WSI predicting for February, below-normal temps in Upper Midwest and Northeast and for March predicting cold weather will likely dominate much of the country. Note differences in NOAA forecast above.	11-12
Short Term Forecast (6-10 days)	<b>↓</b> ←→	Short	Below temps over Mid-Continent to Northern portions of North America. Normal to Above temperatures over Southern portions of North America.	13
Tropical Storm Activity	<b>↑</b>	Long	As reported January 21st, nearly 15% (1.1 Bcf/day) of the Gulf of Mexico's normal gas production of 7.4 Bcf/day remains shut in due to Gustav and lke. Private forecaster WSI is predicting an above-average 2009 Atlantic humicane season.	14-15
Storage Inventory				_
EIA Weekiy Storage Report		Long	Storage withdraws for the week ending January 9th were 94 BCF. Storage levels are at 2.736 TCF which is 1.0% higher than last year and 3.1% higher than the 5 year average. "This was a third consecutive report featuring withdrawls below expectations, reinforcing the idea that the supply/demand balance in the market has weakened." "Still-rising supply and weak industrial demand are the most likely culprits," according to an analyst at Citi Futures Perspective.	16-17
Industry Publications		······		
ConocoPhillips	Ļ	Both	"We have to continue to view the market with a neutral to bearish bias until signals (economy, dollar direction & energy fundamental in particular inventories and demand) drive us to change our view." "We just came off what will likely be the coldest week this winter has to offer, as a whole, but we saw no follow-through buying, even from the speculators."	18
BNP Paribas	↓ ↓	Long	" The Financial Sector is so depleted and getting worse that any signs of near term hope are gone." "We are experiencing record cold temperatures and one of the worst winters in memory and traders don't seem to care."	19
Gas Daily	↓↓	Long	Analyst Marshall Adkins, "Given the deteriorating economy, we now believe that 2009 US prices will average closer to \$5/Mcf." "Earlier the year we thought an unusually cold winter could possibly save 2009 gas prices", Adkins said. "Now, we are going to see significant natural gas production shut-ins and regional price collapes regardless of weather."	20-21
Gas Daily	ţ	Long	Barclays analyst said "Natural gas could fall below \$4/MMBtu within the next 2 to 3 months and stay there for the rest of the year." Gas production needs to fall 10% to balance the market, but there is no indication that will happen.	22
Government Agencies				
Energy Information Administration Winter 2009/10: \$6.53 Summer 2009: \$5.29	ţ	Long	Weak gas demand tied to a flagging economy and steady gas production growth have contributed to a price decline that is expected to persist well into 2009	23
Fechnical Analysis				
Winter 2009-10 Strip Chart	<b></b>	Short	Closed at \$6.41	24
Summer 2009 Strip Chart	<b></b>	Short	Closed at \$4.99	25
Economy				
Demand	Ļ	Long	EIA: Total natural gas consumption is estimated to have increased by 0.7% in 2008, primarily driven by a 5 8% increase in HDD's. Natural gas consumption is projected to decline 1.0% in 2009 and then increase by 0.7% in 2010.	26
Supply	ţ	Long	EIA: Total U.S. marketed natural gas production is estimated increase by 5.9% in 2008 led by the development of unconventional reserves. Total marketed production is expected to increase by 0.7% in 2009, and then decline by 0.9% in 2010.	26
Oil Market	ļ	Long	In the past 6 months, the monthly average price of West Texas Intermediate (WTI) crude oil has fallen from \$133 per barrel in July to \$41 in December. WTI prices are projected to average \$43 per barrel in 2009 and \$55 in 2010.	26-27

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm

Attendees: Jeff Kern, Joachim Fischesser, Steve Niederbaumer

Discussed current market conditions including current weather forecasts, storage levels and various analysts projections as well as EIA's forecasts for Supply and Demand of the Natural Gas markets and Oil prices. Based on the discussion, a determination was made to propose additional hedging opportunities to management. On Friday January 23rd, Jeff and Steve discussed the proposal with Jim Henning. After further discussion determined that Duke would contact 3 suppliers to determine the interest in a Costless Collar

Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009 As of 01/21/09

1

Oct-09 Sep-09 Aug-09 90-luC Jun-09 May-09 Apr-09 Mar-09 Feb-09 Jan-09 Dec-08 Nov-08

#### Load Forecast City Gate Lo

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Tenaska "Withdrawals" (Mcf) Total Withdrawals (Mcf)

# Amount Hedged (dth/day



Embedded Hedged Cost

4

Winter Summer Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

# Amt Hedged with Storage @ City Gate

Amt Hedged With Storas Hedged (City Gate) Storage Withdrawal Market Total (incl. Injections) % Hedged & Storage

Seasonal %



Oct-10 Sep-10 Aug-10 Jul-10 Jun-10 May-10 Apr-10 Mar-10 Feb-10 Jan-10 Dec-09 Nov-09 Amt Hedged with Storage @ City Gate Estimated System Supply (Gross) Seasonal % of System Supply City Gate Load Forecast (Mcf) TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)

Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 01/21/09

TCO FSS Injections (Mcf) Total Requirements (Mcf)

Load Forecast

Total Withdrawals (Mcf)

Amount Hedged (dth/day)

Fixed Price Fixed Price Fixed Price Fixed Price Embedded Hedged Cost

Summer

5

Winter

Total Hedged (dth/day) Total Hedged (dth) % of System Supply

ļ

į,

% Hedged & Storage Seasonal %

Total (incl. Injections)

Market

Hedged (City Gate) Storage Withdrawal

Duke Energy Kentucky Hedging Program - Current Position November 2010 - October 2011 As of 01/21/09

ì

{

Load Forecast

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

Amount Hedged (dth/day) Fixed Price

Total Hedged (dth/day) Total Hedged (dth) **TBD** 

Embedded Hedged Cost Summer Winter

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

6

Amt Hedged with Storage @ City Gate Total (incl. Injections) Storage Withdrawal Hedged (City Gate) Market

% Hedged & Storage

Seasonal %

Apr-11 Mar-11 Feb-11

Jan-11

Dec-10

Nov-10



F

#### 1/21/2009

Case No. 2008-00175 Attachment A-2009 Page 242 of 307

-	Dı	uke Energy Hedging Pi Current Po	rogram			
	System	Hedged	to Date	Next Targe	et (3/31/09)	
Delivery Month	Supply Dth/mo	To Dth/day	otal Dth/mo	Required dth/day	Allowed dth/day	
monut	Duanto	Davddy	Bunno	annady	attribuy	
Nov-08 Dec-08 Jan-09 Feb-09 Mar-09 Winter 08/09 Storage Gas						
Excluding Storag						
Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Summer 2009						
Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Winter 09/10						
Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10 Summer 2010			4			
Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Winter 10/11						
Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Summer 2011						

.

. . . . . . . . . . . . .

-1 - 1 - 1 may

8

Case No. 2008-00175 Attachment A-2009 Page 243 of 307

#### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histor	ic Prices:				
	NYMEX C	osing Price				
	5-yr. avg <i>.</i>	Last Year	CERA	EIA	NYMEX	0.H
	(04/05-08/09)	(2008-2009)	20-Nov-08	13-Jan-09	21-Jan-09	\$
Feb	\$7.08	\$8.00	\$7.100	\$6.030	\$4.715	.8.360
Mar	\$7.01	\$8.93	\$7.130	\$5.700	\$4.775	8,562
Apr	\$7.41	\$9.58	\$7.090	\$5.530	\$4.830	7,559
May	\$7.72	\$11.28	\$7.210	\$5.300	\$4.800	7,489
June	\$7.65	\$11.92	\$7.460	\$5.200	\$5.015	7,486
July	\$7.81	\$13.11	\$7.850	\$5.160	\$5.135	7,588
Aug	\$7.21	\$9.22	\$7.790	\$5.150	\$5.114	7,500
Sept	\$7.31	\$8.39	\$7.310	\$5.090	\$5.305	7.511
Oct	\$7.55	\$7.47	\$6.760	\$5.590	\$5.420	7,741
Nov	\$8.47	\$6.47	\$6.890	\$6.170	\$5.824	8.049
Dec	\$8.31	\$6.89	\$7.000	\$6.510	\$6.384	8,049
Jan	\$7.36	\$7.17	\$7.010	\$6.540	\$6.770	8.049
2 Month Avg	\$7.57	\$9.03	\$7.217	\$5.664	\$5.341	
	er Average		\$7.353	\$5.289	\$5.088	7,548
Winter /	Average		\$7.026	\$6.190	\$5.694	8.3.91



1

ţ





http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead01/off01_temp.gif

1-1



#### EarthSat's 30-60 Day Outlook

Wednesday, January 21, 2009

Attachment A-2009 Page 245 of 307



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2009 [30-60 Day-Outlook, Version 2.1]

Case No. 2008-00175 -- Attachment A-2009 Page 246 of 307

### Gas Daily

Tuesday, December 23, 2008

(

WSI predicts cold winter in West, relatively mild conditions in East

#### Private weather forecaster WSI said Monday that the next three months will bring colderthan-normal weather to the western US, while warmer-than-normal weather will largely prevail in the Northeast, Southeast and South-Central regions of the country.

"The cold pattern observed in the eastern US during much of November and December will begin to retrogress westward and northward by late December and into early January, so that the coldest temperatures will become centered in the western and north-central US by January," said WSI seasonal forecaster Todd Crawford.

"Most of the East should be quite mild in January, before the pattern shifts again in February and March to allow for below-normal temperatures to return to the Northeast. The Southeast should generally remain quite mild during the January-March period, while much of the West will be unusually cold," Crawford said.

"Current oceanic and atmospheric indicators are quite similar to those observed during the winters of the early 1960s, when cold western US winters were commonplace," he added.

In January alone, WSI expects above-average temperatures in the Northeast and Midwest and below-normal readings in the Rockies, Pacific Northwest and California.

In February, below-normal temperatures enter the Upper Midwest and Northeast, while Texas and other parts of the South will be warmer, WSI said.

By March, the forecaster said cold weather would likely dominate much of the country, except for the Southeast, with much colder-than-normal weather in the Northwest and California. — Stephanie Seay



### **MDA** EarthSat's 6-10 Day Forecast-Detailed

Wednesday, January 21, 2009

#### EarthSat Weather

Forecaster: AC/IS

Attachment A-2009



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2009 [Morning Basic-Page 3, Version 2.0]

#### ConocoPhillips

Wednesday, January 21, 2009

Based on data from 39 offshore operator reports submitted to the Minerals Management Services, it is estimated that 11.0% of the oil production in the Gulf of Mexico and <u>about 15.0% of the natural gas production in the Gulf is still</u> <u>shut-in from Hurricanes Gustav and Ike in September.</u> In oil production, the shut-in estimates are down from 14.1% on December 17, while in natural gas shut-ins are down from 19.7% previously reported.

Oil production capacity from the Gulf of Mexico is 1.3 million barrels per day, which means that 143,532 bpd is currently shut-in, down from 183,861 bpd on December 17. <u>Natural gas production capacity from the Gulf is 7.4 billion</u> <u>cubic feet per day, meaning that 1.109 Bcf/d is currently offline, down from</u> <u>1.461 Bcf/d</u> <u>last on December 17.</u>

Personnel are still evacuated from 34 production platforms, equivalent to 4.9% of the 694 manned platforms in the Gulf, down from the 45 platforms (6.5%) reported evacuated in the last report. MMS said previously that 23 manned platforms were destroyed by Ike.

-----

### Gas Daily

Monday, December 29, 2008

#### WSI predicts 13 named storms, 7 hurricanes for 2009 season

Private weather forecaster WSI on Tuesday <u>predicted an above-average 2009 Atlantic</u> <u>hurricane season with 13 named storms, seven of which will become hurricanes. Of those,</u> <u>WSI said it believes three will develop into intense storms of Category 3 strength or above.</u>

The Andover, Massachusetts-based company said its forecast exceeds the 1950 to 2008 averages of 9.8 named storms, six hurricanes and 2.5 intense hurricanes.

#### WSI said it is basing its forecast on the expected continuation of above-normal Atlantic Ocean temperature "anomalies" into next summer and fall and the likelihood of a favorable or neutral wind shear environment associated with the lack of an El Nino event.

El Nino events, a phenomenon marked by a warming of sea surface temperatures in the equatorial Pacific Ocean, can serve to suppress the development of Atlantic hurricanes.

"Since 1995, most tropical seasons have been more active than the long-term averages due to warmer Atlantic Ocean temperatures," WSI forecaster Todd Crawford said in a statement. "We do not see any reason why this active regime will not continue in 2009. It should be noted that the Atlantic temperatures are cooler than last year, however, and we currently do not expect 2009 to be quite as active as 2008."

The WSI outlook comes roughly two weeks after Colorado State University forecasters issued an initial 2009 outlook calling for a "somewhat above-average" season in the Atlantic Basin, with 14 named storms, seven hurricanes and three intense hurricanes of a Category 3 strength or above.

15

The Atlantic hurricane season runs from June 1 through November 30. - Jeff Barber

#### Energy Information Administration Official Energy Statistics from the U.S. Government

Home > Natural Gas > Weekly Natural Gas Storage Report

#### Weekly Natural Gas Storage Report

Released: January 15, 2009 at 10:30 A.M. (eastern time) for the Week Ending January 9, 2009. Next Release: January 23, 2009

#### Working Gas in Underground Storage, Lower 48

Working Ga	Gas in Underground Storage, Lower 48 other formats: Summary TXT CSV						
	Stocks	in billion cubic fe	eet (Bcf) Historical Comparisons				
Region 01/09/09	01/02/09	Change	Year Ago (	01/09/08)	5-Year (2004-2008) Average		
		Change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change	
East	1,468	1,540	-72	1,490	-1.5	1,508	-2.7
West	369	388	-19	358	3.1	343	7.6
Producing	899	902	-3	860	4.5	804	11.8
Total	2,736	2,830	-94	2,708	1.0	2,655	3.1

**Notes and Definitions** 

#### Summary

Working gas in storage was 2,736 Bcf as of Friday, January 9, 2009, according to EIA estimates. This represents a net decline of 94 Bcf from the previous week. Stocks were 28 Bcf higher than last year at this time and 81 Bcf above the 5year average of 2,655 Bcf. In the East Region, stocks were 40 Bcf below the 5-year average following net withdrawals of 72 Bcf. Stocks in the Producing Region were 95 Bcf above the 5-year average of 804 Bcf after a net withdrawal of 3 Bcf. Stocks in the West Region were 26 Bcf above the 5-year average after a net drawdown of 19 Bcf. At 2,736 Bcf, total working gas is within the 5-year historical range.

#### Working Gas in Underground Storage Compared with 5-Year Range



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2004 through 2008. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate

current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Careers • About EIA

Fedstats • USA.gov • Dept. of Energy

16

http://www.eia.doe.gov/oil gas/natural gas/ngs/ngs.html

Gloss

Case No. 2008-00175 Attachment A-2009 Page 250 of 307

Case No. 2008-00175 Attachment A-2009 Page 251 of 307

### Gas Daily

Friday, January 16, 2009

Analysts again overestimate volume of gas pulled from storage facilities

The Energy Information Administration on Thursday reported another smaller-thanexpected storage withdrawal, a 94-Bcf pull for the week ending January 9 that left nationwide stocks at 2.736 Bcf. Most analysts had predicted a draw of between 100 and 106 Bcf.

In the same week of 2007, EIA reported 2.708 Tcf in storage. As a result, the surplus over the year-ago level narrowed to 28 Bcf from 31 Bcf a week ago, while the surplus over the five-year average shrank to 81 Bcf from 87 Bcf.

<u>"This was a third consecutive report featuring withdrawals below expectations,</u> reinforcing the idea that the supply/demand balance in the market has weakened," said Tim Evans, an analyst at Citi Futures Perspective. <u>"Still-rising supply and weak</u> industrial demand are the most likely culprits."

According to EIA's data, inventories now are 40 Bcf below the five-year average of 1.508 Tcf in the East, 26 Bcf above the five-year average of 343 Bcf in the West, and 95 Bcf above the five-year average of 804 Bcf in the producing region.

Meanwhile, EIA said it will delay next week's gas storage report a day, until 10:30 am EST on Friday, January 23, because federal government offices in Washington, DC will be closed on Tuesday, January 20 for the inauguration of President-elect Barack Obama.

Case No. 2008-00175 Attachment A-2009 Page 252 of 307

#### ConocoPhillips

1

Wednesday, January 21, 2009

Bottom line... we have to continue to view the market with a neutral to bearish bias until signals (economy, dollar direction & energy fundamentals in particular inventories and demand) drive us to change our view. It does not mean that we will not see days when prices rise, because markets are ubiquitous that way, but any short-term increases in price are likely to be driven by bouts of short covering rather than as a result of a structural change in the market. We just came off what will likely be the coldest week this winter has to offer...as a whole...but we saw no follow-through buying...even from the speculators. Look for more demand and bullishness in the only place bullishness abides this winter...the cash markets.

Case No. 2008-00175 Attachment A-2009 Page 253 of 307

**BNP** Paribas Natural Gas Market Watch

January 20, 2009

#### Commentary

The Global Economic misery couldn't even spare Obama an uptick as the Dow crumbled an estimated 336 pts. <u>The Financial Sector is so depleted and getting</u> worse that any signs of near term hope are gone. RBS announced they are forecasting a 41.3 billion loss in 2008. In addition, the pundits are out talking about CITI and BOA being insolvent. All the negativity is going to dictate the price action in the Energy Complex based on demand destruction and lack of confidence. We are experiencing record cold temps and one of the worst winters in memory and traders don't seem to care. Natural Gas hasn't traded at the current levels in over 2 years. We settled 4.642 down 0.159 cents (Low 4570 High 4775). The next major support is 4.500 then 4.000 and many traders are seeking protection as PUT option activity has been picking up. Crude actually settled higher but it was expiration. Let's see if it can maintain any strength. I think we are due for a rally because Obama has to announce a new stimulus package to solidify is presidency.

### Gas Daily

Tuesday, December 23, 2008

#### Analysts turn increasingly bearish on gas market

Despite sub-zero temperatures in the Midwest and harsh winter weather along the East Coast, two industry analysts on Monday expressed an increasingly bearish outlook for natural gas prices.

"Even though consensus Street expectations for 2009 have now fallen to around \$7.50/Mcf, they are still way too high," said Marshall Adkins of Raymond James & Associates. "Given the deteriorating economy, we now believe that 2009 US natural gas prices will average closer to \$5/Mcf."

Adkins said the Raymond James team expects Rockies and Midcontinent gas prices to fall well below \$2/Mcf at some points next year, forcing producers to shut in production. "Can you say U-G-L-Y?" he quipped in his research note.

Ron Denhardt, vice president of Strategic Energy and Economic Research, joined Adkins in saying that US economic projections are still too optimistic and that a gas supply glut and oil market weakness will keep gas prices down. As a result, he slashed his Henry Hub spot price outlook by nearly \$1 from a month ago, from \$6.40/MMBtu to \$5.45/MMBtu.

Dramatic price declines in the past three months have caused analysts to reconsider their bullish projections from earlier in the year, and far more weight is being put on US economic conditions as the jobless rate creeps up. As Adkins put it, "It would take one bizarre winter to bail gas out."

"<u>Earlier this year we thought an unusually cold winter could possibly save 2009 natural gas prices,</u>" <u>Adkins said. "Now, we are going to see significant natural gas production shut-ins and regional price</u> <u>collapses regardless of weather.</u>"

Denhardt noted that oil prices are one indicator. OPEC, the International Energy Agency and the US Energy Information Administration all suggest oil consumption will either remain flat in 2009 or see marginal increases or declines, but Denhardt disagrees. "SEER believes the economic outlook is worse than all of these forecasts assume," he said.

Denhardt's research team is betting on the US enduring the most severe recession since the Great Depression and that gas prices won't escape the hit to US energy demand, particularly in the industrial and electric-generation sectors.

#### "Because natural gas is the marginal fuel, it bears the brunt of the impact of a 1% year-over-year decline in electric power generation," Denhardt said.

If the weather turns mild later this winter, he said, conditions could pressure Henry Hub prices below \$4.50/MMBtu and trigger some power generators to switch from coal to gas.

There are few fundamentals left that would prop up gas prices in the next year, according to Denhardt. Rig counts could pull down domestic production, but his analysis has US gas output actually increasing 1.6% in 2009.

Denhardt expects liquefied natural gas imports to increase by about 700,000 Mcf/d next year, which is the same amount by which Canadian imports are expected to drop.

20

Eventually, Denhardt wrote, gas could gain about 2 Bcf/d of market share from intermediate coal generation plants if Henry Hub prices drop below \$4.40/MMBtu. That scenario, along with a decline in gas drilling, would put a floor under gas prices.

Adkins is looking beyond next year. Lower rig counts, softer 2010 domestic gas production and a US economy on the mend will "drive a recovery in 2010 gas prices to around d \$8/Mcf."

"Unfortunately for 2009, the falling rig count will be too little, too late in the face of declining industrial and utility-driven natural gas demand," Adkins said. — Joel Kirkland

( )

### Gas Daily

Wednesday, January 7, 2009

#### Barclays: Gas could fall to \$4 soon and stay there

Saying gas prices are soon headed toward \$4/MMBtu or less in a vastly oversupplied market, Barclays Capital analyst Tom Driscoll on Tuesday cut his investment rating for large-cap exploration-and-production companies from overweight to even weight.

"<u>Natural gas could fall below \$4/MMBtu within the next two to three months and stay there for the</u> rest of the year," Driscoll said in a report. However, he made no change to his October 15 forecast calling for prices to average \$6.50/MMBtu in 2009.

"Weak storage withdrawal rates could lead to a sharp fall in natural gas prices by mid-winter," Driscoll wrote. <u>"Storage withdrawal rates have been mediocre despite cold weather and the second 'best'</u> <u>hurricane season ever.</u>"

Driscoll said gas production needs to fall 10% in 2009 to balance the market, but there is no indication that will happen. The latest information from the Energy Information Administration shows year-over-year onshore production growth at 12% and rig counts still above the 1,200 mark.

"We believe the natural gas rig count needs to average below 1,000 (vs. a 2008 average of approximately 1,500)," Driscoll said. "A 40% year-over-year decline in required drilling activity could require annual budget cuts of 50% to 60% (assuming service cost relief). Budget cuts announced to date have fallen far short of what is required to rebalance the market. Investors should note that the more productive horizontal rig count is still above the trailing 52-week average."

At the same time, US gas production "will need to decline by roughly 5 Bcf/d — or nearly 10% — to restore a balance to the market," Driscoll said. "This will likely require 12 to 24 months of depressed drilling activity. Optimists can hope that demand growth or declining imports will take up some of the slack — however we view this as overly optimistic for 2009."

A second factor leading to Driscoll's downgrade of the E&P sector is its solid performance in the stock market since November. While the S&P 500 Index has gained 24%, E&P stocks have outpaced that with a 33% gain in value.

Driscoll thinks buyers will flee as less-than-optimistic financial results from E&P companies are announced in early 2009. "Near-term news flow will likely disappoint," he said. — *Bill Holland* 

Case No. 2008-00175 Attachment A-2009 Page 257 of 307



É.

EIA Forecast January 13, 2009

- --





t i

24



Summer Strip 2009

( |

25

#### January 2009

#### Short-Term Energy Outlook

January 13, 2009 Release

#### Natural Gas

Consumption. Total natural gas consumption is estimated to have increased by 0.7 percent in 2008, primarily driven by a 5.8 percent increase in heating degree days year-over-year. Natural gas consumption is projected to decline by 1.0 percent in 2009 and then increase by 0.7 percent in 2010. The demand outlook for 2009 is largely driven by expectations of continued economic weakness. The slight consumption growth projected in the residential sector is expected to be more than offset by consumption declines in the commercial, industrial, and electric power sectors this year. With the natural-gas-weighted industrial production index projected to fall by 6.6 percent in 2009, industrial sector natural gas consumption is expected to decline by 3.0 percent. Consumption growth in 2010 is expected to be limited to the electric power sector, with all other sectors expected to decline slightly.

*Production and Imports.* Total U.S. marketed natural gas production is estimated to have increased by 5.9 percent in 2008 led by the development of unconventional reserves in the Lower-48 States. Total marketed production is expected to increase by 0.7 percent in 2009, and then decline by 0.9 percent in 2010. Producers have already begun to react to lower prices and the outlook for lower consumption as evidenced by the recent pullback in drilling activity. The number of rigs drilling for natural gas in the Lower-48 onshore region has fallen from about 1,540 in August 2008 to under 1,200 at the beginning of January 2009. Despite the cutback in drilling activity, the current outlook suggests that some production curtailments may be necessary during the latter part of 2009 in order to balance the market. Nevertheless, in 2009, Lower-48 production outside of the Gulf of Mexico (GOM) region is expected to increase by 1.0 percent. Although drilling activity is expected to begin recovery in 2010, production is projected to decline relative to 2009 by 4.7 percent in the Federal GOM and by 0.4 percent in the Lower-48 non-GOM.

#### **Global Petroleum**

)

**Overview.** The downward trend in oil prices continued in December as the worsening global economy weakened oil demand and the second Organization of Petroleum Exporting Countries (OPEC) agreement for substantial production cuts within a month has failed, thus far, to support substantially higher prices. <u>The</u> <u>outlook for supply and demand fundamentals indicates a fairly loose oil market</u> <u>balance over the next 2 years. The global economic downturn points to declining oil</u> <u>consumption in 2009, while additional production capacity from both OPEC and</u> <u>non-OPEC nations should boost surplus production capacity, reducing the</u> <u>likelihood of a renewed strong upward pressure on prices.</u> Global real GDP growth (weighted according to shares of world oil consumption) is assumed to be 0.6 percent in 2009 and 3.0 percent in 2010. These projections compare with 4.6 percent real GDP growth in 2007 and 3.2 percent in 2008. The oil price path going forward will be driven mainly by the depth and duration of the global economic downturn, the pace and timing of the recovery, and actual OPEC production.

1

.

#### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



f

#### Gas Commercial Operations Hedging Program Market Indicators Summary February 19, 2009

	Price Pressure	Term	Comments	Page Ref
Weather	Tressure			
Long Term Forecast	¥	Long	NOAA predicting a 33% or greater chance of above normal winter for Feb-Apr throughout majority of CONUS.	10
Mid Term Forecast (30-60 days)	<b>→</b>	Long	March predicted to be 2.4% colder than 10 year normal and April is predicted to be 5.9% warmer than 10 year normal.	11
Short Term Forecast (6-10 days)	<b></b>	Short	Changing weather characterizes the Ohio valleyMuch Below to Below early in the period followed by Normal to Above temperatures at the end of the period.	12
Tropical Storm Activity	Ļ	Long	Minerals Management Service reported February 11th, that the gas shut in by Hurricanes Gustav and Ike should be restored by late May. (0.9 Bcf/day) of the Gulf of Mexico's normal gas production of 7.4 Bcf/day remains shut in.	13
Storage Inventory				
EIA Weekly Storage Report	•	Long	Storage withdraws for the week ending February 6th were 159 BCF. Storage levels are at 2.02 TCF which is 2.2% higher than last year and 1.2% higher than the 5 year average. "Given that the next two reports were also forecast to feature below-average withdrawals, this report basically gives permission for the market to test the downside."	14-15
Industry Publications				r
Cambridge Energy Research Associates Summer 2009: \$6.05 Winter 2009/10: \$6.05	Ť	Long	Assuming normal weather, CERA projects the Henry Hub price to be \$5.64 per MMBtu in March and average \$5.93 for 2009.	16
ConocoPhillips	ţ	Both	"This market has a penchant for moving lower, and most of the outside forces acting upon this price action point to much lower numbers. As we come to the end of the winter season, supplies will still be so dramatically high that historic lows are what we see in our future."	17
Gas Daily	1	Long	Drilling activity in the Lower-28 states could drop as much as 40% this year, causing the first annual production decline in seven years.	18
Gas Daily	ł	Long	"LNG is coming here because it need a place to go." That outlook is a direct consequence of the "global economic situation." Nearly all of the major LNG importers are suffering from hard economic problems. The US and Canada are attractive LNG import markets because they have the storage facilities lacking elsewhere in the world.	19
Gas Daily	ţ	Long	The demand destruction in the industrial sector may be greater than initially thought, according to Barclays. Barclays is predicting that industrial gas use for 2009 will average 750,000 Mcf/ay below 2008 levels.	20-21
Government Agencies	·	r		r
Energy Information Administration Winter 2009/10: \$5.612 Summer 2009: \$4.711	+ †	Long	Weak gas demand tied to a flagging economy and steady gas production growth have contributed to a price decline that is expected to persist well into 2009	22
Technical Analysis				r
Winter 2009-10 Strip Chart	<b></b>	Short	Closed at \$5.96	23
Summer 2009 Strip Chart	<b>+-</b>	Short	Closed at \$4.53	24
Economy				
Demand	↓ ↓	Long	EIA: Natural gas consumption is projected to decline 1.3% in 2009 and then increase by 0.6% in 2010.	25
Supply	ţ	Long	EIA: Total U.S. marketed natural gas production is expected to rise slightly in 2009 and fall by 1.1% in 2010. The dramatic decline in drilling activity is expected to contribute to lower production during the second half of 2009.	25
Oil Market	Ļ	Long	In the past 6 months, the monthly average price of West Texas Intermediate (WTI) crude oil has fallen from \$133 per barrel in July to \$41 in December WTI prices are projected to average \$43 per barrel in 2009 and \$55 in 2010, unchanged from last month's <i>Outlook</i> .	25

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm

Attendees Jim Henning, Joachim Fischesser, Steve Niederbaumer and Jeff Kern by telephone

Reviewed the hedging that was completed as the result of the last hedging meeting. Discussed the current market fundamentals including weather, storage levels, supply and demand and analyst thoughts on the current gas market conditions. In addition, discussed DEO and DEK's hedging programs and the amount of gas currently hedged within those programs. Consensus was reached that additional declines in prices are likely and at this time no additional hedging activity is necessary



Load Forecast

Tity Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

Tenaska "Withdrawals" (Mcf) TCO FSS Withdrawals (Mcf) Total Withdrawals (Mcf)

## Amount Hedged (dth/day)



4

Embedded Hedged Cost

Summer Winter

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

Amt Hedged with Storage @ City Gate Hedged (City Gate) Storage Withdrawal Total (incl. Injections) % Hedged & Storage Seasonal % Market

ć

Duke Energy Kentucky Hedging Program - Current Position November 2009 - October 2010 As of 02/18/09

> Load Forecast City Gate Load

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf) TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

(dth/day)	:					th/day)	th)
Amount Hedged (dth/day)	Fixed Price	Fixed Price	Fixed Price	Collar	Fixed Price	Total Hedged (dth/day)	Total Hedged (dth)

Embedded Hedged Cost Winter Summer

5

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply Amt Hedged with Storage @ City Gate Hedged (City Gate)

Hedged (City Gate) Storage Withdrawal Market Total (incl. Injections) % Hedged & Storage Seasonal %



Case No. 2008-00175 Attachment A-2009 Page 265 of 307

Duke Energy Kentucky Hedging Program - Current Position November 2010 - October 2011 As of 02/18/09

1

, m. 1



City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

Amount Hedged (dth/day) Fixed Price Total Hedged (dth/day) Total Hedged (dth) TBD

Embedded Hedged Cost Summer Winter

Estimated System Supply (Gross) % of System Supply Seasonal % of System Supply

6

Amt Hedged with Storage @ City Gate Hedged (City Gate) Storage Withdrawal Market

Total (incl. Injections) % Hedged & Storage Seasonal %



Case No. 2008-00175 Attachment A-2009 Page 266 of 307

#### 2/18/2009

-

Case No. 2008-00175 Attachment A-2009 Page 267 of 307

	Di	Hedging Pr Current Po	ogram		
	System	Hedaed	to Date	Next Targe	et (3/31/09)
Delivery	Supply	Tc	tal	Required	Allowed
Month	Dth/mo	Dth/day	Dth/mo	dth/day	dth/day
Nov-08					
Dec-08		+			
Jan-09				teresta de la competition de la competition de la competition de l	- Ing 1999 (1)
Feb-09		# <b>7</b> * *	47°,		
Mar-09 Winter 08/09	An Salaria Salaria	and the second			••
Storage Gas					
otorage oas		-			ų.
Excluding Stora		A 40		in de la companya de La companya de la comp	
Including Storag	ge Gas		1 3 L 4		
Apr-09					
May-09					
Jun-09		م المربع الم المربع المربع			
Jul-09 Aug⊷09					
Sep-09		ŧ.		1	
Oct-09					
Summer 2009					
Nov-09		્યુરે છે. જેવા છે.			and Maria
Dec-09					
Jan-10					
Feb-10					
Mar-10 Winter 09/10			н. 		
Willer 05/10					
	1. 18				
Apr-10			ι. F		
May-10 Jun-10					
Jul-10		and a second sec			
Aug-10			4 		
Sep-10					
Oct-10 Summer 2010		an∢ A			
Summer 2010					
Nov-10					
Dec-10 Jan-11					
Feb-11					
Mar-11					
Winter 10/11					翻 - Self 全部 - Self and Help Self-self self - Self - Self - Self - Self
	T	~.			
Apr-11	and Aller was	i shin and	រ ភ្នំ នៅ		
May-11			1947. gt 1 1947. gt 1	the states.	The same at high
Jun-11		مېرې کې د د استان کوي دېږو دروسې مېرې د کو د وروس کې د کو د			and the second
Jul-11 Aug-11			Bart () Start Silver Angele () Start () Angele () Start ()		Nut
Sep-11		ar.			44 - H- 100 H
Oct-11		÷.		and the second second	
Summer 2011			k ma	an ana ana	and the second
	and the second sec				

Duke Energy Kentucky

Case No. 2008-00175 Attachment A-2009 Page 268 of 307

#### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histor	ic Prices:				
	NYMEX C	osing Price				
	5-yr. avg.	Last Year	CERA	EIA	NYMEX	OH
	(04/05-08/09)	(2008-2009)	23-Jan-09	10-Feb-09	18-Feb-09	5
Mar	\$7.01	\$8.93	\$5.640	\$4.830	\$4.170	8.5.6
Apr	\$7.41	\$9.58	\$6.040	\$4.800	\$4.180	7,155
Мау	\$7.72	\$11.28	\$5.980	\$4.780	\$4.260	7,110
June	\$7.65	\$11.92	\$6.090	\$4.760	\$4.440	7,107
July	\$7.81	\$13.11	\$6.140	\$4.660	\$4.577	7.175
Aug	\$7.21	\$9.22	\$6.040	\$4.560	\$4.667	7,116
Sept	\$7.31	\$8.39	\$6.020	\$4.560	\$4.707	7,123
. Oct	\$7.55	\$7.47	\$6.050	\$4.860	\$4.760	7,273
Nov	\$8.47	\$6.47	\$5.980	\$5.060	\$5.362	7,490
Dec	\$8.31	\$6.89	\$5.690	\$5.430	\$5.937	7,490
Jan	\$7.36	\$6.14	\$6.180	\$5.680	\$6.135	7,490
Feb	\$6.82	\$4.48	\$5.890	\$6.000	\$6.212	7.490
12 Month Avg	\$7.55	\$8.66	\$5.978	\$4.998	\$4.951	
	er Average		\$6.051	\$4.711	\$4.513	7,148
Winter /	Average		\$5.876	\$5.400	\$5.563	7,490






## EarthSat's 30-60 Day Outlook

Wednesday, February 18, 2009

Forecaster: MR/SS

Attachment A-2009 Page 270 of 307



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2009 [30-60 Day-Outlook, Version 2.1]





EarthSat Weather

Much Above ......+8F to +14F Above ......+3F to +7F

## EarthSat's 6-10 Day Forecast-Detailed

Wednesday, February 18, 2009

Forecaster: AC/JS

2 Porevasi Temperature Deviations



Strong Below	15 or Lower 📟
Much Below	8F to -14F 🌌
Below	3F to -7F 🛄

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2009 [Morning Basic-Page 3, Version 2.0]

Thursday, February 12, 2009

1.

#### MMS says Gulf gas production should be fully restored by May

Gulf of Mexico gas production still shut in by hurricanes Gustav and Ike in September should be "fully restored" by late May, while the majority of lost oil production should be restored by then, the Minerals Management Service said Wednesday.

"These expectations are based on repair timeframes for both production facilities and pipelines which transport the production to shore," MMS said in a statement. "Repair time can be affected by weather conditions and availability of materials."

Gas shut-ins are at 12.8% of normal output of 7.4 Bcf/d, MMS said, while oil shut-ins are at 9.2% of normal production of 1.3 million barrels/d.

Gulf producers have said much of the shut-in gas and oil was the result of third-party pipelines and processing plants being damaged. — *Richard Rubin* 

Energy Information Administration Official Energy Statistics from the U.S. Government

Natural Gas > Weekly Natural Gas Storage Report

#### Weekly Natural Gas Storage Report

P -!eased: February 19, 2009 at 10:30 A.M. (eastern time) for the Week Ending February 13, 2009. Release: February 26, 2009

#### working Gas in Underground Storage, Lower 48

	Stocks i	n billion cubic fe	et (Bcf)	Historical Comparisons					
Region	02/13/09	02/06/09	Change	Year Ago (	02/13/08)	5-Year (2004-2	5-Year (2004-2008) Average		
	02/15/03	02/00/03	change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change		
East	947	972	-25	986	-4.0	1,004	-5.7		
West	312	327	-15	216	44.4	243	28.4		
Producing	737	721	16	617	19.4	595	23.9		
Total	1,996	2,020	-24	1,819	9.7	1,841	8.4		

Notes and Definitions

#### Summary

Working gas in storage was 1,996 Bcf as of Friday, February 13, 2009, according to EIA estimates. This represents a net decline of 24 Bcf from the previous week. Stocks were 177 Bcf higher than last year at this time and 155 Bcf above the 5-year average of 1,841 Bcf. In the East Region, stocks were 57 Bcf below the 5-year average following net withdrawals of 25 Bcf. Stocks in the Producing Region were 142 Bcf above the 5-year average of 595 Bcf after a net injection of 16 Bcf. Stocks in the West Region were 69 Bcf above the 5-year average after a net drawdown of 15 Bcf. At 1,996 Bcf, total working gas is within the 5-year historical range.

Working Gas in Underground Storage Compared with 5-Year Range



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2004 through 2008. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate

current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Careers • About EIA Fedstats • USA.gov • Dept. of Energy

Released prior to meeting

Glossary

Case No. 2008-00175

Attachment A-2009

Page 273 of 307

other formats: Summary TXT_CSV

<u>Release Schedule</u> Sign Up for Email Updates

History (XLS)

5-Year Averages, Maximum, Minimum, and Year-Ago Stocks (XLS)

References

Contraction of the

Methodology

**Differences Between Monthly** 

and Weekly Data Revision Policy

Related Links

Storage Basics

Natural Gas Weekly Update

Natural Gas Navigator

**Energy Information Administration** Official Energy Statistics from the U.S. Government

Home > Natural Gas > Weekly Natural Gas Storage Report

#### Weekly Natural Gas Storage Report

sed: February 12, 2009 at 10:30 A.M. (eastern time) for the Week Ending February 6, 2009. (elease: February 19, 2009

-----

#### Working Gas in Underground Storage, Lower 48

Working Ga	s in Undergrou	nd Storage, Lo	wer 48	other formats: Summary TXT CSV						
	Stocks i	n billion cubic fe	eet (Bcf)		Historical Comparisons					
Region 02/06	02/06/09	01/30/09	Change	Year Ago (	02/06/08)	5-Year (2004-2008) Average				
	02/00/05	01/30/03	Change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change			
East	972	1,087	-115	1,091	-10.9	1,102	-11.8			
West	327	334	-7	235	39.1	259	26.3			
Producing	721	758	-37	651	10.8	635	13.5			
Total	2,020	2,179	-159	1,976	2.2	1,996	1.2			

Notes and Definitions

#### Summary

Working gas in storage was 2,020 Bcf as of Friday, February 6, 2009, according to EIA estimates. This represents a net decline of 159 Bcf from the previous week. Stocks were 44 Bcf higher than last year at this time and 24 Bcf above the 5year average of 1,996 Bcf. In the East Region, stocks were 130 Bcf below the 5-year average following net withdrawals of 115 Bcf. Stocks in the Producing Region were 86 Bcf above the 5-year average of 635 Bcf after a net withdrawal of 37 Bcf. Stocks in the West Region were 68 Bcf above the 5-year average after a net drawdown of 7 Bcf. At 2,020 Bcf, total working gas is within the 5-year historical range.

Working Gas in Underground Storage Compared with 5-Year Range



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2004 through 2008.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Careers • About EIA

Fedstats • USA.gov • Dept. of Energy

Glossary

Case No. 2008-00175

Attachment A-2009

Page 274 of 307

Release Schedule

Sign Up for Email Updates

1 450 I VI I

Data

#### History (XLS)

5-Year Averages, Maximum, Minimum, and Year-Ago Stocks (XLS)

References

Methodology

**Differences Between Monthly** and Weekly Data

**Revision Policy** 

**Related Links** 

**Storage Basics** 

**Natural Gas Weekly Update** 

Natural Gas Navigator

Case No. 2008-00175 Attachment A-2009 Page 275 of 307

## Gas Daily

Friday, February 13, 2009

#### Storage withdrawal of 159 Bcf boosts five-year surplus: EIA

With seven weeks left in the traditional withdrawal season, gas storage inventories dropped by 159 Bcf during the week that ended February 6, lowering stocks to 2.02 Tcf, the Energy Information Administration said Thursday.

The pull was below consensus expectations that ranged from 165 Bcf to 170 Bcf.

In the same week of 2007, EIA reported 1.976 Tcf in storage. As a result, the surplus from a year ago shrank to 44 Bcf from 60 Bcf reported last week. The surplus over the five-year average rose to 24 Bcf from 17 Bcf.

<u>"Given that the next two reports were also forecast to feature below-average withdrawals,</u> <u>this report basically gives permission for the market to test the downside,"</u> said analyst Tim Evans at Citigroup. Indeed, immediately following the report, the March NYMEX gas futures contract lost ground.

Alaron Trading analyst Phil Flynn called the withdrawal a "bearish surprise" and said the downturn in industrial demand may be greater than anticipated. "With so many factories shutting down, the demand just isn't there," he said.

EIA reported a withdrawal of 115 Bcf in the East, lowering inventories to 972 Bcf, compared with 1.091 Tcf a year ago; a 7-Bcf pull in the West, to 327 Bcf, compared with 235 Bcf a year ago; and a 37-Bcf drawdown in the producing region, to 721 Bcf, compared with 651 Bcf a year ago.

Inventories now are 130 Bcf below the five-year average of 1.102 Tcf in the East, 68 Bcf above the five-year average of 259 Bcf in the West, and 86 Bcf above the five-year average of 635 Bcf in the producing region. — *Stephanie Seay, Jessica Marron* 

Case No. 2008-00175 Attachment A-2009 Page 276 of 307

sensitive gas demand—primarily from the industrial sector—is declining faster than weathersensitive demand is increasing.

Natural gas production continues to decline, but more slowly than demand (after adjustments for storage withdrawals), with the result that the market is loosening and prices are falling. The Henry Hub price fell to a six-year low of \$5.79 per million British thermal units (MMBtu) in December (see Table 1). This was the first time since 1998 that the price had declined from November to December. Prices continued to decline through early January even as temperatures plunged across most of the continent. By January 16 the Henry Hub price had fallen to \$5.26 per MMBtu, and the front-month futures contract stood at \$4.84 per MMBtu.

CERA expects the gas price to decline further in the early months of 2009 before firming up at around \$6 per MMBtu for the remainder of the year, as the ongoing drilling slowdown begins to result in lower production and the market tightens. CERA expects the price at Henry Hub to average \$5.68 per MMBtu in January and \$5.76 in February. At AECO-NIT the price is expected to be C\$6.01 per gigajoule (GJ) (equivalent to \$5.17 per MMBtu) in January and C\$5.96 per GJ (\$5.13 per MMBtu) in February.

#### **Volatility in the Spot and Futures Markets**

After a slight increase in November, volatility declined in December on both the day-ahead and front-month futures markets (see Figures 1 and 2). The decline was more pronounced in the futures market, where volatility had risen close to the five-year maximum for the month in November but fell back below the five-year average in December. Day-ahead market volatility has been low all year and virtually flat for the past three months. The decrease in volatility is consistent with what would be expected from a well-supplied market.

					Table 1 nry Hub I u US dollars (	Prices		Sum Win-	mer ter, 20	2009 2009/10	-\$6.05 -\$6.05
	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	
January	6.17	8.76	6.33	7.93	5.68	6.18)	6.87	6.83	7.21	6.92	
February	6.09	7.62	8.06	8.46	5.76	5.89 }	6.80	6.77	7.29	6.89	
March	6.91	6.88	7.10	9.34	5.64	6.52 )	6.92	6.63	7.19	7.23	
April	′7.19	7.09	7.57	10.11	6.04	6.77	7.18	6.86	6.97	7.30	
May	6.47	6.23	7.64	11.24	5.98	6.85	7.31	6.84	6.89	7.35	
June	7.17	6.26	7.40	12.61	6.09	6.95	7.23	6.82	6.87	7.23	
July	7.57	6.05	6.21	11.32	6.14	7.09	7.44	6.69	6.98	7.09	
August	9.29	7.24	6.30	8.30	6.04	6.98	7.26	6.70	7.09	7.03	
September	12.11	4.95	5.98	7.70	6.02	6.95	6.99	6.54	6.87	6.93	
October	13.36	5.67	6.68	6.75	6.05	7.08	6.81	6.55	6.31	6.97	
November	10.29	7.32	7.01	6.62	5.98)	7.03	6.93	6.71	6.32	7.14	
December	12.98	6.83	7.08	5.79	5.69	6.90	6.95	7.10	6.38	7.31	
Year average	e 8.80	6.74	6.95	8.85	5.93	6.77	7.06	6.75	6.86	7.12	

Source: Cambridge Energy Research Associates. Historical data derived from Platts Gas Daily.

Note: The 2005-December 2008 figures are derived from historical data as available; January 2009-14 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

C 2009, Cambridge Energy Research Associates, Inc. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent.

16

Case No. 2008-00175 Attachment A-2009 Page 277 of 307

## ConocoPhillips

#### Wednesday, February 18, 2009

1

Today's Market - To say this market has a chance of a bull rally in its short-term future is to make this missive fantastically sanguine, but that would necessarily cause us to create here an anthropomorphic missive, when in fact we're left with a randomly stressed measurement by an agglomerated collective causing exogenous impulse pressures resulting in directionally biased historical tracks that seem to indicate future similar pathology. In other words, this market has a penchant for moving lower, and most of the outside forces acting upon this price action point toward much lower numbers. The weather remains moderate for another day before we see January like temperatures in the high-population areas of the United States. I don't expect prices to be indelibly impacted by this weather phenomenon, but it will likely provide some cash location volatility, especially in the Upper Midwest, Ohio Valley, and Northeast. The NYMEX, however, is facing a grizzly storage number on Friday, which will attenuate any seriously bullish move in that market. No, despite periodic corrective movement away from the relentless trek to new lows, this market is just that....bearish. We saw that, too, in yesterday's stock market when prices fell demonstrably in the face of the signing of the new stimulus bill in Colorado by the new president. That wasn't the only bearish factor, however, of course, assuming that was bearish at all. The negative movement started early in the day when Asian data showed Japan and Europe falling deeper into recession. The global decline started Monday when the U.S. was on holiday. It took till yesterday for the U.S. to catch up, which precipitated a Newtonian, almost elastic snap downward all while the U.S. dollar reached two-month highs. Yes, the first statement of this paragraph is hauntingly realistic, but the analysis is obvious. As we come to the end of the winter season, at the end of March, supplies will still be so dramatically high that historic lows are what we see in our future.

Friday, February 13, 2009

### Analyst: Drilling could slow up to 40% this year

Gas drilling activity in the Lower-48 states could drop as much as 40% this year, causing the first annual production decline in seven years, an industry analyst said Thursday in Houston.

George Lippman, president of Lippman Consulting, told the local chapter of the International Association for Energy Economics that after a series of boom-and-bust cycles, Lower-48 gas supply began to increase gradually in the early part of this decade.

"From 2002 until now we've had a steady run-up of almost seven years of steady growth in rig activity, development and everything until the last four months. We've seen the drop-off that's occurred," he said.

In December, when Lippman produced the initial version of a gas production outlook for the Lower-48, gas supplies available for sale stood at about 60.4 Bcf/d. At the time, he forecast that new gas drilling activity would decline about 10% this year compared with 2008.

At the time the survey was being produced, however, he started to see a much sharper downturn taking place in drilling activity as producers started to react to low commodity prices and the global credit crunch. "We still don't know how deep and where this is going," he said.

The total number of wells drilling for gas increased from 25,000 wells in 2003 to almost 35,000 in the 2006-07 timeframe before declining slightly in 2008, Lippman said. <u>Currently "we're a little under 34,000 wells. From</u> that our forecast for 2009 called for a decline to about 32,000, or about a 10% decline."

But that projection is likely to prove very conservative given the dramatic slowdown in recent months, he said, laying out various scenarios for 2009.

For example, if activity in the Lower-48 drops 20%, total gas supply still would continue rise this year to a little over 60 Bcf/d, Lippman said. If that rises to 30%, "then 2009 volumes do not increase; they stay flat to 2008. Then we see this decline and by 2013 we're back to about 56 Bcf/d."

With an overall 40% drop in activity, "instead of the 60 Bcf/d it gets closer to 59 [Bcf/d]," Lippman said. "Then we see a huge drop in 2010, all the way down to 56 Bcf/d, and by 2013 we're down to 53 Bcf/d."

The market is "at the edge of that cliff, trying to figure out where the bottom is," he said. - Jim Magill

Wednesday, February 18, 2009

Ĵ

### Global recession may drive more LNG to US

Few tankers carrying liquefied natural gas are heading in the direction of the US these days, but that could change dramatically in a few months, an analyst and a federal regulator agreed Monday.

<u>"LNG is coming here because it needs a place to go,</u>" Keith Barnett, director of strategic analysis for Merrill Lynch Commodities, said during a panel discussion hosted by the National Association of Regulatory Utility Commissioners in Washington.

That outlook is a direct consequence of the "global economic situation," Barnett said. Nearly all of the major LNG importers "are suffering from hard economic problems. Japan may free up three to 15 cargoes a month after this winter, Korea, five cargoes a month, Spain, at least five and maybe 10 cargoes a month."

Spain is using 1 Bcf/d less than it did in February a year ago, he said, adding that after its new gas pipeline connection with Algeria is in operation by midsummer, it will be importing even less LNG.

### The US and Canada are attractive LNG import markets because they have the storage facilities lacking elsewhere in the world, according to Barnett.

Storing imported gas domestically makes sense from the standpoint of global security, he said, and it also could help US local distribution companies manage gas price volatility.

"Consumers are not well served by \$2.50/Mcf one summer and \$12.50/Mcf the next and then \$2.50/Mcf and then \$15/Mcf," he said. "That scenario is potentially what you are being set up for in the future" if the US doesn't import more LNG to stem price volatility.

J. Mark Robinson, director of the Office of Energy Projects for the Federal Energy Regulatory Commission, said <u>26 Bcf/d of new LNG production is coming online between now and 2012.</u> "That is more capacity than what is needed," and that LNG "has got to go somewhere."

There is more storage capacity in the US and Canada "than you can shake a stick at. That gives us flexibility and optionality" with regards to importing LNG, Robinson said.

"By 2015, the US may surpass Asia as the destination for LNG. Asia can only accept so much because of limited storage capacity," he said. "We have almost unbounded storage. There is LNG that has to be delivered, nobody else can or will accept it. There will be a real market here to buy it and use it or buy it and store it."

He said it's possible that as much as 7 Tcf/year of LNG will come into the US by 2015.

More LNG terminals and new storage facilities in the US may be needed to handle that additional supply, Robinson said, but "<u>I am convinced that this country is in the best position to attract the cheapest natural gas of anywhere in the world over the next few years."</u> — Rodney White

Thursday, February 5, 2009

### Report: Industrial gas use 'deteriorated sharply'

Though industrial gas usage has already shown substantial declines this heating season, the full extent of that demand destruction may be greater than initially thought, according to analysts with Barclays Capital.

Although current data from the Energy Information Administration "is not indicating a deeper-than-expected slowdown in non-weather sensitive demand, <u>more timely industrial production indices suggest that the worst</u> <u>numbers are yet to come,</u>" analysts James Crandell, Biliana Pehlivanova and Michael Zenker said late Tuesday.

Overall, gas consumption grew 1.9% in November compared with a year earlier, following a 0.5% year-over-year increase in October. However, that growth came largely from heating demand as November was 2.1% colder than a year earlier and 9.7% colder than the 10-year average, the analysts pointed out.

As a result, residential and commercial demand rose 4.9% year over year and the use of gas in power generation grew 5.2%.

But at the same time, US industrial activity, which normally makes up about one-fourth of average daily demand, "has deteriorated sharply," with industrial gas consumers using 4.3% less in November than a year earlier, a nominal decline of 800,000 Bcf/d.

Judging from the Federal Reserve's Industrial Production Index, the six largest industrial consumers of gas — together making up about 82% of the sector's consumption — have seen their production contracting since July of last year. That trend accelerated later in 2008, with October productivity falling 4.4% over the prior year, November falling 8.1% and December dropping 10.4%, the analysts said.

The primary metals sector, which include aluminum and steel, showed a drop in its industrial production index of 30.5% in December. Raw steel production by itself is down 35% in the last two months alone, the analysts noted. Meanwhile, the chemicals sector — the single largest industrial consumer of gas at about 6.3 Bcf/d — had a 11.3% year-over-year drop in December.

"Anecdotal evidence confirms the challenges the industry faces, with several of the largest chemicals manufacturers announcing plant closures over the past two months due to depressed margins and weak end-product demand," Barclays said.

The bearish sentiment that has loomed over the US gas market since mid-2008 arrived thanks to "the sudden realization of the strength of the growth of domestic production," the analysts noted. And increasing uncertainty about the industrial picture "has been the driving factor behind the steep fall in prices in the past month." As such, market sentiment on the health of gas demand "will likely continue to be strongly influenced by headline economic news."

The analysts said they expect a GDP contraction of 1.9% this year, with a drop in Q1 of 4.5% and a 1% drop in Q2. GDP could see an uptick later in the year, with possible growth of 2% in the third quarter and 3% in the fourth quarter. But because those later figures will be compared with the weak latter half of 2008, that growth "is somewhat more muted than it might first seem," the analysts said.

The outlook is similar for industrial output, which should fall sharply in the first quarter and moderate in the second quarter before rebounding over the second half of the year. This implies that the gas market "is currently experiencing the worst deterioration of demand in this cycle," the analysts noted.

As a result, while weather-adjusted demand trends are weak for 2009, "the latter part of the year might bring a relative improvement" in gas consumption.

.

<u>The Barclays analysts predicted industrial gas use this year to average 750,000 Mcf/d below 2008 levels, but</u> stressed that "the range of outcomes could be quite wide given the unprecedented deterioration in the <u>economic environment."</u> — Melanie Tatum

Case No. 2008-00175 Attachment A-2009 Page 282 of 307



f -

EIA Forecast February 10, 2009



23

Winter Strip Nov09 - Mar10

( 1



Summer Strip 2009

í i

t in a

## **Short-Term Energy Outlook**

February 10, 2009 Release

#### Natural Gas

Consumption. Total <u>natural gas consumption is projected to decline by 1.3 percent in 2009 and then increase by 0.6 percent in 2010.</u> The expectation of limited weather-driven consumption growth in the residential and commercial sectors in 2009 is <u>outweighed by the implications of continued economic weakness in the industrial and electric power sectors</u>. Consumption in the industrial and electric power sectors is expected to decline by 5.1 and 1.0 percent, respectively, in 2009. Consumption growth in 2010 remains largely dependent upon the timing and pace of economic recovery. Based on current assumptions, 2.2-percent growth in the electric power sector combined with slight growth in the residential and industrial sectors are all expected to contribute to 2010 consumption growth.

Production and Imports. Total U.S. marketed natural gas production is expected to rise slightly in 2009 and fall by 1.1 percent in 2010. The dramatic decline in drilling activity, as total working natural gas rigs have declined by more than 31 percent since August 2008, is expected to contribute to lower production during the second half of 2009. Despite the cutback in drilling activity, the current outlook suggests that some production curtailments may be necessary during the latter part of 2009 in order to balance the market. Nevertheless, this year's marketed production from the Lower-48 non-Gulf of Mexico (GOM) is expected to increase by 1.1 percent due to the low operating cost of wells currently in use and the lagged effect of aggressive drilling programs during the latter part of 2008. In contrast, the natural decline in production from the system decline in drilling activity are expected to lead to a 6.4-percent decrease in production in the Federal GOM this year. In 2010, annual production is projected to decline relative to 2009 in the Federal GOM and Lower-48 non-GOM by 6.3 and 0.6 percent, respectively.

#### **Global Petroleum**

Overview. The worsening global economy and a weak oil consumption outlook are keeping the world oil market well supplied, despite two downward revisions in production targets by the Organization of the Petroleum Exporting Countries (OPEC) within the past few months. Lower global oil demand and rising surplus production capacity through at least mid-year 2009 reduce the possibility for a strong and sustained rebound in oil prices over that period. OPEC is scheduled to meet in Vienna on March 15, which could lead to another production cut to mitigate some of the slack in the world oil market. However, near-month oil prices will likely be driven primarily by the global economy. Global real gross domestic product (GDP, weighted according to shares of world oil consumption) is assumed to decline by 0.1 percent in 2009 and rise by 3.0 percent in 2010, versus last month's assessment of 0.6-percent growth in real GDP in 2009 and 3.0-percent growth in 2010.

. . .

### Duke Energy Hedging Program Remaining Base Not Yet Locked In Winter 2008-09



Total

ŕ λ

.

i,

#### Gas Commercial Operations Hedging Program Market Indicators Summary March 19, 2009

	Price Pressure	Term	Comments	Page Ref
Weather	111000010	1	1	1.01
Long Term Forecast	<b></b>	Long	NOAA predicting a 33% or greater chance of above normal winter for Mar-May in central south west, equal chance of Above, Normal or Below weather on east cost through mid-continent.	10
Mid Term Forecast (30-60 days)	↓ ↓	Long	April predicted to be 7.3% warmer than 10 year normal and May is predicted to be 1.8% warmer than 10 year normal.	11
Short Term Forecast (6-10 days)		Short	Above and Much Above over Mid-Continent early in the period moving eastward during the later portion of the period Below temperatures are pushing this weather East.	12
Tropical Storm Activity		Long	Minerals Management Service reported February 11th, that the gas shut in by Hurricanes Gustav and Ike should be restored by late May. (0.9 Bcf/day) of the Gulf of Mexico's normal gas production of 7.4 Bcf/day remains shut in	
Storage Inventory				
EIA Weekly Storage Report	↓↓	Long	Storage withdraws for the week ending March 6th were 112 BCF. Storage levels are at 1.41 TCF which is 19.2% higher than last year and 13.3% higher than the 5 year average.	13
Industry Publications				
Cambridge Energy Research Associates Summer 2009: \$5.030 Winter 2009/10: \$6.022	↓	Long	CERA projects the Henry Hub price to average \$5.08 per MMBtu for 2009. There is significant risk to this forecast, however, as it assumes that the economy returns to growth in 2009.	14-15
Gas Daily	++	Both	"Bloodbath isn't over yet". Adkins cuts his forecast to \$3.73 per Mcf for 2009 and \$6 00 for 2010. Adkins said that the recent plunge in active rig counts came to late to bolster this year's market.	16
Gas Daily	<b></b>	Long	Tudor, Pickering Holt analysts cut price forecast to \$4.50 per Mcf for remainder of 2009 and \$5.50 for 2010. Softening demand from industrial consumers and electric generators, combined with surging production growth from onshore rigs, were the primary drivers behind their new forecast.	17
Gas Daily	+ +	Long	Though US gas prices are almost certainly headed lower this year, 2010 could bring a modest price recovery as the economy starts to recover and the gas supply/demand balance begins to equalize. Overall, while sub-\$4/MMBtu prices are likely to continue this year, "we think it is highly unlikely at this time for 2010 and beyond".	18-19
Gas Daily	Ļ	Long	Many market observers anticipate a virtual deluge of LNG imports to the US this year as weakening global demand forces cargos to turn to the "market of last resort". Barclay's analysts acknowledge that LNG will rise they maintain many uncertainties remain around the LNG picture.	20
Government Agencies				
Energy Information Administration Winter 2009/10 \$5.480 Summer 2009 \$4.309	++	Long	The US economic downturn is the principal cause for the decline in natural gas consumption, particularly in the industrial sector-where it is projected to fall by 6% in 2009.	21
Technical Analysis	- <del>1</del> 1			·
Winter 2009-10 Strip Chart	<b> </b>	Short	Closed at \$5.45	22
Summer 2009 Strip Chart	↓ ←→	Short	Closed at \$4.10	23
Есопоту			MALE ALL AND A REAL AND A REAL AND A	
Demand		Long	EIA: Natural gas consumption is projected to decline 1.3% in 2009 and then increase by 0.4% in 2010	24
Supply	+ +	Long	EIA: Total U S marketed natural gas production is expected to remain flat in 2009 and fall by 0 8% in 2010. Baker-Hughes reports 916 rigs working as of March 6, 2009, a decline of 43% from August 2008. Rig activity is expected to recover in 2010 as the economy improves and prices increase.	24
Oil Market	<→	Long	WTI prices are projected to average \$42 per barrel in 2009 and \$53 in 2010, forecasts slightly lower than last month's <i>Outlook</i> .	24

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm

Attendees Jeff Kern, Patty Walker, Joachim Fischesser, Steve Niederbaumer

Discussed market fundementals such as weather, storage inventory levels, and economic factors such as supply and demand. Discussed analyst projections and CERA, EIA and NYMEX pricing information. Discussed our current positions within the Ohio and Kentucky hedging plans. Based on the review of this data and the knowledge that the hedging levels will change on April 1st, a decision to hedge as well as the level of the hedge will be made after April 1st. In addition, discussed World Energy a company that provides a reverse auction process for acquiring gas.



Duke Energy Kentucky Hedging Program - Current Position November 2008 - October 2009

ì

Case No. 2008-00175 Attachment A-2009 Page 288 of 307



2

Case No. 2008-00175 Attachment A-2009 Page 289 of 307 Duke Energy Kentucky Hedging Program - Current Position November 2010 - October 2011 As of 03/18/09

Oct-11

Sep-11

Aug-11

11-11

Jun-11

May-11

•

Apr-11 Mar-11 Feb-11 Jan-11 Dec-10 Nov-10 Amt Hedged with Storage @ City Gate Seasonal % of System Supply Estimated System Supply (Gross) % of System Supply City Gate Load Forecast (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf) Total Requirements (Mcf) Amount Hedged (dth/day) Fixed Price Embedded Hedged Cost Total Hedged (dth/day) Total Hedged (dth) Load Forecast Summer Winter Collar

Case No. 2008-00175 Attachment A-2009 Page 290 of 307

Total (incl. Injections)

Storage Withdrawal Market Hedged (City Gate)

% Hedged & Storage

Seasonal %

#### 3/18/2009

Case No. 2008-00175 Attachment A-2009 Page 291 of 307

#### Duke Energy Kentucky Hedging Program Current Position

<b></b>	System		to Date	Next Targe	
Delivery	Supply		otal	Required	Allowed
Month	Dth/mo	Dth/day	Dth/mo	dth/day	dth/day
Apr-09		•			
May-09					
Jun-09	1				
Jul-09					
Aug-09					
Sep-09					
Oct-09					
Summer 2009					
Nov-09					
Dec-09					
Jan-10					
Feb-10					
Mar-10					
Winter 09/10					
Apr-10					
May-10					
Jun-10					
Jul-10					
Aug-10					
Sep-10					
Oct-10 Summer 2010					
Summer 2010					
				· · ·	
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11	· · · · · · · · · · · · · · · · · · ·				
Oct-11					
Summer 2011	•		•		÷ · · ·
			+ +		

#### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

Case No. 2008-00175 Attachment A-2009 Page 292 of 307

	Histor	ic Prices:		•				
	NYMEX C	osing Price					a 11	1.1
	5-yr. avg.	Last Year	CERA	EIA	NYMEX		OH	ΚY
	(04/05-08/09)	(2008-2009)	25-Feb-09	10-Mar-09	19-Mar-09		4	2
Apr	\$7.41	\$9.58	\$4.790	\$4.300	\$3.684	-	7,155	7,41.
May	\$7.72	\$11.28	\$5.030	\$4.270	\$3.759		7,110	7.41.
June	\$7.65	\$11.92	\$5.140	\$4.220	\$3.881		7.107	7,41
July	\$7.81	\$13.11	\$5.190	\$4.230	\$4.023		7.175	7, 41,
Aug	\$7.21	\$9.22	\$5.090	\$4.270	\$4.113		7.116	7.41.
Sept	\$7.31	\$8.39	\$4.970	\$4.330	\$4.170		7.123	7.41
Oct	\$7.55	\$7.47	\$5.000	\$4.540	\$4.286		7.273	7.41
' Nov	\$8.47	\$6.47	\$5.480	\$4.900	\$4.791		7,490	7, 48
Dec	\$8.31	\$6.89	\$6.040	\$5.320	\$5.328		7,490	7,482
Jan	\$7.36	\$6.14	\$6.180	\$5.520	\$5.601		7,490	7.482
Feb	\$6.82	\$4.48	\$5.890	\$5.830	\$5.609		7,490	7,48
Mar	\$6.79	\$4.06	\$6.520	\$5.830	\$5.491		7,490	7,488
12 Month Avg	\$7.53	\$8.25	\$5.443	\$4.797	\$4.561		-	
Summe	er Average		\$5.030	\$4.309	\$3.988	-	7,148	7,41:
Winter /	Average		\$6.022	\$5.480	\$5.364	-	7.490	7,48
1								



1 ....

IHADE SECRET



EC MEANS EQUAL CHANCES FOR A. A MEANS ABOVE N MEANS NORMAL B MEANS BELOH

•

ŧ

¢

## THREE-MONTH OUTLOOK TEMPERATURE PROBABILITY 0.5 MONTH LEAD VALID MAM 2009 MADE 18 FEB 2009 2

ł.



## EarthSat's 30-60 Day Outlook

Wednesday, March 18, 2009



MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2009 [30-60 Day-Outlook, Version 2.1]

## EarthSat's 6-10 Day Forecast-Detailed

Wednesday, March 18, 2009

Below .....-3F to -7F

Forecaster: AC/JS

Estevasis Temperature Deviations Foreiras Vellou Monday Sieks Case No. 2008-00175 Attachment A-2009 Page 295 of 307 **Today's Forecast:** DAG Warmth Early for the Midwest; **Cooling Still Progresses Southeast Late** Like in yesterday's outlook, strong warmth is expected across the Midwest early in the period. As temperatures approached 80 in St. Louis yesterday and rose into the low and mid 70s in Chicago, there is concern that temperatures early next week could rival these values and the forecast was warmed there today. Later, as ridging rebuilds across Previous the West, another round of cooling is expected to drop out of Canada and into the Plains and Midwest. The timing and intensity of this cooling continues to be debated in the models. Both operational runs suggest some much belows on Forecast Confidence: 7 the Plains, but disagree on their placement. TO FORE A VALIDE WE COMESCIAL SP25 BORGER ALTERNATION STREET ъ). • DY.YY **Previous** Forecast Confidence: 7 Forecast Confidence: 6 Fortes and Filles and Files AND - FORGERSNALLER FILLAY, SP2 DAYS IN Previous Forecast Confidence: 4 Forecast Confidence: 4 Strong Above ......+15 or UP Strong Below .....-15 or Lower Normal -2F ( .). Much Above ......+8F to +14F +2F Much Below .....-8F to -14F

Above .....+3F to +7F

**MDA** 

EarthSat Weather

MDA Earthsat Weather 6011 Executive Blvd., Suite 400, Rockville, MD 20852 Tel (240) 833 8300 Fax (240) 833 8301 www.mdafederal.com/wx/ ©2009 [Morning Basic-Page 3, Version 2.0]

#### weekiy inatural Gas Storage Report

Energy Information Administration. Official Energy Statistics from the U.S. Government Home > Natural Gas > Weekly Natural Gas Storage Report

#### Weekly Natural Gas Storage Report

sed: March 12, 2009 at 10:30 A M. (eastern time) for the Week Ending March 6, 2009 Release: March 19, 2009

Working Gas in Underground Storage, Lower 48

	Stocks i	n billion cubic fe	et (Bcf)	Historical Comparisons					
Region	03/06/09	02/27/09	Change	Year Ago (	03/06/08)	5-Year (2004-2008) Average			
	03/00/03	02/2//05	change	Stocks (Bcf)	% Change	Stocks (Bcf)	% Change		
East	703	793	-90	714	-1.5	758	-7.3		
West	288	292	-4	181	59.1	205	40.5		
Producing	690	708	-18	515	34.0	522	32.2		
Total 1,681		1,793	-112	1,410	19.2	1,484	13.3		

Notes and Definitions

#### Summary

Working gas in storage was 1,681 Bcf as of Friday, March 6, 2009, according to EIA estimates. This represents a net decline of 112 Bcf from the previous week. Stocks were 271 Bcf higher than last year at this time and 197 Bcf above the 5-year average of 1,484 Bcf. In the East Region, stocks were 55 Bcf below the 5-year average following net withdrawals of 90 Bcf. Stocks in the Producing Region were 168 Bcf above the 5-year average of 522 Bcf after a net withdrawal of 18 Bcf. Stocks in the West Region were 83 Bcf above the 5-year average after a net drawdown of 4 Bcf. At 1,681 Bcf, total working gas is within the 5-year historical range.

Working Gas in Underground Storage Compared with 5-Year Range



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2004 through 2008. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate

current and year-ago weekly periods.

Contact Us • Feedback • Privacy/Security • Careers • About EIA

Fedstats • USA.gov • Dept. of Energy

R TOTAL

Case No. 2008-00175

Attachment A-2009

Page 296 of 307

other formats: Summary TXT_CSV

Page 1 of 1

<u>Release Schedule</u> Sign Up for Email Updates

Data

History (XLS)

5-Year Averages, Maximum, Minimum, and Year-Ago Stocks (XLS)

References

Methodology

Differences Between Monthly and Weekly Data

**Revision Policy** 

**Related Links** 

Storage Basics

Natural Gas Weekly Update

Natural Gas Navigator



¢

Case No. 2008-00175 Attachment A-2009 Page 297 of 307



Figure 2

contract gas price in northwestern Europe.

90202-2	
90202-2	

				Ti	able 1		Sur	nmer	200	09 -	\$5,030 \$6,022
				Henry	Hub Pric	es	$\omega_{0}$	nter	2009	10 -	36,022
			(1	nominal US	dollars per M	MBtu)					
	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	
January	6.17	8.76	6.33	7.93	5.25	6.18)	6.87	6.83	7.21	6.92	
February	6.09	7.62	8.06	8.46	4.51	5.89	6.80	6.77	7.29	6.89	
March	6.91	6.88	7.10	9.34	4.52	6.52	6.92	6.63	7.19	7.23	
April	7.19	7.09	7.57	10.11	( 4.79	6.77	7.18	6.86	6.97	7.30	
May	6.47	6.23	7.64	11.24	( 5.03	6.85	7.31	6.84	6.89	7.35	
June	7.17	6.26	7.40	12.61	₹ 5.14	6.95	7.23	6.82	6.87	7.23	
July	7.57	6.05	6.21	11.32	/ 5.19	7.09	7.44	6.69	6.98	7.09	
August	9.29	7.24	6.30	8.30	5.09	6.98	7.26	6.70	7.09	7.03	
September	12.11	4.95	5.98	7.70	4.97	6.95	6.99	6.54	6.87	6.93	
October	13.36	5.67	6.68	6.75	<b>∖</b> 5.00	7.08	6.81	6.55	6.31	6.97	
November	10.29	7.32	7.01	6.62	5.48	7.03	6.93	6.71	6.32	7.14	
December	12.98	6.83	7.08	5.79	6.04	6.90	6.95	7.10	6.38	7.31	
Year average	e 8.80	6.74	6.95	8.85	5.08	6.77	7.06	6.75	6.86	7.12	

Sources: Cambridge Energy Research Associates; Platts Gas Daily historical data. Note: The 2005–January 2009 figures are derived from historical data as available; February 2009–14 figures are CERA projections.

Excel tables are available in the North American Natural Gas Client Services area at CERA.com.

Case No. 2008-00175 Attachment A-2009 Page 298 of 307

## **CERA Monthly Briefing**

February 25, 2009

#### Good News and Bad News for the North American Natural Gas Market

#### **Key Implications**

With continued bad news on the economic front, cold winter weather has been the only factor supporting natural gas demand so far in 2009. At the same time, a new CERA study estimates that new gas supplies are less costly than in previous years, supporting a lower price trajectory.

• <u>CERA expects the economy to continue to decline until third quarter 2009,</u> <u>causing total gas demand in North America to fall by 2.7 percent this year.</u> If the economic situation worsens, the demand reduction will be greater.

• Despite a significant slowdown in drilling, abundant gas supplies are becoming available from unconventional gas resources. CERA estimates that gas productive capacity will increase steadily over the next ten years. The average full-cycle cost of gas from wells to be drilled in 2009 is estimated to be \$4.63 per thousand cubic feet.

• <u>CERA projects the Henry Hub price to linger below \$5 per million British</u> thermal units (MMBtu) during February, March, and April and to average \$5.08 per MMBtu for the year as a whole. There is significant downside risk to this forecast, however, as it assumes that the economy returns to growth this year and that the coming surge of gas liquefaction capacity this year and next is primarily absorbed by European and Asian markets.

• CERA expects the price at AECO-NIT to be C\$4.46 per gigajoule (GJ) (\$3.84 per MMBtu) in February, C\$4.32 per GJ (\$3.71 per MMBtu) in March, and C\$4.86 per GJ (\$4.23 per MMBtu) for 2009 as a whole.

Wednesday, March 4, 2009

Raymond James slashes price forecasts, predicts 'bloodbath'

Saying the gas market's <u>"bloodbath isn't over yet,"</u> Raymond James and Associates analyst Marshall Adkins this week <u>slashed his 2009 and 2010 price forecasts by</u> double digits, saying supply far outweighs slackening demand in a weak economic environment.

Adkins cut his forecast for this quarter by 32% to \$3.25/Mcf and for all of 2009 by 25% to \$3.73/Mcf. For 2010, he expects an average price of \$6/Mcf, down 25% from his previous outlook.

Saying there is an extra 7 Bcf/d of gas looking for a home, Adkins believes prices may need to go below \$2/Mcf at some point this year to rebalance the market.

While many domestic gas producers are cutting their output, Adkins said demand has slowed even faster among all sectors — residential, commercial and industrial. "Despite a relatively cold winter and numerous supply interruptions, we now expect to exit this winter with roughly [1.7 Tcf] in storage, which is 450 Bcf above last year," he said.

Adkins said that the recent plunge in active rig counts came too late to bolster this year's market, with his model showing it will take until June for supply to match demand. — Bill Holland

Tuesday, March 10, 2009

### Tudor Pickering slashes 2009 gas price 18%

Despite slashing their drilling activity, US producers could still see lower gas prices for the rest of this year and into the next as industrial and power users continue to cut demand amid a worldwide recession, analysts at energy investment firm Tudor, Pickering Holt said Monday.

"With a weak economy, more things can go wrong than right," TPH analysts Dan Pickering and Dave Pursell said in a note to clients.

They cut their average gas price forecast 18% to \$4.50/Mcf for this year and trimmed 21% off their predicted average price for 2010, to \$5.50/Mcf.

For the current quarter, they expect gas prices to average \$4.80/Mcf, declining in the spring to \$4.20/Mcf and even further into the summer to \$4/Mcf before rebounding in the fourth quarter to \$5/Mcf.

Softening demand from industrial consumers and electric generators, combined with surging production growth from onshore rigs, were the primary drivers behind their new forecast.

<u>"The current US market is 4 to 5 Bcf/d out of balance,"</u> the analysts said, noting that there is a "significant risk of sustained \$4/Mcf gas as storage fills."

Pickering and Pursell said storage is on track to "overfill" this fall "without something dramatic happening soon." They see little help from weather as this winter has already seen gas pulls 140 Bcf lower than normal despite temperatures being 8% colder than average.

Industrial gas demand is directly linked to the US gross domestic product, which is already forecast to show retraction, while power demand has slackened as the economy slows and consumers turn down their thermostats, the analysts said.

On a slightly more bullish note, Pursell and Pickering noted that US land rig counts were falling faster than expected, which will produce a 2% retraction in production numbers this summer and a 5% cut in 2010.

"Dramatically falling rig counts and soft prices will cause a production correction in the second quarter which will accelerate into 2010," the pair predicted.

"The real 'call' continues to be how the economic umbrella affects the pace of a demand recovery," the analysts said. "We are assuming that 2010 is a better year than 2009 [for producers] via less or no demand contraction, which allows supply declines to tighten the market. If 2010 isn't better ... watch out." — *Bill Holland* 

Tuesday, March 17, 2009

### Consultant: Gas price recovery not likely until 2010

Though US gas prices are almost certainly headed lower this year, 2010 could bring a modest price recovery as the economy starts to recover and the gas supply/demand balance begins to equalize, a report from a Verona, Wisconsin-based consultant said Monday.

With global gas demand falling, production outpacing consumption and pipeline receipts from Canada and imported liquefied natural gas from abroad likely increasing, the domestic gas market should continue to weaken, according to the study from Energy Solutions.

However, if a price collapse occurs, it "will likely be confined to just a few months" as the gas market "will inevitably return to a state of balance or equilibrium— the question is when."

"Talk of sub-\$3/MMBtu natural gas prices is increasing," Valerie Wood, president of Energy Solutions, said in a statement accompanying the report. With the possibility of gas storage testing maximum capacity this summer, gas buyers "need to have a plan in place to take advantage of a price plunge," Wood said.

At the same time, buyers need an alternative plan "just in case market conditions change and the current downtrend is disrupted."

The report cited recent data from the Energy Information Administration indicating that gas consumption from the industrial sector should fall by 5.1% this year, while gas use for electricity generation should fall 1%. "Unfortunately, we believe a sharp decline in manufacturing production still lies ahead," the report said. "Basically, the outlook for natural gas demand looks dismal while at the same time production is surpassing 2008 levels."

Falling demand should lead to production cutbacks, and Energy Solutions noted that the US gas rig count already has dropped to 916 from a peak of 1,606 last September. "However, the drilling rig count decline has yet to make a significant impact in production output," it noted.

The domestic market is currently oversupplied by as much as 8 Bcf/d, the study said, not including the likelihood of more LNG imports. "There is no way to know exactly how much LNG will reach the US, but estimates range from a total of 500 Bcf to as much as 1.1 Tcf, and daily estimates range from 2 Bcf/d to as much as 6 Bcf/d," the report said.

In addition, the declining price of oil is making crude production in Canada's oil sands plays — typically a gas-intensive process — less economically viable, which could free up gas for export to the US. <u>All told, "natural gas prices are likely to remain suppressed in the US, particularly if storage inventories expand as expected," the consultant stressed.</u>

Should gas storage facilities fill up as rapidly as many expect, producers could be forced to shut in production if for no other reason than to maintain the integrity of the US gas grid, Energy Solutions said. "Of course, if producers see this potential, they may also opt to shut in wells sooner rather than later to try to avoid it."

The report estimated that by the end of this year or the start of 2010, gas production should drop by about 4 Bcf/d. Should producers begin shutting in supplies at a faster pace, that drop could expand to around 7 Bcf/d, thereby bringing about a price recovery sooner.

However, the consultant noted that there is no way of knowing "exactly when a price recovery will occur or to what extent it will be."

Noncommercial buyers could trigger a sudden price recovery, the study said, noting that as of March 3 noncommercials held a net-short position of roughly 149,000 NYMEX gas contracts. "If multiple players that are net short decide to liquidate quickly and within a short amount of time of one another, it could create a dramatic influx of buying in the marketplace."

However, such a move could shift gas prices "to levels that are higher than justified by the underlying fundamentals," the report said.

.

( )

 $\left( \begin{array}{c} \end{array} \right)$ 

Overall, while sub-\$4/MMBtu prices are likely to continue this year, "we think it is highly unlikely at this time for 2010 and beyond." Once the economy has begun recovering and the gas market has reached equilibrium, the consultant predicted a longer-term price level between \$5/MMBtu and \$8/MMBtu. — Melanie Tatum

Thursday, February 26, 2009

 $\langle - \rangle$ 

É ...

### Analysts: US bracing for possible LNG supply glut

Many market observers anticipate a virtual deluge of liquefied natural gas imports to the US this year as weakening global demand forces cargoes to turn to the "market of last resort." But analysts with Barclays Capital, while acknowledging that LNG imports are almost certain to rise, maintain that many uncertainties cloud the LNG supply picture.

"The market has become fixated on the risk that LNG deliveries to the US will ramp up dramatically this year," the analysts said in their weekly natural gas report. <u>"However, global liquefaction capacity additions are being pushed back yet again, and existing facilities are not operating without glitches."</u>

<u>Nevertheless, thanks to deteriorating global economic conditions, "flows of LNG to the US are all but certain to rise later in 2009</u>" despite weak US prices, the analysts said. But "given the unprecedented scale of uncertainties about to play out in the global natural gas markets, the range of possible outcomes for US LNG imports is unusually wide."

In 2009, the global LNG industry should in theory increase its nameplate capacity by 5.6 Bcf/d, with the majority of those additions scheduled to come online in the second half of the year. While those additions are substantial, they also "have been long expected," the analysts noted. Even so, estimating global gas demand "is no easy task even in times of economic stability."

Prospects for growth in Asian LNG demand "have worsened sharply over the past few months," with Japan, South Korea and Taiwan — which accounted for 62% of global LNG demand last year — all suffering steep economic contractions. Similarly, industrial output in Europe has fallen sharply, the analysts noted.

Some emerging participants in LNG consumption, including Brazil and Argentina, could provide some marginal demand support. In addition, even modest growth in European and Asian demand could make a dent in any LNG oversupply later this year. "At this point, however, a net decline in European and Asian LNG demand for 2009 appears a more likely scenario," the analysts said.

Assuming a 5% drop in European consumption and a 10% drop in Asian demand in the second half of this year, the analysts predicted a year-over-year surplus LNG output of about 1.3 Bcf/d in the second quarter, 2.9 Bcf/d in the third quarter and 4.2 Bcf/d in the fourth.

Asia has little storage capacity with which to absorb those excesses, while Europe's gas system lacks the necessary flexibility to absorb large quantities of spare LNG. As such, <u>the large storage base and flexible pipeline structure in the US would appear to provide a perfect home. "The trouble is that US [gas] balances are also looking rather plush for the second half of the year, and incremental LNG imports threaten to depress prices even further," the analysts noted.</u>

As such, if global demand declines and liquefaction projects come online as planned, "neither the US nor Europe would be in a position to take all excess LNG volumes" in the second half of this year. "Thus, we expect relative pricing to reflect the need to balance LNG flows between Europe and the US later in the year," the analysts said. — *Melanie Tatum* 

### Energy Information Administration Henry Hub Pricing Per MMbtu March 10, 2009 Release

Jan-08	8.01	Jan-09	5.24	Jan-10	5.52
Feb-08	8.51	Feb-09	4.51	Feb-10	5.83
Mar-08	9.46	Mar-09	4.30	Mar-10	5.83
Apr-08	10.18	Apr-09	4.30	Apr-10	5.75
May-08	11.32	May-09	4.27	May-10	5.57
Jun-08	12.68	Jun-09	4.22	Jun-10	5.55
Jul-08	11.11	Jul-09	4.23	Jul-10	5.53
Aug-08	8.26	Aug-09	4.27	Aug-10	5.51
Sep-08	7.65	Sep-09	4.33	Sep-10	5.34
Oct-08	6.74	Oct-09	4.54	Oct-10	5.70
Nov-08	6.67	Nov-09	4.90	Nov-10	5.93
Dec-08	5.82	Dec-09	5.32	Dec-10	6.40
Average 2008	\$ 8.868	Average 2009	\$ 4.536	Average 2010	\$ 5.705
Summer 2008	\$ 9.706	Summer 2009	\$ 4.309	Summer 2010	\$ 5.564
Winter 2008- 2009	\$ 5.308	Winter 2009- 2010	\$ <b>5.480</b> ³		

e A A

. .

æ



Winter Strip Nov09 - Mar10

)



Summer Strip 2009

## **Short-Term Energy Outlook**

March 10, 2009 Release

#### Natural Gas

**Consumption.** Total <u>natural gas consumption is projected to decline by 1.3 percent in 2009 and then</u> increase by 0.4 percent in 2010). The outlook for continued economic weakness in 2009 is expected to take its greatest toll on industrial sector natural gas consumption, which is expected to decline by about 6 percent this year, more than offsetting the small projected increases in other end-use sectors. Lower natural gas delivered prices compared with coal in some markets, particularly in the Southeast, are expected to cause some electric power generators to switch some generation from coal to natural gas.</u> Natural gas consumption by the electric power sector is projected to grow by 0.4 percent in 2009.

The pace and extent of economic recovery in 2010 are the primary factors influencing the natural gas consumption forecast next year, particularly for industrial users. Based on the current economic assumptions for 2010, slight growth in the industrial sector and 2-percent growth in the electric power sector are balanced by declines in the residential and commercial sectors because of projected milder winter temperatures.

**Production and Imports.** Total U.S. marketed natural gas production is expected to remain flat in 2009 and then fall by 0.8 percent in 2010. Baker-Hughes reports 916 natural gas rigs working in the United States as of March 6, 2009, a decline of 43 percent from August 2008. Consequently, the robust growth in natural gas production in the Lower-48 region (excluding the Gulf of Mexico) over the last few years is expected to end as production reaches about 53 billion cubic feet per day (Bcf/d) in early 2009, then declines during the second half of 2009. The extent of the production decline later this year is highly uncertain and subject to fluctuations in demand and prices over the period. Rig activity is expected to recover in 2010 as the economy improves and prices increase. However, annual average production is still projected to be lower next year because of the decline in new wells drilled this year.

<u>U.S. imports of liquefied natural gas (LNG) are expected to increase slightly in 2009 to 380 Bcf. New</u> <u>LNG supply capacity in Qatar, Indonesia, and Yemen could supply a significantly greater volume of LNG</u> <u>imports this year.</u> However, delays to this new supply capacity as well as uncertainty about the weakness of natural gas demand in other LNG-consuming countries contribute to doubts about much higher LNG imports might be this year. LNG imports in 2010 are projected to be about 460 billion cubic feet (Bcf) as global supply projects ramp up. Pipeline imports are expected to decline by 9.4 percent in 2009 as Canadian drilling activity subsides, fields age, and a growing portion of available supply is dedicated to oil sands development.

#### Global Crude Oil and Liquid Fuels

**Overview.** Following the sharp price decline that occurred during the second half of 2008, the global oil market has remained relatively stable since the beginning of the year. This situation is expected to continue through most of 2009, until economic recovery in the United States and elsewhere leads to a rebound in oil demand growth.