



DUKE ENERGY CORPORATION

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Kristen Cocanougher  
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**VIA OVERNIGHT DELIVERY**

May 12, 2011

RECEIVED

MAY 13 2011

PUBLIC SERVICE  
COMMISSION

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

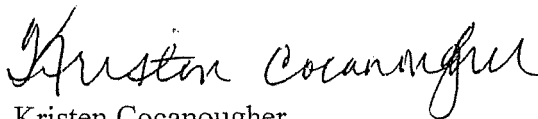
Re: Case No. 2008-00175

Dear Mr. Derouen:

Enclosed please find an original and twelve copies of *Duke Energy Kentucky, Inc.'s Annual Report on Hedging Activity for April 1, 2010 through March 31, 2011 and Report on Ongoing Gas Hedging Activity for Future Gas Deliveries* and the *Petition of Duke Energy Kentucky, Inc. for Confidential Treatment Contained in this Report*. 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,

  
Kristen Cocanougher

cc: Larry Cook (w/enclosures)

RECEIVED

MAY 13 2011

PUBLIC SERVICE  
COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF	)	
DUKE ENERGY KENTUCKY, INC. TO	)	
IMPLEMENT A HEDGING PROGRAM	)	CASE NO. 2008-00175
TO MITIGATE PRICE VOLATILITY	)	
IN THE PROCUREMENT OF	)	
NATURAL GAS	)	

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**PETITION OF DUKE ENERGY KENTUCKY, INC.  
FOR CONFIDENTIAL TREATMENT OF INFORMATION CONTAINED IN  
THE ANNUAL REPORT ON HEDGING ACTIVITY FOR APRIL 1, 2010  
THROUGH MARCH 31, 2011,  
AND REPORT ON ONGOING GAS HEDGING ACTIVITY FOR FUTURE GAS  
DELIVERIES**

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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 Annual Report on Hedging Activity for April 1, 2010 through March 31, 2011 and Report on Ongoing Gas Hedging Activity for Future Gas Deliveries 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. Certain attachments contain copyrighted documents published by PIRA Energy Group not available for reproduction to the general public. This information is subject to copyright protection and has been obtained through paid company subscriptions.

3. 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.

4. 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 June 17, 2010.

5. 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.

6. 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,

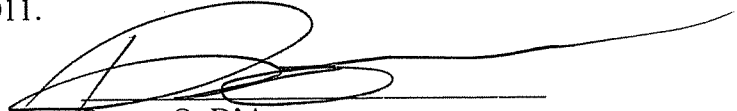
DUKE ENERGY KENTUCKY, INC.



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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 12<sup>th</sup> day of May, 2011.



/ Rocco O. D'Ascenzo

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

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MAY 13 2011

PUBLIC SERVICE  
COMMISSION

**BEFORE THE KENTUCKY  
PUBLIC SERVICE  
COMMISSION**

**Annual Report on Hedging Activity  
For April 1, 2010 – March 31, 2011  
And Report on Hedging Activity  
For Future Gas Deliveries**

**By  
Duke Energy Kentucky**

May, 2011

The Vice President Ohio and Kentucky Gas 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 2011 is attached, along with the information reviewed during each meeting (see Attachment A).

A summary of the amounts hedged for delivery during the 12 months ended March 31, 2011 and hedged prior to March 31, 2011 for delivery at a later date 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.

Strike Date	Supplier	Type	Price Per Dth	Delivery Point	Volume Dth/day	Month(s)	Seasonal Volume
<b>Summer 2010</b>							
3/19/2008*		Fixed		CGT		Nov 09 – Oct 10	
12/3/2008**		Fixed		CGT-M		Apr 09 – Mar 11	
1/26/2009**		Collar		CGT-M		Apr 09 – Mar 11	
4/8/2009***		Fixed		CGT-M		Nov 09 – Oct 11	
11/17/2009***		Fixed		CGT-M		Jun 10 – Aug 10	
2/24/2010***		Fixed		CGT-M		Apr 10 – Sept 10	
<b>Winter 2010/11</b>							
12/3/2008**		Fixed		CGT-M		Apr 09 – Mar 11	
1/26/2009**		Collar		CGT-M		Apr 09 – Mar 11	
4/8/2009***		Fixed		CGT-M		Nov 09 – Oct 11	
11/17/2009***		Fixed		CGT-M		Nov 10 – Oct 12	
2/24/2010***		Fixed		CGT-M		Dec 10 – Feb 11	
6/23/2010		Collar		CGT-M		Nov 10- Mar 12	
<b>Summer 2011</b>							
4/8/2009***		Fixed		CGT-M		Nov 09 – Oct 11	
9/9/2009***		Fixed		CGT-M		Apr 11 – Mar 12	
11/17/2009***		Fixed		CGT-M		Nov 10 – Oct 12	
6/23/2010		Collar		CGT-M		Nov 10- Mar 12	
<b>Winter 2011/12</b>							
9/9/2009***		Fixed		CGT-M		Apr 11 – Mar 12	
11/17/2009***		Fixed		CGT-M		Nov 10 – Oct 12	
6/23/2010		Collar		CGT-M		Nov 10- Mar 12	
12/20/2010		Fixed		CGT-M		Nov 11 – Mar 13	

Strike Date	Supplier	Type	Price Per Dth	Delivery Point	Volume Dth/day	Month(s)	Seasonal Volume
<b>Summer 2012</b>							
11/17/2009***		Fixed		CGT-M		Nov 10 – Oct 12	
12/20/2010		Fixed		CGT-M		Nov 11 – Mar 13	
<b>Winter 2012/13</b>							
12/20/2010		Fixed		CGT-M		Nov 11 – Mar 13	

- \* See Annual Report on Hedging Activity for April 1, 2007 – March 31, 2008
- \*\* See Annual Report on Hedging Activity for April 1, 2008 – March 31, 2009
- \*\*\* See Annual Report on Hedging Activity for April 1, 2009 – March 31, 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, along with the percentage including storage:

Season As of March 31, 2011	Total System Supply	Total Hedged	% Hedged	% Hedged And Storage*
Summer 2010				
Winter 2010/11				
Summer 2011				
Winter 2011/12				
Summer 2012				
Winter 2012/13				
Summer 2013				

\* Includes Interstate Pipeline Storage and Supply Contracts that mimic Storage Service.

**November 1, 2010—March 31, 2012 Costless Collar [Redacted] -- June 23, 2010**

During the hedging meeting on June 22, 2010, discussion focused on the fundamentals of the market such as weather, storage, analyst's forecasts for future price movements, and current positions in the Hedging Program. Weather and storage levels were discussed at length. Several analysts were projecting a much hotter than normal summer and a higher number of hurricanes than normal. In addition, several analysts were projecting high levels of gas in storage (but not as high as the previous year). After discussion, it was 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 17 month period beginning November 2010 through March 2012. Three suppliers were contacted and asked to provide a floor for a ceiling set at [REDACTED]. The results were: [REDACTED], [REDACTED], [REDACTED] was awarded the Costless Collar.

The EIA storage report released on June 17, 2010 indicated that as of June 11, 2010, total U.S. amount of gas in storage was 2,543 bcf (65% full), which was 2 bcf higher than the previous year and 313 bcf higher than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately [REDACTED] bcf ([REDACTED] full).

The table below compares the futures price data for June 23rd with the most recently available forecasts from PIRA and EIA and the collared price that Duke Energy Kentucky agreed to pay [REDACTED] for base gas to be delivered November 1, 2010 through March 31, 2012 at Columbia Gulf Mainline. Since a single collar was locked in for all 17 months, a column showing the average price is provided for comparison purposes. Please note that PIRA's and EIA's forecasts do not cover the entire term.

Month	Price Forecasts		NYMEX Futures Price			Collar Price
	PIRA	EIA	High	Low	Close	
Nov 10	\$5.000	\$4.550	\$5.260	\$5.155	\$5.220	
Dec 10	\$5.200	\$4.990	\$5.530	\$5.510	\$5.514	
Jan 11	\$5.200	\$5.200	\$5.712	\$5.600	\$5.691	
Feb 11	\$5.100	\$5.170	\$5.651	\$5.538	\$5.628	
Mar 11	\$4.500	\$5.050	\$5.548	\$5.470	\$5.524	
Apr 11	\$4.300	\$4.930	\$5.274	\$5.205	\$5.251	
May 11	\$4.300	\$4.920	\$5.284	\$5.190	\$5.261	
Jun 11	\$4.400	\$4.910	\$5.340	\$5.306	\$5.306	
Jul 11	\$4.600	\$4.880	\$5.370	\$5.339	\$5.361	
Aug 11	\$4.600	\$4.820	\$5.415	\$5.396	\$5.406	
Sep 11	\$4.500	\$4.920	\$5.448	\$5.420	\$5.438	
Oct 11	\$4.500	\$5.040	\$5.560	\$5.523	\$5.523	
Nov 11	\$4.800	\$5.310	\$5.743	\$5.725	\$5.743	
Dec 11	\$5.000	\$5.620	\$6.016	\$5.970	\$6.003	
Jan 12	[REDACTED]	[REDACTED]	\$6.195	\$6.118	\$6.195	
Feb 12	[REDACTED]	[REDACTED]	\$6.155	\$6.125	\$6.137	
Mar 12	[REDACTED]	[REDACTED]	\$5.977	\$5.977	\$5.977	
<b>Average</b>	<b>\$4.714</b>	<b>\$5.022</b>	<b>\$5.616</b>	<b>\$5.563</b>	<b>\$5.599</b>	
<b>No Cost Collar (6/23/10)</b>						
Floor						[REDACTED]
Ceiling						[REDACTED]

**Faux Storage Service with [REDACTED] – February 2010**

In February 2010, Duke Energy Kentucky contacted [REDACTED], [REDACTED], and [REDACTED] to provide a storage like service for the Winter of 2010/2011 and 2011/2012. Duke Energy Kentucky requested the suppliers bid on the following proposal:

Maximum Daily Quantity: from 0 to 20,000 Dth/day  
Term Purchase Quantity: 1,000,000 Dth (must take)  
Delivery Point: into KO pipeline

This represents approximately 12% of the estimated load for the Winter of 2010/2011 and 2011/2012.

The commodity component of the total cost would be set at a date determined by Duke Energy Kentucky.

For analysis purposes the Commodity cost portion of the total cost was based on NYMEX closing price on February 24, 2010. The results were as follows:

		/Dth
		/Dth
		/Dth
		/Dth

bid was the lowest. In addition, bid was compared with purchasing additional capacity and price remained the lowest priced alternative.

On March 5, 2010, Duke Energy Kentucky contacted to set the Commodity portion of the total cost for the first year based on the NYMEX closing prices on March 5, 2010. The Commodity portion of the total cost based on the NYMEX closing prices on March 5, 2010 was /Dth for the Winter 2010/2011.

On August 25, 2010, Duke Energy Kentucky contacted to set the Commodity portion of the total cost for the second year based on the NYMEX closing prices on August 25, 2010. The Commodity portion of the total cost based on the NYMEX closing prices on August 25, 2010 was /Dth for the Winter 2011/2012.

**Fixed Price with – December 20, 2010**

During the hedging meeting on December 15, 2010, discussions focused on market fundamentals such as weather, storage inventory levels, and economic factors such as supply and demand. In addition, discussed Winter and Summer Strip Charts based on Technical analysis, spreads between current NYMEX prices, forecasts, and historical prices. Discussed the cold December temperatures impact on NYMEX pricing. In addition, discussed the position of the Kentucky Hedging program and that no additional hedging is required under the plan at this time. Based on this information the Natural Gas Hedging Committee decided not to hedge additional gas for the Winter of 2010/2011 but to closely monitor pricing on the 2-year strip beginning April 2011 to March 2013. Subsequently, with prices dropping Duke Energy Kentucky contacted , and requested bids on 1,000 dth's/day on Columbia Gulf Mainline for the period beginning November 1, 2011 through October 31, 2013 and

November 1, 2011 through March 31, 2013. Listed below are the supplier's bids for each time period.

Supplier	Columbia Gulf Mainline – 1,000 Dth/Day	
	Nov. 2011 – Mar. 2013	Nov. 2011 – Oct. 2013

Upon review of the bids, it was determined the time period to be accepted would be November 1, 2011 through March 31, 2013 due to the fact that adding an additional Summer to the bids would have been expected to lower the price. However, as the table indicates the lower bids resulted from the November 1, 2011 through March 31, 2013 time period. Therefore, [redacted] bid of [redacted] was accepted.

The EIA storage report released on December 16, 2010 indicated that as of December 10, 2010, total U.S. amount of gas in storage was 3,561 bcf (92% full), which was 32 bcf lower than the previous year and 321 bcf higher than the 5-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately [redacted] bcf ([redacted] % full).

The table below compares the futures price data for December 20th with the most recently available forecasts from PIRA and EIA and the locked in price that Duke Energy Kentucky agreed to pay [redacted]. Please note that PIRA's and EIA's forecast did not cover the entire term.

Month	Price Forecasts		NYMEX Futures Price			Fixed Price
	PIRA	EIA	High	Low	Close	
Nov 11	\$4.100	\$4.810	\$4.729	\$4.579	\$4.713	
Dec 11	\$4.400	\$5.120	\$4.981	\$4.834	\$4.969	
Jan 12			\$5.142	\$5.028	\$5.129	
Feb 12			\$5.100	\$5.009	\$5.092	
Mar 12			\$4.992	\$4.885	\$4.988	
Apr 12			\$4.788	\$4.698	\$4.788	
May 12			\$4.795	\$4.744	\$4.795	
Jun 12			\$4.830	\$4.790	\$4.830	
Jul 12			\$4.873	\$4.823	\$4.873	
Aug 12			\$4.908	\$4.908	\$4.908	
Sep 12			\$4.921	\$4.921	\$4.921	
Oct 12			\$4.995	\$4.939	\$4.995	
Nov 12			\$5.170	\$5.170	\$5.170	
Dec 12			\$5.409	\$5.350	\$5.409	
Jan 13			\$5.571	\$5.540	\$5.571	
Feb 13			\$5.527	\$5.527	\$5.527	
Mar 13			\$5.383	\$5.383	\$5.383	
Weighted Ave.						

**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 or Columbia Gulf Mainline). 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, 2011 gas costs were about \$6.0 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.

**Summer Season 2010**

Supplier	Type	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
<b>April</b>							
	Fixed			CGT		\$3.80	
	Fixed			CGT-M		\$3.80	
	Collar (\$ )			CGT-M		\$3.80	
	Fixed			CGT-M		\$3.80	
	Fixed			CGT-M		\$3.80	
<b>May</b>							
	Fixed			CGT		\$4.20	
	Fixed			CGT-M		\$4.22	
	Collar (\$ )			CGT-M		\$4.22	
	Fixed			CGT-M		\$4.22	
	Fixed			CGT-M		\$4.22	
<b>June</b>							
	Fixed			CGT		\$4.13	
	Fixed			CGT-M		\$4.12	
	Collar (\$ )			CGT-M		\$4.12	
	Fixed			CGT-M		\$4.12	
	Fixed			CGT-M		\$4.12	
	Fixed			CGT-M		\$4.12	
<b>July</b>							
	Fixed			CGT		\$4.67	
	Fixed			CGT-M		\$4.65	
	Collar (\$ )			CGT-M		\$4.65	
	Fixed			CGT-M		\$4.65	
	Fixed			CGT-M		\$4.65	
	Fixed			CGT-M		\$4.65	
<b>August</b>							
	Fixed			CGT		\$4.73	
	Fixed			CGT-M		\$4.73	
	Collar (\$ )			CGT-M		\$4.73	
	Fixed			CGT-M		\$4.73	

**Summer Season 2010 (Continued)**

Supplier	Type	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
	Fixed			CGT-M		\$4.73	
	Fixed			CGT-M		\$4.73	
<b>September</b>							
	Fixed			CGT		\$3.60	
	Fixed			CGT-M		\$3.59	
	Collar			CGT-M		\$3.59	
	Fixed			CGT-M		\$3.59	
	Fixed			CGT-M		\$3.59	
<b>October</b>							
	Fixed			CGT		\$3.78	
	Fixed			CGT-M		\$3.76	
	Collar			CGT-M		\$3.76	
	Fixed			CGT-M		\$3.76	
<b>Season Total</b>							

**Winter Season 2010-11**

Supplier	Type	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
<b>November</b>							
	Fixed			CGT-M		\$3.23	
	Collar			CGT-M		\$3.23	
	Fixed			CGT-M		\$3.23	
	Fixed			CGT-M		\$3.23	
	Collar			CGT-M		\$3.23	
<b>December</b>							
	Fixed			CGT-M		\$4.21	
	Collar			CGT-M		\$4.21	
	Fixed			CGT-M		\$4.21	
	Fixed			CGT-M		\$4.21	
	Collar			CGT-M		\$4.21	
<b>January</b>							
	Fixed			CGT-M		\$4.18	
	Collar			CGT-M		\$4.18	
	Fixed			CGT-M		\$4.18	
	Fixed			CGT-M		\$4.18	
	Fixed			CGT-M		\$4.18	
	Collar			CGT-M		\$4.18	
<b>February</b>							
	Fixed			CGT-M		\$4.26	
	Collar			CGT-M		\$4.26	
	Fixed			CGT-M		\$4.26	
	Fixed			CGT-M		\$4.26	
	Fixed			CGT-M		\$4.26	

**Winter Season 2010-11 (Continued)**

Supplier	Type	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
	Collar			CGT-M		\$4.26	
<b>March</b>							
	Fixed			CGT-M		\$3.72	
	Collar			CGT-M		\$3.72	
	Fixed			CGT-M		\$3.72	
	Fixed			CGT-M		\$3.72	
	Collar			CGT-M		\$3.72	
<b>Season Total</b>							\$

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, 2011. The prior year's hedging program continues to affect the AA portion of the GCA through August 31, 2010. Likewise, gas costs during the 12 months ended March 31, 2011 will continue to affect the AA portion of the GCA through August 31, 2011. 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 2010	+\$0.0546	+\$0.0198	+\$0.0744
May 2010	+\$0.0989	+\$0.0198	+\$0.1187
June 2010	+\$0.1331	+\$0.0242	+\$0.1573
July 2010	+\$0.0976	+\$0.0242	+\$0.1218
August 2010	+\$0.1172	+\$0.0242	+\$0.1414
September 2010	+\$0.1087	+\$0.0236	+\$0.1323
October 2010	+\$0.0872	+\$0.0236	+\$0.1108
November 2010	+\$0.0559	+\$0.0236	+\$0.0795
December 2010	+\$0.0383	+\$0.0202	+\$0.0585
January 2011	+\$0.0258	+\$0.0202	+\$0.0460

Month	Impact on EGC	Impact on AA *	Impact on GCA
February 2011	+\$0.0295	+\$0.0202	+\$0.0497
March 2011	+\$0.0483	+\$0.0195	+\$0.0678

\*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, 2011. Based on this calculation, GCA customers will pay approximately [REDACTED] Ccf more than they would have paid absent the hedging program for natural gas purchased between April 1, 2010 and March 31, 2011, as shown below:

[REDACTED]

**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. In past reports, Duke Energy Kentucky has pointed out that the standard deviation of monthly gas costs was lower with hedging than it would have been without hedging. However, based on the 12 months ended March 31, 2011, the standard deviation would have been slightly lower without hedging by about \$[REDACTED] per dth. This result is primarily due to the fact that market prices during this period were extraordinarily stable. The standard deviation for gas costs without hedging was only \$[REDACTED] per dth. This represents the lowest variance in the market price of gas since Duke Energy Kentucky began its hedging program in 2001, as the standard deviation of gas costs without hedging is normally between \$1.00 - \$3.00 per dth. When market prices are that stable, a fixed price can increase volatility since the percentage hedged changes from month to month. For example in both April and September of 2010, [REDACTED] dth/day were hedged with an average price of \$[REDACTED]. However, this represented [REDACTED] of April's total purchases and [REDACTED] of September's. Even with this slight increase in standard deviation, the variation in monthly gas cost was still low compared to historic market prices.

	Actual Average Commodity Cost of Gas (Includes Hedging)				Estimated Average Commodity Cost of Gas Without Hedging		
	Commodity Cost	Dth	Wgt. Avg.	Cost/ (Savings)	Commodity Cost	Dth	Wgt. Avg.
Apr-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
May-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Jun-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Jul-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Aug-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Sep-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Oct-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Nov-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

	Actual Average Commodity Cost of Gas (Includes Hedging)			Cost/ (Savings)	Estimated Average Commodity Cost of Gas Without Hedging		
	Commodity Cost	Dth	Wgt. Avg.		Commodity Cost	Dth	Wgt. Avg.
Dec-10							
Jan-11							
Feb-11							
Mar-11							
Standard Deviation							
Increase in Standard Deviation							

**Weather Analysis**

The table below lists heating degree days for November 2010 through March 2011 compared to normal.

	Nov	Dec	Jan	Feb	Mar	Total
Normal Heating Degree Days*	621	907	1,069	855	662	4,114
<b>2010/2011</b>						
Heating Degree Days	605	1,186	1,197	787	632	4,407
% Colder (Warmer) than Normal	(3%)	31%	12%	(8%)	(5%)	7%

\* Based on 10-year average 1990-1999.

**Summary**

Gas prices for the 12 months ended March 2011 were consistent and historically low priced. The average NYMEX settlement price for the 12 month period ended March 31, 2011 was about \$4.09 with a range of \$1.48. The comparable 2010/2009 average was about \$4.09 with a range of about \$2.97. During this period the result of the hedging program was increased costs. Although the hedging plan increased gas costs overall, the hedging strategy was in place to provide protection against extreme prices and reduce volatility.



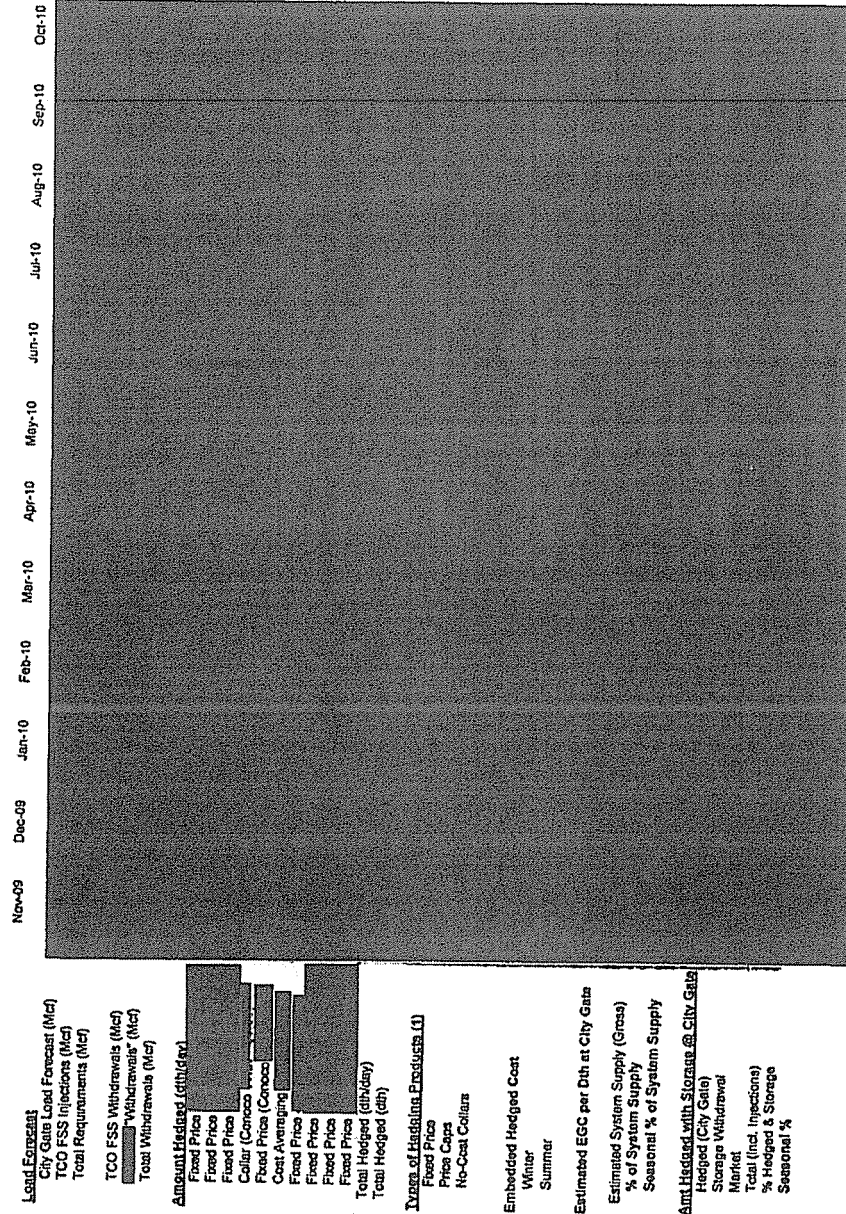
**Attachment A**  
**Information Reviewed at Hedging Meetings**

Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
March 23, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Apr 10–Jun 10)	↔	Long	NOAA predicting above average temperatures for Apr 2010–Jun 2010 for the western portion of CONUS with pockets of below normal temperatures in the central portions, and equal change of above, normal or below temperatures east of the Mississippi river	10
Mid Term Forecast (30-60 days)	↔	Long	April is predicted to be 3.9% colder than 10 year normal and May is predicted to be 19.0% colder than 10 year normal	11
Short Term Forecast (6-10 days)	↓	Short	Above and Normal temperatures dominate majority of CONUS during early portion of forecasted period changing to below in Midwest and East sections during the later portion of the forecasted period.	12
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage withdrawals for the week ending March 12th were 11 BCF. Storage levels are at 1.615 TCF which is 2.4% lower than last year and 4.7% higher than the 5 year average.	13
<b>Industry Publications</b>				
PIRA Energy Group Summer 2010 Winter 2010/11	↑	Long	Shale gas economics suggest that the extended NYMEX gas price curve over the next year or so will prove to be unsustainably high. PIRA projecting \$5.00/MMBtu for 2010 and \$5.70 for 2011.	
Gas Daily	↓	Long	Merrill Lynch slashes 2010 price 17% to \$5.00/MMBtu. "The reason behind the lower natural gas prices is simply more supply." Break-even economics in shale plays range from \$1.50 to \$4.00/MMBtu.	14 - 18
Gas Daily	↑	Long	The abundance of gas from shale plays will only heighten the competition between gas and coal in the power generation sector over the next several years. The impact of excess gas supply on the 2009 coal burn was huge—coal-fired generation declined 15.7% while that of natural gas increased 14.5%.	17 - 18
Gas Daily	↑	Long	EPA launches study into fracking impacts. "Our research will be designed to answer questions about the potential impact of hydraulic fracturing on human health and the environment".	19 - 20
Gas Daily	↓	Long	Gas prices are likely to stagnate in a trading range between \$4 and \$6/MMBtu for the next year and a half, due to robust supply and soft demand.	21 - 22
<b>Government Agencies</b>				
Energy Information Administration Summer 2010 \$5.003 Winter 2010/11 \$5.714	↑	Long	The projected Henry Hub annual average spot price is expected to be \$5.168 per MMBtu in 2010 and \$5.646 per MMBtu in 2011.	23
<b>Technical Analysis</b>				
Summer 2010 Strip Chart	↔	Short	Closed at \$4.38	24
Winter 2010-11 Strip Chart	↔	Short	Closed at \$5.48	25
<b>Economy</b>				
Demand	↔	Long	EIA: Natural gas consumption is projected to increase 0.7% to 62.9 Bcf/day in 2010 and decline by 0.4% in 2011. Cold weather drives this year's increase. HDD during the first 2 months of 2010 were 5.5% above the 30-year normal and the highest since 2004. The small decline in 2011 reflects the projected return to near-normal weather.	26
Supply	↑	Long	EIA: Total marketed natural gas production declines 2.7% to 56.7 BCF/day in 2010 and increases by 1.1% in 2011. EIA expects U.S. net imports to be slightly higher in 2010. For 2010, U.S. LNG imports are forecast to increase by about 45% (or 0.56 Bcf/d).	26 - 27
Oil Market	↔	Long	More optimistic expectations of global economic growth during 2010 drives oil consumption up 1.5 million bbl/d from 2009. This increased growth in 2010 supports a firming of crude oil above \$80 per barrel this summer.	28

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm  
Attendees: Jeff Kern, Jim Henning, Patty Walker, Mike Brumback, Mitch Martin, Joachim Fischesser, Steve Niederbaumer  
Discussed current market conditions including weather forecasts, storage levels and various analysts' projections as well as EIA's forecasts for natural gas and oil markets. In addition, discussed EPA's proposed study on fracking. Shale gas break-even economics of various shale gas plays and discussed the displacement of coal as a fuel source vs natural gas. Based on the discussion (predictions of additional reductions in price) as well as the current position of the Hedging Program, no additional hedging is proposed.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 03/22/10



**Load Forecast**  
 City Gate Load Forecast (Mcf)  
 TCO FSS Injections (Mcf)  
 Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf)  
 "Withdrawals" (Mcf)  
 Total Withdrawals (Mcf)

**Amount Hedged (Mcf/d)**

Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar (Conoco)  
 Fixed Price (Conoco)  
 Cost Averaging  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (Mcf/d)  
 Total Hedged (Mcf)

**Type of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 % of System Supply  
 Seasonal % of System Supply

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate)  
 Storage Withdrawal  
 Market  
 Total (incl. Injections)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 03/22/10

	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Other Withdrawals* (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (MWh/dwh)</b>												
Fixed Price												
Fixed Price												
Collar												
Fixed Price												
Fixed Price												
Total Hedged (MWh/dwh)												
<b>Total Hedged (dth)</b>												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
<b>Estimated System Supply (Gross)</b>												
% of System Supply												
<b>Seasonal % of System Supply</b>												
<b>Amt Hedged with Storage @ City Gate</b>												
Hedger (City Gate)												
Storage Withdrawal												
Market												
Total (incl. Injections)												
% Hedged & Storage												
<b>Seasonal %</b>												

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 03/22/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (Mcf)</b>												
Fixed Price												
Fixed Price												
TED												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
% of System Supply												
Seasonal % of System Supply												
<b>Amount Hedged with Storage @ City Gate</b>												
Hedged (City Gate)												
Storage Withdrawal												
Market												
Total (Incl. Injections)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

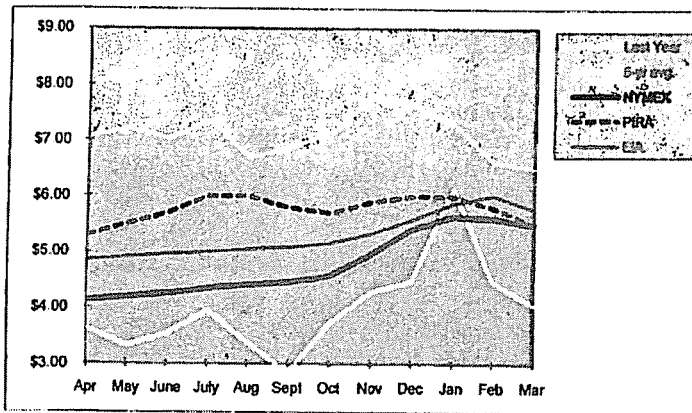
3/22/2010

Duke Energy Kentucky  
 Hedging Program  
 Current Position

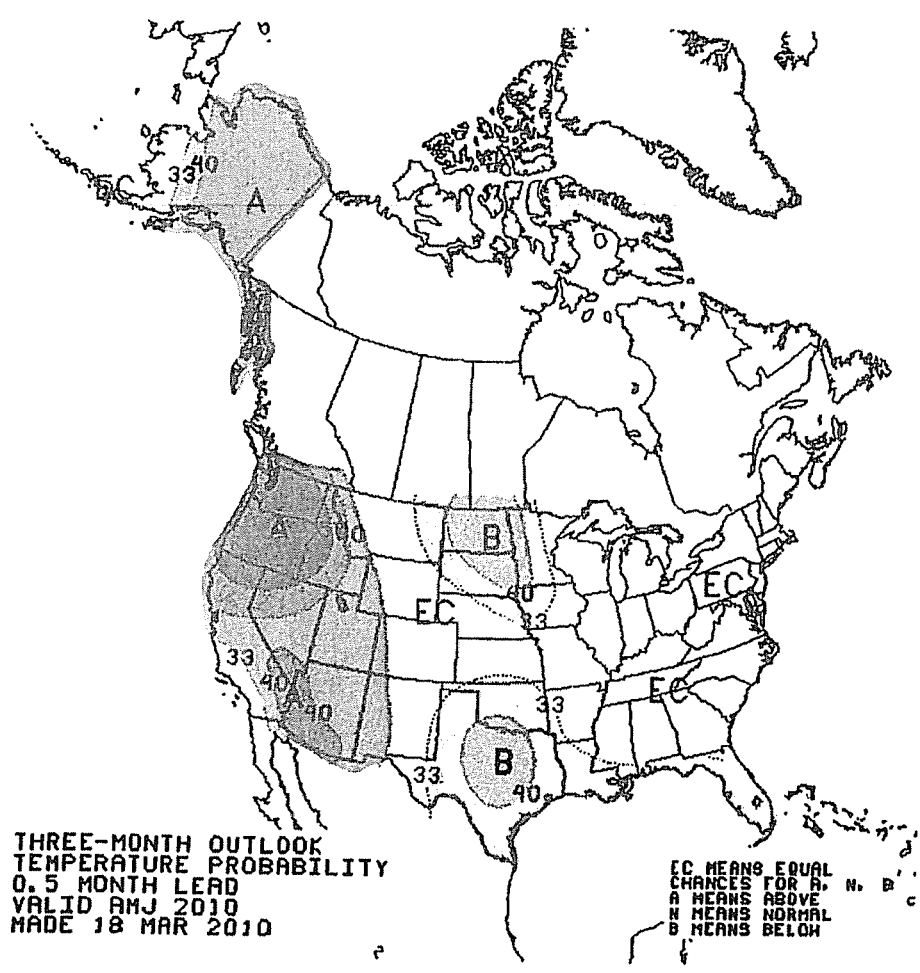
Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (3/31/10)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Nov-09					
Dec-09					
Jan-10					
Feb-10					
Mar-10					
Winter 09/10					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2009					
Apr-10					
May-10					
Jun-10					
Jul-10					
Aug-10					
Sep-10					
Oct-10					
Summer 2010					
Target Levels By March 31, 2010					
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Target Levels By October 31, 2009					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2010					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2009					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2010					

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

	Historic Prices:			PIRA 23-Feb-10	EIA 9-Mar-10	NYMEX 22-Mar-10	Hedged Prices	
	NYMEX Closing Price						Ohio	Kentucky
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)						
Apr	\$7.06	\$3.63			\$4.850	\$4.137	\$	
May	\$7.21	\$3.32			\$4.910	\$4.197	\$	
June	\$7.02	\$3.54			\$4.960	\$4.262	\$	
July	\$7.37	\$3.95			\$5.000	\$4.351	\$	
Aug	\$6.68	\$3.38			\$5.050	\$4.424	\$	
Sept	\$6.87	\$2.84			\$5.090	\$4.464	\$	
Oct	\$7.15	\$3.73			\$5.160	\$4.578	\$	
Nov	\$7.80	\$4.29			\$5.330	\$4.963	\$	
Dec	\$7.62	\$4.49			\$5.580	\$5.412	\$	
Jan	\$7.28	\$6.14			\$5.870	\$6.640	\$	
Feb	\$6.61	\$4.48			\$6.020	\$5.609	\$	
Mar	\$6.49	\$4.06			\$5.770	\$5.497	\$	
12 Month Avg	\$7.10	\$3.99			\$5.299	\$4.795		
Summer Average					\$5.003	\$4.345		
Winter Average					\$5.714	\$5.424		



Page 1 of 1



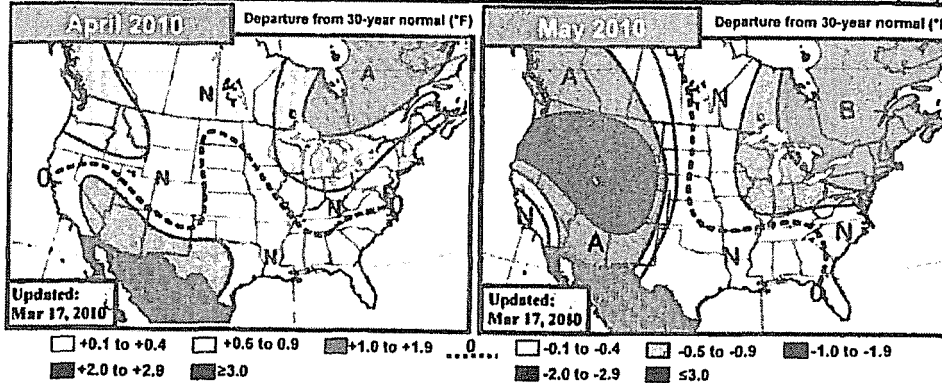




# EarthSat's 30-60 Day Outlook

Wednesday, March 17, 2010

Forecaster: SS/BH/TH



**Previous**

**Warm changes across the northern tier**

**Mild in the Great Lakes**

Warm changes were made to the forecast across the northern tier, with above stretching towards the Great Lakes and the Interior Northeast. The European model's monthly outlook released on Monday shows a pattern that shows similarities to our forecast, with warmer than normal temperatures across Eastern Canada and the Northeast and cooler than normal conditions across parts of the South. It shows a lot of near normal temps across the mid-continent which may be a sign of a more variable month overall. Meanwhile, we showed a map in yesterday's Editor's Notes that highlights the risk for warmer conditions across the northern tier, using analog years with similar warmth to the current temp anomalies in the Niño 3.4 and 4 regions.

**Apr GWHDD\* Forecasts**

	<b>10Y Normal</b> updated to '00-09
<b>Apr 2010 Fcst:</b>	<b>358.0</b>
	<b>10Y Normal*</b> 344.7
	<b>30Y Normal</b> 369.0
	<b>Apr-2009</b> 361.2
<b>Change: -6.0</b>	

\*National Gas-Weighted HDDs

**Previous**

**No changes**

**Warm in the West**

The May forecast remains unchanged, continuing to feature a warm outlook in the West and cooler than normal temperatures in the Midwest and Northeast. The ECMWF monthly map (left) shows a much warmer scenario across the Midwest and East with more widespread above normal temperatures overall. The CFS monthly outlook for May (center) using initial conditions from March 6-March 15 also shows a warmer solution across the Northeast and Eastern Canada, with colder anomalies across Texas into the Southern Plains and Midwest. Using the Niño 3.4 and 4 analogs gives an outlook (right) that show more similarities to ours overall.

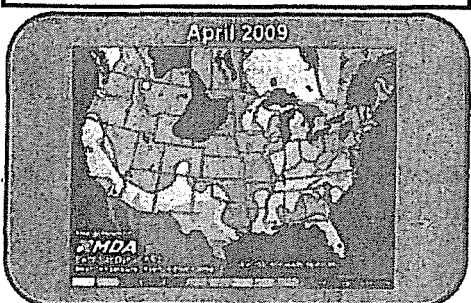
**May PWCCD\* Forecasts**

	<b>10Y Normal</b> updated to '00-09
<b>May 2010 Fcst:</b>	<b>88.0</b>
	<b>10Y Normal*</b> 108.6
	<b>30Y Normal</b> 98.4
	<b>May-2009</b> 109.3
<b>Change: 0.0</b>	

\*National Population-Weighted CDDs

**March So Far...**

It's a total halfway through the month but for, and looking at the temperature anomalies are some patterns that show some interesting similarities to our forecast. The low-level circulation across the northern tier and cold anomalies across much of the southern tier. Some of the spots in the middle are where we see the biggest missteps, particularly the warm in the north from the center of Plains into the southern tier, and the cold in the East. The warm anomalies in the East look to increase in the future as more warm weather continues through the next few days. Meanwhile, the West should start to see some warm anomalies overall. The national GWHDD number is expected to be considerably warmer than forecast in late March as a result.



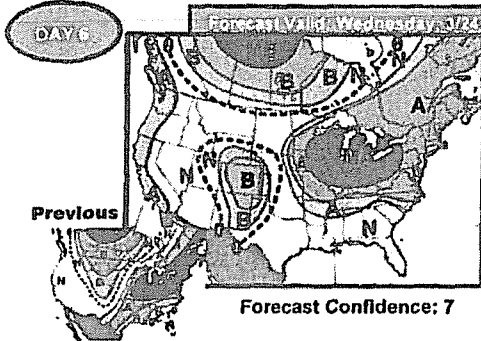


# EarthSat's 6-10 Day Forecast-Detailed

Friday, March 19, 2010

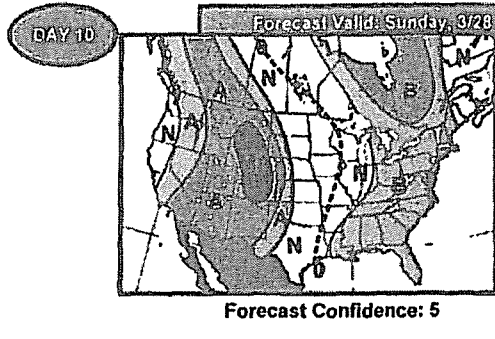
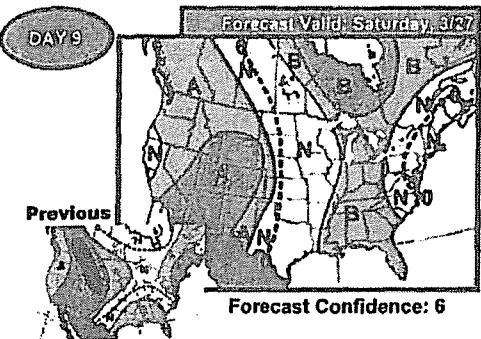
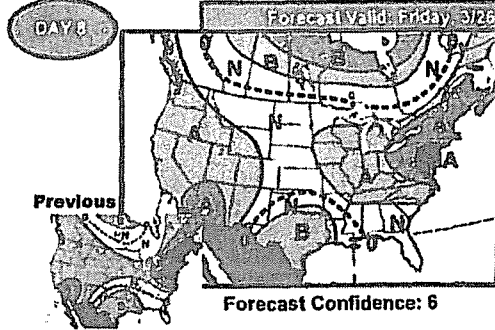
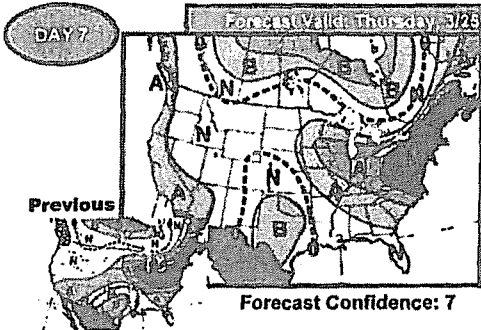
Forecaster: BH/AC

## Forecast Temperature Deviations



**Today's Forecast:**  
 Warmth Returns Across West By Mid-Period  
 Cooling Trend For East, Midwest Late

Temperatures in the Northeast during the first half of the period have been lowered a bit today as uncertainty on the details has increased. While the forecast leans towards the European models, which continue to push much above normal readings into the Northeast, the American models depict more marginal above normal readings. If the American models are correct, the cool down might also be faster to occur. The cool risk persists into the second half of the period for the Midwest and East with the chance for stronger cooling to develop across these areas late. A ridge in the West provides the West with widespread aboves for the second half, but much aboves may form at times.



A +3F to +4F    A +5F to +7F    MA +8F to +14F    SA +15 or Higher  
 B -3F to -4F    B -5F to -7F    MB -8F to -14F    SB -15 or Lower

## Weekly Natural Gas Storage Report

Released: March 18, 2010 at 10:30 a.m. (eastern time) for the Week Ending March 12, 2010  
 Next Release: March 25, 2010

### Working Gas in Underground Storage, Lower 48

other formats: Summary TXT CSV

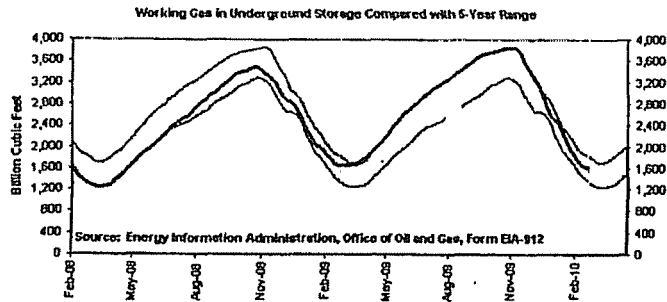
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	03/12/10	03/05/10	Change	Year Ago (03/12/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	770	789	-19	681	13.1	732	5.2
West	283	289	-6	278	1.8	230	23.0
Producing	562	548	14	697	-19.4	580	-3.1
<b>Total</b>	<b>1,615</b>	<b>1,626</b>	<b>-11</b>	<b>1,655</b>	<b>-2.4</b>	<b>1,542</b>	<b>4.7</b>

#### Notes and Definitions

#### Summary

Working gas in storage was 1,615 Bcf as of Friday, March 12, 2010, according to EIA estimates. This represents a net decline of 11 Bcf from the previous week. Stocks were 40 Bcf less than last year at this time and 73 Bcf above the 5-year average of 1,542 Bcf. In the East Region, stocks were 38 Bcf above the 5-year average following net withdrawals of 19 Bcf. Stocks in the Producing Region were 18 Bcf below the 5-year average of 580 Bcf after a net injection of 14 Bcf. Stocks in the West Region were 53 Bcf above the 5-year average after a net drawdown of 6 Bcf. At 1,615 Bcf, total working gas is within the 5-year historical range.

- 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



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2005 through 2009.  
 Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

# Gas Daily

Thursday, March 18, 2010

## BoA/Merrill Lynch cuts 2010 price forecast to \$5

Citing the rapid growth of production from low-cost US shale plays, the head of Bank of America Merrill Lynch's commodities team Wednesday slashed his US natural gas price forecast for 2010 by 17% to \$5/MMBtu.

"The reason behind the lower natural gas prices is simply more supply," Francisco Blanch said in a note to clients. "Capital and rigs poured into Haynesville, Marcellus and Eagle Ford (shale plays) even as the 12-month forward strip traded below \$6/MMBtu."

The reason behind the surge in shale drilling? Producers can still make money, in some cases at prices as low as \$1.50/MMBtu, depending on the play, Blanch said, and the numbers for those plays will keep changing as activity grows.

"Breakeven economics in the shale plays are dynamic, constantly changing as more wells are drilled," Blanch said. "Breakeven costs in the major shale plays can be substantially lower, ranging from \$1.50/MMBtu to \$3/MMBtu in the Marcellus Shale to less than \$4/MMBtu in the Haynesville, suggesting that producers in these areas can make money at current prices."

Adding to the low-cost environment in the new shale plays like the Haynesville and the Marcellus, Blanch said, is the high productivity of wells in those plays. Haynesville wells report initial production rates of 15,000 Mcf/d, compared to the 2,400 Mcf/d rates seen in the older Barnett Shale.

"Efficiency gains could continue in 2010 as technical skill and know-how continue to expand," Blanch said. "We expect drilling to remain robust, especially in the Haynesville as well as other shale plays."

"Unless even lower prices force producers to slow down horizontal drilling, natural gas production could soon recover to last year's level, Blanch said, before the drastic cut in the rig count occurred."

Also helping to keep downward pressure on North American prices is a sluggish US economic recovery and rising imports of liquefied natural gas, Blanch said.

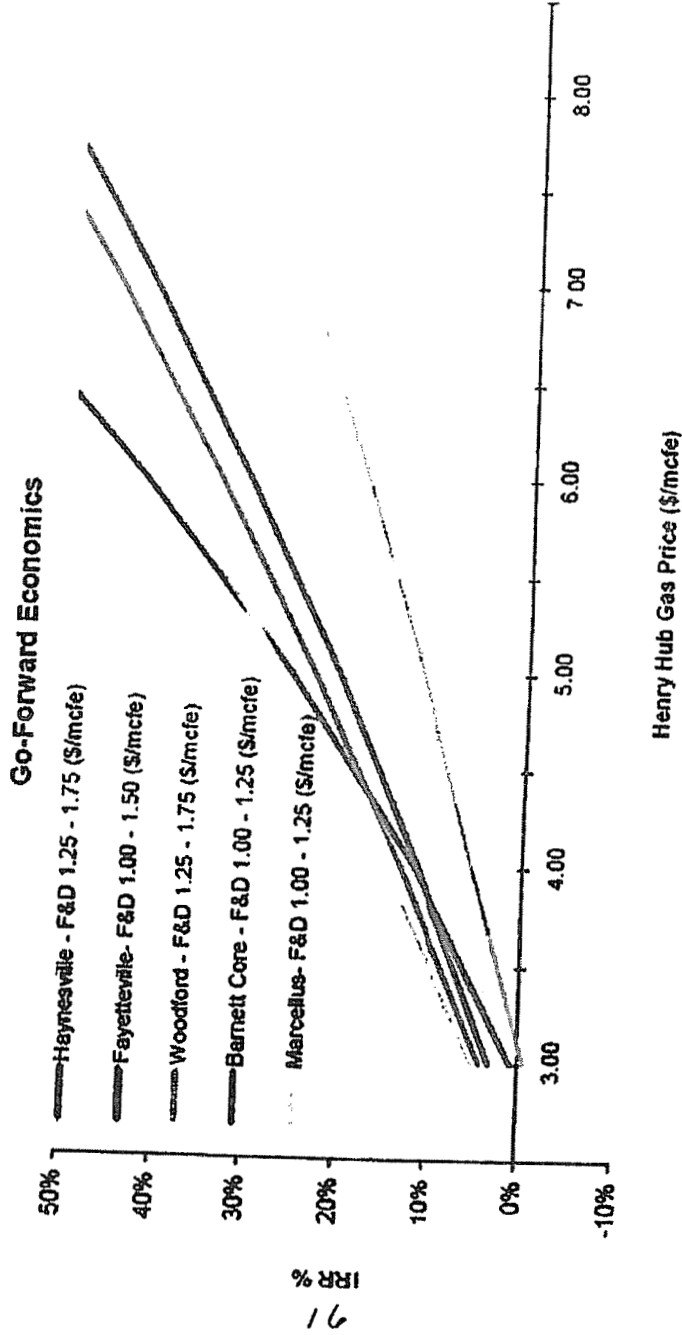
LNG imports will more than make up for an expected 500,000 Mcf/d cut in pipeline imports from Canada, Blanch said.

"The risk, which we have flagged before, is largely related to the 3.5 Bcf/d build-out in global LNG capacity this year," Blanch said.

"US LNG imports are up about 1 Bcf/d from a year ago due to higher flows from Qatar, which could rise further as RasGas Train 7 ramps up following commercial production start-up in late February," Blanch said. — *Bill Holland*

**Market Fundamentals Desk** **Initial Rate of Return**

The economic in the shale plays are so good that even at a \$4-\$5 gas prices, some producers are making a 15%-25% rate of return. Looking at these curves there is no reason that any major producers would stop drilling in the shale plates with prices at current levels.



3/19/2010

CAM Commercial Analytics

# Gas Daily

Monday, March 22, 2010

## Gas, coal rivalry expected to heat up: analysts

The abundance of gas from shale plays will only heighten the competition between gas and coal in the power generation sector over the next several years, with both fuels finding it hard to maintain higher prices and environmental rules tightening, analysts noted last week.

The tension between the two fuels, sparked by the growth of shale gas, is likely to continue for another three years before the gas supply glut eases, speakers said at Platts' Coal Properties and Investments conference last week in Fort Lauderdale, Florida.

The bottom line for coal-fired utilities is that they cannot plan for the future based on a \$9/MMBtu price of natural gas anymore, said Seth Schwartz, managing director of Energy Ventures Analysis. They now have to consider a \$6/MMBtu price of gas or perhaps even lower when planning. "The shale gas technology has radically changed the outlook for natural gas supply and price," Schwartz said.

The latest Energy Information Administration Short-Term Energy Outlook predicted the Henry Hub spot price will average \$5.17/MMBtu this year and \$5.65/MMBtu in 2011.

The agency predicted that "prices may strengthen slightly in the coming months as demand to rebuild natural gas in storage ... begins. However, the potential for higher domestic production, increasing [liquefied natural gas] supply and limited consumption growth all reduce the possibility of sustained high prices as inventories are replenished over the next several months."

Last week, the April NYMEX gas futures contract hovered above \$4.30/MMBtu, but it closed March 18 at \$4.085/MMBtu based on a lower-than expected draw from storage.

EIA also projected the electric-power-sector delivered coal price would fall by almost 6% to average \$2.08/MMBtu in 2010 and would decline by an additional 2.4% in 2011. The price declines are based on long-term, high-cost coal contracts that are ending in 2010 and 2011.

The impact of excess gas supply on the 2009 coal burn was "huge," particularly east of the Mississippi River, Schwartz said. Citing 2009 coal burn data, he said coal-fired generation declined 15.7% while that of natural gas increased 14.5%. But overall, gas use declined by 3 Bcf in 2009, quickly filling storage, sending the gas to the power market and driving down prices.

Central Appalachian coal bore the brunt of displacement, particularly in the Southeast, where coal burn was down by a "shocking 19.9%," he said. Meanwhile, Eastern coal burn was down 20 million short tons, mostly in the shoulder months of spring and fall.

Using EVA's analysis, Schwartz said Central Appalachian coal displacement begins when the price of natural gas falls below \$5.40/MMBtu and is huge below \$4.50/MMBtu, while Powder River Basin coal displacement occurs when the gas price falls below \$4/MMBtu and is significant below \$3/MMBtu. Gas hit a low of \$2.07/MMBtu in September 2009, and the NYMEX prompt-month settlement hovered in the \$2/MMBtu range in the early part of September. The average price for 2009 NYMEX gas was \$4.16/MMBtu.

The biggest threat to coal, particularly Appalachian coal, arises from the close proximity of the more than 200 Tcf of Marcellus shale gas reserves, said David Bellman, managing director of American Electric Power's strategic and economic analysis division.

He sees the country tipping more toward gas — and gas prices continuing downward — because the glut of supply from the Marcellus Shale would lead to Appalachian gas prices being lower than Henry Hub prices. As an example, he pointed to the recent completion of the Rockies Express pipeline that has already reduced the Rockies basis with Henry Hub by more than 50%.

Until now, gas was flowing west from the Rockies to the East, but Marcellus gas production might change this dynamic as the flows could move west to meet electric generation growth, he said.

Bellman said gas has the advantage of being abundant, environmentally cleaner and less expensive for power plant construction than coal, which has had volatile prices in the last couple of years.

Chris Hobson, Southern Company's chief environmental officer and senior vice president of research and environmental affairs, said the Obama administration is forcing the power industry to make decisions based on natural gas, rather than looking long term.

It is encouraging a move away from coal and toward natural gas with no offsetting resources because "we won't have time to put other generation sources to work," Hobson said. "We are headed for a real energy train wreck."



# Gas Daily

Friday, March 19, 2010

## EPA launches study into fracking impacts

The US government's top environmental regulator said Thursday it is launching a widely anticipated study to examine the impact of hydraulic fracturing on water quality and public health.

The Environmental Protection Agency said it would allocate \$1.9 million from this year's budget to kick off what the agency says will be a "comprehensive, peer-reviewed" study of the drilling technique that has unlocked trillions of cubic feet of potentially recoverable natural gas in North America and around the world.

The agency Thursday promised to include input from exploration-and-production companies while it conducts the study, which will last into next year.

"Our research will be designed to answer questions about the potential impact of hydraulic fracturing on human health and the environment," said Dr. Paul Anastas, assistant administrator for EPA's Office of Research and Development. "The study will be conducted through a transparent, peer-reviewed process, with significant stakeholder input."

The technique, developed by US natural gas producers, shoots highly pressurized mixtures of water, steam and a blend of chemicals down a borehole to fracture shale rock beneath the surface. As the explosion of shale drilling has spread across the US away from traditional oil and gas areas to states like Pennsylvania and New York, public concern has grown over the impact of fracturing on water and the environment.

While the typical gas shale well is thousands of feet below the surface and the water table, fracturing the laterals of those wells can consume more than 1 million gallons of water, some of which comes back up as wastewater that must be treated and disposed of.

The Environmental Engineering Committee of the EPA's Science Advisory Board has been tasked with designing the study. The science board is scheduled to meet on the issue next month, April 7 and 8.

Saying it was still in the very early stages of designing the study, the EPA noted that it needs to define the questions it wants to ask while taking input from producers and environmental groups before forming the study's design out for review by outside scientists. Then, the EPA said, research will begin into questions raised by hydraulic fracturing.

In addition to the \$1.9 million being diverted in the EPA's budget this year, the agency said it will ask for more money for the study in next year's budget request to Congress.

Industry reaction was swift and cooperative in tone.

"With the extraordinary opportunity presented by our nation's natural gas abundance comes the responsibility to be good stewards of the land," American Natural Gas Alliance President and CEO Regina Hopper said in a statement. "We look forward to sharing with the EPA the extensive work done at every step of the natural gas extraction process. We are confident that a scientific and data-driven examination will provide policymakers and the public with even greater reassurance of the safety of this practice."

Lee Fuller, executive director of the Independent Petroleum Association of America's Energy in Depth project, said that while industry is happy to cooperate with a fracking study, further efforts on Capitol Hill to regulate the practice should be halted until a conclusion is reached.

"We are hopeful and it is our expectation that this study — if based on objective, scientific analysis — will serve as an opportunity to highlight the host of steps taken at every well site that make certain groundwater is properly protected," Fuller said.

"Efforts under way in Congress to give EPA outright authority to regulate fracturing — which could hamper domestic energy production and job growth — should come to a standstill until this study is completed," he added.

The co-sponsor of one of those efforts currently in Congress, the FRAC Act (Fracturing Responsibility and Awareness of Chemicals Act), which would remove hydraulic fracturing's current exemption from the Safe Drinking Water Act, said the need to protect water supplies was as important as producing natural gas.

"I applaud the EPA's decision to begin a serious investigation into this matter and will continue working to protect our environment from the chemical concoctions being pumped into the ground by energy companies," New York Democratic Congressman Maurice Hinchey said.

Hinchey, whose 22nd District lies atop the bulk of New York's portion of the Marcellus Shale, said **"Understanding the risks that hydraulic fracturing poses to drinking water supplies is critical to guiding future policies."**

A similar bill in the Senate is being sponsored by Pennsylvania Democrat Robert Casey. The Marcellus, which has seen a boom in drilling, runs diagonally across his state from the southwest to the northeast.

Washington energy policy analyst Kevin Book of ClearView Energy Partners cautioned his clients immediately before the announcement that there was little risk of immediate new regulation of fracking.

**"We caution clients that, although this news may produce headlines, we see little sign of near-term or intermediate term regulatory risks for Lower-48 unconventional gas extraction," Book said.**

In fact, conducting a federal study might help ward off federal regulation by reassuring state and local authorities that the techniques are benign, Book said.

Despite industry reassurance that fracking has been used safely for 60 years, some residents near wells in Colorado and Pennsylvania have complained that their drinking water has been contaminated by gas drilling.

State governments in New York and Pennsylvania have expressed concern over the limited ability of their rivers and streams to both supply fracking water and absorb treated wastewater. In response, several Marcellus Shale drillers such as Pittsburgh's EQT and Philadelphia's Atlas Energy report being able to recycle up to 100% of their frack water, using the same water for repeated frack jobs. — *Bill Holland*

# Gas Daily

Thursday, March 4, 2010

## Report: Gas to trade at \$4-\$6 through mid-2011

Given the persistent combination of robust supply and soft demand, gas prices are likely to stagnate in a trading range between \$4 and \$6/MMBtu for the next year and a half, consultant Energy Solutions said in a report this week.

The firm said gas prices may experience periodic dips and spikes outside that range based on short-term fundamentals and eventually will return to higher levels. But "that isn't going to occur until supply and demand come closer to being in balance, and we don't believe that will occur in 2010 or even in the first half of 2011," said EnergySolutions President Valerie Wood.

The "prolific discoveries of shale gas" have changed the marketplace and enabled producers to experience efficiency gains, reduce expenses and achieve "very high initial productivity rates," Wood said.

As a result, "producers can accept a lower sales price because their costs have fallen," the report said. "Service costs are projected to have fallen by as much as 45% last year. The cost to lease an acre of land has been cut in half. More wells can be drilled from a single drilling rig, which means more production capabilities with the use of less labor."

The report noted that producers are profitable in the Haynesville Shale region at \$2.90 to \$3.50/MMBtu. "That is likely one reason production in Louisiana has climbed for 11 consecutive months," Wood said.

The supply glut is expected to continue even if stricter environmental regulations come into play, Wood predicted.

"While there could be some legislation imposing restrictions on hydraulic fracturing for shale supplies, the recent discovery of natural gas in the shallow waters of the Gulf of Mexico could open up an entirely new frontier for supplies," the report said. "Plus, drilling techniques used in the US are now being used elsewhere in the world, and this is only going to increase global natural gas supplies as well."

It also appears that producers are preparing for a lower-priced environment. Two top companies have been attempting to negotiate five- and 10-year sales contracts, "a move that they would only make if they believe price weakness is in the future," the report said.

In addition, producers have hedged as much as 50% of their 2010 production, another indication that they anticipate falling gas prices.

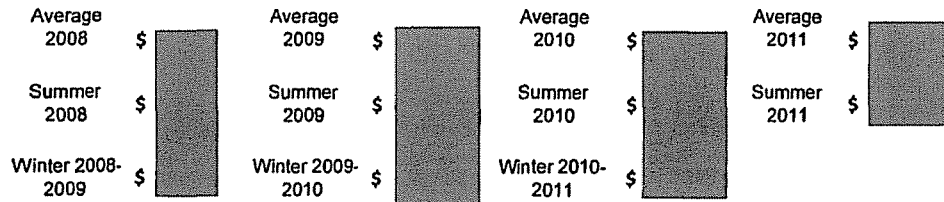
On the demand side, gas consumption remains relatively low even as economic recovery appears to be under way, Wood said. "Given the load that was lost due to the recession, it is expected that natural gas demand in 2010 and even 2011 will likely be lower than it was several years ago." Assuming temperatures are near normal through next autumn, "there is no reason to be alarmed that supplies will be insufficient at this time to meet this demand," she added.

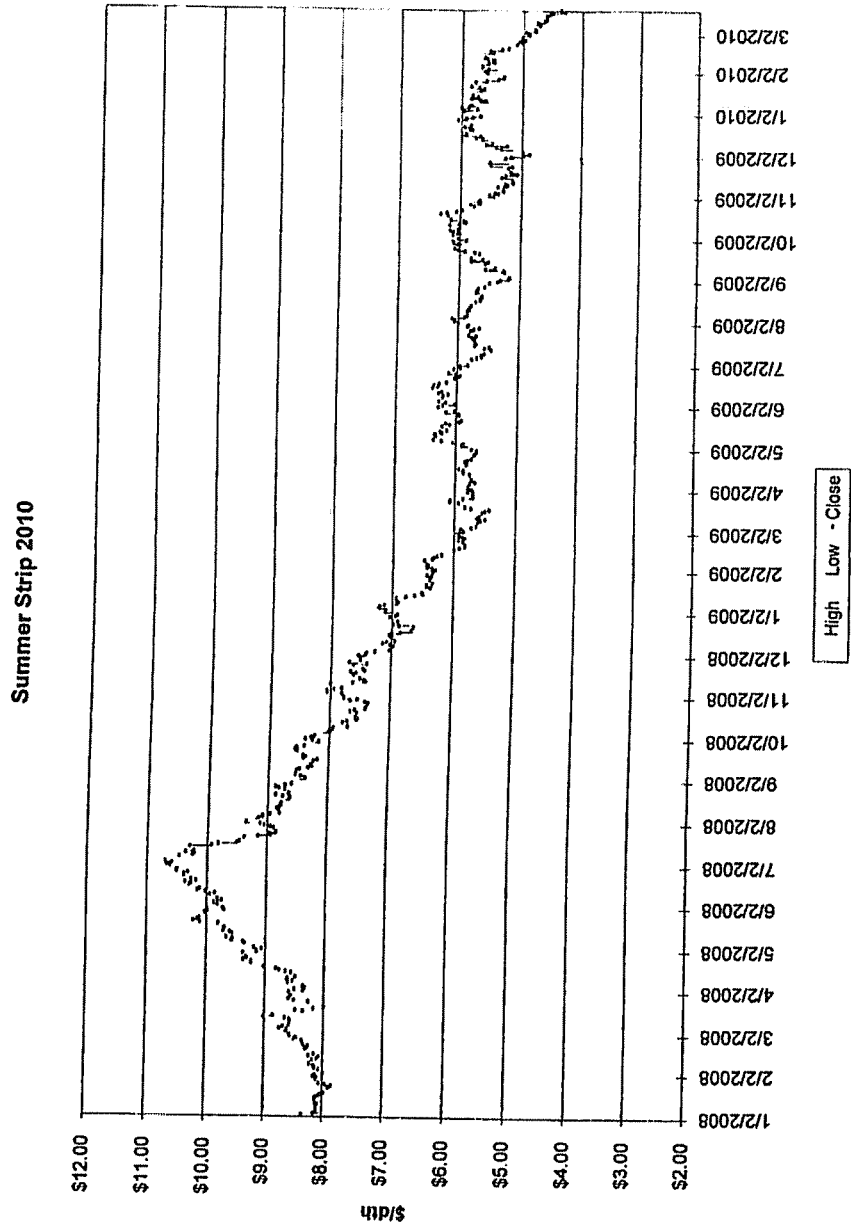
Wood cautioned that despite the outlook for lower prices, buyers should not be lulled into a false sense of security.

"While we've provided our rationale for a weak price environment in 2010, it doesn't mean that buyers should become complacent, because periodic rallies will occur," she said. "Even during weak price environments, there are opportunities to make cost-effective longer-term purchases, particularly in the first and third quarters of the year, and buyers should be prepared for those opportunities." — *Rodney White*

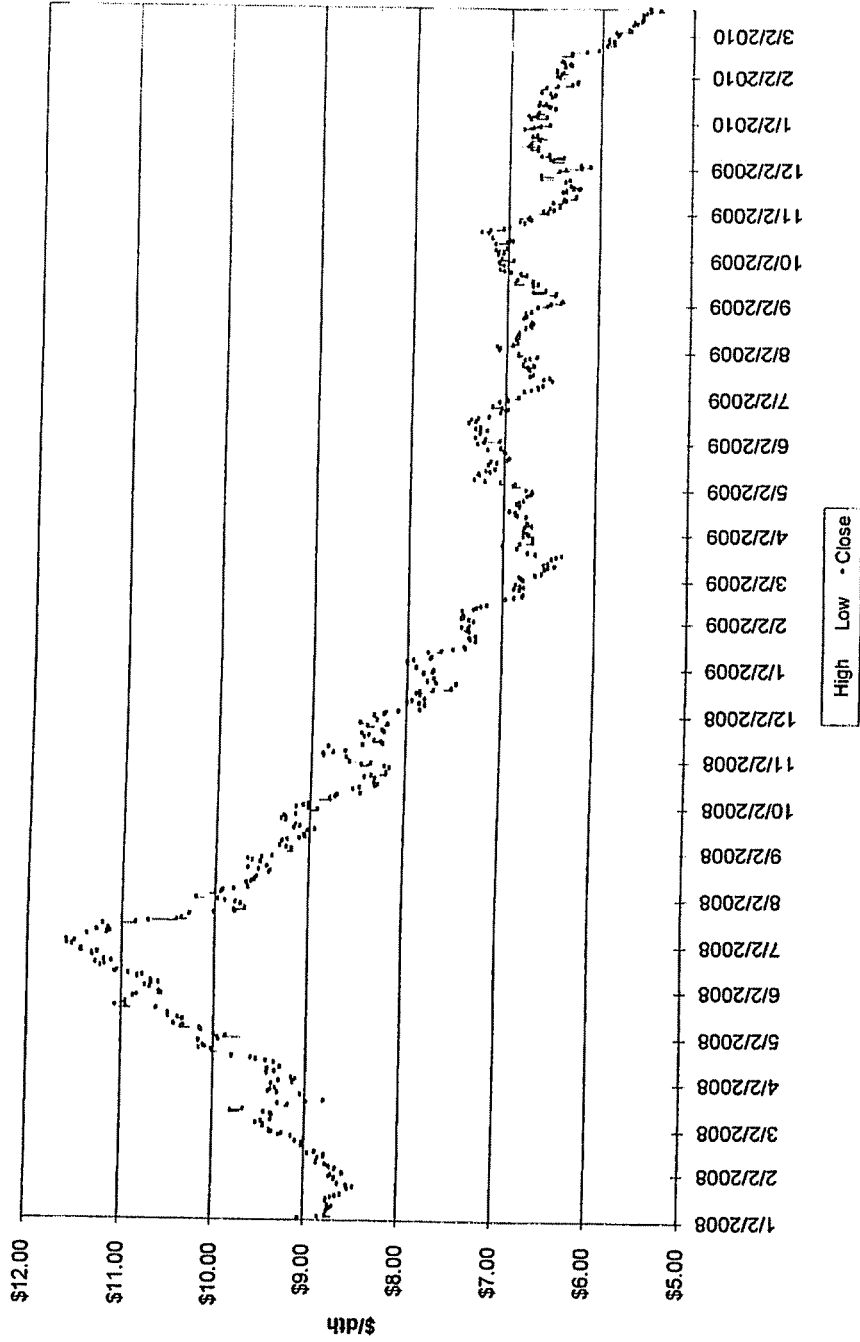
**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**March 9, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	5.87
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	6.02
Mar-08	9.41	Mar-09	3.96	Mar-10	4.93	Mar-11	5.77
Apr-08	10.18	Apr-09	3.49	Apr-10	4.85	Apr-11	5.36
May-08	11.27	May-09	3.83	May-10	4.91	May-11	5.31
Jun-08	12.69	Jun-09	3.80	Jun-10	4.96	Jun-11	5.36
Jul-08	11.09	Jul-09	3.38	Jul-10	5.00	Jul-11	5.41
Aug-08	8.26	Aug-09	3.14	Aug-10	5.05	Aug-11	5.50
Sep-08	7.67	Sep-09	2.97	Sep-10	5.09	Sep-11	5.60
Oct-08	6.74	Oct-09	4.00	Oct-10	5.16	Oct-11	5.70
Nov-08	6.68	Nov-09	3.66	Nov-10	5.33	Nov-11	5.85
Dec-08	5.82	Dec-09	5.34	Dec-10	5.58	Dec-11	6.00





Winter Strip Nov10 - Mar11



25

## Short-Term Energy Outlook

March 9 2010 Release

### *Natural Gas*

**U.S. Natural Gas Consumption.** EIA expects total natural gas consumption to increase by 0.7 percent to 62.9 billion cubic feet per day (Bcf/d) in 2010 and decline by 0.4 percent in 2011. Cold weather drives this year's natural gas consumption increases. Total natural-gas-weighted heating degree-days during the first 2 months of this year were 5.5 percent above the 30-year normal level and the highest for the period since 2004.

The combination of frigid temperatures and electric space heating in the Southeast contributed not only to increases in residential and commercial sector natural gas consumption but also to very strong natural gas consumption in the electric power sector. Even with the assumption of near-normal weather in March, EIA expects first-quarter natural gas use in the electric power sector to increase by about 3 percent above the same period last year and about 17 percent above the previous 5-year average. This increase in first quarter 2010 electric power sector consumption has all but eliminated the projected 1.3-percent year-over-year decline in natural gas consumption for this sector in last month's Outlook.

The 2011 outlook for a small decline in total natural gas consumption reflects the projected return to near-normal weather, which is expected to reduce consumption in the residential, commercial, and electric power sectors. Continued economic recovery contributes to a projected 2.1-percent increase in natural gas consumption in the industrial sector.

**U.S. Natural Gas Production and Imports.** EIA expects total marketed natural gas production to decline by 2.7 percent to 58.7 Bcf/d in 2010 and increase by 1.1 percent in 2011. The number of working natural gas rigs has been increasing this year in response to higher prices in both the spot and forward markets. According to Smith International, natural gas rigs have increased by more than 17 percent, or by nearly 140, since the start of this year. There are currently almost 570 working horizontal rigs, a new record. EIA still anticipates a decline in 2010 production because of the lag time arising from low drilling rates last year and steep decline rates associated with newly drilled wells. However, continued recovery of drilling rig activity, increasing drilling efficiency, and the potential for higher production rates from shale gas wells could lead to higher-than-expected production this year and next.

EIA expects U.S. net imports to be slightly higher in 2010 as a projected decline in pipeline imports is offset by lower exports and higher imports of liquefied natural gas (LNG). While cold weather across the northern hemisphere has helped absorb some of the new LNG supply that has recently come on-stream, U.S. LNG imports are forecast to increase by nearly 0.8 Bcf/d over last year in the first quarter 2010. For 2010 as a whole, U.S. LNG imports are forecast to increase by about 45 percent (or 0.56 Bcf/d). As global LNG demand and import capacity expand next year, EIA expects U.S. LNG imports to show little year-over-year growth in 2011.

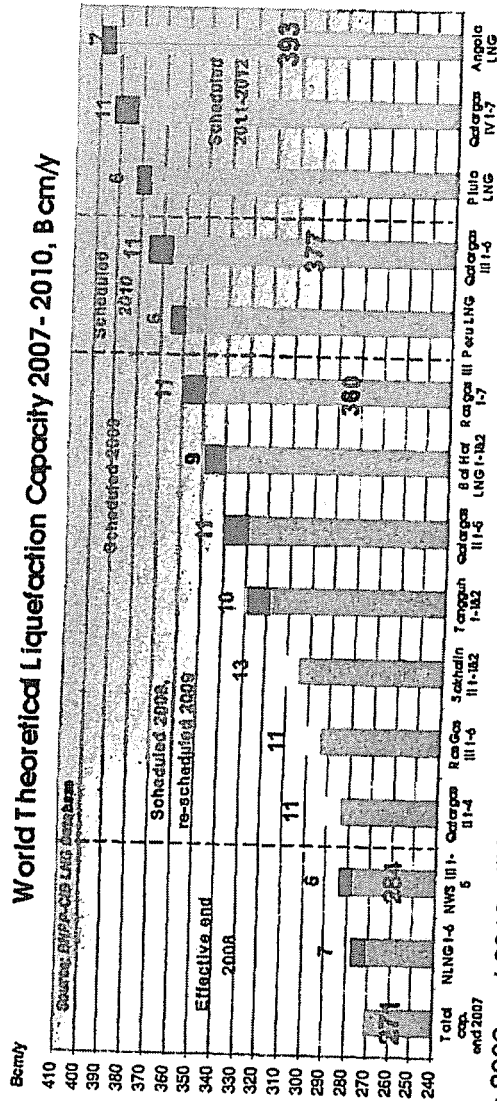
### *Global Crude Oil and Liquid Fuels*

**Crude Oil and Liquid Fuels Overview.** EIA's more optimistic updated expectation for global economic growth during 2010 drives the 2010 forecast for oil consumption growth upwards to 1.5 million barrels per day (bb/d) from 1.2 million bb/d in last month's Outlook. This increased growth in 2010 oil consumption supports a firming of crude oil prices at above \$80 per barrel this summer and accommodates a further drawdown of commercial oil inventories. While EIA has also reduced its projections for surplus production capacity in the Organization of the Petroleum Exporting Countries (OPEC), surplus capacity remains ample, dampening the likelihood of a large upward swing in prices.



Natural Gas Market Outlook, March 2010

## LNG Supply Surge



- 2009 and 2010 will be marked by an impressive liquefaction capacity ramp-up (+33% as of end 2010 vs. end 2008 if current schedules of plants under construction are maintained)
- Because liquefaction plants have high fixed costs and debt to pay back, an LNG oversupply is possible over the next 2-3 years if economy does not recover quickly
- Capacity shut-ins are unlikely: the US market should absorb potential Asian and EU supply excess via price adjustment.



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Department / Name | 19 March, 2010 | 6

**Market Fundamentals Desk** **Market Trends – Within Next 6-9 Months**

*This document summarizes our views on North American Natural Gas fundamentals.*

Bearish Price Factors:

- > Production
  - Drilling remains strong even in weak price environments
    - Producers are hedged out 1-2 years
    - They no longer need \$6-\$7 gas to make money due to unconventional plays
    - Still a fair rate of return on \$4-\$5 NYMEX gas for shale producers
  - Rig counts are climbing and are drilling more efficiently
- > LNG
  - U.S. deliveries are the strongest in almost 2 years
  - A developing gas "situation" in Europe may force more gas to the U.S.
- > Storage at 1,615 as of 3/12
  - Around 100 Bcf greater than the 5-year average, but still below 2009's historical run

Wildcard Factors:

- > Weather Forecast
  - Weather forecast right now are not impressive for summer heat
  - Tropical disturbance are always a wildcard
    - Less of a threat than in years past due to location of production

Bullish

- > Canadian Imports
  - Imports from Canada are expected to decline into 2011
- > Coal Displacement
  - At current gas prices (<\$4.50ish), gas should begin displacing coal in the Southeastern U.S. (we are hearing rumors it has begun)

3/19/2010

CAM Commercial Analytics

# Gas Daily

Tuesday, March 23, 2010

## Supply glut seen keeping gas sub-\$6 this year

Investment bank Raymond James' top gas analyst isn't backing away from the firm's \$5.50/Mcf price forecast for 2010 but cautioned Monday that \$6/Mcf gas may not happen this year.

The biggest factor keeping prices down? Gas output hasn't fallen much at all, analyst Marshall Adkins said in a note to clients.

"Natural gas production has yet to show the hard rollover that many of the pundits (read: bulls) were pointing to throughout 2009," Adkins said.

The bank's own analysis of production using reports by publicly traded companies and the Energy Information Administration's Form 914 production reports indicate that gas supplies will only fall about 1 Bcf/d in 2010 from 2009. Worse for bulls, Adkins said, given the sometimes double-digit production gains from shale plays being forecast by independents, is that gas production could be greater in 2010 than 2009.

Analysts at Pritchard Capital Partners said Monday that growing rig counts and supply are making investors bearish on gas prices.

"Bearish sentiments prevail on concerns that due to increased drilling activity, supplies may actually rise in 2010, exacerbating the situation in an already well-supplied market," Pritchard said. The firm noted that the Baker Hughes rig count rose by another 12 rigs last week to 939 rigs, an increase of 41% from the low point in July.

Offsetting the recent cold snap's ability to get gas out of storage is an increase in liquefied natural gas imports, Adkins noted. While storage levels are below those of a year ago, they are still above the five-year average without the balancing of as many power plants switching from coal to gas, Adkins said.

"Unless operators start cutting back on natural gas drilling (or go back to vertical wells), this summer could be ugly for natural gas prices," Adkins said. "In fact, given recent storage data, we would probably take the under on our \$4/Mcf forecast for the third quarter of 2010 — heck, we may even have a \$3 handle this week."

From its peak in the first quarter of 2009, gas production, according to Raymond James' analysis, has only fallen 2.2% (700,000 Mcf/d) for private producers, 0.5% (100,000 Mcf/d) by independents, and 8.2% (900,000 Mcf/d) for the majors.

"The odds are stacking up against the bull case of natural gas," Adkins said. "In fact, we believe domestic US natural gas production may have already bottomed."

"We are still (conservatively) estimating 'normalized' gas supply falling approximately 1 Bcf/d year-over-year in 2010," Adkins said. "Regardless of which US gas supply scenario plays out, it looks like \$6 gas is not in the cards this summer."— Bill Holland

# Gas Daily

Tuesday, March 23, 2010

## Marcellus to dwarf area demand by 2015: Bentek

**Production from the Marcellus Shale is likely to double in five years and far outpace regional demand growth during that time, potentially displacing other supplies such as Canadian or Rockies gas,** Bentek Energy said in a Monday report.

**Bentek's "Beast in the East," report forecasts production to climb from 2.3 Bcf/d in the first quarter of this year to about 4.1 Bcf/d in 2015, based on current rig count levels. In a more aggressive scenario, the consulting firm said the 4 Bcf/d level could be reached by early 2011 if Marcellus producers continue to double production each year.**

In contrast, actual demand growth for the region looks set to increase only 800,000 Mcf/d by 2015 from 2009 levels, the report stated. Bentek puts power sector growth by 2015 at only 0.3 Bcf/d, but their scenario did not take into account a potential shift away from coal-fired generation to gas.

**"The bottom line in this demand analysis is that the pace of regional gas demand growth, including storage injection demand, is unlikely to match the pace of projected supply growth within the region,"** the report stated.

**As such, supply displacement will be felt across the nation and downward pressure will ultimately be applied to regional prices.**

"If Marcellus production is expected to grow at least 1.8 Bcf/d over the next five years, it could completely eliminate the need for 1.4 Bcf/d of Canadian imports in the summer, or the 1.6 Bcf/d of gas that comes from the Midcontinent and Rockies," the report stated.

More than 30 pipeline expansions have been proposed to carry the gas to market, including 22 short-haul and gathering projects totaling 6.8 Bcf/d and 12 market access projects of 5.9 Bcf/d, according to the report.

### **More pipelines mean tighter spreads**

Although not all of them will get built, even a handful will ensure a tightening of regional price spreads, the report noted. Among the markets that will see prices drop are: Transcontinental Gas Pipe Line's zone 6-New York and non-New York, Texas Eastern Transmission's zone M-3, Tennessee Gas Pipeline zone 6, Iroquois Gas Pipeline's zone 2 and the Algonquin Gas Transmission's city-gates.

As Southeast and Gulf gas gets displaced by Marcellus supplies, prices at upstream markets such as Transco's zones 4 and 5, as well as Texas Eastern's zone M-2, will also be yanked lower, the report contends.

Bentek noted the average forward basis price in the premium Northeast markets through 2013 has declined to \$0.93/MMBtu, compared to \$1.35 last year.

"This is an indication that the market is beginning to respond to the expected pipeline capacity additions and Marcellus growth," the report stated.

Analysts have noted that while forward basis at Northeast city-gate markets would shrink because of the onslaught of Marcellus supplies, they were unlikely to get crushed because the vast majority of proposed projects stop just short of the actual city-gates, ensuring that bottlenecks and constraints would remain.

Analysts were also bullish regarding gas demand growth post-2013 as the economy recovers and gas-fired generation gets a boost from expected climate change legislation.

Indeed, the Platts forward curve is in contango through 2013 with assessed full values at Transco's zone 6-New York rising from \$6.18 in 2011, to \$6.92 in 2013 on Monday.

Intercontinental Exchange indicated the 2014 full value for the market was \$7.19 on Monday.

Additionally, Bentek forecasts that because of infrastructure constraints some 550 Marcellus wells, totaling 705,000 Mcf/d, are currently shut in because they lack either gathering or processing lines, or a connection to a larger pipeline.

The consulting firm also pegs the breakeven price at the play at \$3.16/MMBtu, which falls in the low end of current analysts estimates that range from the mid- \$3.00s to the mid-\$4.00s. — *Samantha Santa Maria*

# Gas Daily

Tuesday, March 23, 2010

## Bearish coal market could weigh on gas sector this summer: analyst

Weakness in the coal market could put additional pressure on the already bearish natural gas market for the next several months, an analyst with Strategic Energy and Economic Research said Monday.

Even though a hotter-than-normal summer could boost cooling demand and provide some support to gas prices, "the potential decline in coal prices provides significant downside risks to natural gas prices," according to Ron Denhardt, SEER's vice president of natural gas services.

"Our current model projections indicate that Henry Hub prices are likely to be below coal prices for two or three months of the non-heating season," Denhardt said, estimating that gas consumption for power generation will fall by about 1.2 Bcf/d as a result of fuel-switching.

With current NYMEX coal prices trading at around \$54.50/ton, Henry Hub prices would have to average \$4.25/MMBtu or less to displace coal. But, Denhardt noted, last year coal prices fell to the \$45/ton level; at those prices, Henry Hub prices would have to drop to around \$3.70/MMBtu to displace coal.

With weather across the US expected to remain mild for the rest of March, storage levels should start the traditional injection season at around 1.65 Tcf, or roughly the same level as last year, he said. Should fuel-switching from gas to coal proceed as expected, Denhardt predicted that working gas in storage at the end of October will reach "feasible capacity" of around 4 Tcf.

That downward pressure on gas prices will likely lead to lower liquefied natural gas imports and lower domestic drilling, the analyst predicted.

"With natural gas production from many shale plays attractive at prices of \$4.00/MMBtu or less, natural gas prices will have to decline enough to stop the rig count from growing," Denhardt noted. Currently, the horizontal rig count — indicative of shale production — is around 8% above its previous peak in October 2008, he said.

On the LNG front, the analyst said that liquefaction capacity should increase by between 4 Bcf/d and 5 Bcf/d. With 2 Bcf/d headed to markets in Asia, the Middle East and Latin America, that would leave between 2 Bcf/d and 3 Bcf/d for the North American and European markets.

European markets currently hold a premium to Henry Hub, which would imply that most of that additional LNG will head to Europe. — *Melanie Tatum*

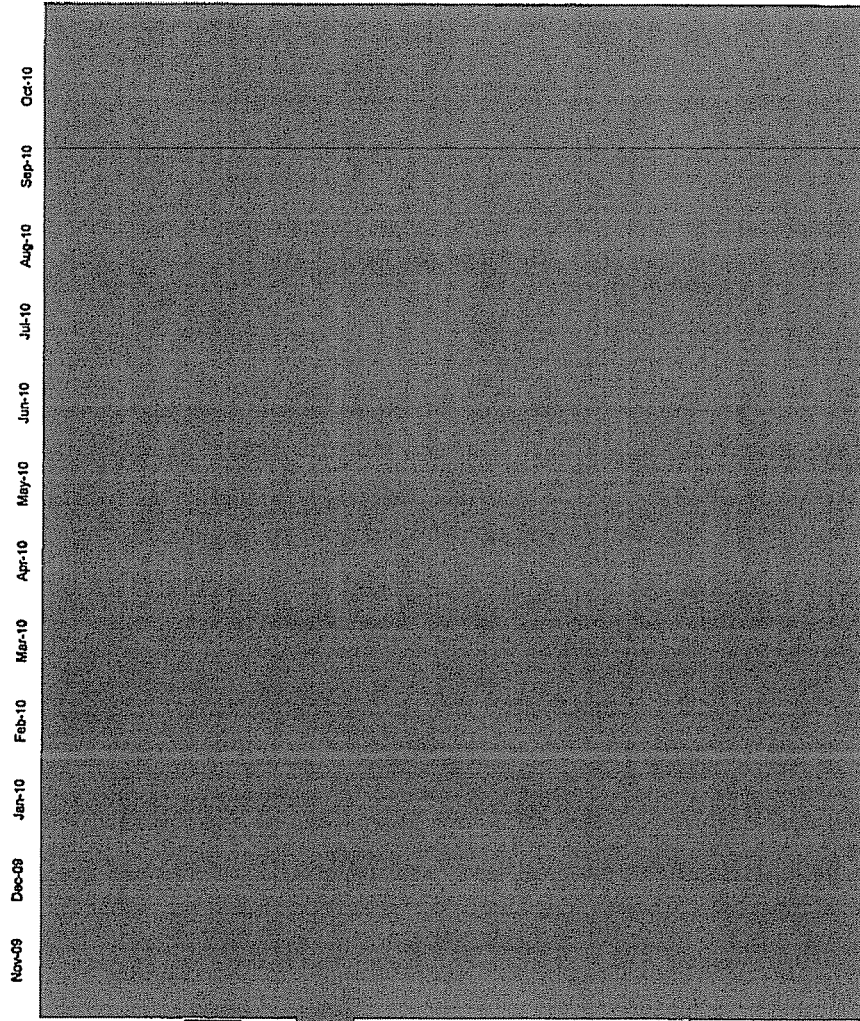
Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
April 28, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (May 10-July 10)	↔	Long	NOAA predicting above average temperatures for May 2010-July 2010 for the western and southeastern portions of CONUS with below normal temperatures in the central portions and equal chance of above, normal or below temperatures for the remaining states east of the Mississippi river	12
Mid Term Forecast (30-60 days)	↔	Long	May is predicted to be 18% colder than 10 year normal and June is predicted to be 10% colder than 10 year normal	13
Short Term Forecast (5-10 days)	↔	Short	Beginning of period, Below in the west and Above/Much Above temperatures east of the Mississippi. Below temperatures moving north into Canada and Above temperatures moving to the east coast, leaving at the end of the period most of CONUS with Normal temperatures.	14
Tropical Storm Activity	↑	Long	Colorado State University predicting an above-average 2010 Atlantic hurricane season due to the dissipating El Nino.	15
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage injections for the week ending April 16th were 73 BCF. Storage levels are at 1.829 TCF which is 5.5% higher than last year and 18.5% higher than the 5 year average. The build was slightly below consensus expectations, triggering a 17.3 cent jump in May's price.	16
<b>Industry Publications</b>				
PIRA Energy Group Summer 2010 Winter 2010/11	↑	Long	"PIRA views recent prices to be at, or even below, indicated "floor price" levels during the 2010 storage refill season and foresees a recovery toward at least \$5 that would not trigger 2009-type bearish fundamentals."	17-18
Gas Daily	↓	Long	For 2010, Barclays expects US gas prices to average \$4.25/Mcf, down from previous forecast of \$4.50/Mcf. We are lowering our commodity price outlook to reflect current oversupply and lack of short-term demand catalysts."	19
Gas Daily	↓	Long	Despite an uptick in the use of gas for power generation, prices will stay low until next heating season as the ng count continues to rise. Henry Hub prices will average \$4.25/MMBTU from May through October.	20
Gas Daily	↓	Long	Higher-than-expected supplies threaten "to overwhelm storage this summer." Marshall Adkins cuts their 2010 gas price forecast to \$4.25/Mcf. "Only three short months and it's already time to take the axe to our (previously bearish) gas forecast again."	21
<b>Government Agencies</b>				
Energy Information Administration Summer 2010: \$3.990 Winter 2010/11: \$5.202	↓	Long	The projected Henry Hub annual average spot price is expected to be \$4.443 per MMBtu in 2010 and \$5.331 per MMBtu in 2011. The price outlook is lower primarily because of an average 2 Bcf/d upward revision to the 2010 domestic natural gas production forecast.	22
<b>Technical Analysis</b>				
Summer 2010 Strip Chart	↔	Short	Closed at \$4.49.	23
Winter 2010-11 Strip Chart	↔	Short	Closed at \$5.48.	24
<b>Economy</b>				
Demand	↔	Long	EIA: Natural gas consumption is projected to increase 1.9% to 63.9 Bcf/day in 2010 and decline by 0.6% in 2011. The cold weather helped boost gas consumption in the electric power sector, adding to the increase in industrial sector consumption due to improved economic conditions.	25
Supply	↓	Long	EIA: Total marketed natural gas production to increase by 0.4 Bcf/d to 60.9 Bcf/d in 2010 and decrease by 0.7 Bcf/d in 2011. The global LNG market appears to be well supplied in 2010-EIA expects LNG imports to increase by about 0.5 Bcf/d over last year.	25
Oil Market	↔	Long	The world oil market will continue to firm and increase slightly in response to the global economic recovery. EIA expects WTI crude oil, which averaged \$82 per barrel in 2009, will average slightly less than \$81 in 2010.	25-28

**Meeting Minutes: 10th Floor North Conference Room - 10:00 am**  
Attendees: Jeff Kern, Jim Henning, Mike Brumback, Terry Bates, Steve Niederbauer

Reviewed fundamentals such as weather (current to LT forecasts), storage levels, industry publications, governmental agency, technical analysis and supply and demand fundamentals. Discussed the Ohio and Kentucky Hedging Programs including the addition of the Winter 2012/2013 Winter season. Discussed the analysts downward projections relative to the current NYMEX prices and discussed the 2010 hurricane forecast and its impact on prices. Determined that based on this data, not to effectuate any additional hedging at this time. However, we will continue to monitor pricing, and other market fundamentals to determine if hedging should occur prior to the next scheduled meeting.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 04/27/10



**Lead Exposures**  
 City Gate Load Forecast (Mcf)  
 TCO FSS Injections (Mcf)  
 Total Requirements (Mcf)  
 TCO FSS Withdrawals (Mcf)  
 "Withdrawals" (Mcf)  
 Total Withdrawals (Mcf)

**Amount Hedged (MWh/den)**  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Cellular  
 Fixed Price  
 Cost Averaging  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (MWh/den)  
 Total Hedged (den)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

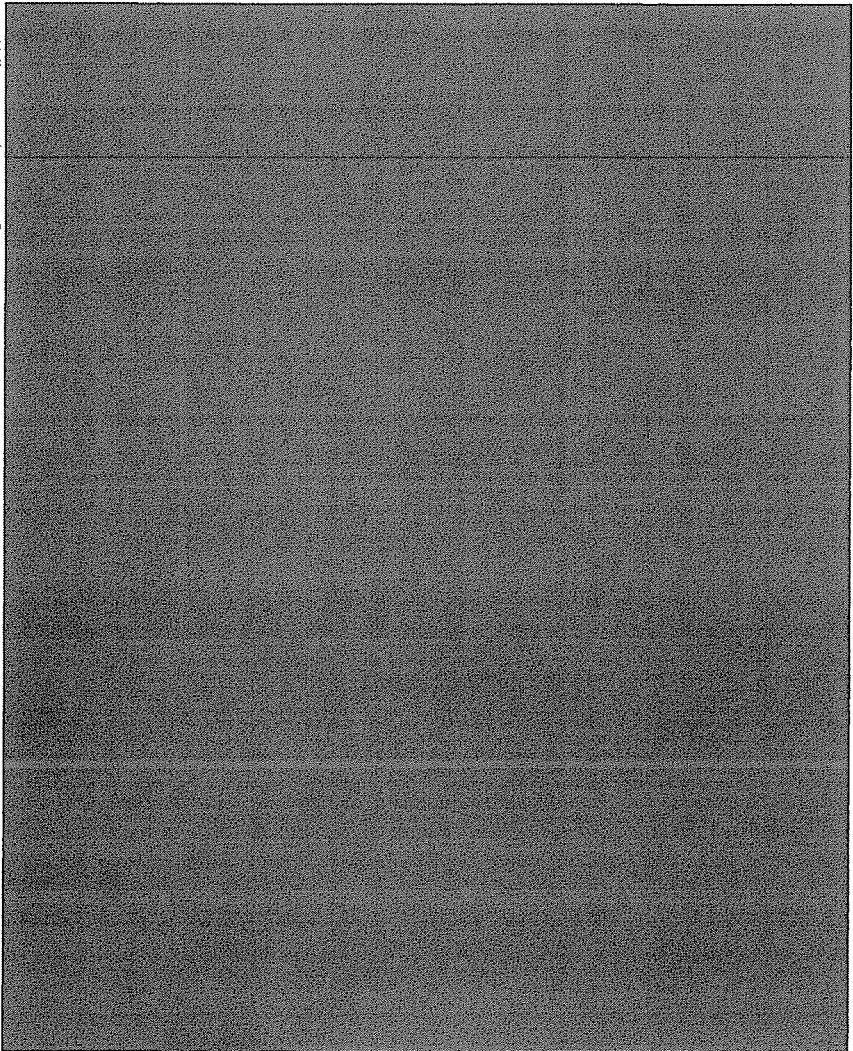
**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 % of System Supply  
 Seasonal % of System Supply

**Amount Hedged with Storage @ City Gate**  
 Hedged (City Gate)  
 Storage Withdrawal  
 Market  
 Total (incl. Injections)  
 % Hedged & Storage  
 Seasonal %



Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 04/27/10

Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11



**Load Forecasts**

- 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 ( )
- Collar
- Fixed Price ( )
- Fixed Price ( )
- Fixed Price ( )
- Total Hedged (dth/day)
- Total Hedged (dth)

**Types of Hedging Products (1)**

- Fixed Price
- Price Caps
- No-Cost Collars

**Embedded Hedged Cost**

- Winter
- Summer

**Estimated EGC per Dth at City Gate**

- 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 %

**Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 04/27/10**

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth/day)</b>												
Fixed Price (												
Fixed Price (												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per dth at City Gate</b>												
Estimated System Supply (Gross)												
% of System Supply												
Seasonal % of System Supply												
<b>Am't Hedged with Storage @ City Gate</b>												
Hedged (City Gate)												
Storage Withdrawal												
Market												
Total (incl. injections)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 04/27/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

**Lead Forecasts**  
 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)**  
 TBD  
 TBD  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 % of System Supply  
 Seasonal % of System Supply

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate)  
 Storage Withdrawal  
 Market  
 Total (incl. injections)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

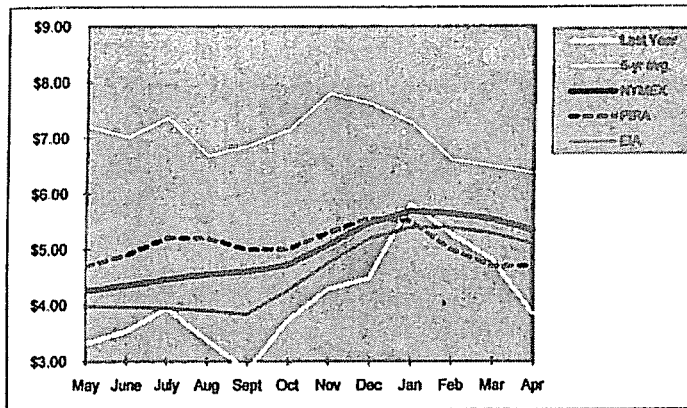
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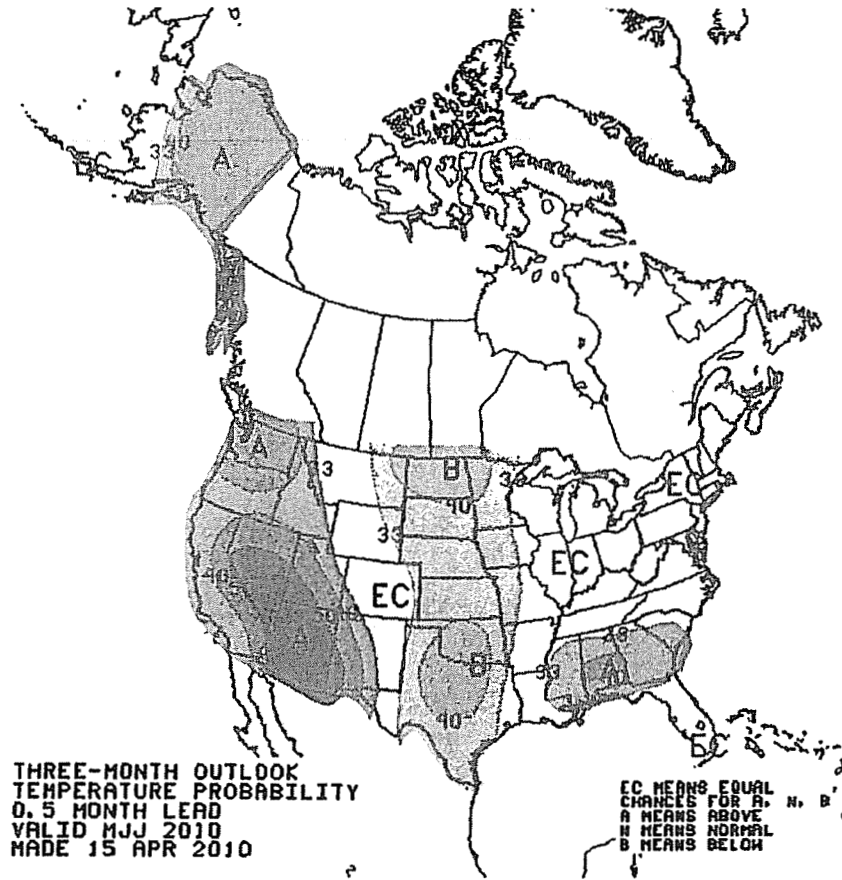
Duke Energy Kentucky  
 Hedging Program  
 Current Position

Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (10/31/10)	
		Total		Required	Allowed
		Dth/day	Dth/mo	dth/day	dth/day
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					
Target Levels By October 31, 2010					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2010					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2010					

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

Historic Prices:							Hedged Prices	
	NYMEX Closing Price			PIRA 26-Mar-10	EIA 6-Apr-10	NYMEX 27-Apr-10	Ohio	Kentucky
	6-yr. avg. (05/06-09/10)	Last Year (2009-2010)						
May	\$7.21	\$3.32			\$3.990	\$4.262		
June	\$7.02	\$3.54			\$3.970	\$4.351		
July	\$7.37	\$3.95			\$3.950	\$4.467		
Aug	\$6.68	\$3.38			\$3.910	\$4.558		
Sept	\$6.87	\$2.84			\$3.840	\$4.608		
Oct	\$7.15	\$3.73			\$4.260	\$4.718		
Nov	\$7.80	\$4.29			\$4.750	\$5.078		
Dec	\$7.62	\$4.49			\$5.190	\$5.468		
Jan	\$7.28	\$5.81			\$5.390	\$5.681		
Feb	\$6.61	\$5.27			\$5.390	\$5.644		
Mar	\$6.49	\$4.82			\$5.290	\$5.644		
Apr	\$6.37	\$3.84			\$5.100	\$5.342		
12 Month Avg	\$7.04	\$4.11			\$4.686	\$4.977		
Summer Average					\$4.146	\$4.615		
Winter Average					\$5.202	\$5.483		



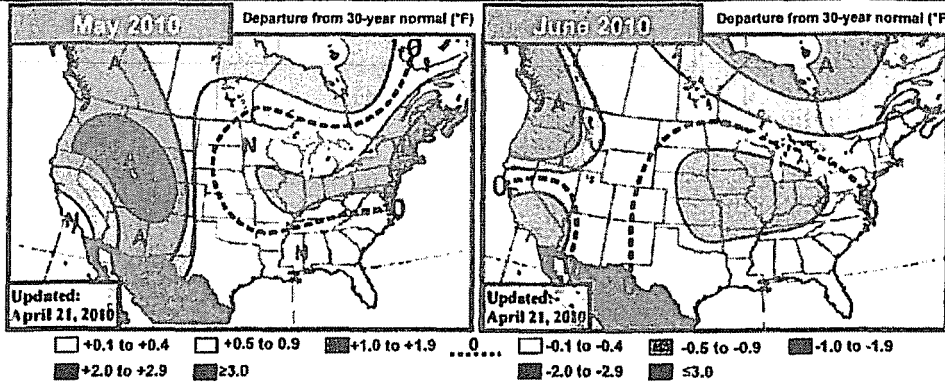




# EarthSat's 30-60 Day Outlook

Wednesday, April 21, 2010

Forecaster: SS/BH/TH



**Previous**  
Not as cool across the Midwest  
Still cooler than normal in the Northeast

Changes this week were towards the warmer side overall, with less coverage of belows across the Midwest and Interior East, and some marginal above's reaching into parts of central and eastern Canada. The month as a whole remains a difficult forecast period, as the various models and ensembles are not generally arriving at consistent results. Our forecast continues to resemble the ENSO ensembles to some extent, though we're not nearly as cold in Eastern Canada or the Great Lakes. However, the ENSO ensembles have not performed very well in April thus far, resulting in the lower confidence. Adding support for some cooler trends are the latest EPO signals, which show negative trends after running positive for much of March and April. The latest ECMWF monthly outlook issued last Thursday favors persistence, showing a considerably warmer solution with widespread above's from the Rockies eastward and below's in California.

**Previous**  
Not as cool across the Midwest  
Still warm in the Northwest

The main change to the forecast here was a limiting of the belows across the Midwest, with only marginal belows seen in this forecast. Temperatures are expected to be near normal along the East Coast and in the South. Like May, the ECMWF monthly outlook (bottom left) shows a much warmer outcome in June with widespread above's across most of the US including the Midwest and East. Our forecast more closely resembles the latest CFS model (bottom right), which shows widespread below normal temperatures across much of the US. However, this model is colder than our forecast in the West. Look for more details on this forecast in tomorrow's Summer Outlook update.

**May PWCCD\* Forecasts** \*10Y Normal updated to '00-09

10Y Normal*	108.6
30Y Normal	98.4
May-2009	109.3

May 2010 Fcst: **89.0**

May GWHDD: 175.0  
30Yn: 168.5 10Yn: 161.8  
Change: +1.0

\*National Population-Weighted CDDs

**Jun PWCCD\* Forecasts** \*10Y Normal updated to '00-09

10Y Normal*	229.0
30Y Normal	217.4
Jun-2009	224.3

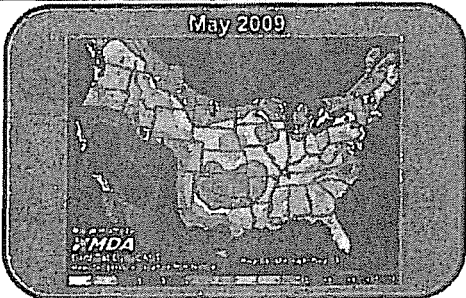
Jun 2010 Fcst: **206.0**

Change: +3.6

\*National Population-Weighted CDDs

**April verification so far**

The April remains a warm but not record-breaking month. GWHDD stands up to the April 2009 record of 175.0. In 1940-2009, there have been 11 years of 175 or above normal for the month. Most of the above normal for the month occurred in the Midwest and Interior East, and only within 3-4°F above normal elsewhere. In the Southeast and the southern Plains, the mean monthly temperatures were cold as they were last week across the West, as temperatures have begun to moderate. Overall, the shape of the record books is the result, though we'll likely be underestimating the magnitude of the warmth in the Midwest and less than all could be done.



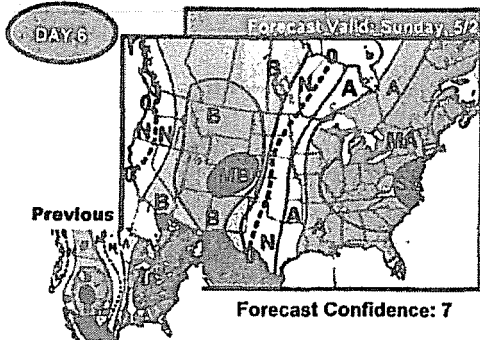


# EarthSat's 6-10 Day Forecast-Detailed

Tuesday, April 27, 2010

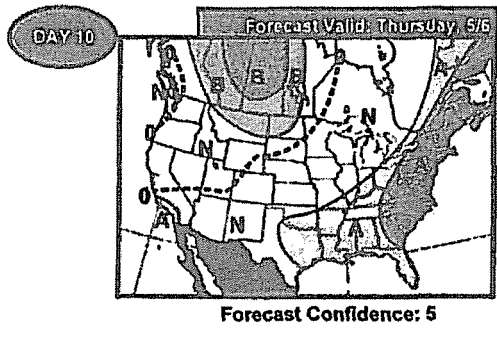
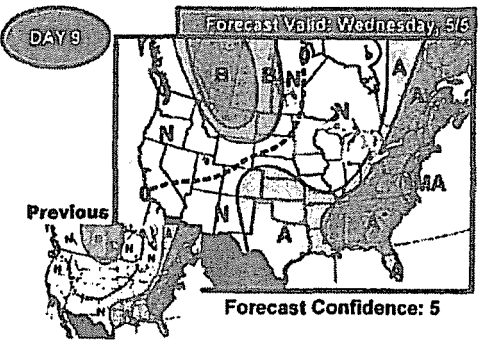
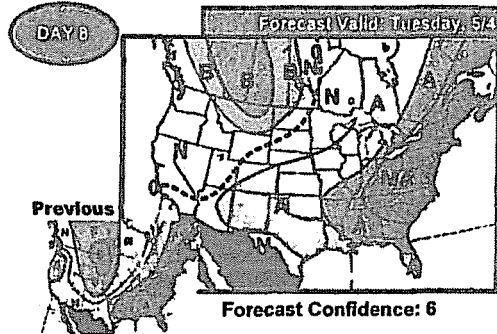
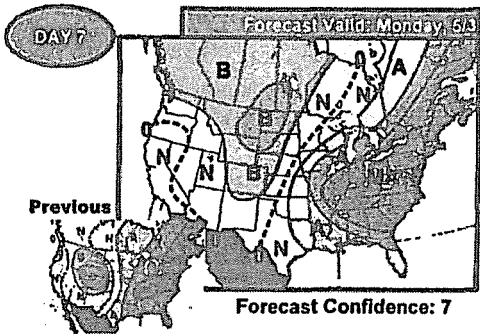
Forecaster: KT/AC

## Forecast Temperature Deviations



**Today's Forecast:**  
 MA's Remain Along Much Of East For First Half  
 Chance For Cooler Plains Late In Period

Confidence is relatively unchanged today as much of yesterday's thinking remains intact. The East Coast could see a day of strong above normal temperatures for the onset of the period with much above normal readings pressing on into the middle of the period. The European models are, again, most in line with this thinking while the American model continues to progress the pattern eastward quicker. This would lead to a cool risk along the Midwest and East late in the period. Meanwhile, the West holds onto cool conditions during the early period with belows possibly looming along the Northern Rockies. A faster progression of the pattern may lead to a warmer Southwest late.



A +3F to +4F  
  A +5F to +7F  
  MA +8F to +14F  
  SA +15 or Higher  
 B -3F to -4F  
  B -5F to -7F  
  MB -8F to -14F  
  SB -15 or Lower



# Gas Daily

Thursday, April 8, 2010

## CSU predicts active hurricane season as El Nino dissipates

The Colorado State University forecast team on Wednesday predicted an above-average 2010 Atlantic basin hurricane season based on the assumption that El Nino conditions will dissipate by summer and that "anomalously warm" tropical Atlantic sea surface temperatures will persist.

Forecasters at the school called for 15 named storms to form in the Atlantic basin between June 1 and November 30, with eight expected to gain hurricane strength. Of those eight, the team said four will likely develop into major hurricanes of Category 3 or greater.

Long-term averages for the Atlantic hurricane season are 9.6 named storms, 5.9 hurricanes and 2.3 major hurricanes.

"We expect current moderate El Nino conditions to transition to neutral conditions by this year's hurricane season," said Phil Klotzbach, lead forecaster on the CSU team. "The dissipating El Nino, along with the expected anomalously warm Atlantic ocean sea surface temperatures, will lead to favorable dynamic and thermodynamic conditions for hurricane formation and intensification."

El Nino, a phenomenon marked by a warming of sea surface temperatures in the tropical Pacific, is believed to act to discourage the development of tropical storms in the Atlantic basin.

"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%." William Gray, a long-time forecaster at CSU, added. "While patterns may change before the start of hurricane season, we believe current conditions warrant concern for an above-average season."

Precursor factors to this year have a number of similarities to early April conditions that preceded the hurricane years of 1958, 1966, 1969, 1998 and 2005. All five of these seasons had above-average activity, especially the seasons of 1969, 1998 and 2005, the school said. Klotzbach and Gray predicted that the 2010 season will have slightly less.

The team also forecasted a 45% chance that a major hurricane will make landfall on the East Coast, including the Florida Peninsula, up from the long-term average of 31% and see a 44% chance that a major storm will make landfall along the Gulf Coast from the Florida Panhandle to Brownsville, Texas, up from the long-term average of 30%.

The team also predicted a 58% chance of a major hurricane tracking into the Caribbean, compared with the long-term average of 42%. — Jeff Barber

Released: April 23, 2010 at 10:30 a.m. (eastern time) for the Week Ending April 16, 2010  
 Next Release: April 29, 2010

Working Gas in Underground Storage, Lower 48 other formats: [Summary](#) [TXT](#) [CSV](#)

Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	04/16/10	04/09/10	Change	Year Ago (04/16/09) Stocks (Bcf)	% Change	5-Year (2005-2009) Average Stocks (Bcf)	% Change
East	829	795	34	666	24.5	683	21.4
West	304	296	8	293	3.8	236	28.8
Producing	696	665	31	776	-10.3	624	11.5
<b>Total</b>	<b>1,829</b>	<b>1,756</b>	<b>73</b>	<b>1,734</b>	<b>5.5</b>	<b>1,543</b>	<b>18.5</b>

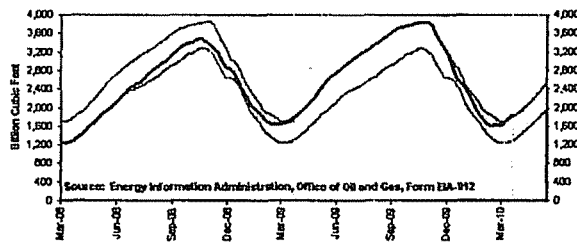
**Notes and Definitions**

**Summary**

Working gas in storage was 1,829 Bcf as of Friday, April 16, 2010, according to EIA estimates. This represents a net increase of 73 Bcf from the previous week. Stocks were 95 Bcf higher than last year at this time and 286 Bcf above the 5-year average of 1,543 Bcf. In the East Region, stocks were 146 Bcf above the 5-year average following net injections of 34 Bcf. Stocks in the Producing Region were 72 Bcf above the 5-year average of 624 Bcf after a net injection of 31 Bcf. Stocks in the West Region were 68 Bcf above the 5-year average after a net addition of 8 Bcf. At 1,829 Bcf, total working gas is above the 5-year historical range.

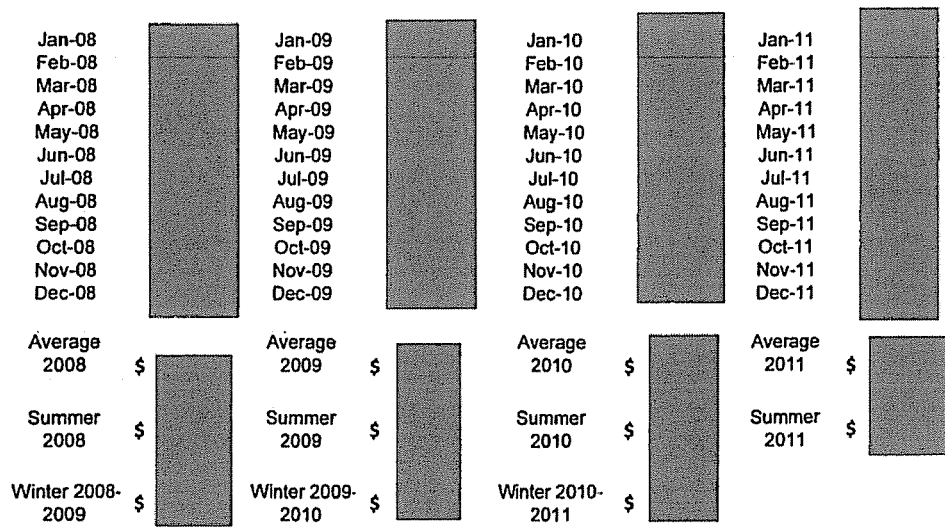
- Date
- [History \(XLS\)](#)
- 5-Year Averages, Maximum, Minimum, and Year-Ago Stocks (XLS)
- References
- Methodology
- Differences Between Monthly and Weekly Data
- Revision Policy
- Related Links
- Storage Basics
- Natural Gas Weekly Update
- Natural Gas Navigator

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 2005 through 2009.  
 Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**March 26, 2010 Release**



North American Gas Forecast Monthly   
 March 26, 2010 NATURAL GAS

**GAS PRICE SCORECARD: MAY 2010 – OCTOBER 2010**

Bearish Neutral Bullish  


U.S. Supply Issues	Outlook	Commentary
<b>U.S. Production</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	March gas balances indicated more resilient domestic production than previously anticipated, but Y/Y declines still look likely in 2Q and 3Q10 despite robust expansion of shale gas output.
<b>LNG Imports</b>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Lower 2Q10 Henry Hub gas futures should mitigate the Y/Y expansion of LNG send-outs from U.S. liquefaction terminals to less than -1 BCF/D.
<b>Canadian Exports</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	No Canadian production recovery appears on the horizon, but the Y/Y storage surplus once again has moved higher. Relatively fast storage refills should severely limit 2Q10 exports, but the Y/Y export gap should narrow by 3Q10.
<b>Mexican Pipeline Imports</b>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Dry gas production continues to exhibit expansion despite falling gross gas output, a difference explained by reduced gas flaring. Rising demand, however, still appears poised to keep Y/Y net trade with the U.S. relatively flat.
<b>Storage Levels</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	With end-March '10 stocks now a virtually match to last year, PIRA projects a Y/Y storage deficit of -0.2 TCF by late 2Q10, and prices should respond strongly to storage deficits.
U.S. Demand Issues	Outlook	Commentary
<b>Economy</b>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	February readings of the Institute of Supply Management and the Dallas Fed (Texas only) demonstrated a narrowing of the inventory orders gap, pointing to moderation in the recovery of manufacturing output.
<b>Electric Generation</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Lower 2Q10 gas prices (than previously employed in PIRA's EG forecast) and stronger coal prices should push Y/Y gas-fired EG above year-earlier levels with help from a stronger economy. EG has moved to the bullish side of the ledger.
<b>Industrial Sector</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Industrial gas demand Y/Y growth appears to have slowed from the frantic pace indicated in late-09 and early 2010, but stable prices are expected relative to last year's extremely depressed 2Q and 3Q levels.
<b>Residential Heating</b>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	PIRA's 10-yr normal QWIPD 2Q and 3Q10 assumptions yield minimal Y/Y changes in RUC gas heating.
Other Issues	Outlook	Commentary
<b>NYMEX Prices and Speculation</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	The wide oil-gas price divergence is partly explainable by fundamentals, also reflects trading by speculators. Non-commercials still long NYMEX WTI (longer position is 1.6x to 424,000 lots, only 12,000 under its mid-January high). But speculators are not short gas futures to the tune of -187,000 contracts — a new 52-week high.
Overall Assessment	Outlook	Commentary
<b>Price Outlook</b>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	The past month's Henry Hub gas price plunge gave no hint of a quick or sustainable recovery. Yet, PIRA views recent prices as low as, or even below, indicated "floor" levels during the 2010 storage refill season and foresees a recovery toward at least \$5 that would not trigger 2009-type bearish fundamentals.

# Gas Daily

Tuesday, April 27, 2010

## Barclays slices price forecast 22% to \$4.30

Analysts at Barclays Capital slashed their 2010 US gas price forecast by 22% on Monday, saying producers — particularly those that need to keep their leases in Louisiana's Haynesville Shale — continue to drill for gas in an already glutted market.

We are "lowering our commodity price outlook for natural gas to reflect current oversupply and lack of short-term demand catalysts," Barclays' Richard Gross and Jim Harmon said in a report.

For the first quarter, Barclays said Henry Hub prices averaged \$5.18/ Mcf, about 2% below its forecast of \$5.30/Mcf. For the rest of the year, Barclays sliced its estimates by 24% for the second quarter to \$3.87/Mcf, 31% for the third quarter to \$3.82/Mcf, and 28% for the fourth quarter to \$4.33/Mcf.

For all of 2010, Barclays said it now expects US gas prices to average \$4.30/ Mcf, down from its earlier forecast of \$5.50/Mcf.

While the analysts said they expect prices to rebound by about 10% in 2011 to \$4.75/Mcf, that is a 27% drop from their previous 2011 forecast.

Further out on the curve, Barclays trimmed its gas price forecasts to \$6/Mcf for 2012, 11% below their previous estimate; \$5.50/Mcf for 2013, a 13% drop; and \$5.50/Mcf for 2014, also down 13%.

Barclays said it expects drilling activity aimed at retaining Haynesville leases will decline next year as producers complete wells faster than required. The firm also said further cuts in drilling will come as the above-market hedges that producers currently have in place expire.

One traditional risk being discounted by investors this year, the analysts said, is hurricane season. "The risk to potential impacts on production has been mitigated by the movement of gas development to onshore shale plays," Gross and Harmon explained.

Meanwhile, "we don't think liquefied natural gas will be a factor since it's more lucrative to ship elsewhere, but this could change by the third quarter." — *Bill Holland*

# Gas Daily

Tuesday, April 27, 2010

Analyst: Rig count to cap prices through fall despite power demand

**Despite an uptick in the use of gas for power generation, prices will stay low until next heating season as the rig count continues to rise**, Ron Denhardt, vice president of natural gas services at Strategic Energy and Economic Research, said in a report Monday.

Denhardt predicted that **Henry Hub prices will average \$4.25/MMBtu from May through October, slightly below current NYMEX pricing for that period.**

He noted that the futures market "moves 20 cents/ MMBtu or more each week as working gas storage injections exceed or are below expectations. These significant moves in prices reflect the uncertainty about the current supply/demand balance and how consumption and supply respond to prices."

Denhardt expects production to increase by 0.5% during the non-heating season this year compared with the same period of 2009. **The US gas rig count has risen by 34 to 973 through mid-March and is up 44% from last July, while horizontal rigs have reached 734, 13% above the peak in October 2008.**

"With breakeven prices of many shale projects at \$4/ MMBtu and substantial sunk cost on both conventional and non-conventional production, it is unclear what price will be necessary to stop the rig count and production from growing," Denhardt said.

**Meanwhile, gas consumption for power generation is expected to increase by 1 Bcf/d through October compared with the comparable year-ago period, the analyst noted.** He cited very low hydro supplies in the West, with flows at 65% of normal, as well as lower nuclear generation levels, higher coal prices and forecasts for a hot summer.

**If current prices hold, gas could displace the same amount of coal as it did last year,** he added.

Low US gas prices are also creating a strong incentive for as much liquefied natural gas as possible to go to higher-priced markets in Europe and Asia, Denhardt said. This year, global LNG liquefaction capacity is likely to rise between 4 and 5 Bcf/d, but most will go to markets other than the US, he predicted.

Denhardt said he expects gas storage levels to reach 3.9 Bcf/d by the end of October, just 200 Bcf below his estimate of operationally feasible capacity — assuming a 5% warmer-than-normal summer, no hurricane impact to production and more than 1 Bcf/d of additional gas consumption due to the low hydro levels. — *Stephanie Seay*

# Gas Daily

Tuesday, April 13, 2010

## Analysts: Supply glut may 'overwhelm storage'

Bears appear set to dominate the US gas market for some time, analysts with Raymond James & Associates said Monday, warning that higher- than-expected supplies threaten "to overwhelm storage this summer."

Marshall Adkins, Pavel Molchanov and John Fitzgerald cut their 2010 gas price forecast by 15% to \$4.25/Mcf. "It was only three months ago ... that we cut our 2010 US natural gas price forecast from \$5.50/Mcf to \$5/Mcf," they said in a report. "Only three short months and it's already time to take the axe to our (previously bearish) gas forecast yet again."

The analysts also anticipate a 2011 gas price of \$4.75/Mcf and a longer-term price of \$6/Mcf.

On the whole, domestic gas supplies appear to be growing much faster than anyone thought. "In fact, recent weekly storage data points suggest that US gas production is already increasing" on a year-over-year basis, the analysts said, estimating supply growth of 1 Bcf/d this summer.

At the same time, US imports of liquefied natural gas are proving larger than anticipated and should also increase by around 1 Bcf/d this summer. "Global supply is up over 5 Bcf/d this year, but our import assumption will remain conservative given our low gas price scenario in 2010," the analysts said. If US gas prices move higher, "LNG imports could go meaningfully higher."

Gas demand does stand to increase by around 1 Bcf/d this summer due to greater use by industrial customers and power generators, and it would not be offset by gas-to-coal fuel switching as long as gas prices hold below \$4/Mcf. At the same time, nuclear, not gas-fired, generation should offset lower levels of hydroelectric power, the analysts said.

As a result of those factors, US gas storage at the end of October should once again loom near the 4-Tcf mark, surpassing the 3.837-Tcf record set last fall, they predicted.

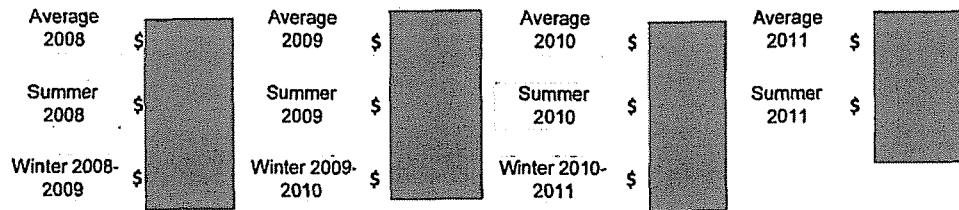
The analysts said they expect US gas prices to remain range-bound between \$3.50/Mcf and \$6.50/Mcf for the next few years. "If gas prices move toward \$6/Mcf, it would encourage more drilling, more LNG imports and more gas-to-coal fuel-switching," they said. "Thus, we see little sustained upside potential for natural gas prices above \$5/Mcf."

The analysts' predictions take into account the Energy Information Administration's anticipated downward revisions to gas production data later this month. "Since we are basing our US gas supply trends on recent gas storage data, any downward revisions in [production] data don't change the fact that US gas production is trending slightly up since September," they explained.

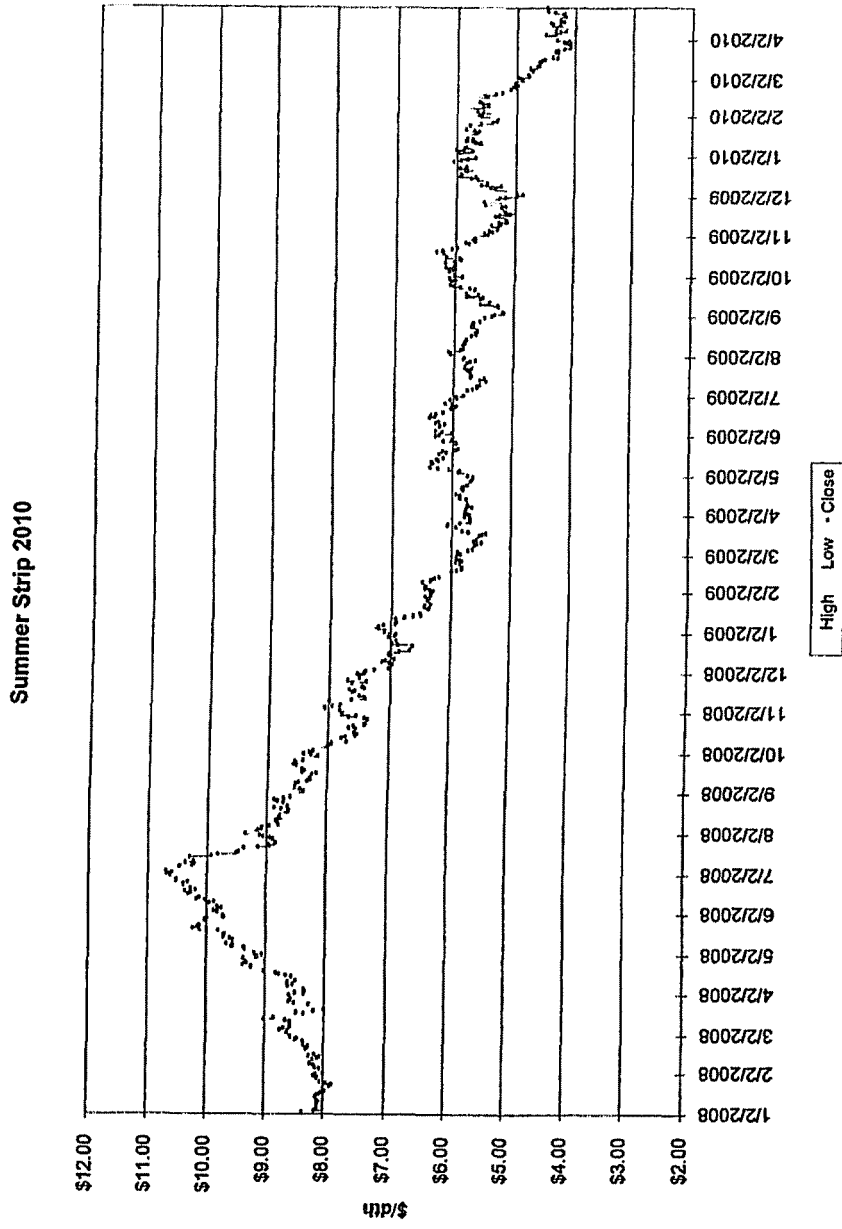
On the oil front, renewed weakness in the US dollar has helped keep prices relatively strong; as such, the analysts maintained their price assumptions for oil of \$81.66/barrel in 2010 and \$95/barrel in 2011. —  
*Melanie Tatum*

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**April 6, 2010 Release**

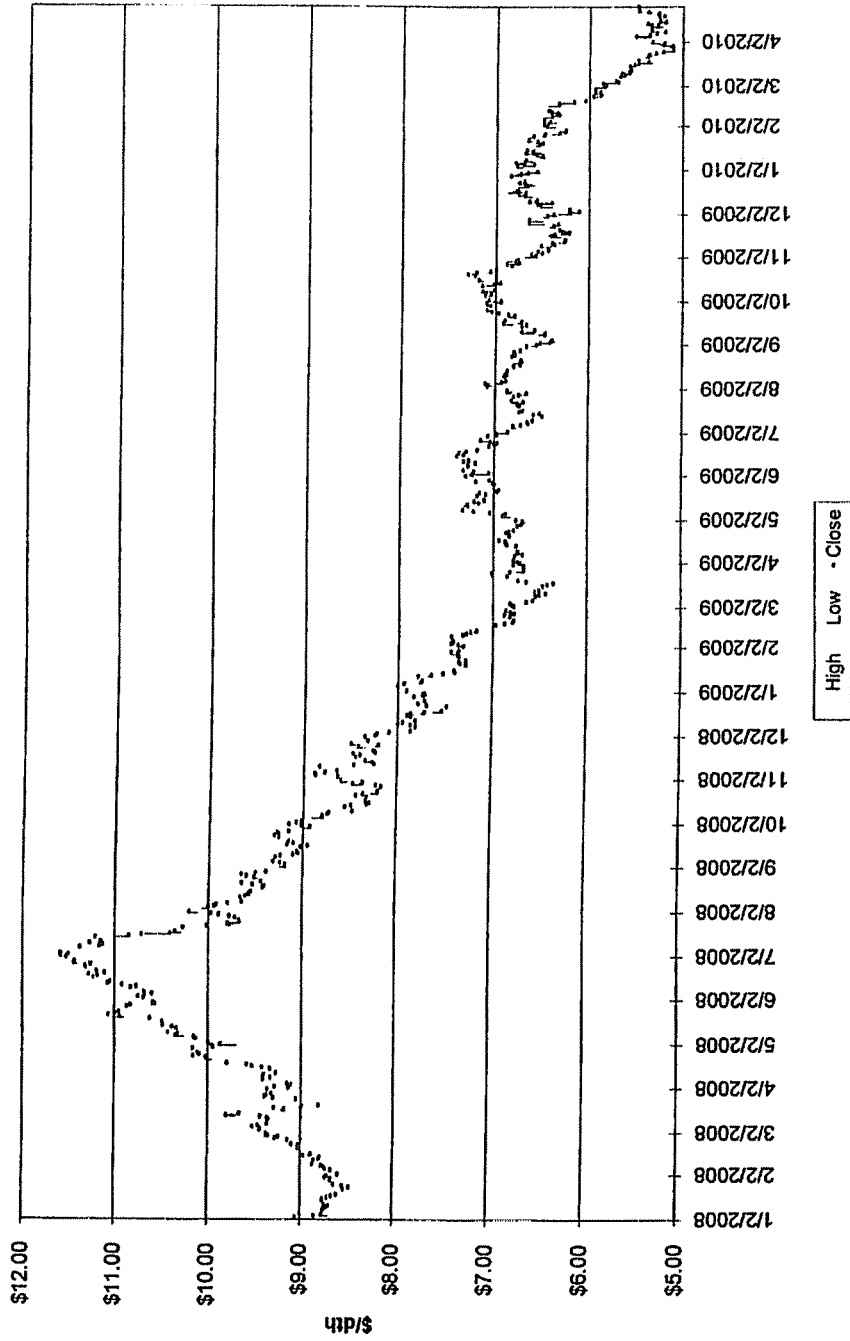
Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	5.39
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	5.39
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	5.29
Apr-08	10.18	Apr-09	3.49	Apr-10	4.01	Apr-11	5.10
May-08	11.27	May-09	3.83	May-10	3.99	May-11	5.16
Jun-08	12.69	Jun-09	3.80	Jun-10	3.97	Jun-11	5.12
Jul-08	11.09	Jul-09	3.38	Jul-10	3.95	Jul-11	5.19
Aug-08	8.26	Aug-09	3.14	Aug-10	3.91	Aug-11	5.24
Sep-08	7.67	Sep-09	2.97	Sep-10	3.84	Sep-11	5.27
Oct-08	6.74	Oct-09	4.00	Oct-10	4.26	Oct-11	5.38
Nov-08	6.68	Nov-09	3.66	Nov-10	4.75	Nov-11	5.56
Dec-08	5.82	Dec-09	5.34	Dec-10	5.19	Dec-11	5.88







Winter Strip Nov10 - Mar11



# Short-Term Energy and Summer Fuels Outlook

April 6, 2010 Release  
(Next update May 11, 2010)

## Natural Gas

U.S. Natural Gas Consumption. EIA expects total natural gas consumption to increase by 1.9 percent to 63.8 Bcf/d in 2010 and decline by 0.6 percent in 2011. Total U.S. heating degree-days (HDDs) during the first quarter 2010 were about 0.7 percent higher than last year. However, in the South region, first-quarter HDDs were about 20 percent higher than the same period last year. The cold weather helped boost year-over-year natural gas consumption in the electric power sector, adding to the increase in industrial sector consumption brought about by the improved economic conditions.

In last month's *Outlook*, EIA revised upward the forecast for natural gas consumption in the electric power sector for this year largely because of the higher space heating demand due to cold weather in the South. This month's Outlook includes another upward revision to the electric power sector consumption forecast. However, this revision reflects EIA's expectation that lower natural gas prices relative to coal prices will increase the utilization of natural-gas-fired generating facilities in the baseload power supply.

EIA's forecast for 2011 includes consumption declines in all sectors except the industrial sector. The projected return to near-normal weather reduces consumption in the residential and commercial sectors, while higher natural gas prices reverse the coal-to-gas switching trend observed in 2009 and forecast to continue in 2010. Consumption in the industrial sector, supported by continued economic growth, is projected to increase by 1.7 percent in 2011.

U.S. Natural Gas Production and Imports. EIA expects total marketed natural gas production to increase by 0.4 Bcf/d (0.7 percent) to 60.9 Bcf/d in 2010 and decrease by 0.7 Bcf/d (1.2 percent) in 2011. In last month's *Outlook*, domestic production growth was forecast to decline by 0.5 Bcf/d in 2010, reflecting the lagged effect of lower drilling rates last year. The higher production forecast in this *Outlook* reflects the latest January 2010 production estimate from the EIA-814 survey and the continuing increase in the number of working natural gas rigs over the last month. Any significant revision to estimated January 2010 natural gas production would affect this forecast. The number of working natural gas rigs has increased by almost 200 since the end of last year. With no further increase from the current 950 natural gas rigs currently working, EIA expects production to begin to show month-to-month declines beginning in the second quarter this year. However, production is not expected to begin to show year-over-year declines until the first quarter of 2011.

EIA expects U.S. net natural gas imports to decline in 2010 as higher imports of liquefied natural gas (LNG) and lower pipeline exports are more than offset by a steep decline in pipeline imports as Canadian natural gas production drops off. The global LNG market appears to be well-supplied in 2010. In addition to the ramp-up of new global liquefaction capacity brought on-stream last year, about 3 Bcf/d of new capacity is set to start up this year. Spain, which relies on LNG in part for electricity generation, currently has hydroelectric reserves 34 percent above last year and 47 percent above the previous 5-year average. While EIA currently expects U.S. LNG imports to increase by about 0.5 Bcf/d this year over last, the failure of global demand to keep pace with increased global supply could lead to even higher U.S. LNG imports than currently forecast. EIA expects that an increase in global LNG demand next year will keep U.S. LNG imports roughly unchanged from 2010.

## Global Crude Oil and Liquid Fuels

Crude Oil and Liquid Fuels Overview. EIA's assessment of world oil markets is largely unchanged from last month's Outlook, and world oil prices will likely continue to firm and increase slightly in response to the global economic recovery. As long as the global economy continues to recover, and the Organization of the Petroleum Exporting Countries (OPEC) remains satisfied with its constrained supply targets, global oil markets

should remain in this situation. Major uncertainties include the pace of global economic recovery and the extent to which the largest economies continue their stimulus and other economic policies.

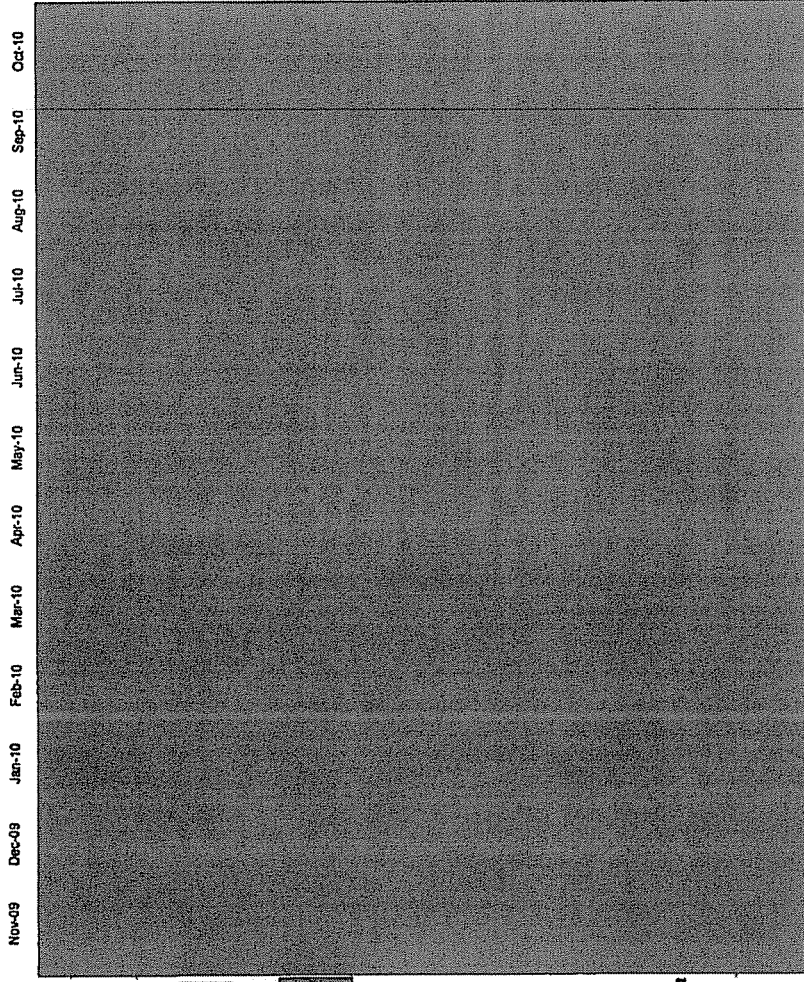
EIA's projections for West Texas Intermediate (WTI) crude oil spot prices have changed very little over the last five Outlooks even as spot crude oil prices continue to fluctuate on a daily basis. EIA expects WTI prices to average above \$81 per barrel this summer, slightly less than \$81 per barrel for 2010 as a whole, and \$85 per barrel by the fourth quarter of 2011.

Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
May 26, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (June 10–August 10)	↔	Long	NOAA predicting above average temperatures for June 2010–August 2010 for the southwestern CONUS and Florida with below normal temperatures in the central portion of CONUS.	12
Mid Term Forecast (30-60 days)	↔	Long	June is predicted to be normal based on 10 year normals and July is predicted to be 1.8% warmer than 10 year normal.	13
Short Term Forecast (6-10 days)	↓	Short	Normal to Above Normal for most of the country. Not quite hot enough yet to cause a lot of A/C load.	14
Tropical Storm Activity	↔	Short	No current tropical storm activity. 10% chance of a low pressure system becoming subtropical cyclone.	15
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage injections for the week ending May 14th were 78 BCF. Storage levels are at 2.165 TCF which is 3.5% higher than last year and 18.6% higher than the 5 year average.	16
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011 Winter 2010/11	↑	Long	GAS PRICE SCORECARD: MAY 2010–OCTOBER 2010 PIRA's price outlook is Bullish with "significant near-term upside potential remains."	17-18
Gas Daily	↑↓	Long	FERC: Snowpack 70% of historical average, so runoff expected to be 47% driest in last 50 years. However, record high storage levels and new storage capacity will result in storage levels reaching 4 tcf for the first time. Prices expected to remain in the current range.	19
Gas Daily	↓	Long	Raymond James: "US gas supply is growing way faster than the market realizes." They estimate 6 Bcf/d increase over last year. Expect prices to fall to low \$3.00 this summer.	20
Gas Daily	↓	Long	Moody's: "North American natural gas prices remain in the 'doldrums' and are unlikely to increase significantly before the end of 2011..."	21
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$5.213 Winter 2010/11: \$5.282	↔	Long	The projected Henry Hub annual average spot price is expected to be \$4.48 per MMBtu in 2010, a \$0.53/MMBTU increase over the 2009 average and \$5.34 per MMBtu in 2011.	22
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↓	Short	Island Reversal 5/10 - 5/18.	23
Summer 2011 Strip Chart	↓	Short	Island Reversal 5/10 - 5/14.	24
<b>Economy</b>				
Demand	↑	Long	EIA: Natural gas consumption is projected to increase 3.0% to 64.4 Bcf/day in 2010 and decline by 0.4% in 2011. Consumption growth in 2010 is led by the industrial and electric power sectors.	25
Supply	↓	Long	EIA: Total marketed natural gas production to increase by 0.8 Bcf/d to 60.7 Bcf/d in 2010 and decrease by 0.3 Bcf/d in 2011. LNG imports have fallen in recent weeks due to maintenance, start-up delays and higher prices in Europe and Asia. EIA continues to expect a 0.4 Bcf/d increase in LNG during 2010 resulting from new LNG supply trains coming online.	25
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$84 per barrel during the second half of this year, rising to \$87 by the end of next year.	25

**Meeting Minutes: 10th Floor North Conference Room - 2:00 pm**  
Attendees: Jeff Kem, Jim Henning, Mitch Martin, Joachim Fischesser, Mike Brumback, Terry Bates, Steve Niederbaumer  
Discussed current market conditions, where Duke-Ohio and Duke-KY are relative to the hedging program, high historic storage levels, analyst opinions as well as projections from governmental agencies and industry publications. In addition, discussed the new load forecast that has been incorporated into the "Hedging Program - Current Position" detail. 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.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 05/21/10



Category	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Withdrawals (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth)</b>												
Fixed Price												
Fixed Price												
Collar												
Fixed Price												
Cost Averaging												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (delivery)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>AMI Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

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Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 06/21/10

	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11
[Redacted Data]												

**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  
 Fixed Price  
 Collar  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost  
 Winter  
 Summer

Estimated EGC per Dth at City Gate  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Amt. Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 05/21/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
[Redacted Data]												

**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  
 Fixed Price  
 TBO  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (Incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

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Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 05/21/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

**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)**  
 TBO  
 TBD  
 TBD  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.



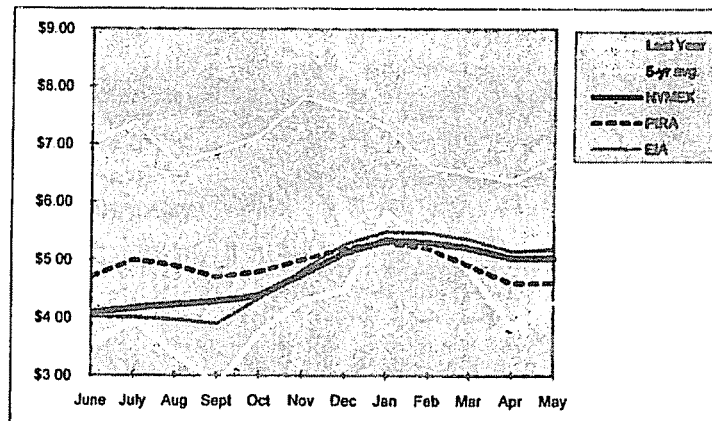
5/21/2010

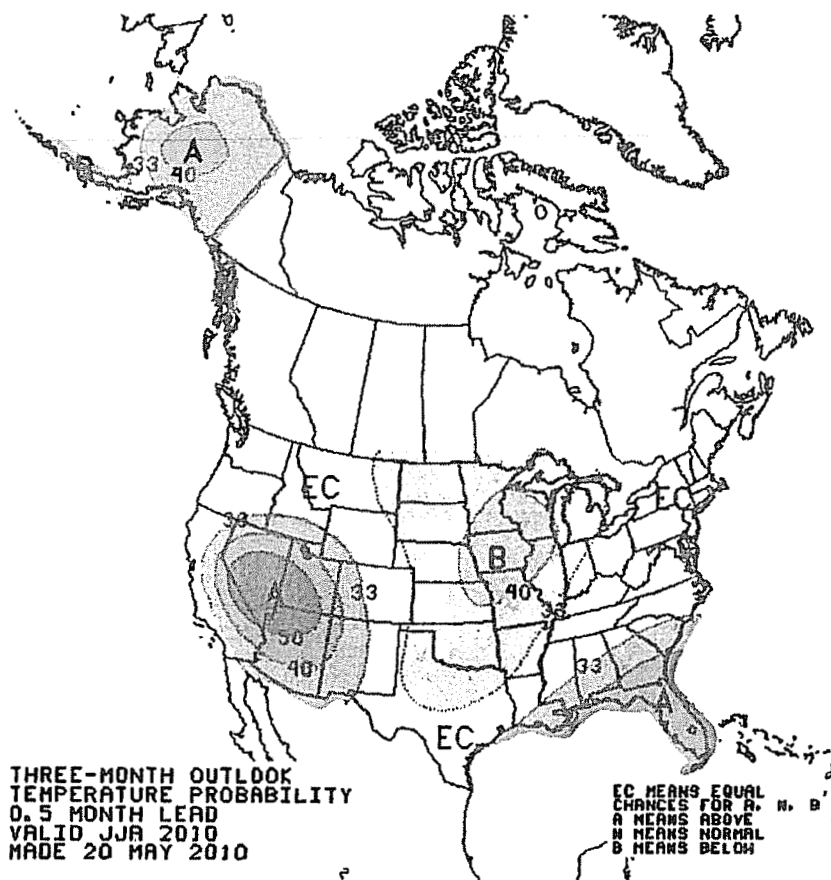
Duke Energy Kentucky  
 Hedging Program  
 Current Position

Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (10/31/10)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
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					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2010					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2010					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2010					

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

Historic Prices:						
NYMEX Closing Price						
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)		PIRA 27-Apr-10	EIA 11-May-10	NYMEX 25-May-10
June	\$7.02	\$3.54			\$4.020	\$4.089
July	\$7.37	\$3.95			\$4.010	\$4.167
Aug	\$6.68	\$3.38			\$3.970	\$4.235
Sept	\$6.87	\$2.84			\$3.900	\$4.285
Oct	\$7.15	\$3.73			\$4.330	\$4.388
Nov	\$7.80	\$4.29			\$4.820	\$4.745
Dec	\$7.62	\$4.49			\$5.270	\$5.126
Jan	\$7.28	\$5.81			\$5.490	\$5.335
Feb	\$6.61	\$5.27			\$5.470	\$5.306
Mar	\$6.49	\$4.82			\$5.360	\$5.206
Apr	\$6.37	\$3.84			\$5.150	\$5.035
May	\$6.72	\$4.27			\$5.190	\$5.030
12 Month Avg	\$7.00	\$4.19			\$4.748	\$4.746
Summer Average					\$4.367	\$4.461
Winter Average					\$5.282	\$5.144





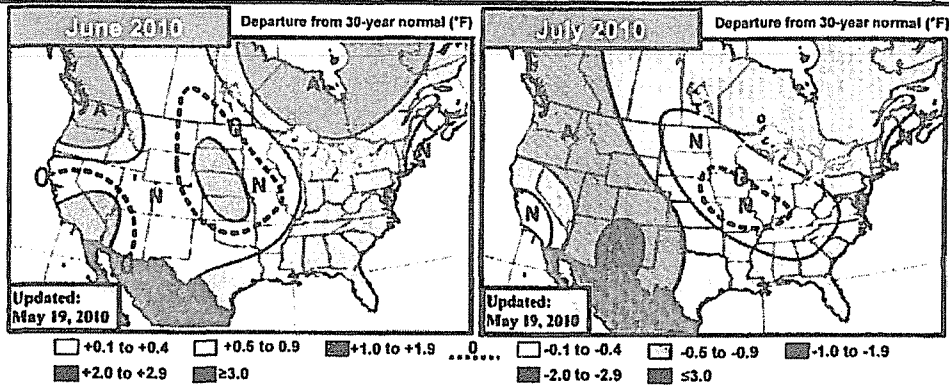
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# EarthSat's 30-60 Day Outlook

Wednesday, May 19, 2010

Forecaster: SS/BH/TH



**Warmer in the Midwest**  
**ENSO Moving Cooler**

We continue our trend towards a warmer June this week with more widespread marginal above across the Midwest and some above extending further south across Ontario and Quebec. This is due in large part to the rapidly declining water temperatures in the Tropical Pacific, ending El Niño and perhaps leading towards a La Niña. We took a look at some of the years in which the SSTs in the Pacific experienced similar rapid declines, including 1960, 1962, 1963, 2003, and 1970. Those years favored a warmer than normal summer from the Rockies eastward, particularly across the central Plains and western Midwest (map to the right). This is a risk to our forecast, which still favors cooler conditions across the Plains.

**Jun PWCCD\* Forecasts** \*10Y Normal updated to '00-09

Jun 2010 Fcst:	<b>228.0</b>	10Y Normal*	229.0
		30Y Normal	217.4
		Jun-2009	224.3

Change: +10.0 \*National Population-Weighted CCDe

**Slight warm changes in the Northwest**  
**Will we be in La Niña?**

Changes were not as substantial in the July forecast with just a few minor tweaks to the warmer direction in Western Canada and the Northwest. Otherwise, it's still a warm-dominated outlook overall. Using the same analog years that we used to take an alternate look at June, we see the map in the lower right which shows some similarities to our forecast, particularly the overall warm look especially in the Rockies and Interior West. Again there could be a warm risk to the forecast in the Midwest. Since we're getting deeper into the more active part of hurricane season by July, it might be worth mentioning that those five analog years averaged 12 named storms, 6 hurricanes, and 3 major hurricanes, which is above the normal but lower than our forecast of 16/0/6.

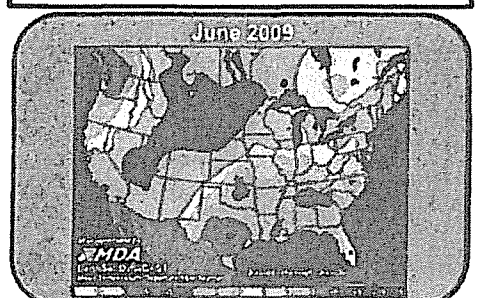
**Jul PWCCD\* Forecasts** \*10Y Normal updated to '00-09

Jul 2010 Fcst:	<b>334.0</b>	10Y Normal*	323.2
		30Y Normal	327.7
		Jul-2009	283.9

Change: +1.0 \*National Population-Weighted CCDe

**May: Where do we stand so far?**

Our May forecast showed some very minor above trends across the West, and still has a long way to go on being above. Conditions remain mostly cooler than normal across the Western 2/3 of the U.S., particularly in the interior West where our forecast of above normal temperatures is not panning out at all. The latest 15 Day forecast shows cooler temperatures continuing in the West, so our recent improvement (if any) in the East. Temperatures have been much warmer than expected especially in the Southeast and for each temperature, look to return to near normal in the Southwest so there could be some improvement there. But the overall outlook remains above normal in the East.



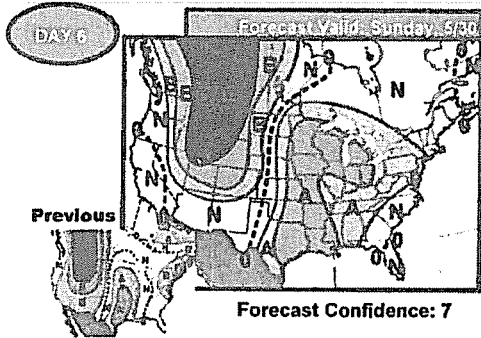


# EarthSat's 6-10 Day Forecast-Detailed

Tuesday, May 25, 2010

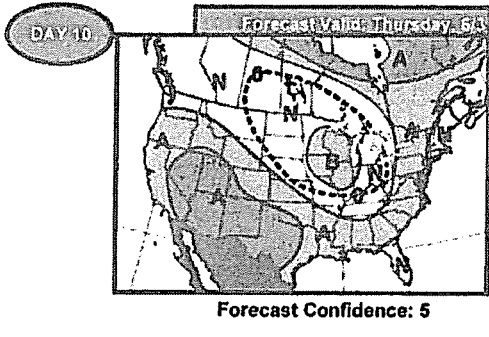
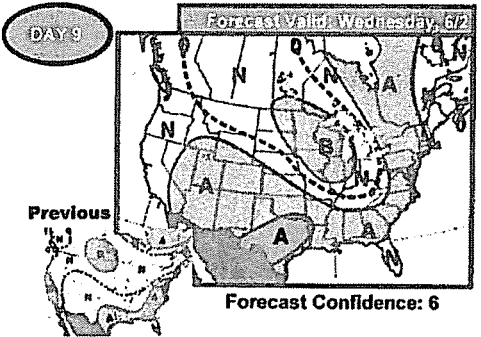
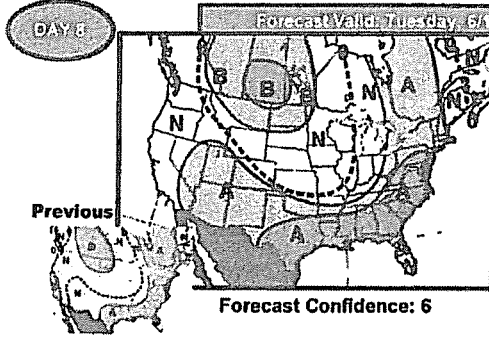
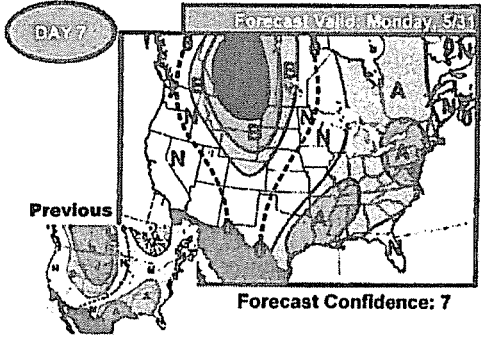
Forecaster: BH/AC

## Forecast Temperature Deviations



**Today's Forecast:**  
**Cool Conditions In Rockies Move Into Midwest Late**  
**Potentially Warmer In Mid-Atlantic For Mid-Period**

Above normal temperatures in the Midwest could be a little stronger during the early part of the period, and this warm risk carries over in the Mid-Atlantic for the mid-period. Even with this warm risk existing across these regions, the likelihood for extremes is very low. By the second half of the period though, cooler temperatures begin to advance into the Midwest. Cooler than expected readings are possible as the American models depict this outlook best. The Northeast could be reluctant to see that cooling late, but a cooler outcome may still occur. A ridge in the Southwest should begin to intensify for the second half of the period, which may bring in much above faster here.



A +3F to +4F    A +5F to +7F    MA +8F to +14F    SA +15 or Higher  
 B -3F to -4F    B -5F to -7F    MB -8F to -14F    SB -15 or Lower

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**National Hurricane Center**

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- Frequent Questions
- AOML Research
- Hurricane Hunters
- Sfir-Simpson Scale
- Forecasting Models
- Eyewall Wind Profiles
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## Atlantic Tropical Weather Outlook

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 ABNT20 KNHC 251558  
 TWOAT  
 SPECIAL TROPICAL WEATHER OUTLOOK  
 NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL  
 1200 PM EDT TUE MAY 25 2010

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

THE NON-TROPICAL LOW PRESSURE SYSTEM LOCATED ABOUT 450 MILES SOUTHEAST OF THE NORTH CAROLINA COAST REMAINS DISORGANIZED...AND THE POTENTIAL FOR THIS SYSTEM TO ACQUIRE SUBTROPICAL CHARACTERISTICS CONTINUES TO DIMINISH. THERE IS A LOW CHANCE...10 PERCENT...OF THIS SYSTEM BECOMING A SUBTROPICAL CYCLONE DURING THE NEXT 48 HOURS. THE LOW IS DRIFTING GENERALLY NORTH-NORTHWESTWARD AND A TURN TOWARD THE NORTHEAST IS EXPECTED OVER THE NEXT COUPLE OF DAYS. THIS SYSTEM CONTINUES TO PRODUCE A LARGE AREA OF SHOWERS...THUNDERSTORMS...AND GALE FORCE WINDS. FOR ADDITIONAL INFORMATION...PLEASE SEE HIGH SEAS FORECASTS ISSUED BY THE NATIONAL WEATHER SERVICE...UNDER AWIPS HEADER NFDHSPAT1 AND WMO HEADER FZNT01 KWBC...AND STATEMENTS FROM LOCAL NATIONAL WEATHER SERVICE FORECAST OFFICES. NO ADDITIONAL SPECIAL TROPICAL WEATHER OUTLOOKS ON THIS SYSTEM ARE ANTICIPATED.

\$\$  
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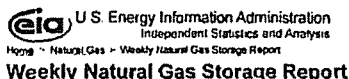
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Weekly Natural Gas Storage Report

Page 1 of 1



Glossary [Feedback](#)  
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Released: May 20, 2010 at 10:30 a.m. (Eastern time) for the Week Ending May 14, 2010  
 Next Release: May 27, 2010

Working Gas in Underground Storage, Lower 48 other formats: Summary TXT CSV

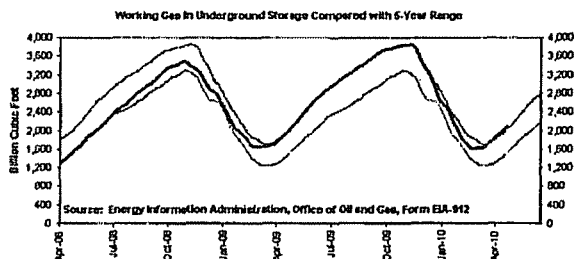
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	05/14/10	05/07/10	Change	Year Ago (05/14/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	992	958	34	883	12.3	872	13.8
West	359	344	15	343	4.7	278	29.1
Producing	814	787	27	867	6.1	707	15.1
<b>Total</b>	<b>2,165</b>	<b>2,089</b>	<b>76</b>	<b>2,092</b>	<b>3.5</b>	<b>1,857</b>	<b>16.6</b>

Notes and Definitions

Summary

Working gas in storage was 2,165 Bcf as of Friday, May 14, 2010, according to EIA estimates. This represents a net increase of 76 Bcf from the previous week. Stocks were 73 Bcf higher than last year at this time and 308 Bcf above the 5-year average of 1,857 Bcf. In the East Region, stocks were 120 Bcf above the 5-year average following net injections of 34 Bcf. Stocks in the Producing Region were 107 Bcf above the 5-year average of 707 Bcf after a net injection of 27 Bcf. Stocks in the West Region were 81 Bcf above the 5-year average after a net addition of 15 Bcf. At 2,165 Bcf, total working gas is above the 5-year historical range.

- 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

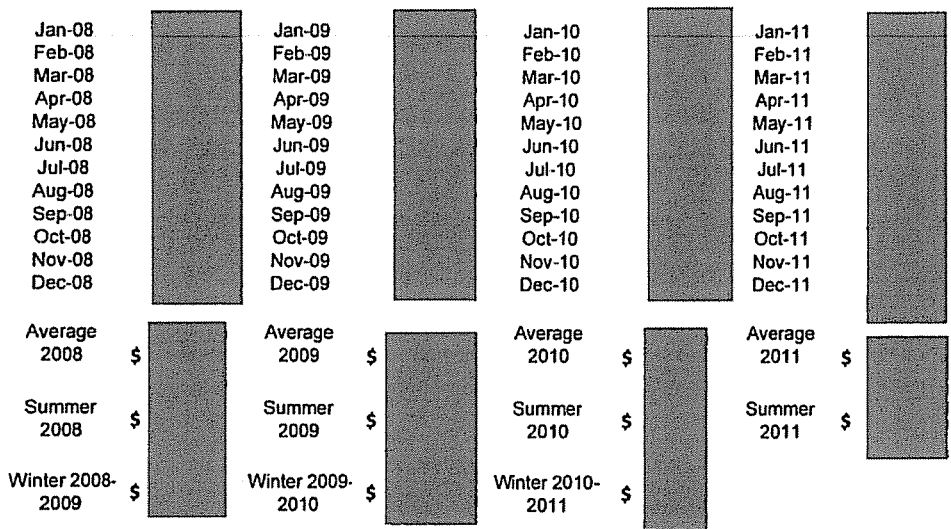


Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2005 through 2009. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

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**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**April 27, 2010 Release**



17

North American Gas Forecast Monthly



April 27, 2010

NATURAL GAS

**GAS PRICE SCORECARD: MAY 2010 – OCTOBER 2010**

Bearish Neutral Bullish  
 [ ] [ ] [ ]

U.S. Supply Issues	Outlook	Commentary
<i>U.S. Production</i>	[ ] [ ] [ ]	Gas rig counts have experienced a belated downturn of late, but horizontal gas drilling mostly associated with shale gas remains especially impressive and has led to upward adjustments to PIRA's domestic production forecast.
<i>LNG Imports</i>	[ ] [ ] [ ]	Incremental LNG imports will be mitigated by rapidly expanding spot cargoes being shipped to the "southern cone" countries (e.g. Argentina, Brazil, and Chile).
<i>Canadian Exports</i>	[ ] [ ] [ ]	The lack of GWHDDs caused sub-normal stock draws and inflated exports to the U.S.. Falling Canadian production will eventually generate lower YY exports to the U.S. but the large storage surplus makes the timing uncertain.
<i>Mexican Pipeline Imports</i>	[ ] [ ] [ ]	U.S. exports to Mexico should continue to stagnate as higher demand is satisfied by growing dry gas production and more LNG imports.
<i>Storage Levels</i>	[ ] [ ] [ ]	The collapse of March-April GWHDDs pushed PIRA's projected storage deficits back to the end of June. From then through August the key variables will be CDDs and the ability of gas to retain market share captured from coal.
U.S. Demand Issues	Outlook	Commentary
<i>Economy</i>	[ ] [ ] [ ]	Economic optimism is being fueled by employment growth, rising consumer confidence, and a tepid apparent recovery in the housing sector. Signposts to future manufacturing activity are even more positive than before.
<i>Electric Generation</i>	[ ] [ ] [ ]	PIRA's outlook for gas-fired EG is relatively flat YY, but sizable YY growth remains a realistic scenario to the extent that coal-fired EG can be displaced by less expensive gas.
<i>Industrial Sector</i>	[ ] [ ] [ ]	YY growth appears to have slowed from the extraordinary pace indicated in December-09 and January-10, but the manufacturing rebound should keep future growth sizable.
<i>Res/Com Heating</i>	[ ] [ ] [ ]	Roughly normal GWHDD will yield minimal YY changes in R/C gas heating ahead of the 2010-2011 heating season.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>	[ ] [ ] [ ]	Managed Money's short NYMEX futures position exceeded 260,000 lots on April 20 – a level not seen since October-08 when speculative positions were contracting amidst the financial meltdown. That episode showcased the impact commodity and credit issues can have on prices alongside the shifts in gas-market fundamental perceptions.
Overall Assessment	Outlook	Commentary
<i>Price Outlook</i>	[ ] [ ] [ ]	Despite the recent recovery of Henry Hub gas prices from sub-\$4 to a \$4.00 to \$4.30 trading range significant near-term upside potential remains with some insurance against a return to earlier low from coal-to-gas substitution in the Northeast and Southeast power markets.

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15 cents to average in the mid-\$3.30s.

In the Southwest, Kern River Gas Transmission, delivered, fell more than 20 cents to the high \$3.80s on ICE. Prices in the production basins fell around 20 cents, with El Paso Natural Gas in the Permian Basin averaging in the mid-\$3.80s after trading volumes fell by more than half.

At the Pacific Gas & Electric city-gate, liquidity increased by nearly 243,000 Mcf to top the 1-Bcf mark on ICE. Prices there fell about 15 cents to average in the low \$4.30s. — *Market Staff Reports*

### FERC: Storage, hydro to help set summer prices

Near-record-high gas storage inventories and near-record-low Northwest hydro levels will be key drivers for summer gas prices, Federal Energy Regulatory Commission staff said Thursday.

As always, the "largest wildcard going into summer is weather," the Office of Enforcement's Steve Reich said in a presentation at FERC's monthly meeting.

Reich said snowpack was just 70% of the historical average in the Northwest and, as a result, spring and summer runoff is expected to be the "47th driest of 50 years of recorded data and the lowest since 2001." That likely will spur demand for gas-fired generation, putting upward pressure on Northwest spot prices that are already rising relative to Henry Hub prices, he said.

Meanwhile, "changes in natural gas market dynamics this summer compared to last summer are having a significant effect on power prices," Reich said. He attributed that in part to last year's extension of the Rockies Express Pipeline to eastern Ohio, a development that has increased competition in the Northeast for Rockies gas.

"This shift moved over 1.5 Bcf/d from Midwestern markets to the pipeline's intended Northeastern customers," he said. That change, along with the addition of another 500,000 Mcf/d of production from the Marcellus Shale, has pushed Northeastern basins downward.

For example, the average premium of Transcontinental Gas Pipe Line zone 6 to Henry Hub is expected to fall from 70 cents/MMBtu in 2009 to 44 cents/MMBtu this summer.

Prices on the winter futures strip are about \$1/MMBtu higher than current spot prices, "providing an incentive to buy gas now, put it into storage and sell it at winter prices," Reich said. With production near 60 Bcf/d, a level not seen since the early 1970s, and more storage capacity available, analysts expect inventory levels this year to reach 4 Tcf for the first time, he said.

Those market fundamentals "point to prices in the range that they are currently in" through the summer, Reich said.

Demand for gas in the power-generation sector also is on the rise in the Southeast as gas prices have fallen relative to coal, Reich said. — *Craig Cano*

### NEB: Canada energy prices to inch higher this summer

Canadian consumers can expect prices for natural gas, crude oil and electricity to increase moderately this summer as energy demand rises along with improvements in the global economy, the National Energy Board said Thursday.

Gas prices are expected to trade in the range of US\$4 to \$5/MMBtu as production and storage levels are "ample," the Canadian regulator said in its Summer Outlook.

Factors that could change that forecast include prolonged hot or dry weather, a stronger economic recovery than expected, lower liquefied natural gas

### FERC approves capacity hikes at pair of gas storage facilities

Two gas storage operators can proceed with plans to increase capacity at their underground reservoirs in Alabama and Kansas, the Federal Energy Regulatory Commission said Thursday.

MoBay Storage Hub asked FERC for permission to boost capacity at three facilities off the coast of Mobile, Alabama. The project involves adding nine injection wells to the 21 approved by the commission in 2006.

The project will increase working gas capacity by 9.6 Bcf for a total of 59.6 Bcf.

Surrounded by a cluster of interstate pipelines along the Gulf Coast, the facility will be able to send and receive up to 1 Bcf/d, the company said.

FERC also found that the facility lacks significant market power and said it could charge market-based rates. MoBay is a wholly owned subsidiary of Falcon Gas Storage.

In a separate order, FERC approved Southern Star Central Gas Pipeline's request to boost capacity at its Elk City storage field in Elk, Chautauqua and Montgomery counties of southeast Kansas.

Southern Star's project would boost working gas capacity by 4 Bcf to 11.8 Bcf. The maximum withdrawal capacity is expected to increase from 229,000 Mcf/d to 269,000 Mcf/d.

FERC agreed that market-based rates were justified to facilitate construction of the project.

A subsidiary of Southern Star Central, the pipeline and storage company provides gas to municipalities and power generators in the Midwest. — *Meghan Gordon*



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Mike Wilczek (202-363-2246; mike.wilczek@platts.com)  
or Brian Jordan (202-363-2181; brian.jordan@platts.com)

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In the mid-\$3.90s, bringing the point to a 6-cent discount to Kingsgate. A regional trader said a lack of water in most regional reservoirs, coupled with increasing air-conditioning load, could result in cogeneration plants coming online earlier than they have in the past to meet electricity loads.

In the Midcontinent, spot prices at Oklahoma points jumped 10 to 15 cents. "It feels as though [cash] just wants to stay strong in the early part of the injection season," a trader said.

At Panhandle Eastern Pipe Line, cash rose more than 10 cents to average in the mid \$4.10s on ICE, while prices at ANR Pipeline-Oklahoma climbed nearly 15 cents.

In the Upper Midwest, cash rallied, with Michigan points leading the way with the highest gains. Cash at Michigan Consolidated Gas jumped more than 10 cents to average in the high \$4.50s on ICE. Michigan remained one of the strongest points in the region and widened its premium to the Chicago city-gates to nearly 20 cents. — *Market Staff Reports*

### FERC urged to weigh in on gas quality debate

Gas quality issues springing up in the Midcontinent and the Rocky Mountains have shippers and customers who have had their margins undercut by reduced volumes and unchanged financial obligations looking to federal regulators for a resolution.

Last Thursday, Northern Natural Gas announced that it would ease capacity restrictions on gas coming into its interconnection with Trailblazer Pipeline near Beatrice, Nebraska — more than a month after the pipeline had to limit receipts at the point because the gas from Trailblazer had levels of CO2 that Northern Natural said "significantly exceeded" its 2% tariff limit.

Michael Loeffler, a spokesman for Northern Natural, said "changes have been made on upstream deliveries into Trailblazer that have resulted in lower CO2 levels. Consequently, Northern is able to accept higher volumes of receipts from Trailblazer."

However, the company also said that with storage injection season beginning in June, "the ability to accept off-spec gas may still be limited by system dynamics and the continuing ability to blend high CO2 gas."

Meanwhile, Wyoming Interstate Company, which delivers gas into Trailblazer, ended a months-long battle with various market players when it withdrew a tariff filing that would allow it to reduce gas receipts if CO2 levels exceeded downstream specifications. WIC stated in a May 11 web site posting that it "anticipates" that deliveries to Trailblazer will improve with respect to the CO2 levels.

The gas quality issue has caused enough of a stir that Chevron and Shell, both firm capacity holders on the Trailblazer and Northern Natural systems, urged the Federal Regulatory Energy Commission to "promptly convene a forum" for a discussion on gas quality issues.

"These gas quality issues are very disruptive to gas marketing efforts because they undermine predictability and reliability," the companies said in a recent joint filing to FERC. "They also affect exploration and development of gas supplies."

The companies also said they have not been afforded relief from reservation charges despite the curtailments.

FERC has not said whether such a forum will take place. "The case is still pending. We'll just have to wait and see when the commission will act. It's hard to say how long it will take as each matter is handled on a case-by-case basis," said FERC spokeswoman Tamara Young-Allen.

The significance of the issue prompted WIC on Friday to add a posting on gas quality to its electronic bulletin board that will provide ongoing information about the gas quality being delivered to the Dullknife WIC-to-Trailblazer delivery

### Raymond James estimates gas supply growth of 6 Bcf/d in 2010

US gas supplies are estimated to grow 6 Bcf/d year-on-year by September, an increase that is 12 times that expected by Wall Street and the Department of Energy, according to a report Raymond James & Associates released Monday.

"We think that both the DOE and [Wall Street] consensus expectations for 2010 US gas supply growth are not just wrong, but way wrong," the analysis stated. "US gas supply is growing way faster than the market realizes."


The estimated 6 Bcf/d increase is based on monthly Energy Information Administration gas production data that shows supply has been "screaming higher," as well as "sharp supply growth trends" in recent public exploration-and-production results and April gas storage data.

Raymond James said those trends indicate growing supply as the active gas rig count rose to roughly 950 from below 700 between June and November 2009. The report said that increase "would suggest that this gas supply growth rate might actually accelerate through the summer."

But Raymond James warned that its production survey does not include private producers, which comprise about half of total US gas production. The analysis said private company output trends tend to closely follow those of publicly traded independents.

The analysis also cautioned investors not to be "overly bearish too quickly," since summer gas prices that are expected to fall to the low \$3/Mcf range may offset increased supply data, thus increasing gas demand from generators that can switch to gas from coal. — *Brian Scheid*

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# Gas Daily

Wednesday, May 5, 2010

## Moody's: Price recovery unlikely before late 2011

North American natural gas prices remain in the "doldrums" and are unlikely to increase significantly before the end of 2011, Moody's Investors Service said Tuesday, citing production overcapacity and limits to how much drillers can scale back their operations.

The ratings agency added that gas-intensive producers of chemicals and general manufacturing companies will enjoy significant price advantages over the next 12 to 18 months.

"Low natural gas prices will continue having a negative impact on many exploration-and-production and natural gas drilling and related oilfield services," Moody's said. "For others, such as midstream entities, liquefied natural gas companies, refiners and regulated pipelines and distributors, the effect on revenues will be less noticeable."

Moody's added that while some power plants and other industrial end-users can substitute gas with coal, the coal industry is unlikely to see a huge impact from low gas prices unless they fall below \$4/MMBtu.

Across various North American regions, Canada's gas-producing provinces may see their budgets pinched by reduced royalties due to low gas prices, Moody's said. — Jeff Barber

### Daily price survey (\$/MMBtu)

NATIONAL AVERAGE PRICE: 3.540

Trans. date: 4/5/10  
Flow date(s): 5/05

	Midpoint	+/-	Absolute	Contract	Volume	Days
<b>Permian Basin Area</b>						
El Paso, Permian	3.745	+0.135	3.72-3.80	3.73-3.77	715	92
Wams	3.850	+0.145	3.78-3.93	3.81-3.89	362	64
Transwestern, Permian	3.735	+0.145	3.70-3.77	3.72-3.75	11	6

### East Texas-North Louisiana Area

Carthage Hub	3.925	+0.140	3.89-3.97	3.91-3.95	119	28
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businesses of the RBS Sempra Commodities unit to J.P. Morgan Chase for about \$1.7 billion.

"While the quarterly results of our commodities joint venture were disappointing, our core businesses continue to perform in-line with expectations," said Chairman and CEO Donald Fetsinger said in a statement. "We have an active sales process under way for the commodities joint venture and expect to exit the business completely in the latter half of this year."

During a conference call with analysts, Fetsinger said he hopes the company will have exited the business by July or August. — Rodney White

platts Gas Daily

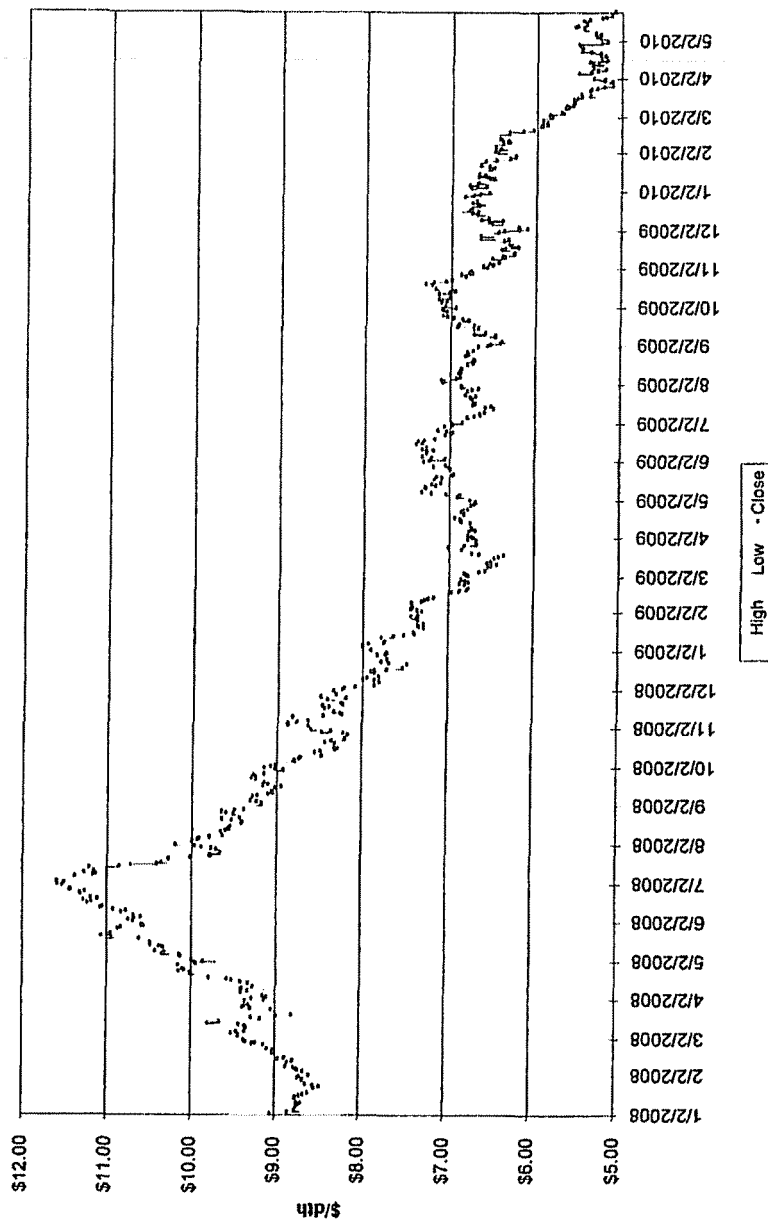
Volume 277, Page 85, Wednesday, May 5, 2010

Table with multiple columns and rows of data, including various gas prices and market information. The text is very small and difficult to read.

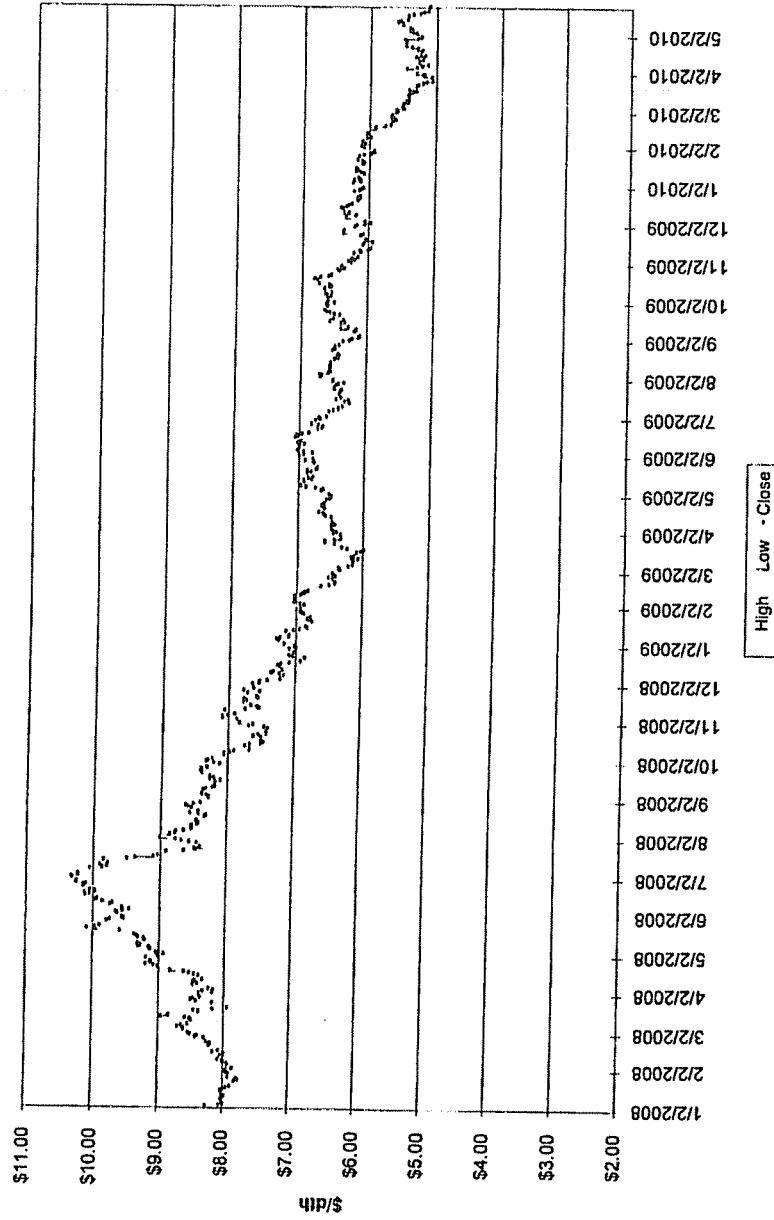
**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**May 11, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	5.49
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	5.47
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	5.36
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	5.15
May-08	11.27	May-09	3.83	May-10	4.04	May-11	5.19
Jun-08	12.69	Jun-09	3.80	Jun-10	4.02	Jun-11	5.13
Jul-08	11.09	Jul-09	3.38	Jul-10	4.01	Jul-11	5.19
Aug-08	8.26	Aug-09	3.14	Aug-10	3.97	Aug-11	5.23
Sep-08	7.67	Sep-09	2.97	Sep-10	3.90	Sep-11	5.25
Oct-08	6.74	Oct-09	4.00	Oct-10	4.33	Oct-11	5.35
Nov-08	6.68	Nov-09	3.66	Nov-10	4.82	Nov-11	5.52
Dec-08	5.82	Dec-09	5.34	Dec-10	5.27	Dec-11	5.83
Average 2008	\$	Average 2009	\$	Average 2010	\$	Average 2011	\$
Summer 2008	\$	Summer 2009	\$	Summer 2010	\$	Summer 2011	\$
Winter 2008-2009	\$	Winter 2009-2010	\$	Winter 2010-2011	\$		

Winter Strip Nov10 - Mar11



Summer Strip 2011





## Short-Term Energy Outlook

May 11, 2010 Release  
(Next update: June 8, 2010)

### Natural Gas

U.S. Natural Gas Consumption. EIA expects total natural gas consumption to increase by 3.0 percent to 64.4 billion cubic feet per day (Bcf/d) in 2010 and decline by 0.4 percent in 2011. Consumption growth in 2010 is led by the industrial and electric power sectors. Despite higher natural gas prices in the first quarter of 2010 compared with the same period in 2009, natural gas accounted for a slightly higher share of generation in the electric power sector. This gain in the natural gas share of electric-power-sector generation is expected to continue through this year. In the industrial sector, EIA's natural-gas-weighted industrial production index (a measure of industrial activity in natural-gas-intensive industries) showed a year-over-year increase of 6.8 percent during the first quarter of 2010 and is forecast to rise by 5 percent on average for the entire year.

EIA's expectation of continued growth in industrial output in 2011 leads to a projected 1.3 percent increase in industrial natural gas consumption next year. However, the forecast of higher natural gas prices restrains natural gas use in the electric power sector next year. In addition, the assumption of a 2.2 percent decline in first-quarter heating degree days next year, and the resulting decline in space heating demand, reduces residential and commercial sector consumption next year.

U.S. Natural Gas Production and Imports. EIA expects total marketed natural gas production to increase by 0.8 Bcf/d (1.3 percent) to 60.7 Bcf/d in 2010 and to decline by 0.3 Bcf/d (0.5 percent) in 2011. This production forecast is lower than last month's Outlook by 0.1 and 0.3 Bcf/d in 2010 and 2011, respectively. The recent revisions to EIA's historical natural gas production data and balancing item (the difference between total monthly consumption and total production) for 2009 and January 2010 of about 0.5 Bcf/d on average are primarily reflected in a smaller (less negative) balancing item in this forecast.

Although the working natural gas rig count has declined in recent weeks, the resurgent trend in drilling activity from last year's low contributes to the outlook for production growth in 2010. With a forecast of lower prices throughout the remainder of 2010 relative to the first quarter, EIA expects some continuation of the recent reduction in drilling activity. The lagged effect of sustained lower drilling in the forecast contributes to a slight decline in production during 2011.

Liquefied natural gas (LNG) imports have fallen in recent weeks as maintenance, feed-gas shortages, and startup delays reduce the amount of previously expected global LNG supply. Higher prices in other LNG-consuming countries in Europe and Asia continue to attract cargoes away from U.S. ports. However, EIA continues to expect that new LNG supply trains coming on-stream in Qatar, Yemen, and Peru will more than satisfy global demand and contribute to a 0.4 Bcf/d increase in U.S. LNG imports during 2010. This increase does not offset a projected 0.7 Bcf/d decline in pipeline imports during 2010. The majority of U.S. pipeline imports come from Canada, where natural gas production has been in recent decline as a result of lower drilling activity.

### Global Crude Oil and Liquid Fuels

Crude Oil and Liquid Fuels Overview. EIA's assessment of global economic growth, global oil demand, and world oil prices are all slightly higher than in last month's Outlook. Expectation of a somewhat more robust global economic recovery supports the updated price forecast, particularly if the Organization of the Petroleum Exporting Countries (OPEC) continues to remain satisfied with its supply targets as global oil consumption continues to grow. The most important downside risk to this forecast is lower-than-expected economic growth.

**Kern, Jeff L**

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**From:** [REDACTED]  
**Sent:** Tuesday, May 18, 2010 3:14 PM  
**To:** [REDACTED]  
**Subject:** Product Idea - Selling Summer Floors Can Improve Winter Cashless Collar Range

Just wanted to let you know where a couple of products are currently valued (at the Henry Hub):

[REDACTED]

Adding a floor for July - Sept. lowers the ceiling on the Cashless Collar:

[REDACTED]  
[REDACTED]

Please call if you need live quotes or alternative strike levels, or any other scenarios priced out at (281) 293-3898.

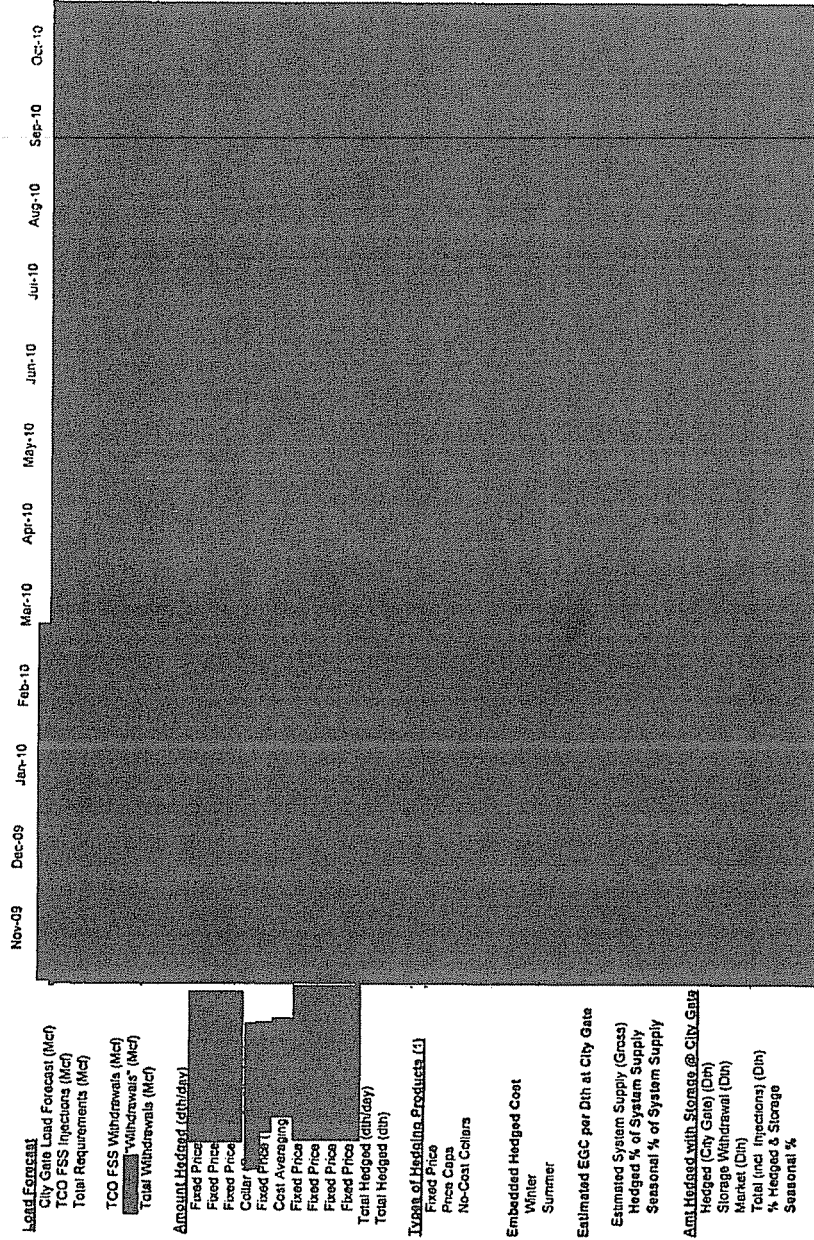
Thanks,

Glenn

Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
June 22, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (July 10–Sept 10)	↑	Long	NOAA predicting above average temperatures for July 2010–Sept 2010 for the East coast, Southern and Southwestern CONUS with below normal temperatures in the Central plains states.	12
Mid Term Forecast (30-60 days)	↑	Long	July is predicted to be 10.3% warmer than normal based on 10 year normals and August is predicted to be 6.9% warmer than 10 year normal.	13-14
Short Term Forecast (6-10 days)	↑	Short	Above Normal for most of the country with some Below Normal in Western portion of CONUS.	15
Tropical Storm Activity	↑	Short	A large area of disorganized showers and thunderstorms over the eastern Caribbean sea. 20% chance of this system becoming a tropical cyclone. CSU revised their outlook for the hurricane season upward to 10 hurricanes. Officials differ on hurricane season's impact on gas prices.	16-18
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage injections for the week ending June 11th were 67 BCF. Storage levels are at 2.543 TCF which is 0.1% higher than last year and 14.0% higher than the 5 year average.	19
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011 Winter 2010/11	↑	Long	GAS PRICE SCORECARD: JUNE 2010–OCTOBER 2010 PIRA's price outlook is Bullish with "storage will be lower year to year in June and July which may not be enough to sustain a push through \$4/MMBtu, but suggests that prices north of \$4/MMBtu will be sustainable."	20-21
Gas Daily	↓	Long	The recent jump in natural gas prices may have some hedge funds scrambling to cover their short positions. "Fundamentally, gas has a well-supplied market, even with the heat, we've soaked away a lot of gas. If we don't match last year's storage fill, we will be at the second-largest on record. There's no reason for us to be really running up, so having a bear spread on makes fundamental sense."	22-23
Gas Daily	↓	Long	Natural Gas Supply Assn: "The wholesale gas market this summer should be similar to last year's—well-supplied and moderately priced—despite the suspension of deepwater drilling permits in the Gulf of Mexico."	24
Gas Daily	↓	Long	Energy Ventures Analysis: The combination of a mild summer and robust gas supplies could send prices tumbling below \$3/MMBtu later this year. For the second half of 2010, there is a greater potential for lower gas prices than there is for higher gas prices.	25
Gas Daily	↓	Long	Numerous energy companies are snatching up leases in the Collingwood Shale in northern Michigan, lured by the play's strategic location at the heart of the Midwest market. Collingwood is close to established infrastructure, demand centers and storage fields.	26-28
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$4.917 Winter 2010/11: \$4.992	↔	Long	The projected Henry Hub annual average spot price is expected to be \$4.49 per MMBtu in 2010, a \$ 55/MMBtu increase over the 2009 average and \$5.06 per MMBtu in 2011.	29
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↑	Short	Closed at \$5.81	30
Summer 2011 Strip Chart	↑	Short	Closed at \$5.39	31
<b>Economy</b>				
Demand	↑	Long	EIA. Natural gas consumption is projected to increase about 1% to 64.9 Bcf/day in 2010 and decline by 0.4% in 2011. Consumption growth in 2010 is led by the industrial and electric power sectors.	32
Supply	↓	Long	EIA. Total marketed natural gas production to increase by 1.2 Bcf/d to 61.2 Bcf/d in 2010 and decrease by 0.5 Bcf/d in 2011. This forecast includes projected shut-ins due to tropical storms of 166 Bcf vs 19 Bcf shut-in last year. In addition, this forecast includes reductions in output from deepwater GOM of 8 Bcf in 2010 and 74 Bcf in 2011 because of the 6-month drilling moratorium.	32
Oil Market	↓	Long	EIA expects WTI crude oil to average about \$79 per barrel this year, rising to \$83 next year. Uncertainty about economic growth in China and in the Euro zone has continued to weigh on the oil markets.	32
<p>Meeting Minutes: 10th Floor North Conference Room - 1:00 pm  Attendees: Jeff Kern, Jim Hennings, Mitch Marth, Joachim Fischesser, Jim Mehring, Terry Bates, Steve Niedorbaumer  Discussed current market conditions including weather forecasts, (several analysts projecting a much hotter than normal summer and a higher number of hurricanes than normal) storage levels (several analysts projecting high levels by the end of the injection season) and various analysts projections as well as EIA's forecasts for natural gas and oil markets. Based on the discussion, a decision was made to hedge additional volumes. Based on the current position in the Hedging Program, Kentucky will seek bids for [redacted] Dth/day for the period November 1, 2010 to March 31 2012. A no-cost collar is the type of hedging product that will be sought.</p>				

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 06/21/10



**Load Forecast**  
 City Gate Load Forecast (Mcf)  
 TCO FSS Injections (Mcf)  
 Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf)  
 "Withdrawals" (Mcf)  
 Total Withdrawals (Mcf)

**Amount Hedged (dth/day)**

Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar  
 Fixed Price  
 Cost Averaging  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Type of Hedging Products (1)**

Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**

Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Amount Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 08/21/10

	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11
[Redacted Data]												

**Load Forecasts**  
 City Gate Load Forecasts (Mcf)  
 TCO FSS Injections (Mcf)  
 Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf)  
 Other "Withdrawals" (Mcf)  
 Total Withdrawals (Mcf)

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

**Types of Hedging Products (t)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 06/21/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth/day)</b>												
Fixed Price ( )												
Fixed Price ( )												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>Amt. Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. injections) (Dth)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 06/21/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

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)

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

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Coat Collars

Embedded Hedged Cost

Winter  
 Summer

Estimated EOC per Dth at City Gate

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

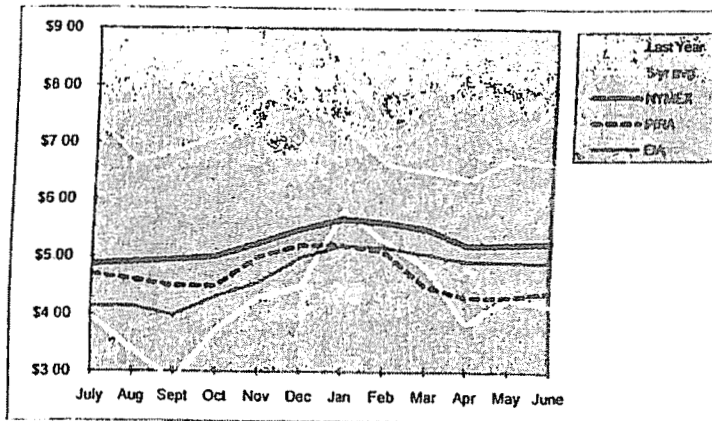
AmI Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

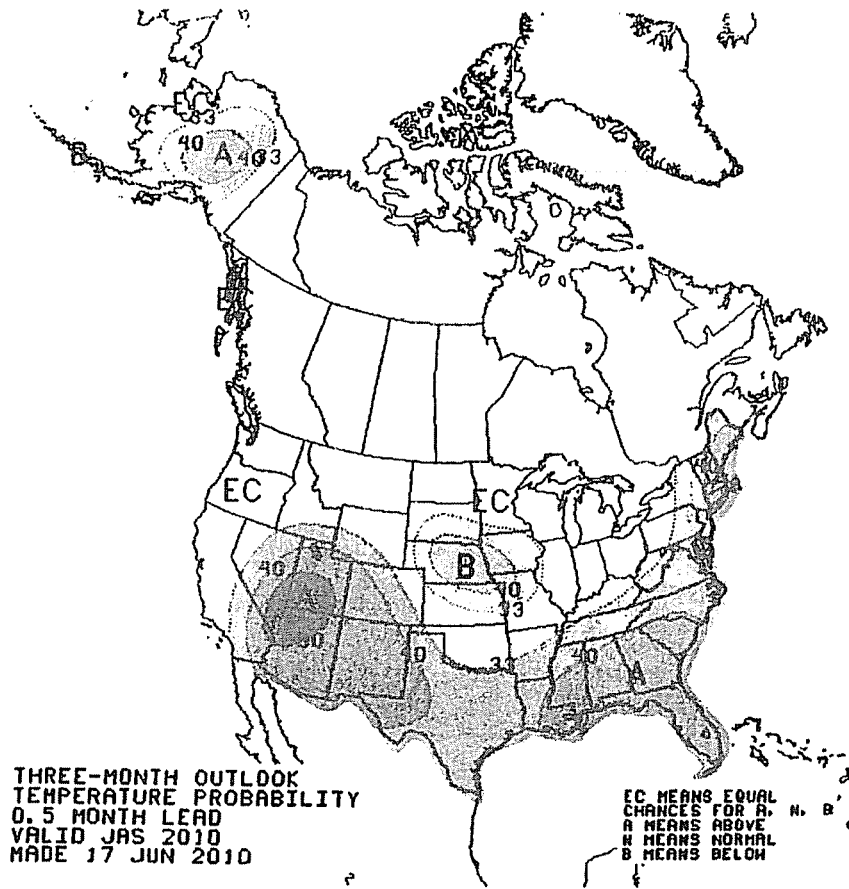
(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months

COMPARISON OF HISTORIC SPOT & PROJECTED PRICES  
 TO CURRENT FUTURES PRICES

Historic Prices							Hedged Prices	
	NYMEX Closing Price		PIRA	EIA	NYMEX		Ohio	Kentucky
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)						
July	\$7.37	\$3.95		\$4.140	\$4.873			
Aug	\$6.68	\$3.38		\$4.140	\$4.910			
Sept	\$6.87	\$2.84		\$3.990	\$4.944			
Oct	\$7.15	\$3.73		\$4.310	\$5.010			
Nov	\$7.80	\$4.29		\$4.550	\$5.232			
Dec	\$7.62	\$4.49		\$4.990	\$5.485			
Jan	\$7.28	\$5.81		\$5.200	\$5.665			
Feb	\$6.61	\$5.27		\$5.170	\$5.602			
Mar	\$6.49	\$4.82		\$5.050	\$5.490			
Apr	\$6.37	\$3.84		\$4.930	\$5.205			
May	\$6.72	\$4.27		\$4.920	\$5.214			
June	\$6.63	\$4.16		\$4.910	\$5.253			
12 Month Avg	\$6.96	\$4.24		\$4.692	\$5.240			
Summer Average				\$4.477	\$5.058			
Winter Average				\$4.992	\$5.495			





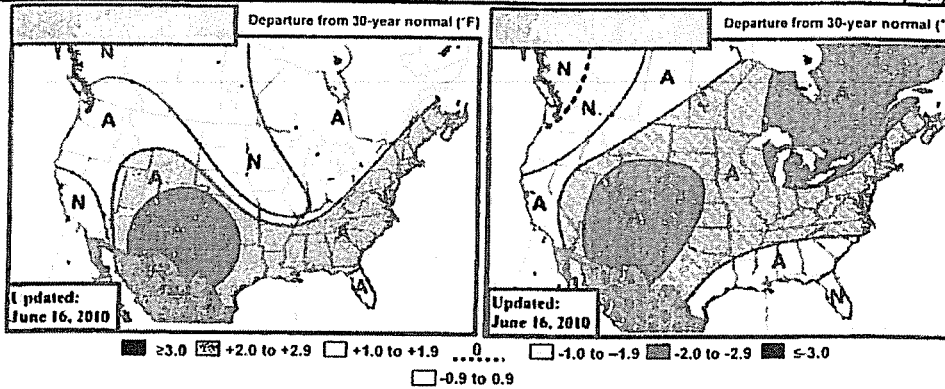




# EarthSat's 30-60 Day Outlook

Wednesday, June 16, 2010

Forecaster: SS/BI/TH



**Previous**  
 Not quite as warm in the West  
 Warmer in the East & Texas

The July outlook remains warm-dominated overall, with widespread above normal temperatures across most of the US. The exceptions are the western Midwest and much of California, where normals are favored. Changes were generally to the cooler direction in the West and to the warmer direction in the Midwest, South, and East. These warm changes resulted in an increase in the overall PWCCD forecast. If the CDD forecast stands, it will be the 8th hottest July on record since 1950 (2006 was the hottest with 386 PWCCDs). Looking at some long term model guidance, the latest ECMWF monthly outlook which came out yesterday shows very good agreement with our forecast, with the strongest heat seen across the southern Rockies into Texas and the southern Plains. The Northwest carries a cool risk, both based on the ECMWF forecast and persistence which favors troughing upstream of the Eastern ridge.

Jul PWCCD* Forecasts	*10Y Normal updated to '00-09
Jul 2010 Fcst: <b>362.0</b>	10Y Normal* 328.2
	30Y Normal 327.7
	Jul-2009 283.9
Change: 8.0	

\*National Population-Weighted CDDs

**Previous**  
 Widespread warmth continues  
 Cooler trends in the Northwest

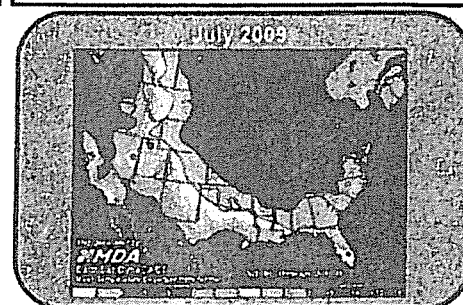
Widespread warmth continues in the August forecast with aboves across most of the US except for the Northwest and the Florida Peninsula. The forecast was mostly unchanged, save for some warmer changes in the Southeast and some cool changes in the West, adding up to a very slightly warmer PWCCD forecast overall. The current CDD forecast would make it the 9th hottest August since 1950 (2007 was the hottest with 366 PWCCDs). The ECMWF monthly outlook also agrees very well with this outlook, showing a pattern that is almost a direct match to our forecast. On the other hand, the American CFS model continues to show a substantially cooler outlook, though that model has not verified very well as of late.

Aug PWCCD* Forecasts	*10Y Normal updated to '00-09
Aug 2010 Fcst: <b>338.0</b>	10Y Normal* 316.1
	30Y Normal 296.5
	Aug-2009 301.4
Change: +7.0	

\*National Population-Weighted CDDs

**June: What could go wrong?**

As we roll the month into June, the outlook remains warm-dominated overall, with widespread above normal temperatures across most of the US. The exceptions are the western Midwest and much of California, where normals are favored. Changes were generally to the cooler direction in the West and to the warmer direction in the Midwest, South, and East. These warm changes resulted in an increase in the overall PWCCD forecast. If the CDD forecast stands, it will be the 8th hottest July on record since 1950 (2006 was the hottest with 386 PWCCDs). Looking at some long term model guidance, the latest ECMWF monthly outlook which came out yesterday shows very good agreement with our forecast, with the strongest heat seen across the southern Rockies into Texas and the southern Plains. The Northwest carries a cool risk, both based on the ECMWF forecast and persistence which favors troughing upstream of the Eastern ridge.



# Gas Daily

Tuesday, June 22, 2010

## WSI: Hot summer likely across much of the country

**Most of the US will experience above-normal temperatures from July through September, although the lack of drought conditions should temper the heat somewhat, private forecaster WSI said Monday.**

Only parts of the central and northern Plains are expected to escape the hot weather, which would push up cooling demand across the country. "For the July-September period as a whole, we are forecasting 836 population-weighted cooling degree days, 7% to 8% more than last year and about 10% more than the 1971-2000 mean," WSI said in a statement.

WSI credits the development of La Niña, a weather phenomenon characterized by unusually cool temperatures in the Pacific, for the expected warmth. "A new La Niña event continues to rapidly evolve as we head deeper into summer. This will favor more heat across the northern US as the summer progresses," WSI chief meteorologist Todd Crawford said in a statement.

By early July, WSI said that it expects heat to spread across most of the western US and to persist in the Southeast, while the north-central and northeastern US will still see some relatively cool weather.

**"Gas demand from the power sector for cooling will likely be strong in all regions except for the Northeast and North Central areas" during July,** said Paul Flemming, director of power and gas at Energy Security Analysis, which issued the joint statement with WSI. The heat is expected to spread by August and September to most of the northern US, however, WSI said.

During August and September, Fleming said that power prices in the Northeast markets could be volatile and gas demand will generally remain strong. — *Carla Bass*



Monday, June, 21, 2010

## Natural Gas, Gas Liquids and Power Market Update

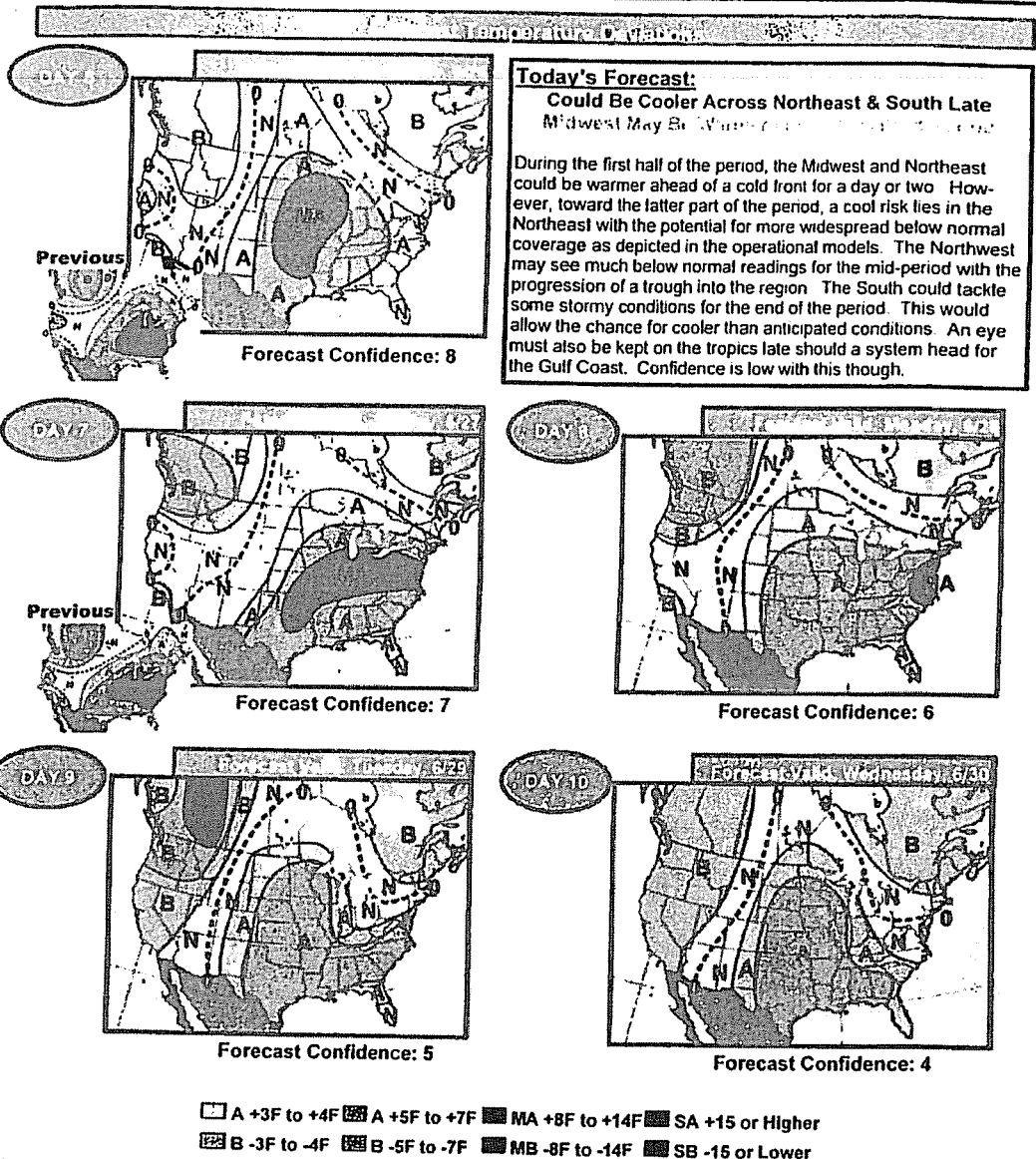
Today's Market – We start a new week . . . and the official beginning of summer . . . with more than a few new items pegging their exogenous influences on price. The big news is that China joined the rest of the socioeconomic global community over the weekend and unsnapped their currency, the yuan, and will now let it float against all other currencies. This will have a net bullish impact on most markets this week as everyone on the planet decides for themselves how and where they individually stack up against the great unknown . . . China's economy. As this transmutation proceeds, we'll see a lot of economic posturing ahead of uncertain values. It's a cinch that crude oil will react bullishly to this news. This is a big step for China and one that the West has been pressuring China to do for well over a year. China flat-lined their currency about 2 years ago at the height of the financial crisis. This announcement comes a week before the upcoming G20 meeting and will pretty much eliminate this as a major discussion item. The change shows a bit of confidence and maturity of the Chinese economy as well as a view by the Chinese government that they have confidence in global economic growth continuing going forward. It also shows China's commitment to grow their internal consumption at the expense of exports. As the Yuan increases in value it will make exports more expensive and motivate industry to focus more on growing internal consumption. On the other hand it does help both importers and exporters who rely on imported resources and commodities to make their goods as they will be buying them with cheaper dollars and selling them into a stronger local currency market. Assuming the Yuan does in fact appreciate in value, it will be good for the global economy and be supportive for most commodity prices as we are already seeing this morning in the energy complex. Overnight equity markets in Asia responded strongly to the news with a global equity and commodity rally underway and spreading from Asia to Europe and already into US futures markets. There are no tropical systems in the Atlantic Basin to speak of, but we are continuing to watch the wave of energy that helped drive prices up early last week. It's quite ugly, from a general hurricane allure perspective . . . if that's possible. After all of this above . . . **IT'S HOT east of the Front Range in the CONUS. When I say hot . . . I mean hot! Forecasts will grossly miscalculate the intensity and heat index capability of this heat driven event. That fact, alone, makes me bullish over the next week, or so. This heat is the characteristic pattern for what I'm expecting this summer, and I don't see it ending in the near term.** Since this is the month of weddings I thought I'd load you up with a useless piece of information. A poem written to celebrate a wedding is called an epithalamium. Also, in Michigan, there's a law that states a wife's hair legally belongs to her husband. So, those that are potentially tying knots this month . . . take a look at the small print.



# EarthSat's 6-10 Day Forecast-Detailed

Monday, June 21, 2010

Forecaster: BH/AC





### Atlantic Tropical Weather Outlook

- Local forecast by "City, St" or "Zip"
- Alternate versions  
Text only | PDA | Cell
- Get Storm Info  
Satellite | Radar  
Aircraft Recon  
Advisory Archive  
Experimental  
Mobile Products  
E-mail Updates  
Audio/Podcasts  
GIS Data | RSS |
- Help with Advisories
- Marine Forecasts  
Atlantic and E Pacific  
Analysis Tools  
Help with Marine
- Hurricane Awareness  
Be Prepared | Learn  
Frequent Questions  
AOML Research  
Hurricane Hunters  
Saffir-Simpson Scale  
Forecasting Models  
Eyewall Wind Profiles  
Glossary/Acronyms  
Storm Names  
Breakpoints
- Hurricane History  
Seasons Archive  
Forecast Accuracy  
Climatology  
Most Extreme
- About the NHC  
Mission and Vision  
Personnel | Visitors  
NHC Virtual Tour  
Library  
Joint Hurr Testbed  
The NCEP Centers
- Contact Us - Help

000  
 ABNT20 KNHC 211152  
 TNOAT  
 TROPICAL WEATHER OUTLOOK  
 NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL  
 900 AM EDT MON JUN 21 2010

FOR THE NORTH ATLANTIC . . CARIBBEAN SEA AND THE GULF OF MEXICO.

A LARGE AREA OF DISORGANIZED SHOWERS AND THUNDERSTORMS OVER THE EASTERN CARIBBEAN SEA IS ASSOCIATED WITH A WESTWARD-MOVING TROPICAL WAVE. ENVIRONMENTAL CONDITIONS APPEAR CONDUCIVE FOR GRADUAL DEVELOPMENT OF THIS SYSTEM DURING THE NEXT COUPLE OF DAYS. THIS WAVE COULD PRODUCE LOCALLY HEAVY RAINFALL AND GUSTY WINDS OVER PORTIONS OF NORTHERN VENEZUELA . . . THE LESSER ANTILLES . . . THE VIRGIN ISLANDS . . . PUERTO RICO . . . THE DOMINICAN REPUBLIC . . . AND HAITI OVER THE NEXT DAY OR SO. THERE IS A LOW CHANCE . . . 20 PERCENT . . . OF THIS SYSTEM BECOMING A TROPICAL CYCLONE DURING THE NEXT 48 HOURS.

ELSEWHERE . . . TROPICAL CYCLONE FORMATION IS NOT EXPECTED DURING THE NEXT 48 HOURS.

\$\$  
 FORECASTER BROWN

Quick Navigation Links:  
 NHC Active Storms - Atlantic and E Pacific Marine - Storm Archives  
 Hurricane Awareness - How to Prepare - About NHC - Contact Us

NOAA: National Weather Service National Centers for Environmental Prediction National Hurricane Center Tropical Prediction Center 17691 SW 17th Street Miami, Florida 33165-2149 USA rhcwmaster@noaa.gov Page last modified: Monday, 21-Jun-2010 11:52:18 GMT	Disclaimer Credits Information Quality Glossary	Privacy Policy Freedom of Information Act (FOIA) About Us Career Opportunities
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# Gas Daily

Thursday, June 3, 2010

## CSU now expects 10 hurricanes, says Gulf cleanup could suffer

Colorado State University forecasters on Wednesday revised their outlook for the current Atlantic hurricane season, now predicting 18 named storms and 10 hurricanes, of which five are expected to become major hurricanes of Category 3 strength or greater.

The revision is based on "much warmer-than-normal tropical Atlantic sea surface temperatures and cooling tropical Pacific conditions," the CSU research team said. In its April forecast, the team called for 15 named storms, eight hurricanes and four major hurricanes. Long-term (1950-2000) averages are 9.6 named storms, 5.9 hurricanes and 2.3 major hurricanes per year, CSU said.

"We have increased our forecast from early April, due to a combination of a transition from El Niño to current neutral conditions and the continuation of unusually warm tropical Atlantic sea surface temperatures," forecaster William Gray said in a statement. "We anticipate a well above-average probability of United States and Caribbean major hurricane landfall."

The CSU team said it also updated its US landfall models and now believes the "probability of a major hurricane making landfall along the US coastline is 76% compared with the last-century average of 52%," according to lead forecaster Phil Klotzbach. "We expect that the current trend from El Niño to neutral conditions will persist and that weak La Niña conditions will develop by the most active portion of this year's hurricane season (August-October)."

The forecasters predicted a 51% chance that a major hurricane will make landfall on the East Coast, including the Florida Peninsula, compared with a long-term average of 31%. There is a 51% chance of one hitting the Gulf Coast from the Florida Panhandle west to Brownsville, Texas, compared with a long-term average of 31%, and a 65% chance that a major hurricane will track into the Caribbean, vs. a long-term average of 42%.

The Caribbean looks to be very active in 2010, with overall tropical cyclone activity approaching levels experienced in 2004 and 2005, CSU added

Klotzbach said that if as active as predicted, the 2010 hurricane season that runs through November could have an impact on the cleanup of the oil spill in the Gulf of Mexico. "If the storm tracks to the west of the oil, there is the potential that the counter-clockwise circulation of the hurricane could drive some of the oil further toward the US Gulf Coast," he said.

Last week, in a daunting sign for the already beleaguered offshore oil and gas industry, the National Oceanic and Atmospheric Administration said the Atlantic hurricane season could be one of the most active on record, predicting that it could bring 14 to 23 named storms and eight to 14 hurricanes, of which three to seven could reach Category 3 strength or greater. — *Carla Bass*

# Gas Daily

Tuesday, June 8, 2010

## Officials differ on hurricane season's impact on gas prices

Two industry officials offered differing views Monday on the impact an active Atlantic hurricane season might have on gas prices, with a shale-created supply glut and volatility brought about by proposed financial reform marking their dividing lines in the sand.

"The market jumped 50 cents/MMBtu in a heartbeat just on a forecast of a hurricane season much like the 2005 one," said Paul Corby, senior vice president of risk management firm Planalytics, at the LDC Forum Northeast in Boston.

Suggesting the end result of the currently debated financial reform bill in Congress would result in greater volatility in the markets, Corby predicted that "financial reform will only put more upward pressure on prices."

"For some reason, the market can't break \$4/ MMBtu on the downside," Corby said. "We're more likely to see \$5 or \$6 gas before we see \$3."

James Duncan, ConocoPhillips' Gas and Power's market analysis director, disagreed Citing climbing production volumes, largely from shale plays, and possible record storage stockpiles toward the end of the summer injection season, Duncan said even with an active storm season, prices would not be greatly impacted.

"There's still significant downside pressure going into winter," Duncan said. "You're not going to see the double-digit prices that came with the hurricanes of 2005, but more a flattening of the contango on the [futures] curve." — *Samantha Santa Maria*



# Gas Daily

Tuesday, June 22, 2010

## Analyst: Hot summer, hurricanes to cap storage

Hotter-than-normal weather this summer and the possibility of an active hurricane season are likely to keep a lid on gas storage injections this year, analyst Ron Denhardt said Monday.

"The weather outlook is now for much warmer-than-normal weather throughout most of the country for the remainder of the non-heating season, with some meteorologists talking about the hottest summer in 30 years." said Denhardt, vice president of natural gas services for Strategic Energy and Economic Research.

Last year's storage refill season ended with about 3.804 Tcf of gas, he noted, adding that this season is likely to end on par with that despite robust inventories to start the summer.

Weather that is 10% warmer than normal through October would reduce the working gas storage level by about 150 Bcf, he said, adding that cooling degree days have averaged more than 40% greater than normal during the past four weeks.

He also noted that National Oceanic and Atmospheric Administration has forecast 14 to 23 named storms this season within the Atlantic Basin, including eight to 14 hurricanes, of which three to seven could be severe. The Energy Information Administration estimates the median amount of lost gas production from a hurricane to be 166 Bcf.

"With CDDs 10% greater than normal together with a production loss of the magnitude implied by the EIA, natural gas prices could be above the level needed to displace coal generation for the remainder of the non-heating season and working gas storage would end October below [3.9 Tcf]," Denhardt said. Natural gas prices "could exceed \$5/MMBtu for a month or two and still not have working gas storage exceed capacity in October," he added.

Gas production remains high and "caused us and many others to be bearish on prices," the analyst said. "If the weather moderates and production continues to grow, Henry Hub prices could move back to \$4.25/MMBtu or below."

Higher gas prices would be needed to attract imports of liquefied natural gas, according to Denhardt. "Prices at the National Balancing Point in the UK are over \$7.00/MMBtu and Henry Hub prices might have to exceed these levels by a \$.50 to \$1.00/MMBtu to draw sufficient LNG to put strong downward pressures on US prices." Also, prices would go higher as Europe and Asia respond by bidding up LNG prices to maintain their supply, he added.

A substantial price jump would support a further increase in drilling and accelerate already rapidly growing US supply, he noted. But the market could ignore those longer-term implications and set up a boom-and-bust scenario. "Thus a tight market this summer could lead to a much looser supply-demand balance in 2011," he said. — *Rodney White*

**EIA** U.S. Energy Information Administration  
 Weekly Natural Gas Storage Report

Country

Release Schedule  
 Sign Up for E-mail Updates

Report Date: 06/11/10  
 Report Period: 06/04/10 - 06/11/10  
 Next Report: 06/18/10

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

Other Formats Summary TAT US

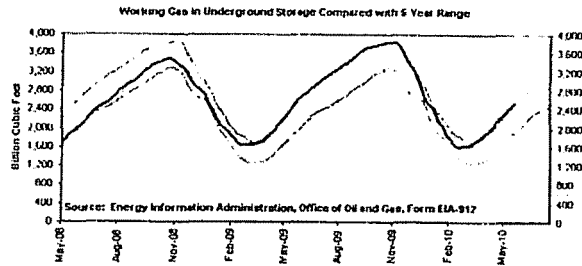
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	06/11/10	06/04/10	Change	Year Ago (06/11/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,200	1,148	52	1,154	4.0	1,106	3.5
West	424	412	12	406	4.4	334	26.9
Producing	911	896	15	981	6.3	790	16.3
<b>Total</b>	<b>2,543</b>	<b>2,456</b>	<b>87</b>	<b>2,541</b>	<b>0.1</b>	<b>2,230</b>	<b>14.0</b>

Notes and Definitions

**Summary**

Working gas in storage was 2,543 Bcf as of Friday, June 11, 2010, according to EIA estimates. This represents a net increase of 87 Bcf from the previous week. Stocks were 2 Bcf higher than last year at this time and 313 Bcf above the 5 year average of 2,230 Bcf. In the East Region, stocks were 94 Bcf above the 5 year average following net injections of 52 Bcf. Stocks in the Producing Region were 129 Bcf above the 5 year average of 790 Bcf after a net injection of 15 Bcf. Stocks in the West Region were 90 Bcf above the 5 year average after a net addition of 12 Bcf. At 2,543 Bcf, total working gas is above the 5 year historical range.

- Data
- History (RLS)
- 5-Year Averages, Maximum, Minimum, and Year-Ago Stocks (RLS)
- References
- Methodology
- Differences Between Monthly and Weekly Data
- Revision Policy
- Related Links
- Storage Basics
- Natural Gas Weekly Update
- Natural Gas Navigator



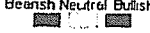
Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2005 through 2009.  
 Source: Form EIA-913, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.


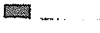
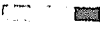



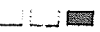

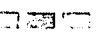


PIRA  
 North American Gas Price Overview  
 Per MMBTU  
 May 25, 2010 Release

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008	\$	Average 2009	\$	Average 2010	\$	Average 2011	\$
Summer 2008	\$	Summer 2009	\$	Summer 2010	\$	Summer 2011	\$
Winter 2008-2009	\$	Winter 2009-2010	\$	Winter 2010-2011	\$		

**North American Gas Forecast Monthly**   
 May 25, 2010 NATURAL GAS

**GAS PRICE SCORECARD: JUNE 2010 – OCTOBER 2010**

Bearish Neutral Bullish  


U.S. Supply Issues	Outlook	Commentary
<i>U.S. Production</i>		Horizontal gas rig counts have moved to new record highs, suggesting an even faster pace of shale gas growth in the months ahead. Yet, numerous uncertainties continue to surround the near-term outlook for expansion, especially in the less mature shale plays.
<i>LNG Imports</i>		Cold late heating season European weather and North Sea production issues have limited the chances of a big LNG supply "dump" into the U.S. Yet, a huge expansion of global LNG supply still looms ahead.
<i>Canadian Exports</i>		The number of Alberta gas wells that producers are planning to drill in 2010 has increased dramatically of late despite bullish prices, suggesting that Y/Y export shortfalls to the U.S. will be less than previously expected.
<i>Mexican Pipeline Imports</i>		Despite Mexico's ongoing economic recovery, the pace of EG gas demand growth has tapered, pointing to modestly weaker exports to the U.S. It production continues to grow.
<i>Storage Levels</i>		The Y/Y storage surplus shows signs of tapering down of late, but PIRA's updated gas balances no longer point firmly toward progressively widening Y/Y deficits.
U.S. Demand Issues	Outlook	Commentary
<i>Economy</i>		Vulnerability to the potential for growing global economic turbulence from the European debt crisis remains more than counter-balanced by constructive signs for the near-term.
<i>Electric Generation</i>		No major changes from a month ago with only moderately higher gas burns forecast but larger market shares at the expense of coal still provide a "safety net" from downside price exposure.
<i>Industrial Sector</i>		Signs of slower Y/Y growth over the past two months cannot be fully explained by milder weather, but current month balances very tentatively point to some strengthening.
<i>Res/Com Heating</i>		Same as last month: Minimal changes expected ahead of the 2010-2011 heating season.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>		Some commodities faced price declines related to the liquidation of long speculative positions in recent weeks, such as the NYMEX oil complex. The longstanding net short NYMEX gas futures position has declined too, but remained near its most recent high booked in late April/early May.
Overall Assessment	Outlook	Commentary
<i>Price Outlook</i>		The burden will remain with market bulls to "prove" justification for higher prices, and that will require U.S. gas balances to show extended Y/Y tightness. Our Reference Case indicates that storage will be lower Y/Y in June and July. This backdrop may not be enough to allow Henry Hub prices to sustain a push through \$5/MMBtu, but it also suggests that prices north of \$4/MMBtu will be sustainable.

# Gas Daily

Monday, June 21, 2010

## Jump in gas prices causes 'pain train' for funds

**The recent jump in natural gas prices may have some hedge funds scrambling to cover their short positions, resulting in potentially large losses in some cases, industry sources said Friday**

Noncommercial gas traders — including hedge funds — have been short in the gas market for the past year, according to the Commodity Futures Trading Commission's Commitments of Traders report

But over the past month, speculative interests have begun covering their short positions and in some cases increasing long positions in the NYMEX gas futures market.

**"Fundamentally, gas has a well-supplied market," a Houston-based trader said. "Even with the heat, we've socked away a lot of gas. If we don't match last year's storage fill, we will be at the second-largest on record. There's no reason for us to be really running up, so having a bear spread on makes fundamental sense."**

He said it is not just a select few funds that have been hurt by the run-up. He said almost everybody he knows in the gas trading field has lost money in what they had expected to be a bearish market.

"They have everybody violated on short positions," he said. "The pain train begins. That in itself starts driving the market higher."

**He said funds are short the front of the NYMEX curve and long the back. To cover in the event of a short squeeze they have to buy the front and sell the back — which is why gas prices have risen sharply at the front of the curve, while the back has not climbed as fast.**

The trader noted that the October-November and October-January spreads on NYMEX are big fund favorites and the narrow 20-cent differential between the October and November contracts is "absurd" compared with other years.

"It's been driving all these people out and created an artificially tight level of some of these spreads."

But he said he believes the spreads will eventually widen to typical levels because weather forecasts are starting to point to a warm winter. "There will be a swift move back out but by then the damage [to funds] will have been done."

MF Global analyst Tom Pawlicki said the jump of nearly 19% in the value of NYMEX gas this month may have incited steep losses for hedge fund SandRidge Capital. He cited media reports, saying the \$1 billion Houston-based fund said it lost more than 19% on the year and 15% in June to date due to bad bets on natural gas.

Several calls to SandRidge went unanswered Friday.

Traders also mentioned the names of several other hedge funds that may be "down big," according to one Gulf trader, who asked not to be named because he is not authorized to speak for his company. However, exact losses, if any at all, at these funds could not be verified.

Enerjay broker Jay Levine, meanwhile, was unconvinced of a potential short squeeze on funds, saying the gas market has been rising in an orderly fashion for much of the month.

"Hedge funds are liquidating in a methodical basis rather than a wholesale basis," he said. "I've not seen what is characterized as a true short squeeze. Typically when you have a market short squeeze, the bulls don't like to let go" so soon, suggesting there may be upside still to come in the market.

He said it is almost impossible to tell how many positions still need to be liquidated but he thinks the bulls will not let momentum get away from them anytime soon. — *Cheryl Buchta*

# Gas Daily

Wednesday, June 9, 2010

## NGSA: Summer supply ample despite Gulf ban

The wholesale gas market this summer should be similar to last year's — well-supplied and moderately priced — despite the suspension of deepwater drilling permits in the Gulf of Mexico, the Natural Gas Supply Association said Wednesday.

"This summer is shaping up to be a repeat of last summer, which is good news for natural gas consumers," said Skip Horvath, president and CEO of NGSA.

NGSA spokeswoman Daphne Magnuson said more than 10% of the nation's gas comes from the Gulf, but the drilling moratorium, which the Obama administration imposed in the wake of the BP oil spill, is not expected to affect supply meaningfully this summer. That is largely because of the steady increase in onshore production from shale plays, she explained.

Magnuson also said it appears that the Interior Department will continue to permit drilling in the Gulf's shallow waters, where most of the Gulf's gas is extracted.

In its annual report on summer supply, NGSA said the economy's improvement is the single biggest factor that could put upward pressure on gas prices in an otherwise bearish market. NGSA said GDP is projected increase 4% year over year, compared with last summer's decline of 3.2%, though the unemployment rate is expected to remain high at around 9.7%.

Manufacturing, a key component of gas demand, is projected show spirited growth, improving 7.7% from last summer, NGSA said.

Weather patterns this summer are likely to be similar to last summer's, and that should help keep a lid on gas prices, the producer trade group said. The National Oceanic and Atmospheric Administration has predicted the continental United States will see weather that is a modest 1.5% warmer than the 30-year average.

An independent analysis performed by Energy Ventures Analysis for NGSA said there will be 1,175 cooling degree days this summer, nearly identical to last summer's 1,174 CDDs. But as always, the weather is a wildcard, with the severity of the Atlantic hurricane season expected to influence supply and the severity of the drought in the Pacific Northwest likely to affect demand as some hydroelectric capacity may have to switch to gas.

EVA projected that overall summer demand will increase by about 1 Bcf/d from a year ago to 54.4 Bcf/d.

While industrial-sector demand is forecast to grow, electric-generation demand is expected to decline by 1.4%, EVA said. Coal-to-gas displacement will again be significant this summer, although not to the extent of last summer, the report said. Gas demand by the commercial sector is predicted to increase slightly, while residential demand should remain flat.

With regard to gas storage, EVA expects average weekly injections to be slightly higher than last year, bringing end-of-season storage levels to around 100 Bcf above 2009 levels. The storage pattern is expected to have a minimal impact on wholesale prices, however, the report said.

Domestic gas production this summer has been forecast by the Energy Information Administration to be around 58.1 Bcf/d, up slightly from last year, NGSA noted. The active gas rig count has risen from 711 last summer to over 950 today, it noted.

NGSA and EVA are forecasting that imports from Canada will average 6.9 Bcf/d, unchanged from summer 2009. Liquefied natural gas imports are expected to rise from 1.7 Bcf/d to 2.1 Bcf/d due to an increase in liquefaction capacity. — Rodney White

# Gas Daily

Thursday, June 3, 2010

## Consultant: Gas could fall below \$3 this year

**The combination of a mild summer and robust gas supplies could send prices tumbling below \$3/MMBtu later this year,** Energy Ventures Analysis said in a report Wednesday.

**"For the second half of 2010, there is a greater potential for lower gas prices ... than there is for higher gas prices,"** the Arlington, Virginia-based consulting firm said.

"At present, the NYMEX strip for 2010 is about \$4.65/MMBtu, with EVA's gas price projections for the full year being about \$4.44/MMBtu," the report said. "However, the contribution of a milder summer and a surge in liquefied natural gas imports could result in the 2010 gas prices being below that level."

**The current supply glut is being driven "primarily by high domestic production levels," EVA said. "As a result, initial storage injections have been at record levels" and are currently well above historical averages. "Storage injections likely will remain at very high levels for the rest of the year, with the key tension point coming in August."**

If July and August are "very hot, natural gas demand for the power sector could surge, which would reduce storage injections in that period," the report said. "Alternatively, if the summer weather is close to normal or cooler than normal as currently forecasted, then storage injections would remain at relatively high levels."

**Hefty injections and/or a surge in LNG imports during the second half of the year due to excess global supply could "result in season-ending storage levels reaching maximum capacity levels," EVA cautioned. "If the latter occurs, expect sharp downward pressure on gas prices in late summer or early fall."**

**Looking ahead, EVA said the excess supply could persist throughout 2011, which would keep gas prices around \$4/MMBtu "and cause further coal-to-gas fuel-switching." That prediction "is due to the persistently high gas-directed rig count and the potential for higher LNG imports."**

According to EVA, "key drivers in the surge in domestic production are increases in both rig and well productivity as a result of advances in drilling techniques; the prolific nature of the shale plays, the 42% rebound in the gas directed rig count since the low point in July 2009; and the higher percentage of the more prolific horizontal wells in the overall well count."

Furthermore, "based upon announced drilling plans, 2010 production levels likely will be 0.6 Bcf/day above 2008 levels and only 0.9 Bcf/day below production levels in 2009," EVA said.

Some of that supply will be absorbed by growing demand, with EVA predicting a 3.2% increase in GDP for 2010. "This continued recovery in the economy definitely is helping industrial-sector gas demand and overall electricity sales," the firm noted. "As a result, industrial-sector gas demand this year likely will reach 18 B Bcf/d, a 7% (1.2 Bcf/d) increase over last year. However, a slight decline is projected for 2011." — *Rodney White*



# Gas Daily

Monday, June 14, 2010

## Producers flock to emerging Michigan shale play

**Numerous energy companies — including one of the biggest domestic producers of gas — are snatching up leases in the Collingwood Shale in northern Michigan, lured by the play's strategic location at the heart of the Midwest market.**

**Michigan is "now titillating the world with its own exciting shale extravaganza,"** Atlas Energy CEO Ed Cohen said in a recent earnings conference call

Much of the industry buzz surrounding the Collingwood is based on particularly promising results from one well in Missaukee County, analysts say.

**Encana subsidiary Petoskey Exploration drilled the horizontal well to a vertical depth of about 9,500 feet and targeted the Collingwood, the company announced late last month. The well flowed about 2,500 Mcf/d, including natural gas liquids and condensate.** The gas is being produced primarily from the Collingwood, with contribution from an overlying formation, the Utica Shale, Encana said.

**The presence of NGLs added to the excitement over the shale's potential, as the liquids fetch a higher price than gas. "It sounds like it has high oil content, like the Eagle Ford Shale," said George Lippman, president of Lippman Consulting. "That will be a huge help for the economics of the play."**

Atlas, Michigan's largest gas producer, recently leased an additional 20,000 acres, to bring its total Collingwood holdings to 70,000 net acres. Cohen said that Atlas purchased its latest leases at an average \$300/acre between April 2 and May 2.

Just a few days later, a state of Michigan auction for leases, mostly in the Collingwood, generated an average bid of about \$1,500/acre. The high bid was for \$5,500/acre for several parcels in Charlevoix County, according to state lease records.

In contrast, leases in the oily and relatively new Eagle Ford shale play recently were valued at around \$7,200/acre

**Michigan's auction yielded bids totaling \$178 million — a level that stunned state officials — on about 118,000 acres of state-owned land. That value nearly eclipsed the \$190 million total that Michigan has received in oil and gas leases since 1929, state officials said.**

"We were very surprised at the unprecedented showing at this auction, and the future of oil and gas exploration in Michigan looks very bright," said Rebecca Humphries, director of the Michigan Department of Natural Resources and Environment.

In addition, she said that the "spin-off impact of the proposed exploration of the formation could provide a significant economic lift to many communities."

Bidders included O.I.L. Niagaran, Antares Exploration Fund, Pine Energy, Mason Dixon Energy and Energy West, according to Michigan records. Some energy companies were represented by brokers, the records show.

Although its name was not included on the Michigan records Chesapeake Energy — which has invested heavily in other shale plays including the Marcellus and Haynesville — was also a bidder in the sale, according to Stephen Beck, an analyst with *The Land Rig Newsletter*. Chesapeake said last week that it was “not prepared to confirm any engagement in Michigan.”

Mark Pease, chief operating officer at Breitburn Energy Partners, said his company holds about 90,000 net acres in areas where it believes the Collingwood “is prospective.” The company is in a good position to capitalize on any ramp up in production, he said, because of significant assets in the area.

Breitburn operates more than 150 miles of high-pressure gas gathering lines, more than 1,000 miles of low-pressure gas gathering lines, more than 100,000 horsepower of compression, three gas processing plants and four NGL recovery plants in northern Michigan, Pease said in a recent earnings call.

“The vast majority of our acreage position is held by production, which gives us the flexibility to monitor industry activity and determine the best course of action to capture that volume,” he said.

Encana is also a major player in the Collingwood. The company recently announced that it had purchased leases for about 250,000 acres of land on the Collingwood shale at about \$150/acre.

Randy Eresman, president and CEO of the Calgary-based company, said the move was in line with Encana’s “approach of quietly assembling large land positions on promising unconventional natural gas plays.”

**“It’s too early to know the economic potential of this new Collingwood shale play, but we plan to drill additional exploration wells this year that will help determine the play’s ultimate potential.”**  
Eresman said.

Alan Boras, a spokesman for Encana, said the Collingwood’s proximity to a vast network of midstream infrastructure and production facilities makes the play increasingly attractive.

**According to Platts Powermap data, the Collingwood is close to established infrastructure, demand centers and vast storage fields, including the Great Lakes Gas Transmission interstate pipeline, ANR Pipeline and Consumers Energy transmission pipeline. These lines connect the area to Detroit and Chicago, as well as the US Northeast and eastern Canada.**

The shale, which sits beneath Cheboygan, Kalkaska and Missaukee counties, is also near two key price points in the area — the Michigan Consolidated Gas and Consumers Energy city-gates.

Kalkaska County alone has six storage facilities with more than 1.8 Bcf/d of deliverability, according to Platts Powermap data. These facilities include ANR Pipeline’s Cold Springs 12 facility, which has a total storage capacity of 28 Bcf, and ANR’s Rapid River 35, with a total capacity of 15 Bcf. It is also home to the 54-Bcf Blue Lake Gas Storage Company facility.

Upper Midwest traders said that the Collingwood play has potential to displace gas coming into Chicago and Michigan from the Rockies and Midcontinent, and, if successful, could alter dynamics in the region.

However, others caution that such speculation is premature. Simon Mauger, director of gas services at Ziff Energy, said that the initial well results from the Collingwood are encouraging, but that more wells are needed to “assess the magnitude of changes in the market dynamics.”

“In general, financial success in the Collingwood would tend to displace higher-cost gas, perhaps starting with that carried by the closest interstate pipelines,” he said.

Some believe the excitement over the Collingwood shale boosted lease sales at another long-time Michigan shale play — the Antrim Shale — at the May 4 auction. Beck said the Antrim is cheaper to drill.

because the wells are shallow and the rock is soft enough to be tapped by air drills. However, dewatering and relatively low volumes [are] a real challenge in the current pricing environment, he said.

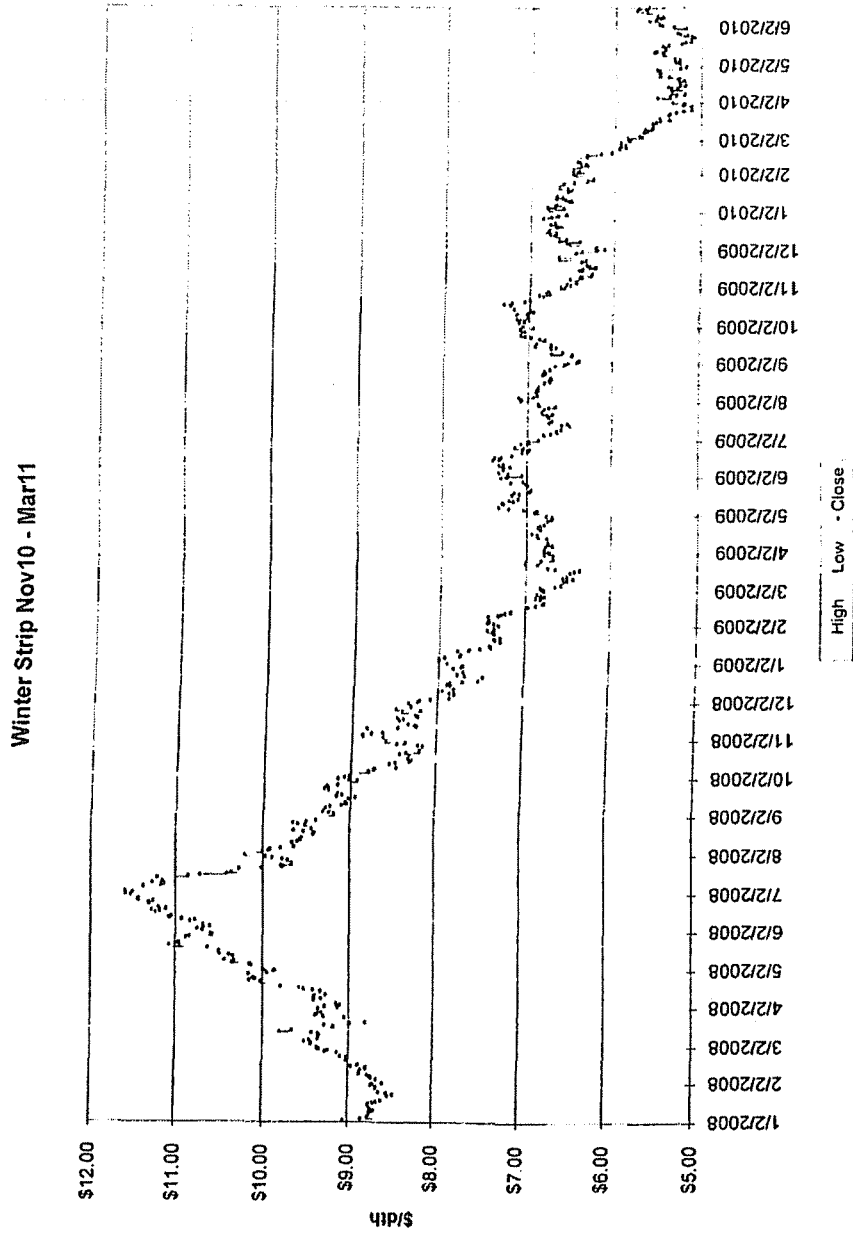
Lippman said production in the Antrim has declined in recent years, from 373,000 Mcf/d in 2007 to 358,000 Mcf/d in 2008 to 345,000 Mcf/d in 2009.

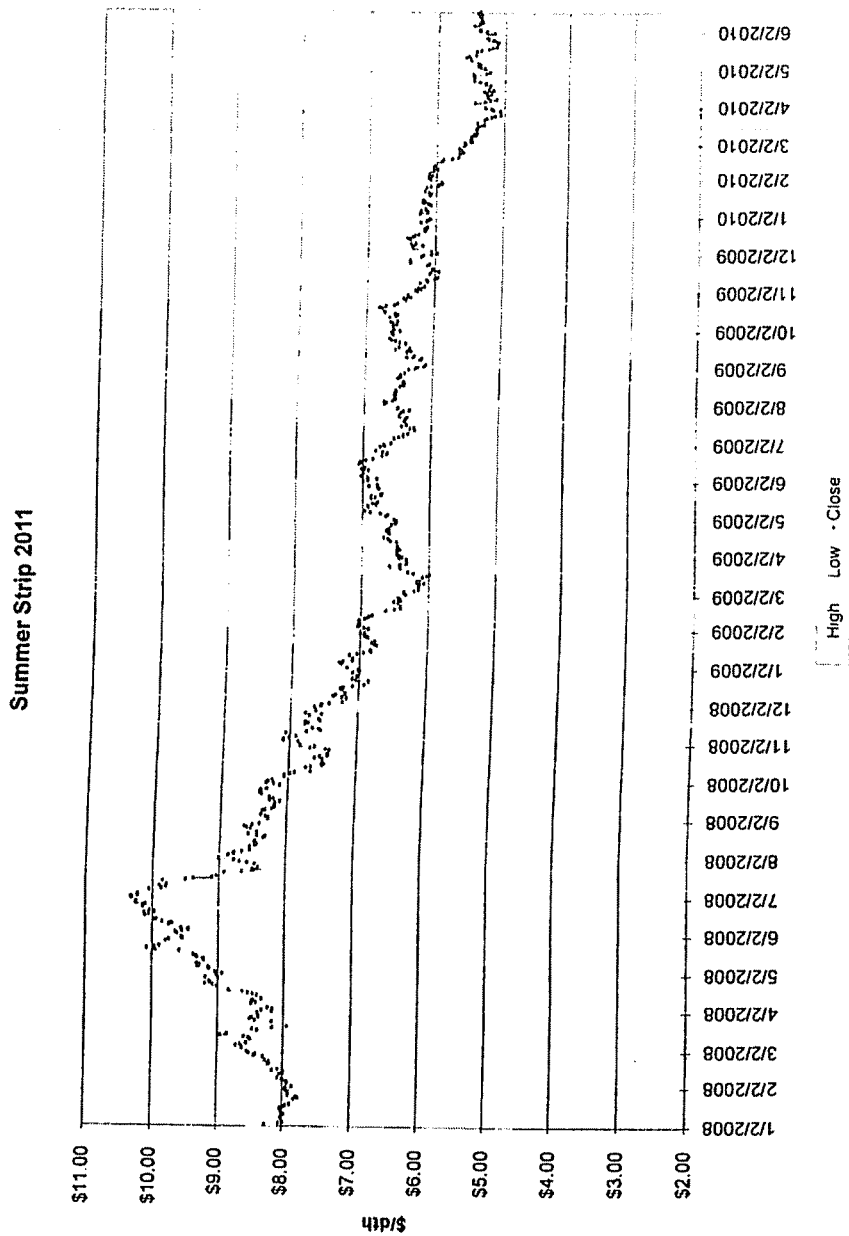
"Volumes from this shale play have declined even during this period of very high gas prices," he said. "So, at this point, I see very little interest in future development of this shale play. Without some new method of completions or much higher gas prices, I do not see much future from the Antrim."

However, Lippman said the Collingwood could be lucrative for companies buying acreage "before things are known or successful. The payoff is very large if they are right. You are talking about prices going from a couple of hundred dollars per acre to as high as twenty thousand dollars an acre. This is exactly what was done in the other major shale plays." — *Eunice Bridges*

Energy Information Administration  
**Henry Hub Pricing**  
**Per MMBtu**  
**June 8, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	5.20
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	5.17
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	5.05
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	4.93
May-08	11.27	May-09	3.83	May-10	4.14	May-11	4.92
Jun-08	12.69	Jun-09	3.80	Jun-10	4.15	Jun-11	4.91
Jul-08	11.09	Jul-09	3.38	Jul-10	4.14	Jul-11	4.88
Aug-08	8.26	Aug-09	3.14	Aug-10	4.14	Aug-11	4.82
Sep-08	7.67	Sep-09	2.97	Sep-10	3.99	Sep-11	4.92
Oct-08	6.74	Oct-09	4.00	Oct-10	4.31	Oct-11	5.04
Nov-08	6.68	Nov-09	3.66	Nov-10	4.55	Nov-11	5.31
Dec-08	5.82	Dec-09	5.34	Dec-10	4.99	Dec-11	5.62
Average 2008	\$ 8.862	Average 2009	\$ 3.943	Average 2010	\$ 4.490	Average 2011	\$ 5.064
Summer 2008	\$ 9.700	Summer 2009	\$ 3.516	Summer 2010	\$ 4.129	Summer 2011	\$ 4.917
Winter 2008- 2009	\$ [REDACTED]	Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.992		





## Short-Term Energy Outlook

June 6, 2010 Release  
(Next Update July 7, 2010)

### Natural Gas

**U.S. Natural Gas Consumption.** Total natural gas consumption is about 0.5 Bcf/d higher in this forecast than in last month's Outlook, averaging 64.9 Bcf/d and 64.6 Bcf/d in 2010 and 2011, respectively. Projected consumption grows by an average 2.4 Bcf/d (3.8 percent) in 2010 led by strong growth in the electric power and industrial sectors. Forecast natural gas consumption in the electric power sector increases by an average 1.0 Bcf/d (5.5 percent) in 2010 over last year, driven primarily by higher electricity demand. EIA's projected natural-gas-weighted industrial production index (a measure of industrial activity in natural-gas-intensive industries) increases by 6.7 percent in 2010, leading to a 1.0 Bcf/d (6.1-percent) increase in natural gas consumption in the industrial sector.

Projected natural gas consumption falls slightly in 2011 as forecast growth in the industrial sector slows to 0.2 Bcf/d. This growth is more than offset by the projected 0.5 Bcf/d decline in natural gas consumption in the electric power sector.

**U.S. Natural Gas Production and Imports.** EIA expects total marketed natural gas production to increase by 1.2 Bcf/d (2.1 percent) to 61.2 Bcf/d in 2010, an upward revision of 0.5 Bcf/d from last month's Outlook. Natural gas production grew steadily over the first 3 months of this year as the number of working natural gas rigs reported by Baker-Hughes increased from 759 to 941. The production forecast was revised upwards as the number of working rigs continued to increase to almost 970 at the end of May.

The increase in production is partially offset by new estimates of shut-in production based on NOAA's latest hurricane forecast. Tropical storm activity and the accompanying production outages are expected to be significantly higher this year than last year. EIA estimates the median outcome for projected total shut-in production due to tropical storms from June through November 2010 is 166 Bcf compared with an estimated 19 Bcf shut-in production last year.

Forecast natural gas marketed production in 2011 falls almost 0.5 Bcf/d to 60.8 Bcf/d in 2011. This forecast includes EIA's preliminary estimates of the total cumulative reductions in output of natural gas from the deepwater Gulf of Mexico of 8 Bcf in 2010 and 74 Bcf in 2011 because of the 6-month drilling moratorium. The reductions in natural gas production increase from a monthly average of about 0.03 Bcf/d in September 2010 to 0.24 Bcf/d by December 2011.

Projected liquefied natural gas (LNG) imports increase by 0.27 Bcf/d (22 percent) and 0.16 Bcf (11 percent) in 2010 and 2011 respectively. Despite this growth, high prices in the European and Asian markets relative to the United States will continue to draw LNG cargoes, with the United States serving as a secondary market. Forecast pipeline imports in 2010 have been increased by 0.29 Bcf/d from last month's Outlook. Pipeline imports are expected to play an important role in offsetting forecast hurricane-related production outages in the Gulf of Mexico.

### Global Crude Oil and Liquid Fuels

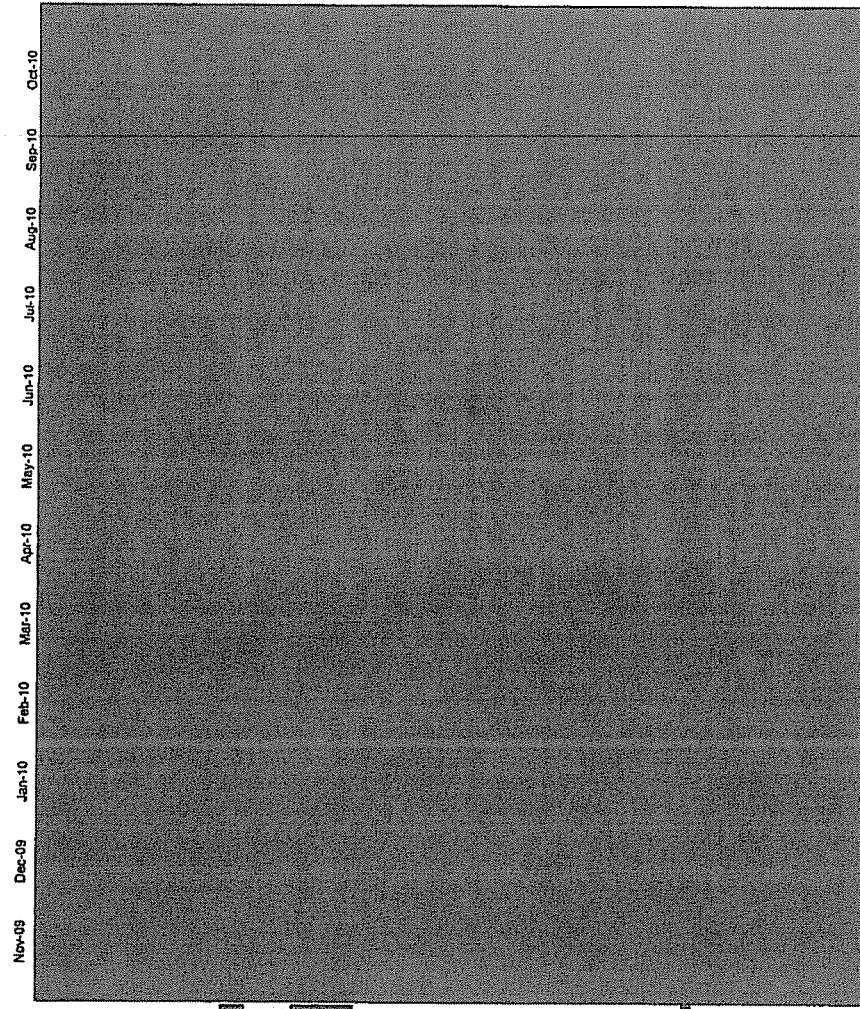
**Crude Oil and Liquid Fuels Overview.** EIA has lowered its projections for world oil prices slightly for 2010. Uncertainty about economic growth in China and in the Euro zone has continued to weigh on oil markets, and declines in equity markets have led to fears that the economic recovery may not progress as fast as had been hoped. To date, the Organization of the Petroleum Exporting Countries (OPEC) has publicly made no suggestions that it would adjust its supply targets despite some downward adjustments in oil prices.

Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
July 22, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (August 10–Oct 10)	↑	Long	NOAA predicting above average temperatures for August 2010–Oct 2010 for the majority of the CONUS. According to NOAA, 2010 so far is the warmest year for the planet since 1880 when records were first kept.	12
Mid Term Forecast (30-60 days)	↑	Long	August is predicted to be 7.9% warmer than normal based on 10 year normals and September is predicted to be 12.5% warmer than 10 year normal. Private forecaster WSI indicated that the hot weather prevailing in much of the country this summer is likely to continue into the fall.	13-14
Short Term Forecast (5-10 days)	↑	Short	Above Normal for most of the country at beginning of period, moving eastward with normal temperatures replacing above temps in the west and central portions CONUS later in the period.	15
Tropical Storm Activity	↑	Short	60% chance that a system around Hispanola of becoming a tropical cyclone during the next 48 hours.	16
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↑	Long	Storage injections for the week ending July 5th were 78 BCF. The build was lower than expected and the August contract increased 28 cents. Ongoing forecasts for warmer than normal weather suggest more supportive storage results in the weeks ahead. Storage levels are at 2.843 TCF, which is 1.1% lower than last year and 10.7% higher than the 5 year average.	17-18
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011 Winter 2010/11	↓	Long	GAS PRICE SCORECARD JULY 2010–OCTOBER 2010. PIRA's price outlook is Neutral with "July temperatures and ongoing industrial sector strength should overpower incremental Lower 48 production, coupled with marginally reduced Y/Y net imports."	19-20
Gas Daily	↑	Long	Canadian investment bank trimmed its 2010 forecast 5% to \$5/MMBtu, citing expected increases in production. "Effectively, we see a tighter physical market this year than last year and do not expect to see gas crash in September and October."	21
Gas Daily	↓	Long	Despite the NYMEX strip currently averaging in the mid to upper \$5/MMBtu range, shale-related growth in supply and an extended recovery in demand will keep actual prices well below that.	22-23
Gas Daily	↓	Long	Goldman Sachs cuts its NYMEX price outlook 17% for the second half of 2010, to \$4.63/MMBtu from \$5.60/MMBtu, and its 2011 estimate by about 12%, to \$5.25/MMBtu from \$5.98/MMBtu.	24
Gas Daily	↓	Long	Citing warmer weather spurring gas-fired power demand and increased industrial and petrochemical demand, Raymond James raised its third-quarter forecast 18% to \$4.15/MMBtu and its full year price forecast 8% to \$4.51/MMBtu. "Last year, natural gas prices had to crater to below \$3/Mcf to force 100 Bcf of shut-in, and we still expect a repeat of the same gas price collapse story later this summer."	25
<b>Government Agencies</b>				
Energy Information Administration Summer 2011 \$5.020 Winter 2010/11 \$5.138	↔	Long	The projected Henry Hub annual average spot price is expected to be \$4.70 per MMBtu in 2010, a \$ 75/MMBtu increase over the 2009 average and \$5.17 per MMBtu in 2011.	26
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↑	Short	Closed at \$5.13	27
Summer 2011 Strip Chart	↑	Short	Closed at \$5.08	28
<b>Economy</b>				
Demand	↑	Long	EIA projects total natural gas consumption will average 64.7 Bcf/day and 64.8 Bcf/day in 2010 and 2011, respectively. Estimated Y/Y consumption growth averaged 2.8 Bcf/day in the first half of 2010, with significant increases in the electric power and industrial sectors. Second half of the year growth is expected to slow to 1.5 Bcf/day. Consumption growth in 2010 is led by the industrial and electric power sectors. Projected natural gas consumption is flat in 2011.	29
Supply	↓	Long	EIA expects total marketed natural gas production to increase by 1.3 Bcf/d to 61.3 Bcf/d in 2010 and decrease by 0.4 Bcf/d in 2011. EIA projects a continued decline in Gulf of Mexico production, which is offset by gains in onshore production.	29
Oil Market	↓	Long	EIA expects WTI crude oil to average about \$79 per barrel over the second half of 2010, rising to \$83 next year. World oil prices will rise slowly as an expected renewal of global economic growth leads to higher world demand.	29
<p>Meeting Minutes: 10th Floor North Conference Room - 1:00 pm Attendees: Jeff Kern, Mitch Martin, Terry Bates, Steve Niederbaumer</p> <p>Discussed current market conditions including current weather forecasts (continued heat—2010 is shaping up to be the hottest year since records were kept beginning in 1880), storage levels (levels being lower than the record levels last year but ahead of 5-year average and those aspects on pricing), various analysis projections as well as EIA's forecasts for Supply and Demand of the Natural Gas markets and Oil prices and the current positions of the Hedging Programs. In addition, discussed the results for the Costless Contracts that were purchased from Shell resulting from last month's meeting recommendation. Based on the discussion, no additional hedging was recommended.</p>				



Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 07/20/10



**Load Forecast**  
 City Gate Load Forecast (Mcf)  
 TCO FSS Injections (Mcf)  
 Total Requirements (Mcf)

**TCO FSS Withdrawals (Mcf)**  
 "Withdrawals" (Mcf)  
 Total Withdrawals (Mcf)

**Amount Hedged (Dth/cap)**  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar  
 Fixed Price  
 Cost Averaging  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (dth/day)  
 Total Hedged (dth)

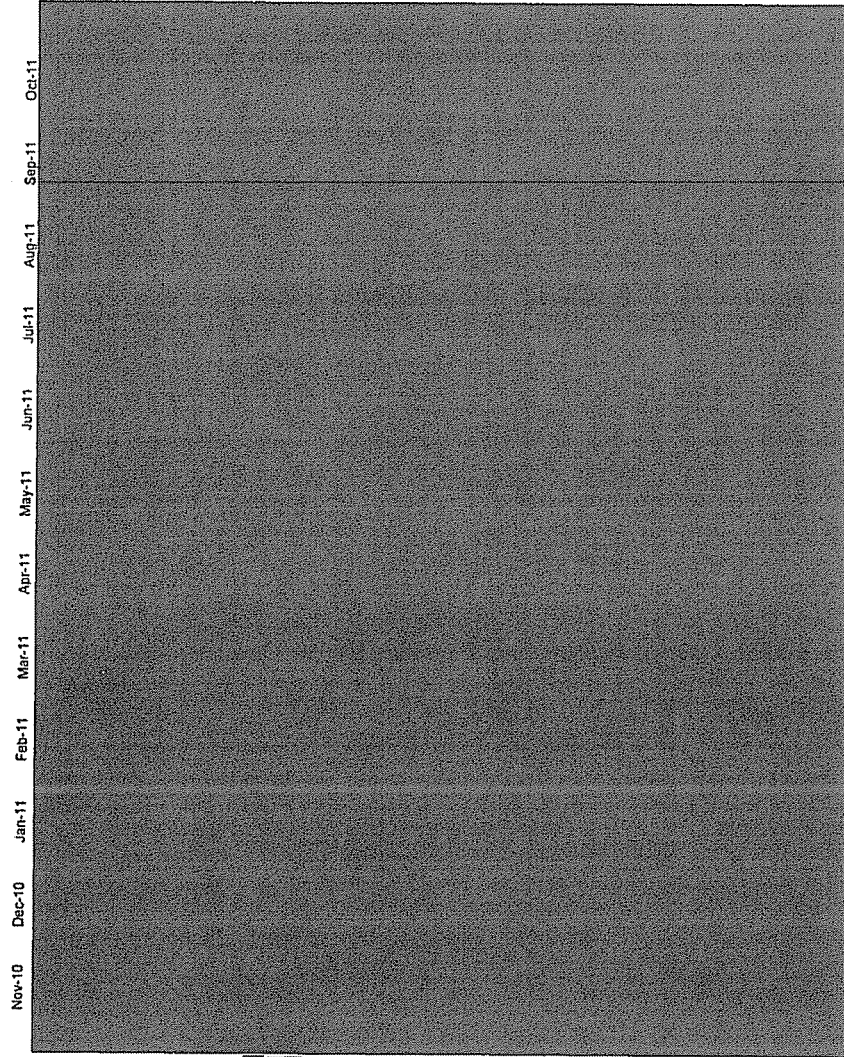
**Type of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Ami Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 07/20/10



**Load Forecasts**

- 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
- Fixed Price Collar
- Fixed Price
- Fixed Price Collar
- Total Hedged (dth/day)
- Total Hedged (dth)

**Types of Hedging Products (1)**

- Fixed Price
- Price Caps
- No-Cost Collars

**Embedded Hedged Cost**

- Winter
- Summer

**Estimated EGC per Dth at City Gate**

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

**Am't Hedged with Storage @ City Gate**

- Hedged (City Gate) (Dth)
- Storage Withdrawal (Dth)
- Market (Dth)
- Total (incl. Injections) (Dth)
- % Hedged & Storage
- Seasonal %

6

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 07/20/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
[Redacted Data]												

**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 ( )  
 Collar ( )  
 Total Hedged (dth/day)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Am1 Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 07/20/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

**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)**  
 TBD  
 TBD  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Amt. Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

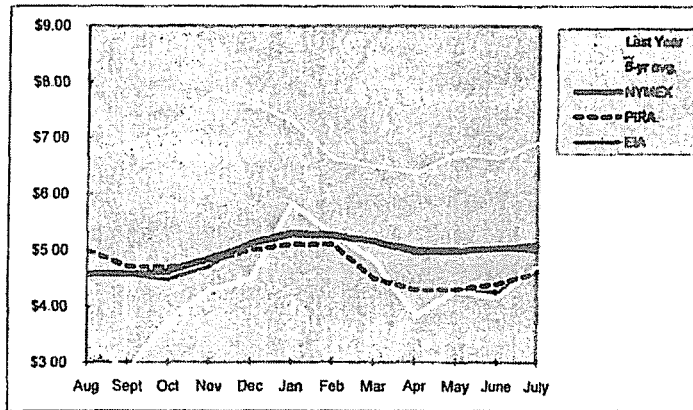
7/20/2010

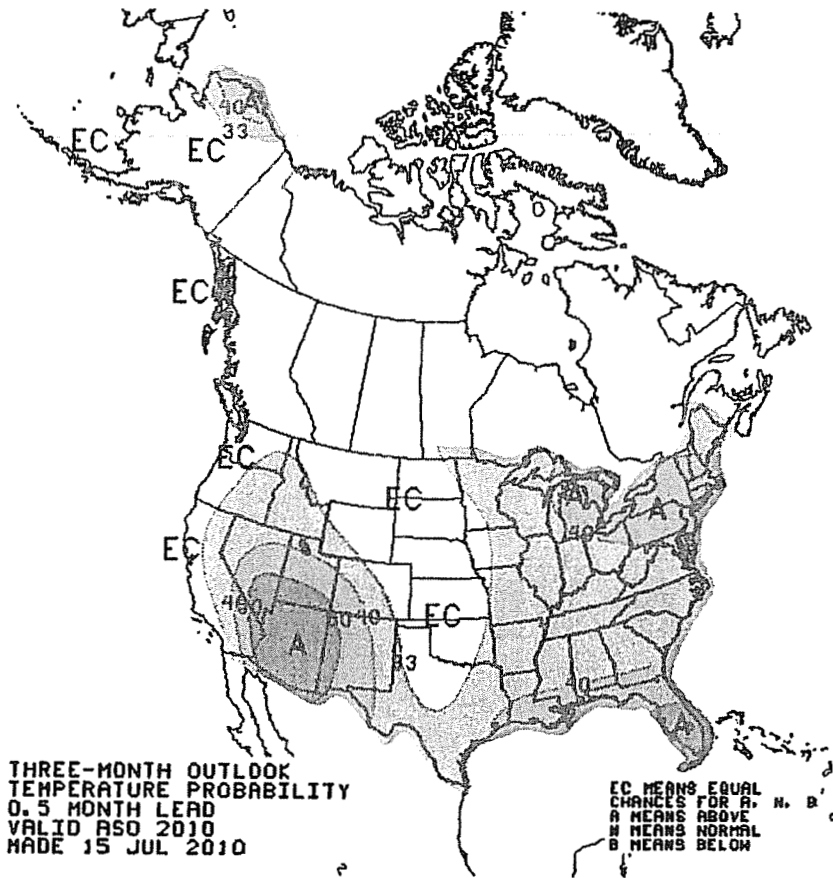
Duke Energy Kentucky  
 Hedging Program  
 Current Position

Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (10/31/10)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
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 Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2010					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2010					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2010					

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

Historic Prices:						Hedged Prices	
NYMEX Closing Price						Ohio	Kentucky
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)		PIRA 25-Jun-10	EIA 7-Jul-10	NYMEX 21-Jul-10	
Aug	\$6.68	\$3.38			\$4.580	\$4.590	\$
Sept	\$6.87	\$2.84			\$4.560	\$4.576	\$
Oct	\$7.15	\$3.73			\$4.480	\$4.619	\$
Nov	\$7.80	\$4.29			\$4.710	\$4.852	\$
Dec	\$7.62	\$4.49			\$5.160	\$6.109	\$
Jan	\$7.28	\$5.81			\$5.340	\$5.279	\$
Feb	\$6.61	\$5.27			\$5.300	\$5.251	\$
Mar	\$6.49	\$4.82			\$5.170	\$5.161	\$
Apr	\$6.37	\$3.84			\$5.040	\$4.974	\$
May	\$6.72	\$4.27			\$5.030	\$4.988	\$
June	\$6.63	\$4.16			\$5.020	\$5.031	\$
July	\$6.92	\$4.72			\$4.990	\$5.084	\$
12 Month Avg	\$6.93	\$4.30			\$4.948	\$4.960	\$
Summer Average					\$4.814	\$4.837	\$
Winter Average					\$5.136	\$5.130	\$



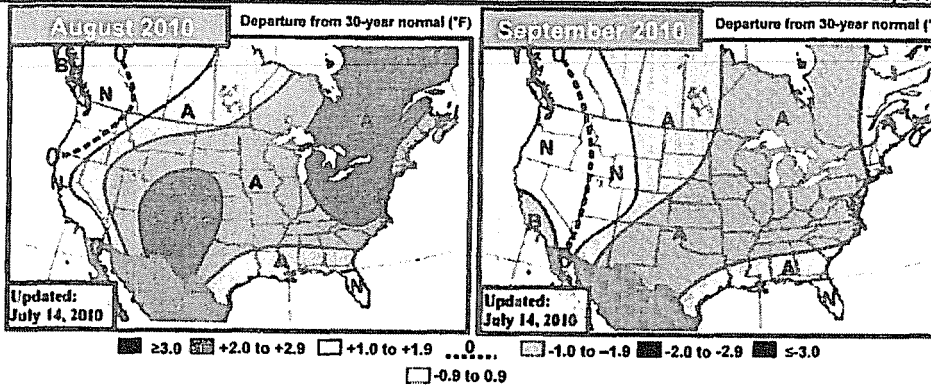




# EarthSat's 30-60 Day Outlook

Wednesday, July 14, 2010

Forecaster: SS/BH/TH



**Previous**

**Slightly Warmer in SoCal**  
**RECORD HOT SUMMER**

The August outlook remains mostly unchanged this week with the month expected to be extremely warm. The only changes were in the West, where southern California was nudged above the 0F line, and in far western Canada where temperatures are slightly cooler. Above normal temperatures are seen across most of the country, with the strongest anomalies seen in the southern Rockies and the Appalachians. The forecast of 341 population-weighted CDDs would make it the 7th hottest August since 1950, and assuming that the very hot July holds up, this would easily be the hottest overall summer since 1950. The forecast remains based on a rapidly declining ENSO (the CFS ensemble predicts that the 3.4 region will have an anomaly lower than -1.5C by August) and an anomalously high AMO.

Aug PWCCD* Forecasts	*10Y Normal updated to '00-09
<b>Aug 2010 Fcst: 341.0</b>	10Y Normal* 316.1
	30Y Normal 296.5
	Aug-2009 301.4
Change: +1.0	

\*National Population-Weighted CDDs

**Previous**

**No Changes**  
**La Nina Remains the Dominant Feature**

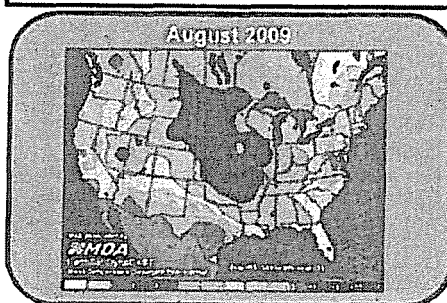
The September outlook didn't change this week, with widespread above normal temperatures continuing from the Rockies into the Plains, Midwest, and East, and cooler than normal temperatures in the Southwest. The ENSO analogs (1970, 1973, 1998, and 1954 were the four closest, with the map in the bottom right representing the top ten analogs) support the overall warmth across the eastern half of the US, and show perhaps an even warmer risk across the Ohio and Tennessee Valleys as well as the Mid-Atlantic and the Southeast. Meanwhile, the analogs show more widespread cool anomalies in the Southwest.

Sep PWCCD* Forecasts	*10Y Normal updated to '00-09
<b>Sep 2010 Fcst: 192.0</b>	10Y Normal* 170.7
	30Y Normal 165.7
	Aug-2009 160.1
No Change	

\*National Population-Weighted CDDs

**Tracking July**

As we head through the last half of July, it looks like the 30-day outlook is another month for the record books. We've seen a shift across most of the US across the upper and east to the south and east, as well as in the Southern and Northeast. Temperatures have increased across the Plains and Rockies, but that's also a needed to change as it heads 20% later out of the month. Overall, it looks like the outlook is forecasting a warm dominated month from the very beginning. In the East and the Midwest, we already continue to be warmer than the 30 Day outlook.





# Gas Daily

Tuesday, July 20, 2010

## WSI: Hot weather to continue across most of country into fall

**Private forecaster WSI said Monday that the hot weather prevailing in much of the country this summer is likely to continue into the fall.**

The combination of a newly emerging La Niña event, a relatively cold north Pacific and a record-warm north Atlantic are quite bullish for a very warm late summer and early fall period," said WSI Chief Meteorologist Todd Crawford. "On the other hand, very high soil moisture levels across the Plains, along with a lack of any significant drought conditions in the US, will temper the overall magnitude of the heat a little."

From August through October, WSI is forecasting 571 cooling degree days, 15% more than both last year and the 1971-2000 mean.

The only exceptions to the forecast are parts of the Southeast and the California coastal cities, which should experience normal or slightly cooler-than-average conditions, WSI added.

**"Gas prices are unlikely to move significantly higher on the August heat, however, as cooler temperatures in California and the South will combine with strong production figures to keep the market well supplied," said Chris Kostas, senior analyst at ESI, in accompanying market commentary. The heat will be necessary to "keep gas prices from collapsing under the weight of increasing shale production and rising inventory levels."**

**"We do not expect much upside without a hurricane disruption," said Kostas, who noted that WSI has called for above-normal hurricane activity in the Atlantic Basin this year. — Stephanie Seay**

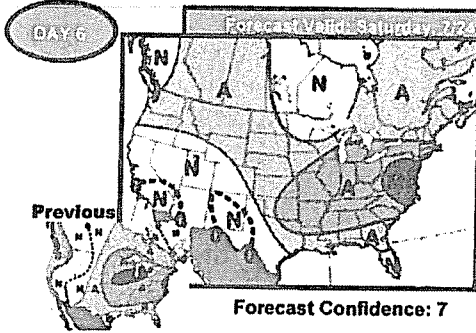


# EarthSat's 6-10 Day Forecast-Detailed

Monday, July 19, 2010

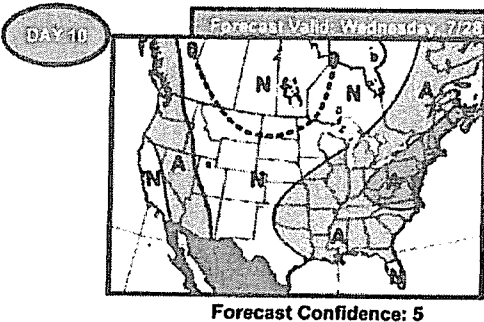
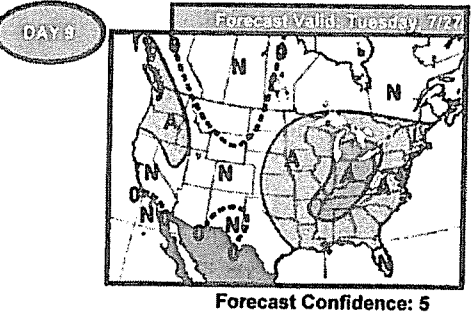
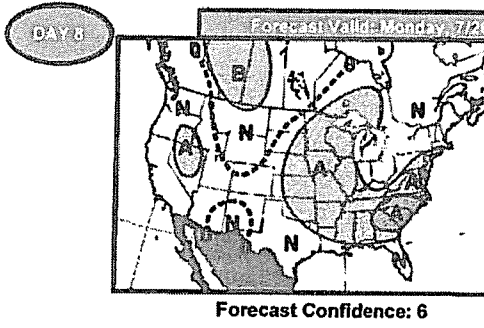
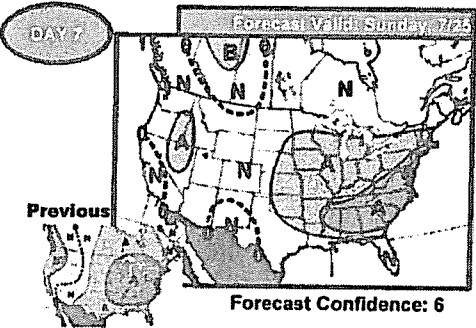
Forecaster: BH/AC

## Forecast Temperature Deviations



**Today's Forecast:**  
 Stronger Warming May Occur In Northwest Late

Cooler temperatures could briefly move into the Great Lakes and Northeast during the first half of the period with more seasonal readings possible. The southern Midwest and Mid-Atlantic could see a push for hotter conditions for the second half of the period as the European model is most aggressive with sending in these conditions. The cooler outlook has been scaled back across the Northwest, and a more substantial warm up could take shape for the latter part of the period with more expansive and stronger above normal temperatures possible. Lower confidence lies in the Southwest with monsoonal moisture aiming to press into the region, leading to cooler readings.



□ A +3F to +4F    □ A +5F to +7F    □ MA +8F to +14F    □ SA +15 or Higher  
 □ B -3F to -4F    □ B -5F to -7F    □ MB -8F to -14F    □ SB -15 or Lower



Local forecast by  
"City, St" or "ZIP"

### Atlantic Tropical Weather Outlook

- Alternate versions  
Text-only | PDA | Cell
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Mobile Products  
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Atlantic and E Pacific  
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Gridded Marine  
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- Hurricane Awareness  
Be Prepared | Learn  
Frequent Questions  
Research  
Hurricane Hunters  
Saffir-Simpson Scale  
Forecasting Models  
Glossary/Acronyms  
Storm Names  
Breakpoints
- Hurricane History  
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ABNT20 KNHC 211134  
TWOAT  
TROPICAL WEATHER OUTLOOK  
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL  
800 AM EDT WED JUL 21 2010

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

EARLY MORNING SATELLITE IMAGES INDICATE THAT THE SHOWER ACTIVITY ASSOCIATED WITH THE TROPICAL WAVE MOVING ACROSS HISPANIOLA HAS BECOME LESS ORGANIZED. CONSEQUENTLY...THE AIR FORCE RECONNAISSANCE MISSION HAS BEEN POSTPONED UNTIL TOMORROW. A TROPICAL DEPRESSION IS NOT EXPECTED TO FORM TODAY BUT ENVIRONMENTAL CONDITIONS ARE STILL FAVORABLE FOR SOME DEVELOPMENT AS THE SYSTEM MOVES TOWARD THE WEST-NORTHWEST AT ABOUT 10 MPH AWAY FROM HISPANIOLA INTO THE BAHAMAS ON THURSDAY. THERE IS A HIGH CHANCE...60 PERCENT... OF THIS SYSTEM BECOMING A TROPICAL CYCLONE DURING THE NEXT 48 HOURS. REGARDLESS OF DEVELOPMENT...LOCALLY HEAVY RAINS AND GUSTY WINDS WILL CONTINUE TO AFFECT THE VIRGIN ISLANDS...PUERTO RICO AND HISPANIOLA TODAY AND WILL LIKELY SPREAD OVER THE TURKS AND CAICOS ISLANDS...AND THE BAHAMAS DURING THE NEXT COUPLE OF DAYS. THE HEAVY RAINS COULD CAUSE LIFE-THREATENING FLASH FLOODS AND MUD SLIDES IN MOUNTAINOUS AREAS.

ELSEWHERE...TROPICAL CYCLONE FORMATION IS NOT EXPECTED DURING THE NEXT 48 HOURS.

\$\$  
FORECASTER AVILA

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# Gas Daily

Friday, July 16, 2010

Gas storage build of 78 Bcf raises inventories to 2.84 Tcf

**A lower-than-average storage injection of 78 Bcf lifted US gas storage inventories to 2.84 Tcf** during the week that ended July 9, the Energy Information Administration reported Thursday.

**The build was at the low end of consensus expectations of 78 to 82 Bcf and was smaller than both last year's 88-Bcf injection and the five-year average of 89 Bcf.**

In the same week of 2009, EIA reported 2.873 Tcf in storage. As a result, the 23-Bcf deficit to the year-ago level widened to 33 Bcf, while the 285-Bcf surplus to the five-year average of 2.566 Tcf narrowed to 274 Bcf.

Citi Futures Perspective analyst Tim Evans said although the injection was in line with market expectations, it was supportive in relation to the five-year average. "And so, in economic terms, this was a bullish outcome," he said. **"Ongoing forecasts for warmer-than normal [weather] suggest more supportive storage results in the weeks ahead."**

The news sparked a rally in NYMEX trading, with the August contract trading more than 20 cents/MMBtu higher after the report's release.

According to EIA's data, inventories now are 47 Bcf above the five-year average of 1.337 Tcf in the East, 93 Bcf above the five-year average of 377 Bcf in the West, and 134 Bcf above the five-year average of 852 Bcf in the producing region. —  
*Stephanie Seay*

Weekly Natural Gas Storage Report

Page 1 of 1

**EIA** U.S. Energy Information Administration  
 Independent Statistics and Analysis  
 Home > Natural Gas > Weekly Natural Gas Storage Report  
**Weekly Natural Gas Storage Report**

Glossary **U.S. EIA**

Release Schedule  
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Released July 15, 2010 at 10:10 a.m. (eastern time) for the Week Ending July 9, 2010  
 Next Release July 22, 2010

Working Gas in Underground Storage, Lower 48 other formats: Summary TXF CSV

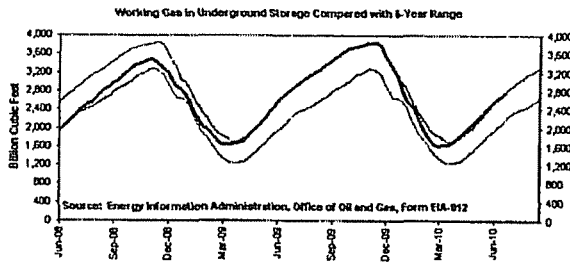
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	07/09/10	07/02/10	Change	Year Ago (07/09/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,384	1,341	43	1,402	-1.3	1,337	2.5
West	470	459	11	442	6.3	377	24.7
Producing	986	962	24	1,029	-4.2	852	15.7
<b>Total</b>	<b>2,840</b>	<b>2,762</b>	<b>78</b>	<b>2,873</b>	<b>-1.1</b>	<b>2,566</b>	<b>10.7</b>

Notes and Definitions

Summary

Working gas in storage was 2,840 Bcf as of Friday, July 9, 2010, according to EIA estimates. This represents a net increase of 78 Bcf from the previous week. Stocks were 33 Bcf less than last year at this time and 274 Bcf above the 5-year average of 2,566 Bcf. In the East Region, stocks were 47 Bcf above the 5-year average following net injections of 43 Bcf. Stocks in the Producing Region were 134 Bcf above the 5-year average of 852 Bcf after a net injection of 24 Bcf. Stocks in the West Region were 93 Bcf above the 5-year average after a net addition of 11 Bcf. At 2,840 Bcf, total working gas is within the 5-year historical range.

- 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



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2005 through 2009.  
 Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

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**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**June 25, 2010 Release**

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008	\$	Average 2009	\$	Average 2010		Average 2011	\$
Summer 2008	\$	Summer 2009	\$	Summer 2010		Summer 2011	\$
Winter 2008- 2009	\$	Winter 2009- 2010	\$	Winter 2010- 2011			

North American Gas Forecast Monthly



June 25, 2010

NATURAL GAS

**GAS PRICE SCORECARD: JULY 2010 – OCTOBER 2010**

Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
<i>U.S. Production</i>		A faster pace of shale gas growth looms ahead along with narrower Y/Y declines of non-shale gas onshore production. The net result should be 1.0-1.5 BCF/D higher Y/Y U.S. output except for potential hurricane shut-ins.
<i>LNG Imports</i>		Global events fly in the face of earlier expectations of a mid-2007 LNG type "dump" being repeated. Strong Asian demand and a widening array of supply bottlenecks are keeping balances tighter than had been expected.
<i>Canadian Exports</i>		Earlier this month, Canadian storage gained Y/Y "headroom" with a storage surplus giving way to a storage deficit. This deficit opens the possibility for lower exports through 3Q10.
<i>Mexican Pipeline Imports</i>		In the context of reductions in gas flaring helping to stabilize domestic production, and relatively weak gas-fired EG, net imports from the U.S. should remain relatively flat Y/Y.
<i>Storage Levels</i>		The Y/Y storage deficits came earlier than PIRA had expected with help from a heat wave, but after the summer cooling season the question of surplus or deficit storage will be heavily driven by uncertain hurricane activity.
U.S. Demand Issues	Outlook	Commentary
<i>Economy</i>		The overall U.S. economy remains a "mixed bag" of conflicting signals, but the manufacturing sector still is firmly on the upswing and monthly updated surveys point to an extended period of expansion.
<i>Electric Generation</i>		Higher gas prices will subject gas-fired EG to larger Y/Y losses from gas-to-coal substitution than in prior PIRA gas balances. Gas demand in 3Q10 is now forecast to fall Y/Y by 0.6-1.0 BCF/D.
<i>Industrial Sector</i>		Gas demand will continue to make great Y/Y strides from increasing direct sales to manufacturers, as well as from the indirect benefit of incremental industrial electricity use.
<i>Res/Com Heating</i>		Same as last month: Minimal changes expected ahead of the 2010-2011 heating season.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>		Non-commercial large traders have pared their short futures holdings while adding to their longs, which aided the recent price rally. But higher prices threaten to escalate hedging by producers seeking to lock in higher prices.
Overall Assessment	Outlook	Commentary
<i>Price Outlook</i>		The prospect of much hotter Y/Y July temperatures and ongoing industrial sector strength should overpower incremental Lower 48 production, coupled with marginally reduced Y/Y net imports. Thereafter, "weather roulette" tied to late summer cooling loads and possible hurricane shut-ins should gradually begin to dominate price risks.

# Gas Daily

Wednesday, July 21, 2010

## Canaccord trims price call, but sees no autumn 'crash

Canadian investment bank Canaccord Financial on Tuesday trimmed its 2010 Henry Hub gas price forecast 5% to \$5/MMBtu, citing expected increases in production.

"Although the NYMEX 2010 strip price suggests 2010 gas prices 30 cents/MMBtu lower than our estimate, we are inclined at this time to give summer demand a chance to help clean up the storage surplus," said analyst Irene Haas with the bank's research arm, Canaccord Genuity. "Our forecast for this year does show storage refilling to last year's levels" of around 3.8 Tcf, ... but we do not expect the market will have to shut in the roughly 150 Bcf that it did last year. "Effectively, we see a tighter physical market this year than last year and do not expect to see gas crash in September and October."

Canaccord expects US production to rise 1.4 Bcf/d year-over-year through the end of the storage injection season, with all of the gains coming from onshore shale plays. But Canadian imports to the Lower-48 states are expected to drop 600,000 Mcf/d, and Haas expects power and industrial demand to continue picking up as the economy recovers.

Looking ahead to 2011, Canaccord left its \$5.75/ MMBtu price call unchanged. Haas thinks gas-fired power production will continue to grow next year and that shale gas production will "temper."

"The growth rate in activity levels in these plays over the past 18 months has slowed and may flatten," Haas said. "Ultimately, decline rates will have an impact on these plays and production growth will slow." — *Bill Holland*



# Gas Daily

Tuesday, July 20, 2010

## Bentek: Prices to hover below \$5 through 2015

The prompt-month NYMEX gas futures contract is unlikely to average higher than \$5/MMBtu in any year between 2010 and 2015 as the result of a long-term shift in market fundamentals, Bentek Energy said in a new report.

Despite the NYMEX strip currently averaging in the mid- to upper \$5/MMBtu range, shale-related growth in supply and an extended recovery in demand will keep actual prices well below that, Bentek predicted.

"The futures market has not fully adjusted to the fundamental changes that are expected to take place," the firm said, anticipating an average price of \$4.66/MMBtu over the five-year period, including a peak of \$4.92/ MMBtu in 2013.

Bentek also expects the extended gas glut to retest 2009's low prices later this year. "Multi-year lows typically follow certain conditions ... a counter-trend rally fails, and then the market retests the previous low, creating the popular 'double bottom,'" the report said, estimating that the prompt-month contract should reach a low between \$3.15/MMBtu and \$3.50/MMBtu this fall.

US gas production has recovered from the lows of 2009, and up to 1.5 Bcf/d of gas is preparing to come online in the Marcellus and Haynesville shales, the report said. Producers in the Haynesville and Fayetteville shales continue to drill aggressively in the face of low prices, and newer plays such as the Eagle Ford Shale in Texas will see aggressive development, which will lead to prices remaining low through 2011 and into 2012, it said.

Bentek expects that shale drilling boom to continue as prices rise, leading to a net 3.7 Bcf/d increase in supply through 2015 as domestic production increases to 4.6 Bcf/d while Canadian and liquefied natural gas imports decline.

Production growth and increased storage capacity will also keep gas storage levels high, with current projections calling for a 3.8-Tcf average over the next five years, with injection seasons beginning each year at a higher level than historical averages. Bentek predicts that the injection season for 2011 will open with 1.7 Tcf in storage.

The report noted that forward curves currently hover around the \$5 to \$6/ MMBtu level beyond 2012, and if producers hedge aggressively, production could rise even more through 2015, keeping prices even more depressed. Bentek also cited the possibility that exceptionally low prices through 2011 could force a retraction to drilling programs next year, leading to a quicker balancing of supply and demand.

That rebalancing will have to come primarily from the supply side, the report said, as commercial and industrial consumption is expected to grow slowly over the same period.

"Demand from the commercial sector is expected to average 21.6 Bcf/d over the forecast period from 2010 to 2015 based on expected normal weather conditions .... [while] the 2007 peak of industrial demand of 20.1 Bcf/d is not expected to be reached until Q1 2014," the report said. — *Joshua Starnes*

# Gas Daily

Monday, July 19, 2010

## Goldman slices gas price forecast, cites shale

**Goldman Sachs on Friday sliced its US gas price forecasts for this year and next, citing a continued rush of shale gas production.**

**The investment bank cut its NYMEX price outlook 17% for the second half of 2010, to \$4.63/MMBtu from \$5.60/MMBtu, and its 2011 estimate by about 12%, to \$5.25/MMBtu from \$6/MMBtu.**

**"US natural gas production continues to surge this year, driven by the shale gas revolution," Goldman said, noting that output has thus far exceeded its 2010 forecast of by around 3 Bcf/d to 58.5 Bcf/d — putting downward pressure on prices. "Although its impact on the supply-demand balance has been somewhat obscured by the extreme movements in weather and the tightening shifts motivated by lower prices, US natural gas production growth has been impressive so far this year."**

The bank also raised its 2011 production forecast by 3.7 Bcf/d to 58.1 Bcf/d based on robust drilling activity in shale plays.

"We still factor in a slightly declining production path over the rest of 2010, as we continue to expect some response to production from the lower conventional rig counts," Goldman noted. "However, as prices begin to move higher, we expect production to respond accordingly and return to an increasing long-term trend."

With that domestic output growth, "we now expect US liquefied natural gas imports will need to remain restrained in order to keep the US natural gas market balanced" through 2011, Goldman said. "With the European markets markedly higher than the US market this spring, we believe a substantial amount of this LNG can be absorbed."

The UK August futures contract — a key indicator of whether LNG cargoes are likely to be directed to the UK — showed a \$2.483/MMBtu premium to the equivalent Henry Hub contract on Friday, which backs up the economic case for sending cargoes to Europe.

However, "Europe and Asia will likely not be able to absorb the entire surplus created by the increased production in the US," Goldman predicted. "Consequently, we expect that global liquefaction capacity utilization rates will likely need to remain subdued going forward. ... Further, we believe that as global natural gas prices fell in Q2 '10, LNG producers responded in a similar fashion and reduced liquefaction activity." — *Staff Reports*

# Gas Daily

Tuesday, July 13, 2010

## Heat-related demand boosts Q3 price forecast by 19%: Raymond James

Citing warmer weather spurring gas-fired power demand and increased industrial and petrochemical demand, the natural gas team at investment bank Raymond James raised its third-quarter natural gas price forecast 19% on Monday to \$4.15/MMBtu and its full year price forecast 6% to \$4.51/MMBtu.

But the St. Petersburg, Florida, bank said it remains fundamentally bearish on gas this year. "We continue to believe that, under more normal weather conditions, US gas supply will overwhelm gas demand growth and drive prices below \$4/Mcf later this summer," the bank's top gas analyst John Freeman said.

Raymond James admitted that its \$3.70/MMBtu second quarter call was off by 11% as actual Henry Hub prices came in at \$4.10/MMBtu, with demand well above their expectations and offsetting increased US supply.

But a late summer plunge in prices could well be in the cards, Raymond James predicted.

The firm expects gas supplies this summer to be 3.5 Bcf/d greater than last year, an increase from their previous modeled growth of 2 Bcf/d.

Gas demand will also increase on a year-over-year basis, to 2 Bcf/d more this summer, Raymond James said, driven mainly by an improving economy but with the variable of warmer weather.

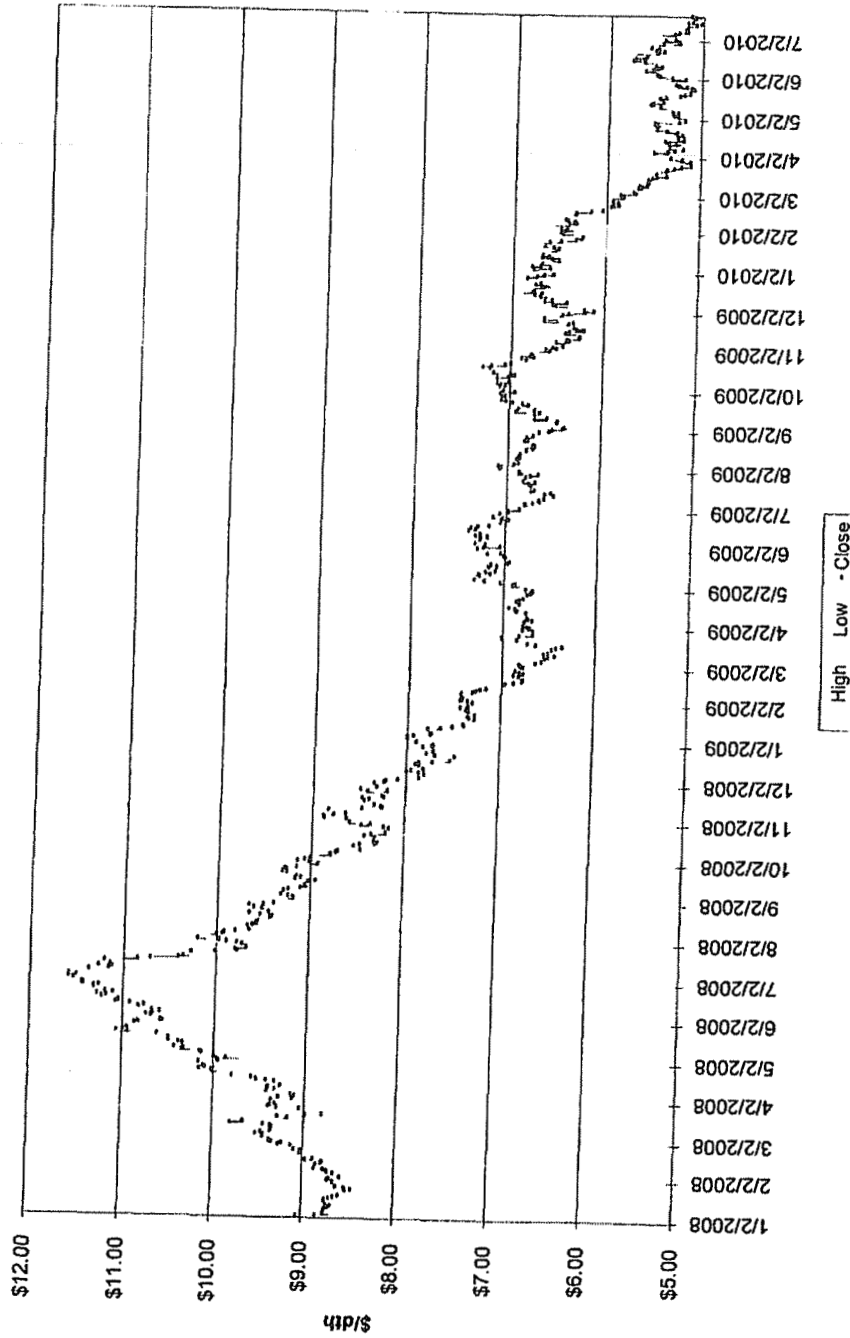
"Adding it all up, we still expect to average 1.25 Bcf/ day looser this summer (or storage injections of 250 Bcf more than last year). This puts theoretical summer ending storage at over 4 Tcf, and implies 100-200 Bcf of incremental shut-ins/production curtailments," Freeman said in a note to clients. "Last year, natural gas prices had to crater to below \$3/Mcf to force 100 Bcf of shut-ins, and we still expect a repeat of the same gas price collapse story later this summer."

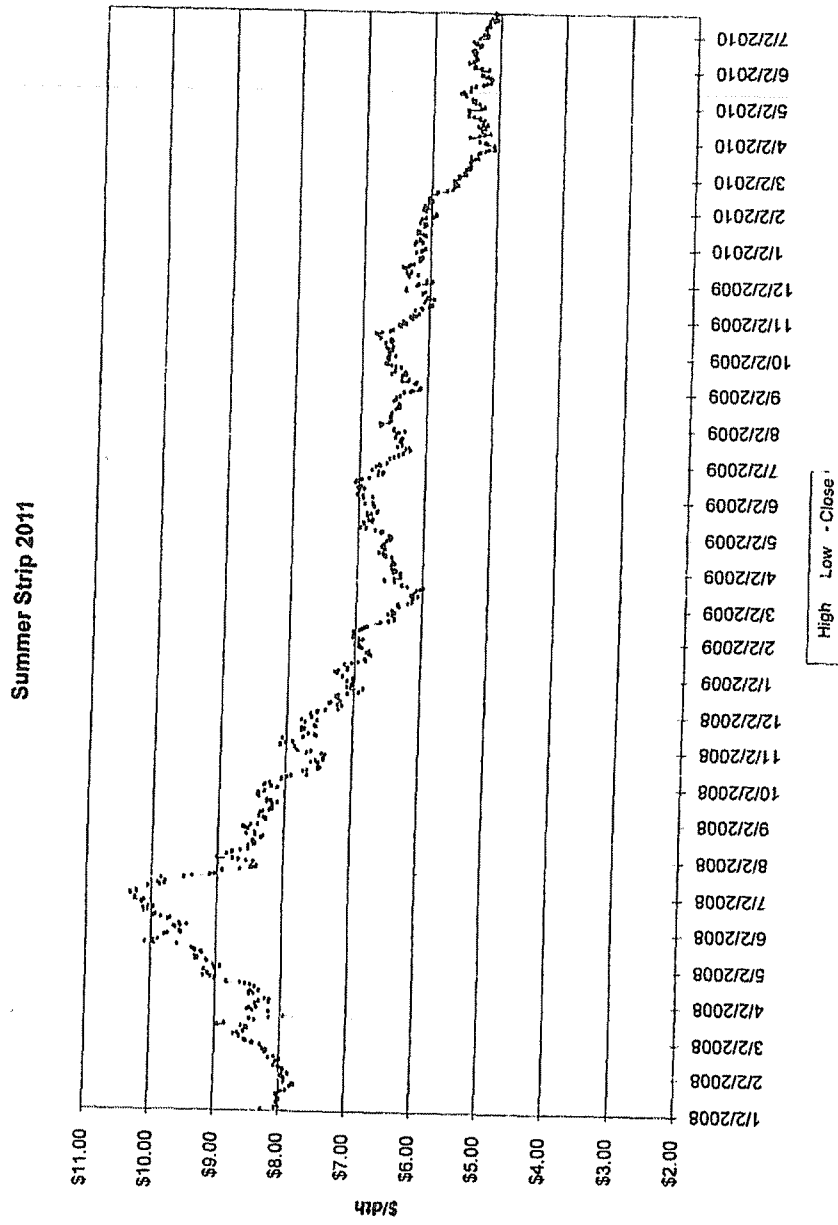
— Bill Holland

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**July 7, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	5.34
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	5.30
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	5.17
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	5.04
May-08	11.27	May-09	3.83	May-10	4.14	May-11	5.03
Jun-08	12.69	Jun-09	3.80	Jun-10	4.80	Jun-11	5.02
Jul-08	11.09	Jul-09	3.38	Jul-10	4.58	Jul-11	4.99
Aug-08	8.26	Aug-09	3.14	Aug-10	4.58	Aug-11	4.92
Sep-08	7.67	Sep-09	2.97	Sep-10	4.56	Sep-11	5.01
Oct-08	6.74	Oct-09	4.00	Oct-10	4.48	Oct-11	5.13
Nov-08	6.68	Nov-09	3.66	Nov-10	4.71	Nov-11	5.40
Dec-08	5.82	Dec-09	5.34	Dec-10	5.16	Dec-11	5.74
<b>Average</b>		<b>Average</b>		<b>Average</b>		<b>Average</b>	
<b>2008</b>	<b>\$ 8.862</b>	<b>2009</b>	<b>\$ 3.943</b>	<b>2010</b>	<b>\$ 4.707</b>	<b>2011</b>	<b>\$ 5.174</b>
<b>Summer</b>		<b>Summer</b>		<b>Summer</b>		<b>Summer</b>	
<b>2008</b>	<b>\$ 9.700</b>	<b>2009</b>	<b>\$ 3.516</b>	<b>2010</b>	<b>\$ 4.453</b>	<b>2011</b>	<b>\$ 5.020</b>
<b>Winter 2008-</b>		<b>Winter 2009-</b>		<b>Winter 2010-</b>			
<b>2009</b>	<b>\$ 5.242</b>	<b>2010</b>	<b>\$ 4.888</b>	<b>2011</b>	<b>\$ 5.136</b>		

Winter Strip Nov10 - Mar11





## Short-Term Energy Outlook

July 7, 2010 Release  
(Next update August 10, 2010)

### Natural Gas

**U.S. Natural Gas Consumption.** EIA projects total natural gas consumption will average 64.7 billion cubic feet per day (Bcf/d) and 64.8 Bcf/d in 2010 and 2011, respectively. Estimated year-over-year consumption growth averaged 2.8 Bcf/d (4.3 percent) in the first half of 2010, with significant increases in the electric power and industrial sectors. This growth is expected to continue at a slower pace in the second half of the year with an increase of 1.5 Bcf/d (2.6 percent). EIA's projected natural-gas-weighted industrial production index (a measure of industrial activity in natural-gas-intensive industries) increases by 7.5 percent in 2010, leading to a 1.0 Bcf/d (5.9-percent) increase in natural gas consumption in the industrial sector.

Projected natural gas consumption is virtually flat in 2011. The projected 2.7 percent increase in the natural-gas-weighted industrial production index and NOAA forecast of slightly colder weather next year (1.4 percent increase in heating degree-days) contribute to consumption growth in the residential, commercial, and industrial sectors in 2011. However, this growth is offset by a decline in natural gas consumption in the electric power sector because of the forecast increase in natural gas prices relative to coal prices next year.

**U.S. Natural Gas Production and Imports.** EIA expects total marketed natural gas production of 61.3 Bcf/d in 2010, an increase of 1.3 Bcf/d over 2009 levels. EIA projects a continuing decline in Gulf of Mexico production, which is offset by gains in onshore production. Forecast marketed production declines by 0.4 Bcf/d to 60.9 Bcf/d in 2011.

Federal Gulf of Mexico natural gas production falls by about 10 percent in both 2010 and 2011 as a result of hurricane outages, the announced offshore drilling moratorium, and the decline in active drilling rigs over the last 4 years. The estimated median outcome for hurricane outages from June through November is a cumulative 166 Bcf this year, compared with 19 Bcf in 2009. The offshore drilling moratorium is projected to reduce Gulf of Mexico production by an average of 0.05 Bcf/d for the last 6 months of 2010 and 0.25 Bcf/d for 2011.

Projected lower-48 onshore production increases by 2 Bcf/d (3.8 percent) in 2010 and 0.2 Bcf/d (0.3 percent) in 2011. According to Baker-Hughes, natural gas rig counts have climbed from under 670 in July 2009 to about 950 in April this year and have remained relatively stable since then.

Forecasted imports of liquefied natural gas (LNG) average 1.37 Bcf/d in 2010, a downward revision of about 0.14 Bcf/d from last month. Projected imports increase to 1.52 Bcf/d in 2011. While imports are expected to grow, higher prices in European and Asian markets will likely divert LNG cargoes from the United States. EIA also forecasts gross pipeline imports of 8.8 Bcf/d in 2010, a decrease of about 2.9 percent from 2009. EIA expects gross pipeline imports of 8.2 Bcf/d in 2011.

### Global Crude Oil and Liquid Fuels

**Crude Oil and Liquid Fuels Overview.** EIA's view of the world oil market is largely unchanged from recent Outlooks. EIA forecasts that world oil prices will rise slowly as an expected renewal of global economic growth leads to higher world oil demand and members of the Organization of the Petroleum Exporting Countries (OPEC) continue their support of prices near current levels.

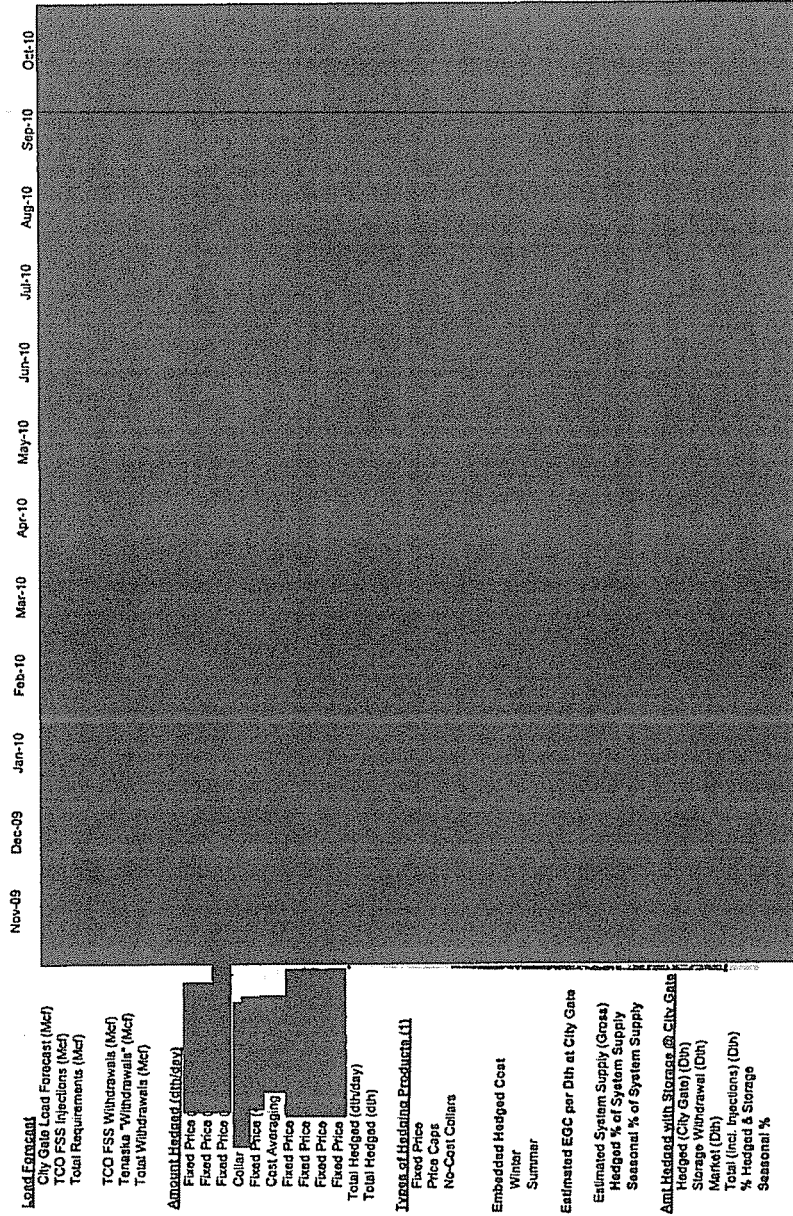


Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
August 24, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Sept 10–Nov 10)	↑ ↓	Long	NOAA predicting above average temperatures for September 2010–November 2010 for large portions of the CONUS.	12
Mid Term Forecast (30-60 days)	↑ ↓	Long	September is predicted to be 19.5% warmer than normal based on 10 year normals and October is predicted to be 10.8% warmer than 10 year normal.	13
Short Term Forecast (6-10 days)	↑	Short	Above normal for Mid-Continent at beginning of period, moving eastward with above normal temperatures reaching the east coast mid-period through the end of the period.	14
Tropical Storm Activity	↑	Short	10% chance tropical storm Danfele located 850 miles west of Cape Verde Islands becoming a tropical cyclone in the next 48 hours. NOAA says "significant" Atlantic hurricane activity still likely before the season ends November 30th.	15–16
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↑	Long	Storage injections for the week ending August 13th were 27 BCF. Storage levels are at 3.012 Tcf which is 5.8% lower than last year and 7.0% higher than the 5 year average. The only time storage stocks reached 3 Tcf earlier in the refill season was in 2009, when they hit 3.023 Tcf in the week ending July 24th.	17–18
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011: [REDACTED] Winter 2010/11: [REDACTED]	↑ ↓	Long	GAS PRICE SCORECARD: 2011 PIRA's price outlook is Bearish "the US gas market will head into the new year with upward production momentum and a lack of demand growth prospects that would be capable of absorbing the incremental supply."	19-20
Gas Daily	↓	Long	Citing expectation of continued production growth through 2011, Tudor Pickering Holt reduced its NYMEX price forecast for the second half of the year to \$4.50/Mcf from \$6.50/Mcf.	21
Gas Daily	↔	Long	While not ready to declare themselves bulls, analyst Marshall Adkins declared they were firmly in the "think about it" camp after nearly two years of institutional pessimism.	22
Gas Daily	↓	Long	Gas traders have all but abandoned expectations of major hurricane-related production cuts in the Gulf in summer and have trimmed most of the storm premium from the NYMEX contract. There is 8.8 Bcf/d of supply, about 10% of the US total at risk in the Gulf of Mexico.	23
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$4.833 Winter 2010/11: \$5.006	↓	Long	The projected Henry Hub annual average spot price is expected to be \$4.69 per MMBtu in 2010, a \$.74/MMBTU increase over the 2009 average and \$4.98 per MMBtu in 2011.	24
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↓	Short	Closed at \$4.62	25
Summer 2011 Strip Chart	↓	Short	Closed at \$4.70	26
<b>Economy</b>				
Demand	↑	Long	EIA projects total natural gas consumption will average 64.9 Bcf/day in 2010 (3.8% increase from 2009) and remain flat in 2011. Growth in gas used for power generation and industrial users account for the majority of the increase from 2009 to 2010. Gas used for power generation is expected to decline slightly in 2011. Forecasted industrial-sector consumption growth slows to 1% in 2011.	27
Supply	↓	Long	EIA expects total marketed natural gas production to increase by 1.1 Bcf/d (1.9%) to 61.3 Bcf/d in 2010 and decrease by 0.8 Bcf/d (1.4%) in 2011. EIA forecasts imports of 0.05 Bcf/d in 2010, an increase of about 0.1% from 2009. EIA expects imports of 8.95 Bcf/d in 2011.	27
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$81 per barrel in the fourth quarter of 2010, rising to \$84 next year. EIA expects world oil prices will rise slowly as world oil demand increases because of projected global economic growth, slower growth in non-OPEC oil supply, and continued production restraint by OPEC.	27

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm  
Attendees: Jeff Kern, Jim Henning, Mitch Martin, Joachim Fischesser, Jim Mohring, Terry Bates, Mike Brumback, Steve Niederbauer  
Discussed market fundamentals such as weather with significant discussion on current hurricane forecasts and the impact on price of lower than expected number of hurricanes to date, storage inventory levels, and economic factors such as supply and demand. Discussed analyst projections and PIRA, EIA and NYMEX pricing information. Discussed recent significant decline in prices. Discussed our current positions within the Ohio and Kentucky hedging plans. Discussed the pricing associated with the Tenaska storage-like service for DEK, for the period November 1, 2011 to March 31, 2012. At current NYMEX price for this storage would be [REDACTED]. Based on the discussion, the decision was made to set the price for the storage-like service.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 08/22/10



Lead Forecast  
 City Gate Load Forecast (Mcf)  
 TCO ESS Injections (Mcf)  
 Total Requirements (Mcf)

TCO ESS Withdrawals (Mcf)  
 Tennessee Withdrawals (Mcf)  
 Total Withdrawals (Mcf)

Amount Hedged (dth/day)

Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar  
 Fixed Price  
 Cost Averaging  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (dth/day)

Types of Hedging Products (t)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

Winter  
 Summer

Estimated EGC per Dth at City Gate

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

Am't Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 08/22/10

	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11
[Redacted Data]												

**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  
 Fixed Price Collar  
 Fixed Price Collar  
 Fixed Price Collar  
 Fixed Price Collar  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars  
 Embedded Hedged Cost  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 09/22/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
<b>Load Forecasts</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (Dth/Day)</b>												
Fixed Price												
Collar (Price)												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>Am't Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (Incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 08/22/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

**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)**  
 TBD  
 TBD  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Amt. Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

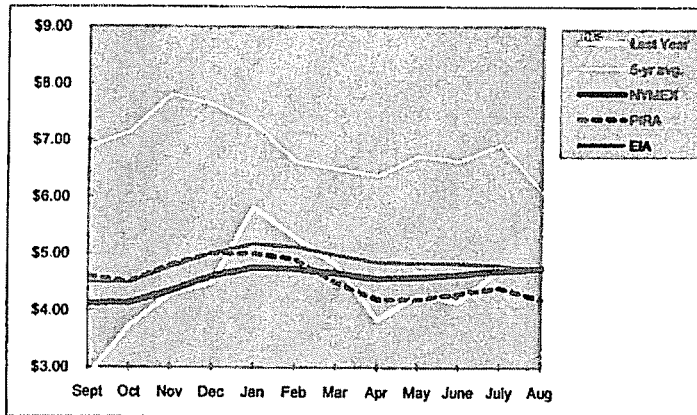
8/22/2010

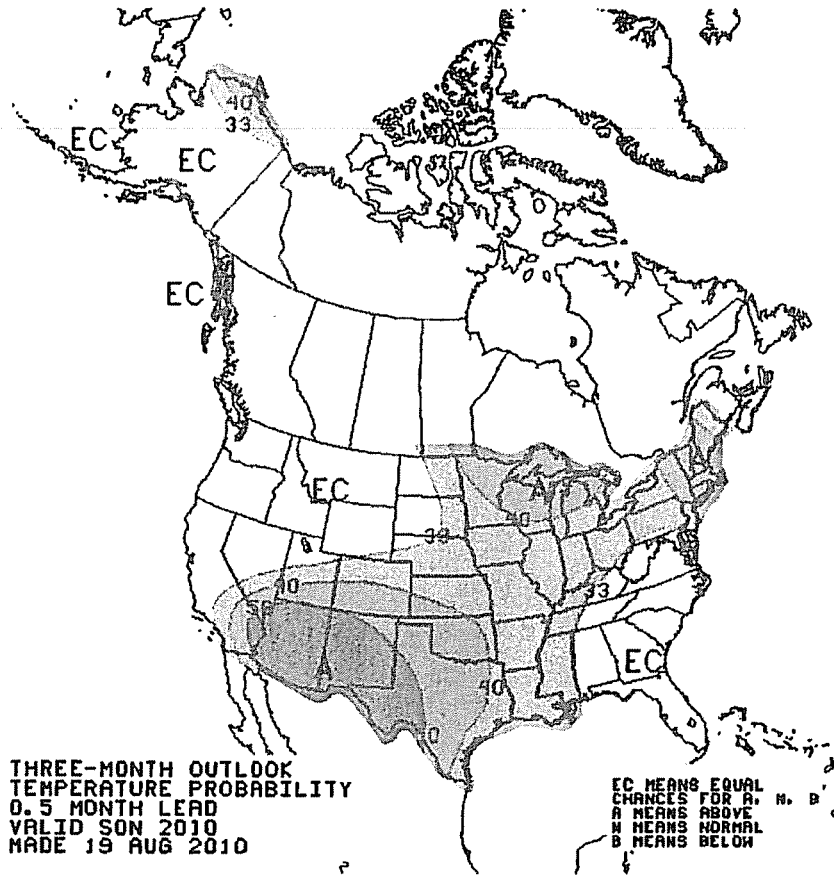
Duke Energy Kentucky  
 Hedging Program  
 Current Position

Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (10/31/10)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
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					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2010					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2010					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2010					

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

Historic Prices:							Hedged Prices	
NYMEX Closing Price							Ohio	Kentucky
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)		PIRA 26-Jul-10	EIA 10-Aug-10	NYMEX 22-Aug-10		
Sept	\$6.87	\$2.84			\$4.500	\$4.117		
Oct	\$7.15	\$3.73			\$4.490	\$4.137		
Nov	\$7.80	\$4.29			\$4.760	\$4.342		
Dec	\$7.62	\$4.49			\$5.000	\$4.606		
Jan	\$7.28	\$5.81			\$5.170	\$4.752		
Feb	\$6.61	\$5.27			\$5.120	\$4.736		
Mar	\$6.49	\$4.82			\$4.980	\$4.662		
Apr	\$6.37	\$3.84			\$4.850	\$4.561		
May	\$6.72	\$4.27			\$4.840	\$4.585		
June	\$6.63	\$4.16			\$4.830	\$4.639		
July	\$6.92	\$4.72			\$4.800	\$4.701		
Aug	\$6.10	\$4.77			\$4.740	\$4.751		
12 Month Avg	\$6.88	\$4.42			\$4.840	\$4.549		
Summer Average					\$4.721	\$4.499		
Winter Average					\$5.006	\$4.620		





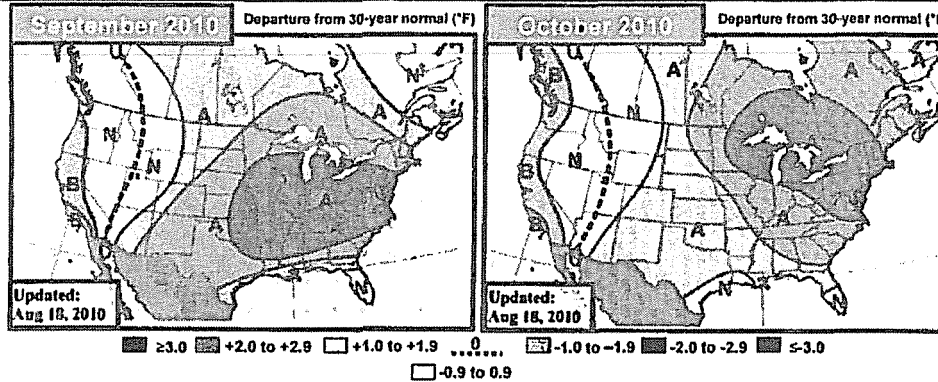




# EarthSat's 30-60 Day Outlook

Wednesday, August 18, 2010

Forecaster: SS/BH/TH



**Previous**  
 No significant changes overall  
 Remaining warm across the Midwest and East

The overall forecast wasn't changed here, with widespread aboves continuing from the Rockies into the Plains, Midwest, and East, and belows along the West Coast. The main forecast drivers are still the anomalously positive AMO and the moderate La Nina. The La Nina has actually weakened slightly at the surface over the past couple weeks, but there is still plenty of cooler water below the surface that is expected to allow for La Nina to progress over the coming months. The PDO is also becoming more of a factor as the eastern Pacific (along the West Coast) is becoming cooler (the index was -1.05 in July). This typically correlates with warmer than normal conditions across the mid-continent in September.

Sep PWCCD* Forecasts	*10Y Normal updated to '00-09
Sep 2010 Fcst: <b>204.0</b>	10Y Normal* 170.7
	30Y Normal 165.7
	Sep-2009 160.1

No Change \*National Population-Weighted CDDs

**Previous**  
 No significant changes overall  
 Still quite warm across the Midwest and East

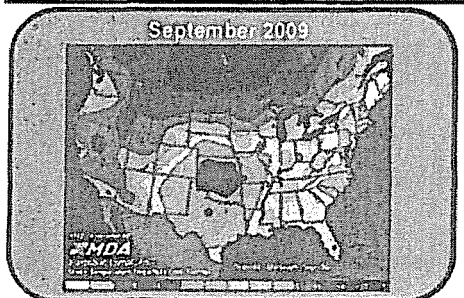
The October outlook remains unchanged this week with widespread aboves continuing from the southern Rockies into the Plains, South, and especially the Midwest and East, and belows continuing along the West Coast. Similar to September, the October forecast correlates with a positive AMO and an intensifying La Nina, as well as a negative PDO. The correlation with a positive PDO in October can be seen in the lower right, the inverse would be the correlation with a negative PDO.

Oct GWHDD* Forecasts	*10Y Normal updated to '00-09
Oct 2010 Fcst: <b>255.0</b>	10Y Normal* 285.9
	30Y Normal 289.1
	Oct-2009 351.6

No Change \*National Gas-Weighted HDDs

**Tracking August**

As expected, this week has been quiet for across much of the country, with widespread much above normal trends in the eastern half of the US as well as in the Southern and the Midwest. The biggest change was seen in the 30 Day Outlook, where we moved from below normal trends across the Midwest and East, where we had been below normal trends in the 60 Day Outlook. The month that ends in August has been a record breaker for the region, and we have been seeing a similar trend in the 30 Day Outlook and Final 60 Day Outlook. The 30 Day Outlook is a record breaker for the region, and we have been seeing a similar trend in the 60 Day Outlook and Final 60 Day Outlook. The 30 Day Outlook is a record breaker for the region, and we have been seeing a similar trend in the 60 Day Outlook and Final 60 Day Outlook.



# Gas Daily

Tuesday, August 24, 2010

## WSI predicts very warm autumn across most of US, except Pac-NW

Private forecaster WSI Corporation said Monday that the US is likely to see a continuation of above-average temperatures through October, with the lone exception of the Pacific Northwest region.

"The combination of the La Niña event, a relatively cold north Pacific and a record warm North Atlantic are quite bullish for a very warm fall period, especially across the northeastern quarter of the country," said WSI chief meteorologist Todd Crawford. "However, the historically persistent negative phase of the North Atlantic oscillation, which would act to keep temperatures down in much of the eastern US, looms large as the most significant source of forecast uncertainty."

For September through November, WSI predicts 901 gas-weighted heating degree days, 3% less than last year and 9% less than the 1971-2000 mean.

Looking ahead to November, WSI forecasts above-normal temperatures in every region except the Southeast and coastal California. — *Stephanie Seay*

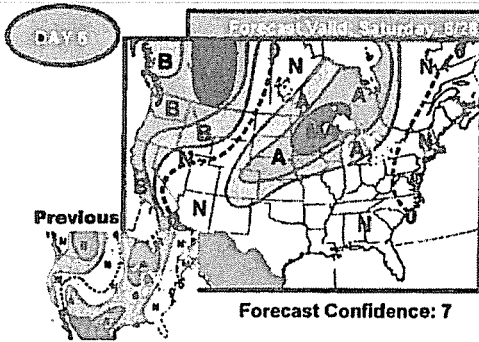


# EarthSat's 6-10 Day Forecast-Detailed

Monday, August 23, 2010

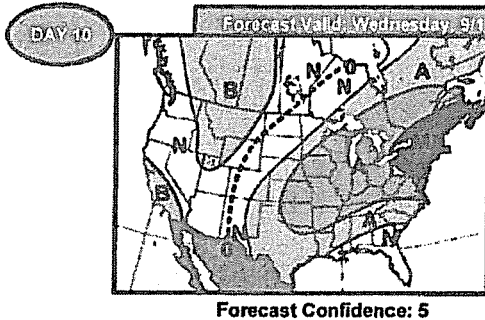
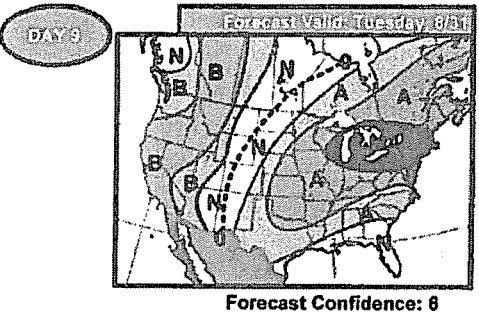
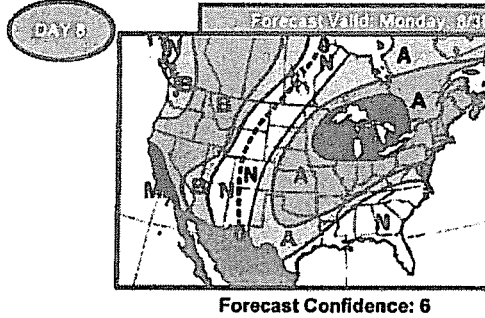
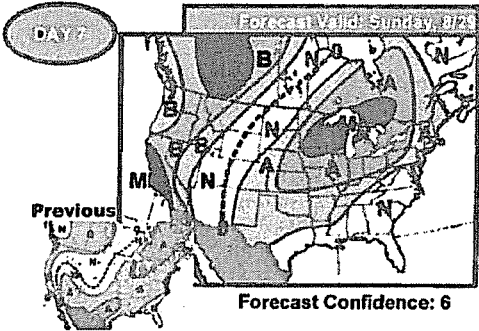
Forecaster: BH/AC

## Forecast Temperature Deviations



### Today's Forecast:

**Much Above Press Into Upper Midwest, NE Early**  
**Much Of West Under Below Normal Coverage**  
 Warmth across the Upper Midwest and Northeast could be stronger for the first half of the period with more much above normal coverage possible in these areas. High pressure providing easterly flow along the South may keep the region on the seasonal side throughout the first half as well. Some showers and storms along the Gulf may also keep temperatures cooler. However, with that high pressure advancing away from the coast, warmer readings should return late. Parts of the Northwest and Canadian Rockies have the potential to see more much belows, which could eventually dive into portions of the Interior West. Along the Southwest, warmer temperatures may press into the region for the latter part of the period.



A +3F to +4F    A +5F to +7F    MA +8F to +14F    SA +15 or Higher  
 B -3F to -4F    B -5F to -7F    MB -8F to -14F    SB -15 or Lower



Local forecast by  
"City, St" or "ZIP"

### Atlantic Tropical Weather Outlook

- Alternate versions  
Text-only | PDA | Call
- Get Storm Info  
Satellite | Radar  
Aircraft Recon  
Advisory Archive  
Experimental  
Mobile Products  
E-mail Updates  
Audio/Podcasts  
GIS Data | RSS |   
Help with Advisories
- Marine Forecasts  
Atlantic and E Pacific  
Analysis Tools  
Gridded Marine  
Help with Marine
- Hurricane Awareness  
Be Prepared | Learn  
Frequent Questions  
Research  
Hurricane Hunters  
Saffir-Simpson Scale  
Forecasting Models  
Glossary/Acronyms  
Storm Names  
Breakpoints
- Hurricane History  
Seasons Archive  
Forecast Accuracy  
Climatology  
Most Extreme
- About the NHC  
Mission and Vision  
Personnel | Visitors  
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TWOAT  
TROPICAL WEATHER OUTLOOK  
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL  
800 AM EDT MON AUG 23 2010

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

THE NATIONAL HURRICANE CENTER IS ISSUING ADVISORIES ON TROPICAL STORM DANIELLE...LOCATED ABOUT 850 MILES WEST OF THE SOUTHERNMOST CAPE VERDE ISLANDS.

AN AREA OF DISTURBED WEATHER LOCATED NEAR THE WEST COAST OF AFRICA IS ASSOCIATED WITH A TROPICAL WAVE. SOME SLOW DEVELOPMENT OF THIS SYSTEM IS POSSIBLE OVER THE NEXT COUPLE OF DAYS AS IT MOVES WESTWARD NEAR 15 MPH. THERE IS A LOW CHANCE...10 PERCENT...OF THIS SYSTEM BECOMING A TROPICAL CYCLONE DURING THE NEXT 48 HOURS.

ELSEWHERE...TROPICAL CYCLONE FORMATION IS NOT EXPECTED DURING THE NEXT 48 HOURS.

\$\$  
FORECASTER BERG

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15

# Gas Daily

Friday, August 6, 2010

## NOAA says 'significant' Atlantic hurricane activity still likely

**Federal government forecasters on Thursday slightly modified their outlook for the 2010 Atlantic hurricane season to a range of 14 to 20 named storms and eight to 12 hurricanes, down from the 14 to 23 named storms and eight to 14 hurricanes they predicted in May.**

**But the National Oceanic and Atmospheric Administration warned that "significant activity" still is expected before the season ends November 30.**

NOAA, which predicted three to seven major hurricanes of Category 3 strength or above in its May 27 outlook, said Thursday that it now expects the current season to produce four to six major storms.

**The agency said its update calls for a 90% chance of a busier-than-normal season, with only a 10% chance of a near-normal season.** Because early-season storm activity has been less than originally forecast, the agency said it was reducing the upper ends of its predicted ranges.

"The atmospheric and oceanic conditions now in place over the tropical Atlantic Ocean and Caribbean Sea are very conducive to hurricane formation, as was predicted in NOAA's pre-season outlook issued in May," the agency said.

"These conditions are expected to persist throughout the peak months (August-October) of the Atlantic hurricane season, in association with three climate factors — the tropical multi-decadal signal, La Niña and very warm temperatures in the tropical Atlantic Ocean and Caribbean Sea."

While NOAA does not make landfall projections, it said the "historical probabilities for multiple hurricane strikes increased markedly during very active seasons for both the Gulf Coast and Atlantic Coast." — *Jeff Barber*

Released: August 19, 2010 at 10:30 a.m. (eastern time) for the Week Ending August 13, 2010  
Next Release: August 26, 2010

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

other formats: [Summary](#) [TXT](#) [CSV](#)

Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	08/13/10	08/06/10	Change	Year Ago (08/13/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,576	1,536	40	1,674	-5.9	1,561	1.0
West	482	479	3	448	7.6	396	21.7
Producing	954	970	-16	1,074	-11.2	860	10.9
<b>Total</b>	<b>3,012</b>	<b>2,985</b>	<b>27</b>	<b>3,197</b>	<b>-5.8</b>	<b>2,816</b>	<b>7.0</b>

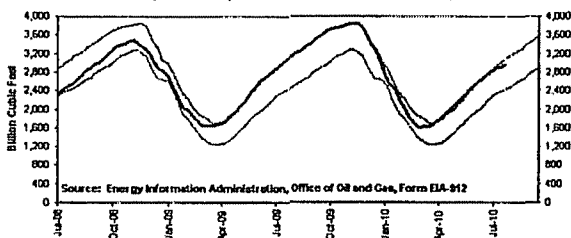
**Notes and Definitions**

**Summary**

Working gas in storage was 3,012 Bcf as of Friday, August 13, 2010, according to EIA estimates. This represents a net increase of 27 Bcf from the previous week. Stocks were 185 Bcf less than last year at this time and 196 Bcf above the 5-year average of 2,816 Bcf. In the East Region, stocks were 15 Bcf above the 5-year average following net injections of 40 Bcf. Stocks in the West Region were 86 Bcf above the 5-year average after a net withdrawal of 3 Bcf. Stocks in the Producing Region were 94 Bcf above the 5-year average after a net withdrawal of 16 Bcf. At 3,012 Bcf, total working gas is within the 5-year historical range.

- 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

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 2005 through 2009.  
Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

# Gas Daily

Friday, August 20, 2010

## Storage tops 3 Tcf despite producing-region pull

Even with another net withdrawal in the producing region, US gas storage inventories surpassed the 3-Tcf mark during the week ending August 13, the Energy Information Administration reported Thursday.

**The only time storage stocks reached 3 Tcf earlier in the refill season was in 2009, when they hit 3.023 Tcf in the week ending July 24.**

EIA reported a 27-Bcf injection last week, lifting inventories to 3.012 Tcf. The build was slightly below consensus expectations and well under the 54-Bcf injection reported last year and the five-year average of 50 Bcf.

By region, EIA reported builds of 40 Bcf in the East and 3 Bcf in the West. But the producing region saw its fourth consecutive weekly withdrawal, and its largest of the summer at 16 Bcf. Still, that area's inventories remain 10.9% above the five-year average.

Ben Caplan, an analyst at Gelber & Associates, said unusually hot weather last week, especially in the South, caused demand to spike and left little gas to inject into storage.

Ron Denhardt, an analyst at Strategic Energy and Economic Research, **believes that once the heat breaks, injections will pick up and storage will nearly fill by the end of October — even with hurricane-related supply disruptions figured in.**

Denhardt said the record heat this summer has prompted utilities to turn on inefficient gas turbines to meet increased air-conditioning demand, making it difficult to estimate the true supply/demand in the US.

**On the supply side, production remains robust, with both EIA and Lippman Consulting data showing an increase of 0.8% to 0.9% each month, Denhardt said.**

**"If you multiply that by 12, you get a 9.6% increase in production for the year," he said, adding that consumption usually grows by only 1% to 2% a year.**

**"It just looks like a very sloppy market, and we're not seeing it because of the extreme weather," he added. "That's why prices have been so low, even though we've had hot weather. They are looking at that kind of data and thinking it just can't hold."**

**The key will be September, when cooling degree days start to drop off, according to Denhardt. "Once we start to see injections taking place in September, the market will see more downward pressure unless a hurricane comes along."**

Caplan offered one caveat: economic incentives are not there to inject gas into storage, with the back of the NYMEX curve much flatter to the prompt month than in years past.

"There's a lot of production, and it will be interesting to see how [drillers] react to the need to cover costs vs. the lack of premium going into storage," Caplan said. — Cheryl Buchta, Stephanie Seay


**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**July 26, 2010 Release**

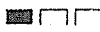



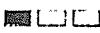



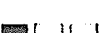

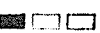
Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008		Average 2009	\$	Average 2010	\$	Average 2011	
Summer 2008		Summer 2009	\$	Summer 2010	\$	Summer 2011	
Winter 2008-2009		Winter 2009-2010	\$	Winter 2010-2011	\$		



North American Gas Forecast Monthly   
July 26, 2010 NATURAL GAS

**GAS PRICE SCORECARD: 2011**

Bearish Neutral Bullish  


U.S. Gas Supply Issues	Outlook	Commentary
<i>U.S. Production</i>		The growth of Lower 48 production, led by shale gas, looks certain to continue deep into 2011, barring a major gas price pullback to levels substantially below NYMEX futures.
<i>LNG Imports</i>		For 2011 as a whole, U.S. LNG imports seem poised for only a modest Y/Y swing, with declines during the next heating season offsetting higher 2011 injection season deliveries.
<i>Canadian Exports</i>		Y/Y declines in Canadian exports have been below expectations in 2010 partly owing to reduced storage refills, but lower production should re-establish Y/Y declines despite narrowing production losses.
<i>Mexican Imports</i>		Mexico looks challenged to sustain a rising gas production trend, but barring stronger-than-expected demand, net exports from the U.S. should be relatively stable.
<i>Storage Levels</i>		All-time high storage levels look in store for 2011 barring either bullish demand wildcards or a sizable pullback in gas-oriented drilling.
U.S. Gas Demand Issues	Outlook	Commentary
<i>Economy</i>		PIRA's base case foresees a 2.0-2.5% gain in real GDP but major uncertainties persist, and this year's crucial recovery of industrial activity for industrial gas demand will be missing.
<i>Electric Generation</i>		New coal-fired capacity and more competitively priced coal-fired EG will make gas demand growth difficult even if gas prices fall considerably under the NYMEX 2011 "strip."
<i>Industrial Sector</i>		A continuing up-trend of industrial gas demand should be supported by shale gas induced price weakness, but Y/Y gains will not come near 2010 recovery rates.
<i>R/C Heating</i>		The past three heating seasons have virtually matched 10-year normals, but total gas demand in these sectors appears to have increased over the past season. A more typical gas heating intensity would mean lower demand next year.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>		Reported non-commercials have been net short NYMEX futures since early '07. However, the active funds currently are only short ~256,000 lots, which is not only well below this year's high of ~311,000 set on 4/20/10, but also below the record high of ~396,000 reached on 9/30/08. Both measures suggest the upside potential for NYMEX prices could be notably restricted in the absence of any significant bullish developments.
Overall Gas Price Assessment	Outlook	Commentary
<i>2011 Henry Hub Gas Prices</i>		In the absence of bullish weather wildcards, the U.S. gas market will head into the new year with upward production momentum and a lack of demand growth prospects that would be capable of absorbing the incremental supply. The "cure" for such an emerging market imbalance should be a pullback in gas-oriented drilling that would stem the tide of rising Lower 48 production. A major gas price reduction seems required to generate such a gas drilling cutback.

# Gas Daily

Wednesday, August 11, 2010

Tudor Pickering slashes price forecast by \$2

Citing expectations of continued production growth through 2011, investment bank Tudor Pickering Holt on Tuesday sliced its NYMEX gas futures price forecast for the second half of this year to \$4.50/Mcf from \$6.50/Mcf.

Despite a string of companies recently announcing plans to shift capital to oil and liquids until gas prices recover, Tudor Pickering said in a report that the transition will be gradual — leaving the industry still focused on gas development through the better part of 2011.

As a result, the firm is forecasting 10% year-over-year growth in production this year and 16% growth in 2011.

"These guys are a victim of their own success," said Tudor Pickering Managing Director Dave Pursell. "They're very smart, entrepreneurial guys who wanted to drill for gas and developed the Barnett Shale and took that knowledge and expanded it. And now they're saying, 'uh oh, we have to get oily.'"

But "a CEO of company X saying they're going to get more oily is like my wife saying we're going to retire on the French Rivera. It's a nice idea but that doesn't mean they can do it," Pursell said.

Nor, he added, can domestic producers stop drilling for gas while looking for new oil-rich plays without facing large short-term declines in their asset portfolios.

"If you spent five years getting good at being shale players, you don't want to throw that out," Pursell said. "They still want to be shale players, they just want to be more balanced. Plus you've got a lot of acreage you need to drill to hold, and you have joint ventures with lots of cash that are allowing that and better access to debt markets."

Further, exploration companies have begun locking in 2011 hedges in the \$5 to \$5.50/Mcf range "signaling a willingness to continue to invest at those levels" rather than lay down rigs to force a gas price increase, Tudor Pickering said.

With nearly 1,000 gas rigs operating — a 44% jump from a year ago — despite futures prices for the first half of 2010 having averaged just \$4.70/Mcf, Tudor Pickering's new supply model calls for 2 Bcf/d of annual supply growth in 2010 and 2011. It estimates demand growth at just 1 Bcf/d over the same period.

The resulting oversupply should keep prices below \$5/Mcf on average for the rest of this year, the report said, adding that prices should not increase much beyond that in 2011 because there is "no clear incremental catalyst for the rig count to fall materially in the near term."

That bearish outlook continues out to 2013 as high productivity from shale gas plays exacerbates the supply/demand imbalance, Tudor Pickering said. As a result, it cut its NYMEX price forecast for 2013 to \$6 from \$6.50/Mcf. — *Joshua Starnes*

# Gas Daily

Tuesday, August 17, 2010

## Heat soaks up gas, eases imbalance: analysts

In addition to propping natural gas prices up above \$4/Mcf, this summer's heat has soaked up enough burgeoning US gas supply to prevent a repeat of last fall's gas-on-gas competition, industry analysts said Monday.

While not ready to declare themselves bulls, analysts at investment bank Raymond James declared they were firmly in the "think about it" camp after nearly two years of institutional pessimism.

**"We have unequivocally been one of the most bearish natural gas shops for the past two years," the bank's top gas analyst Marshall Adkins said. "In fact, had it not been for one of the warmest summers in recent history, we remain convinced that we'd be looking at gas prices well below \$4/mcf.** That said, recent production trends have even us, the popularly coined 'perma-bears,' a little nervous."

**Production seems to be flattening according to government reports and the bank's own survey of public producers in the midst of a summer in which above-normal heat burned up excess gas, he said.**

**"As we entered the summer, US gas storage had about 100 Bcf more gas in the system (looser) than the prior year," Raymond James said. "Today, storage is about 150 Bcf tighter (less gas in the system) versus last year. Was the secret not some fad diet called "falling gas supply"?"**

**No, Adkins said. The secret was rebounding industrial demand coupled with one of the hottest summers on record. Both factors drove gas demand 250 Bcf to 300 Bcf over normal, taking the slack out of the storage situation.**

Jefferies & Company analyst Subash Chandra agreed. "The best is behind us," he said Monday. "Price spikes unlikely ahead. But the severe gas-on-gas competition from last year also unlikely."

One side effect of slightly cooler weather will be to lower gas prices slightly, but enough to keep them in the window to compete with coal, Pritchard Capital Partners analyst Arun Sharma said Monday.

"We expect that although the moderating temperatures will reduce the overall cooling demand across much of the US," Sharma said, "the current price level makes natural gas increasingly competitive over coal."

**But Adkins wasn't ready to return to being a bull so quickly. Supply is still growing, although the growth rate is flattening, he said, and producers are still drilling lots of holes and delivering gas to the market.**

"Get out your sweat rag because the natural gas debate is getting hotter," he said. "We're not yet ready to change our tune, as the availability of domestic supply remains a structural problem for the natural gas market" — *Bill Holland*

# Gas Daily

Monday, August 16, 2010

## Storm premium sheared from futures market

Gas futures traders have all but abandoned expectations of major hurricane-related production cuts in the Gulf of Mexico this summer and have trimmed most of the storm premium from the NYMEX contract over the past few weeks, analysts say.

For months, market bulls have watched as tropical waves appeared on the horizon, only to see them dissipate or veer away from oil and gas rigs in the Gulf.

Pax Saunders, an analyst with Gelber & Associates, said gas market players holding long positions are experiencing "disappointment" in the hurricane season. He noted that the lack of tropical activity and a milder temperature forecast for the second half of August have helped erase 70 cents/MMBtu or so from the front-month contract in just two weeks.

"September futures have been trapped in four days of congestion between the \$4.25/MMBtu and \$4.38/MMBtu area, which would indicate that they don't want to go any lower for now," Saunders said Friday.

Tim Evans, analyst at Citi Futures Perspective, agreed that the lack of storm related oil and gas curtailments through mid-August — and the absence of tropical activity on the horizon — have wiped out the storm premium built in when forecasters first called for an extremely active hurricane season.

But Evans reminded his clients that the season is far from over. "The most active mid-August to mid-October portion of the season is still ahead," he said Friday. "There's 6.6 Bcf/d of supply — about 10% of the US total — at risk in the Gulf of Mexico."

Despite the seemingly lackluster start, most forecasters have refused to back away from their predictions of an active season in the Atlantic Basin.

Dale Mohler, senior meteorologist at AccuWeather, said this season's tropical activity has, in fact, been near normal. So far there has been Hurricane Alex, which made landfall in Belize on June 27 and again on June 30 about 100 miles south of Brownsville; Tropical Storms Bonnie, which was destroyed by wind shear, and Colin, which veered off the Atlantic seaboard, and two tropical depressions that failed to form into anything serious.

Mohler said warm ocean temperatures remain ripe for the formation of hurricanes. Additionally, wind shear — which has caused most of the storms this year to dissipate — should begin to fade as a sub-tropical high-pressure system to the north strengthens.

Maps now indicate that the high, which is typically strongest between August 15 and September 15, is starting to build, which should "allow significant energy off Africa to maintain storms," Mohler said.

Colorado State University hurricane forecasters also still expect the season to be exceptionally busy "due to unusually warm tropical Atlantic sea surface temperatures," Philip Klotzbach and William Gray said in their August 4 report.

Over the past several months, La Niña conditions have continued to develop, and a moderate La Niña will remain over the next several months, the CSU forecasters said. That should lead to reduced levels of vertical wind shear compared with last year — and an increase in storm formation, they said. — *Cheryl Buchta*

# Gas Daily

Tuesday, August 24, 2010

## Denhardt cuts 2010 price 10% on supply growth as drilling continues

If recent US gas production data showing a 10% year over-year increase are correct, prices are facing "enormous" downward pressure this winter and through much of 2011, an industry analyst said Monday in reducing his 2010 price forecast by 10%.

Strategic Energy and Economics Research Vice President Ron Denhardt said he wasn't sure how far prices would fall through next year because, at certain levels, gas begins taking market share away from coal. Nonetheless, Denhardt reduced his 2010 average price estimate from \$4.75/MMBtu to \$4.25/MMBtu and left in place his previous forecast for 2011 of \$4.50/MMBtu.

Just below those prices, Denhardt pointed out, are the points at which producers quit drilling (around \$3.50/MMBtu) and power plants start switching to gas (around \$3.10/MMBtu).

"We are not predicting these price levels, but there is a reasonable chance that prices could fall this low," Denhardt said in a note to clients. "SEER's projected Henry Hub price for the heating season is \$4.20/MMBtu, vs. the forwards market of \$4.45/MMBtu."

The economics of most shale gas production "becomes marginal at \$4/MMBtu, and conventional production is unattractive at considerably higher prices," Denhardt added. He pointed to Oklahoma City-based Chesapeake Energy's recent announcement that it would stop drilling for gas until prices reached \$6/MMBtu as evidence that drillers are becoming sensitive to price.

Denhardt acknowledged some uncertainty about his projections. "Our discomfort with our outlook is because storage injection regressions indicate the weather-adjusted supply-demand balance is tighter than last year and about 1 Bcf tighter than the five-year average," he said.

In other words, the recent heat waves that have spread across the US have skewed his models and, "with extreme heat our models are not reliable because of limited observations."

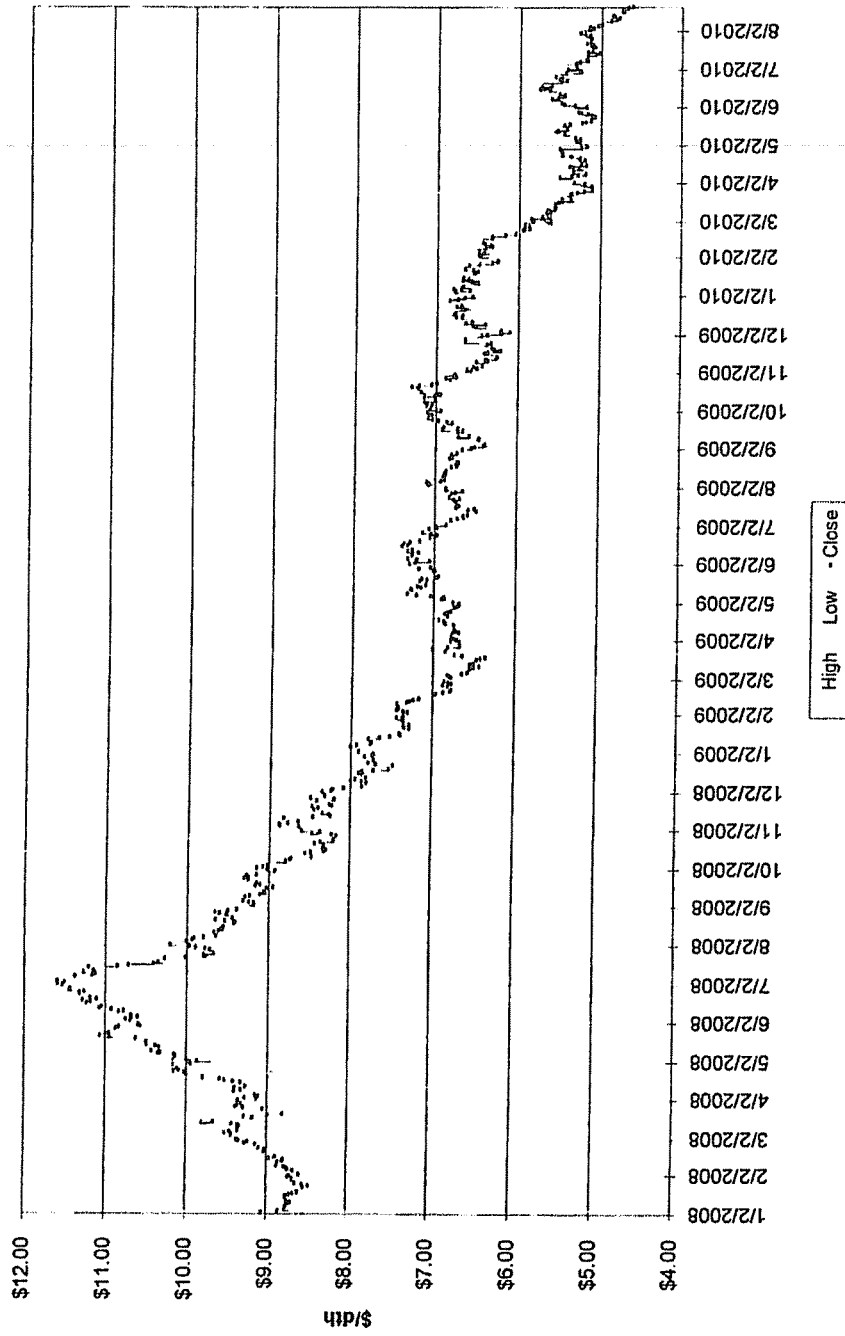
— Bill Holland

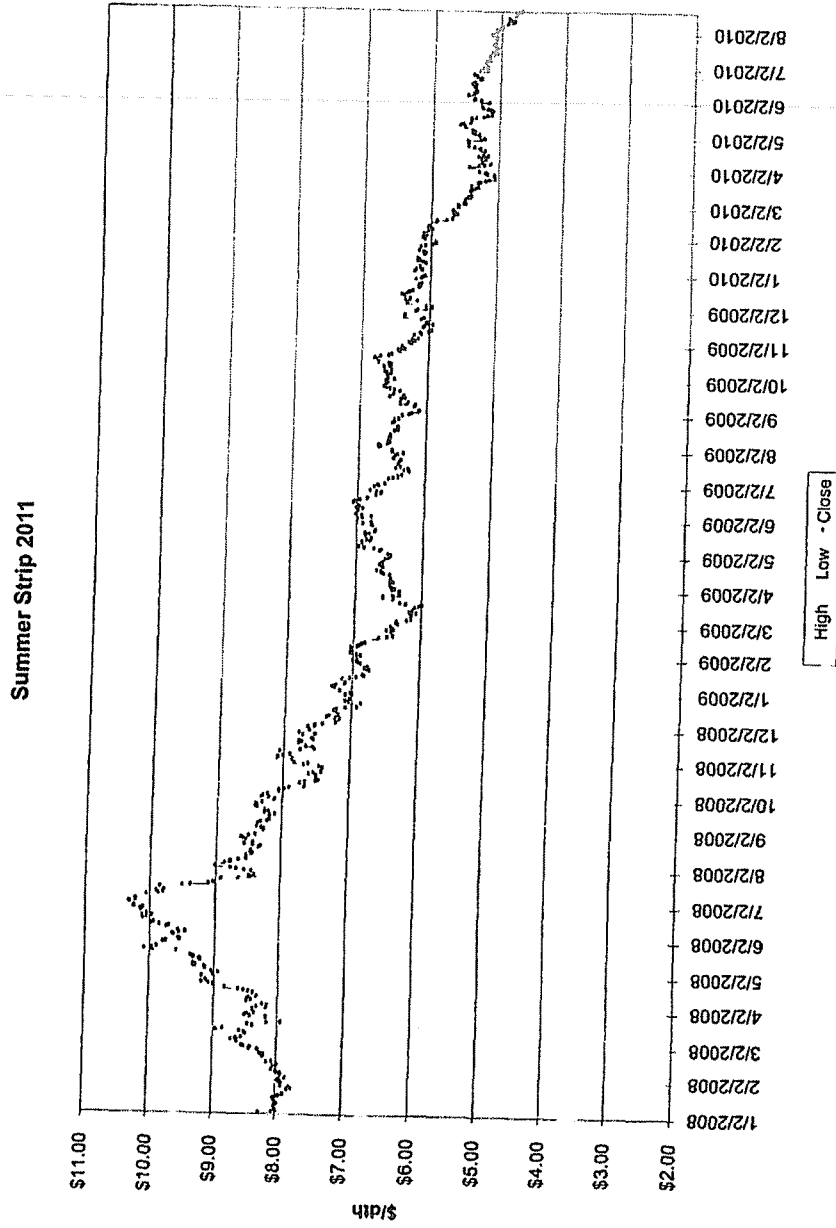
**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**August 10, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	5.17
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	5.12
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	4.98
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	4.85
May-08	11.27	May-09	3.83	May-10	4.14	May-11	4.84
Jun-08	12.69	Jun-09	3.80	Jun-10	4.80	Jun-11	4.83
Jul-08	11.09	Jul-09	3.38	Jul-10	4.63	Jul-11	4.80
Aug-08	8.26	Aug-09	3.14	Aug-10	4.55	Aug-11	4.74
Sep-08	7.67	Sep-09	2.97	Sep-10	4.50	Sep-11	4.83
Oct-08	6.74	Oct-09	4.00	Oct-10	4.49	Oct-11	4.94
Nov-08	6.68	Nov-09	3.66	Nov-10	4.76	Nov-11	5.21
Dec-08	5.82	Dec-09	5.34	Dec-10	5.00	Dec-11	5.43
Average 2008	\$ 8.862	Average 2009	\$ 3.943	Average 2010	\$ 4.695	Average 2011	\$ 4.978
Summer 2008	\$ 9.700	Summer 2009	\$ 3.516	Summer 2010	\$ 4.449	Summer 2011	\$ 4.833
Winter 2008- 2009	\$ 5.242	Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 5.006		

24

Winter Strip Nov10 - Mar11







## Short-Term Energy Outlook

August 10, 2010 Release  
(Next update September 8, 2010)

### Natural Gas

U.S. Natural Gas Consumption. EIA expects total natural gas consumption will increase by 3.8 percent from 2009 levels to 64.9 billion cubic feet per day (Bcf/d) in 2010 and then remain flat in 2011. Growth in the use of natural gas in both the power generation and industrial sectors accounts for the bulk of the increase in consumption in 2010 over 2009. Use of natural gas for power generation is expected to grow by more than 1 Bcf/d to 20 Bcf/d in 2010, despite a year-over-year increase in natural gas prices. Although the use of natural gas for electric power generation has been on a generally upward trend over the last several years, it is expected to decline slightly in 2011.

EIA estimates natural gas consumption in the electric power sector during the month of July at 29.1 Bcf/d, an upward revision from 27.6 Bcf/d in last month's *Outlook*, and 15 percent higher than last July's 25.2 Bcf/d. The revision accounts for greater air-conditioning demand resulting from a very warm July, which was 36 percent warmer than last year as measured by population-weighted cooling degree-days.

Projected natural gas consumption in the industrial sector also grows significantly in 2010, increasing by almost 7 percent, from 16.8 Bcf/d in 2009 to 17.9 Bcf/d in 2010. Forecast industrial-sector consumption growth slows to 1 percent in 2011 as the projected growth in the natural-gas-weighted industrial production index slows from 7.9 percent in 2010 to 2.3 percent in 2011. Residential and commercial consumption is projected to remain relatively flat over the forecast.

U.S. Natural Gas Production and Imports. EIA expects total marketed natural gas production will increase by 1.1 Bcf/d (1.9 percent) to 61.1 Bcf/d in 2010. Projected production declines gradually in 2011, falling by 0.8 Bcf/d (1.4 percent) as relatively low prices depress drilling activity.

Natural gas production shut in because of hurricanes during June and July was less than EIA had originally projected. The original forecast called for outages totaling 20 Bcf compared with actual outages from Hurricanes Alex and Bonnie in June and July of 8 Bcf. Nevertheless, the next 3 months are typically the height of the hurricane season and additional outages are likely. Based on the May NOAA hurricane forecast, shut-in production from August to October is projected to total 146 Bcf. The offshore drilling moratorium is projected to reduce Gulf of Mexico production by 10 Bcf over the last 6 months of 2010 and 92 Bcf during 2011.

EIA forecasts gross pipeline imports of 9.05 Bcf/d in 2010, an increase of about 0.1 percent from 2009. EIA expects gross pipeline imports of 8.95 Bcf/d in 2011. Forecasted imports of liquefied natural gas (LNG) average 1.35 Bcf/d in 2010 and 1.42 in 2011. Higher LNG prices in European and Asian markets could divert the growing world supply of LNG away from the United States.

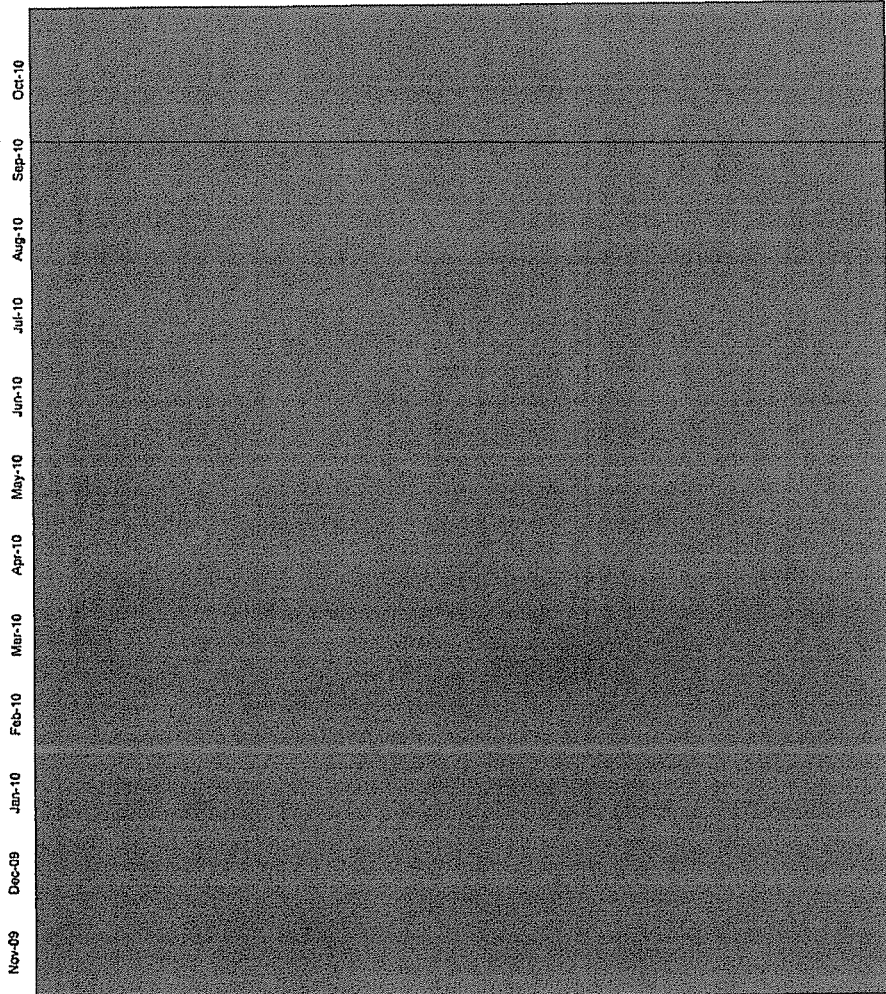
### Global Crude Oil and Liquid Fuels

Crude Oil and Liquid Fuels Overview. EIA's view of the world oil market is largely unchanged from last month's *Outlook*. EIA expects world oil prices will rise slowly as world oil demand increases because of projected global economic growth, slower growth in non-OPEC oil supply, and continued production restraint by members of the Organization of the Petroleum Exporting Countries (OPEC). A gradual reduction in global oil inventories expected over the forecast period also should lend support to firming oil prices.

Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
September 23, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Oct 10–Dec 10)	↓	Long	NOAA predicting above average temperatures for October 2010–December 2010 for large portions of the CONUS.	12
Mid Term Forecast (30-60 days)	↓	Long	October is predicted to be 18.5% warmer than normal based on 10 year normals and November weather is predicted to be normal. WSI a private weather forecaster is expecting warmer-than-normal weather in October and a cool-down in most regions for the last two months of the year.	13 - 14
Short Term Forecast (0-10 days)	↑	Short	Much of CONUS Above normal through-out the period, Normal temperatures predicted for central portions of CONUS.	15
Tropical Storm Activity	↑	Short	80% chance tropical storm Lisa located 450 miles west-northwest of Cape Verde Islands becoming a tropical cyclone in the next 48 hours.	16
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage injections for the week ending September 10th were 103 BCF. Storage levels are at 3,267 TCF which is 5.3% lower than last year and 6.2% higher than the 5 year average. The triple-digit injection marks the first above average build in 13 weeks. "I think we will see continued bearish storage reports through the rest of the non-heating season."	17–18
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011: ██████████ Winter 2010/11: ██████████	↑ ↓	Long	GAS PRICE SCORECARD: October 2010–March 2011 PIRA's price outlook is Bearish "a curtailment of horizontal gas drilling must precede sustainably higher gas prices."	19-20
Gas Daily	↓	Long	Calling the gas market "unrelentingly ugly" Marshall Adkins cut the 2011 gas price forecast to \$4.25/Mcf from \$4.75/Mcf and its long-term gas forecast to \$5.50/Mcf from \$6.00/Mcf.	21
Gas Daily	↓	Long	Deutsche Bank has reduced their 2011 price forecast from \$6/MMBtu to \$4.50/MMBtu. Citing gas prices already under pressure from low-cost shale production and depressed industrial demand, price could move lower if predictions of increased LNG import materialize.	22
BNP Paribas	↓	Long	"There is a strong chance that the market will not stay in the \$3.82 area for long based on the fact there is nothing unusual in the 6 to 15 day forecast and there are no hurricanes anywhere at the moment, we think that a move lower is eminent and the \$3.50 level will be tested within the next week to 10 days."	23
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$4.617 Winter 2010/11: \$4.774	↓	Long	The projected Henry Hub annual average spot price is expected to be \$4.54 per MMBtu in 2010, a \$60/MMBtu increase over the 2009 average and \$4.78 per MMBtu in 2011.	24
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↑	Short	Closed at \$4.33	25
Summer 2011 Strip Chart	↑	Short	Closed at \$4.44	26
<b>Economy</b>				
Demand	↑	Long	EIA projects total natural gas consumption will average 65 Bcf/day in 2010 (4% increase from 2009) and remain flat in 2011. Growth in gas used for power generation and industrial users account for the majority of the increase from 2009 to 2010. Power generation surged this year because of the 23% increase in U.S. cooling degree-days. Gas used for power generation is expected to decline 2% in 2011 as a result of near-normal summer temperatures. Forecasted industrial-sector consumption growth slows to 1.2% in 2011.	27
Supply	↓	Long	EIA expects total marketed natural gas production to increase by 1.2 Bcf/d (2.1%) to 61.2 Bcf/d in 2010 and decrease by 1.2 Bcf/d (1.9%) in 2011 as relatively low prices depress drilling activity. EIA forecast gross pipeline imports of 9.2 Bcf/d in 2010, an increase of 1.3% from 2009.	27
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$77 per barrel in the fourth quarter of 2010, rising to \$84 next year. EIA expects world oil prices will rise slowly as world oil demand increases because of projected global economic growth, slower growth in non-OPEC oil supply, and continued production restraint by OPEC.	27
<p><b>Meeting Minutes: 10th Floor North Conference Room - 1:00 pm</b>  Attendees: Mitch Martin, Mike Brumback, Terry Bates, Steve Niederbauer</p> <p>Reviewed the results of the transactions resulting from the August 24, 2010 Hedging Meeting. Set the pricing at \$██████ for the Kentucky storage-like service for 2011-2012. 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. Discussed the alternative of fixing the price for refill of Texas Gas Storage at one time period instead of pricing a portion of the refill for each Winter month on the day the Expected Gas Cost is calculated. Consensus was reached that additional declines in prices are likely and at this time no additional hedging activity is necessary.</p>				

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 09/22/10



- Load Forecast
- City Gate Load Forecast (Mcf)
- TCO FSS Injections (Mcf)
- Total Requirements (Mcf)
- TCO FSS Withdrawals (Mcf)
- Tennessee "Withdrawals" (Mcf)
- Total Withdrawals (Mcf)
- Amount Hedged (Bbl/day)
- Fixed Price
- Fixed Price
- Fixed Price
- Collar
- Fixed Price
- Cost Avoidance
- Fixed Price
- Fixed Price
- Fixed Price
- Fixed Price
- Total Hedged (Bbl/day)
- Total Hedged (dth)
- Types of Hedging Products (d)
- Fixed Price
- Price Caps
- No-Cost Collars
- Embedded Hedged Cost
- Winter
- Summer
- Estimated EGC per Dth at City Gate
- Estimated System Supply (Gross)
- Hedged % of System Supply
- Seasonal % of System Supply
- Amt. Hedged with Storage @ City Gate
- Hedged (City Gate) (Dth)
- Storage Withdrawal (Dth)
- Market (Dth)
- Total (incl. Injections) (Dth)
- % Hedged & Storage
- Seasonal %

5

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 09/22/10

Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11

**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 (dtb/day)**

Fixed Price  
 Fixed Price  
 Collar ( )  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar ( )  
 Total Hedged (dtb/day)  
 Total Hedged (dtb)

**Types of Hedging Products (t)**

Fixed Price  
 Price Caps  
 No-Cost Collars  
 Embedded Hedged Coat  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Amt Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 09/22/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth/day)</b>												
Fixed Price												
Fixed Price Collar												
Total Hedged (dth/day)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>Ant Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 09/22/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

**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 (dt/day)**

TBD

TBD

Total Hedged (dt/day)

Total Hedged (dt/h)

**Types of Hedging Products (1)**

Fixed Price

Price Caps

No-Cost Collars

Embedded Hedged Cost

Winter

Summer

**Estimated EGC per Dth at City Gate**

Estimated System Supply (Gross)

Hedged % of System Supply

Seasonal % of System Supply

**Amt Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)

Storage Withdrawal (Dth)

Market (Dth)

Total (incl. injections) (Dth)

% Hedged & Storage

Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

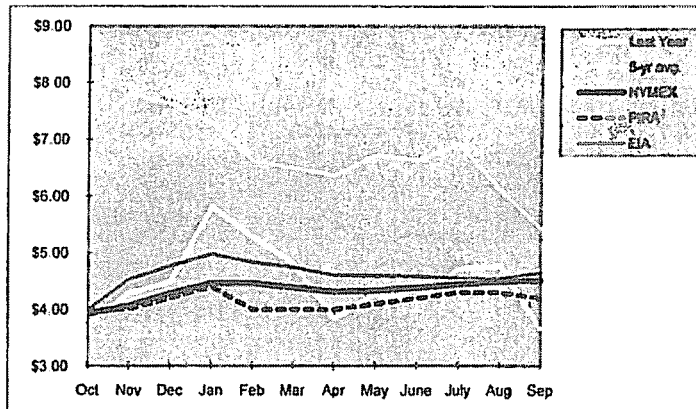
9/22/2010

Duke Energy Kentucky  
 Hedging Program  
 Current Position

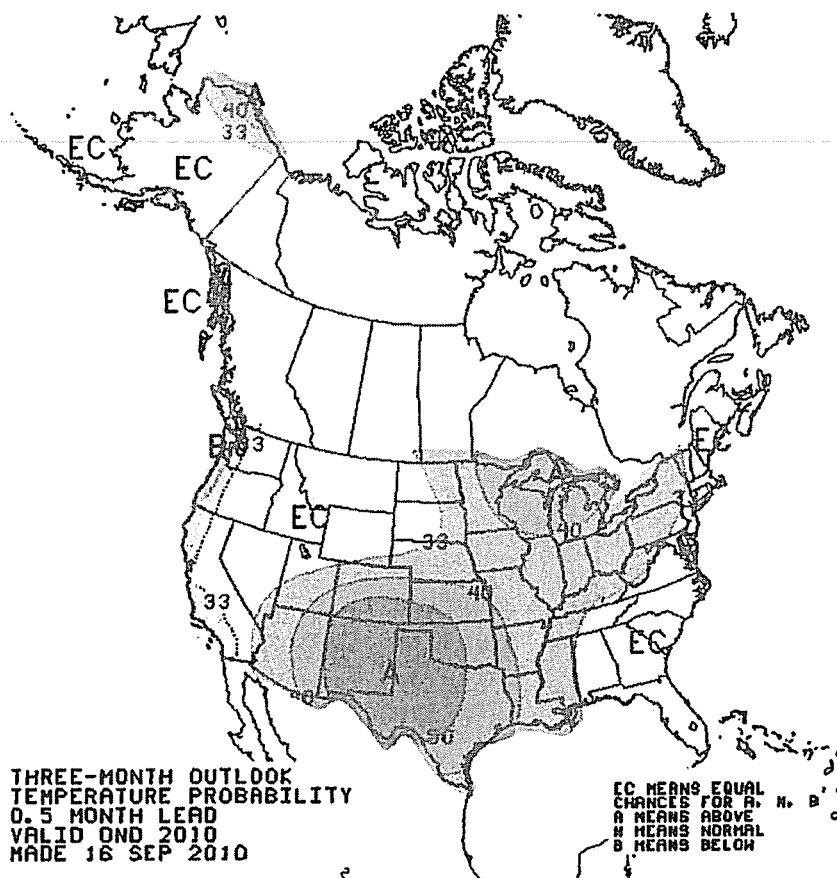
Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (10/31/10)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Apr-10					
May-10					
Jun-10					
Jul-10					
Aug-10					
Sep-10					
Oct-10					
Summer 2010					
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2010					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2010					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2010					

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

Historic Prices: NYMEX Closing Price						Hedged Prices		
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)		PIRA 26-Aug-10	EIA 8-Sep-10	NYMEX 22-Sep-10	Ohio	Kentucky
Oct	\$7.15	\$3.73			\$3.990	\$3.919		
Nov	\$7.80	\$4.29			\$4.530	\$4.067		
Dec	\$7.62	\$4.49			\$4.770	\$4.287		
Jan	\$7.28	\$5.81			\$4.980	\$4.462		
Feb	\$6.61	\$5.27			\$4.840	\$4.466		
Mar	\$6.49	\$4.82			\$4.750	\$4.391		
Apr	\$6.37	\$3.84			\$4.610	\$4.313		
May	\$6.72	\$4.27			\$4.600	\$4.338		
June	\$6.63	\$4.16			\$4.590	\$4.388		
July	\$6.92	\$4.72			\$4.560	\$4.451		
Aug	\$6.10	\$4.77			\$4.550	\$4.498		
Sep	\$5.43	\$3.65			\$4.650	\$4.522		
12 Month Avg	\$6.76	\$4.48			\$4.618	\$4.342		
Summer Average					\$4.507	\$4.347		
Winter Average					\$4.774	\$4.334		





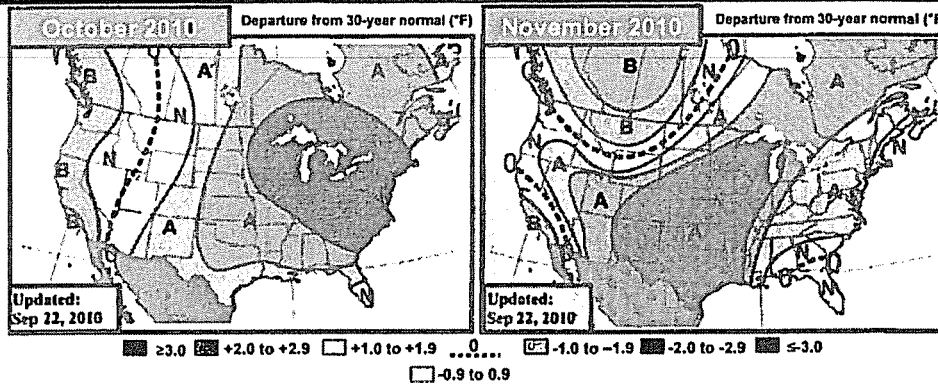




# EarthSat's 30-60 Day Outlook

Wednesday, September 22, 2010

Forecaster: SS/BH/TH



**Previous**  
 Slightly Warmer Midwest  
 Warm Dominated Pattern to Persist

Changes were minimal overall for this update, but included some slight warm adjustments in the Midwest and marginal cool changes in the Northwest. The warm dominated pattern is still expected to be driven by a combination of the moderate/strong La Niña, increasingly negative Pacific Decadal Oscillation (PDO), and a positive Eastern Pacific Oscillation (EPO). All three of these indicators correlate to a similar pattern over the US, as shown below. Some cooler risks associated with blocking cannot be ruled out, as we saw at times in September.

**Oct GWHDD\* Forecasts** \*10Y Normal updated to '00-09

Oct 2010 Fcst:	248.5	10Y Normal*	289.6
		30Y Normal	289.1
		Oct-2009	351.6

\*\*PWCCD Forecast: 73 No Change \*National Population-Weighted HDDs

**Previous**  
 Slightly Cooler US  
 Still Very Warm Across South-Central States

The November forecast was adjusted just slightly in the cooler direction over both the northern Rockies and the Northeast. This minor adjustment in the Northeast fits well with the La Niña correlation, which shows little signal over this region. The cooler northern Rockies is a strong fit to the cool Pacific as well, both in terms of La Niña and the -PDO. Warm correlations over the South-Central US are quite high among these leading indicators, increasing confidence in this region. Like October, the November risks can be attributed to uncertainty surrounding potential blocking, which could further cool the northern tier.

**Nov GWHDD\* Forecasts** \*10Y Normal updated to '00-09

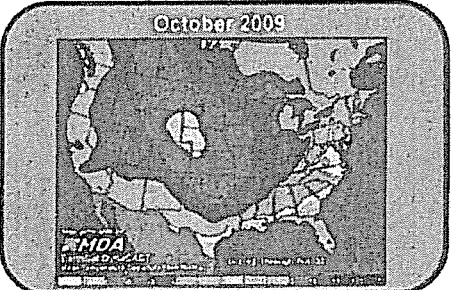
Nov 2010 Fcst:	535.0	10Y Normal*	534.4
		30Y Normal	575.6
		Nov-2009	472.2

Change: +1.0 \*National Gas-Weighted HDDs

**Tracking September**

Final 60 Day Outlook    Final 30 Day Outlook    September

Final 60 Day Outlook: The end of September saw a continuation of the warm pattern, with some of the best areas from Texas into the Southeast and Midwest, which has been mostly above normal as expected and also, the Midwest where temperatures have generally been below normal for most of the month. On the other hand, the pattern was generally above normal in the Northeast and the South-Central US, which was the warmest part of the region. As a result, the September, the 10 Day Outlook, the 30 Day Outlook, and the 60 Day Outlook were all in the warm to hot range, with the 60 Day Outlook being the warmest and the 10 Day Outlook being the coolest.



# Gas Daily

Tuesday, September 21, 2010

## WSI: US can expect warm weather in October, cold end to year

Private weather forecaster Weather Services International said late Monday that the US can expect warmer-than-normal weather overall in October before a cool-down in most regions for the last two months of the year.

"The combination of the La Niña event, a relatively cold north Pacific and a record warm north Atlantic are quite bullish for a very warm October, especially across the northeastern quarter of the country," said WSI Chief Meteorologist Todd Crawford. "However, the historically persistent negative phase of the North Atlantic Oscillation and the strength of the North Pacific climate signals suggest that the widespread warmth in October will be shortlived, with more widespread cold across the eastern US in November and December."

Overall, WSI predicts 1,776 gas-weighted heating degree days through December, within 1% to 2% of both last year and the 1971-2000 mean.

*In October alone, WSI predicts warmer-than-normal weather in every region except the Southeast and Northwest. For November, WSI says the Southeast, Northwest and Southwest will be cooler than normal. Then in December, the Northeast, North Central and Northwest regions, as well as coastal California, should be cooler, with warmer-than-normal conditions expected in the Southeast, South Central and Southwest regions. — Stephanie Seay*

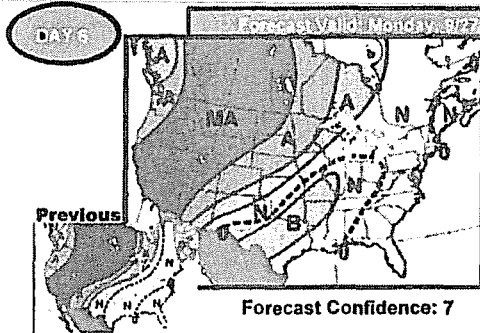


# EarthSat's 6-10 Day Forecast-Detailed

Wednesday, September 22, 2010

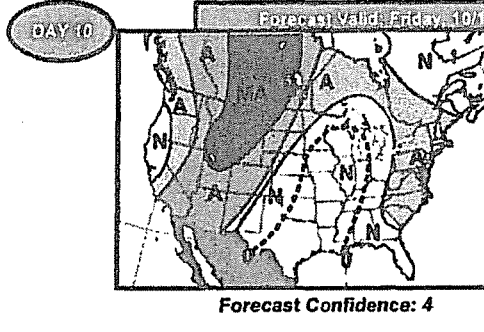
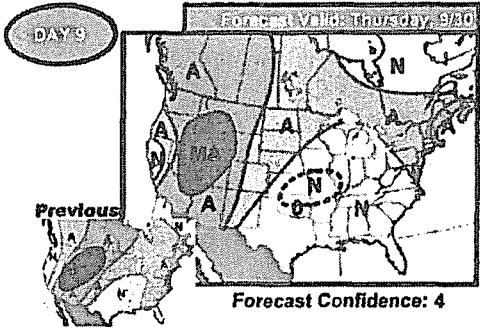
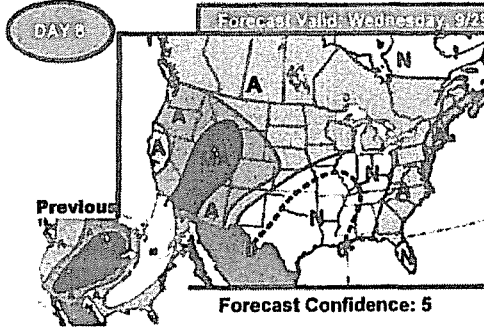
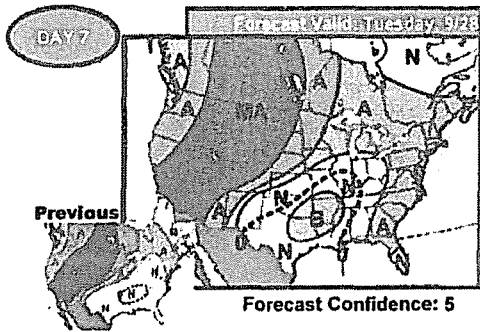
Forecaster: BH/AC

## Forecast Temperature Deviations

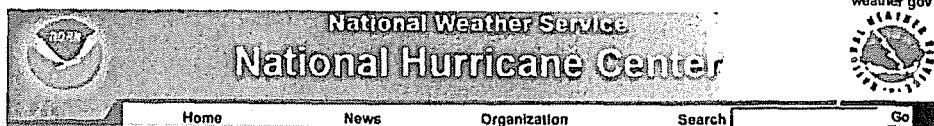


**Today's Forecast:**  
 Much Of West Remaining Quite Warm  
 Cooler Conditions In South From Upper Level Low

The biggest concern to the forecast is the upper level low that will be spending some time in the South. There will be some isolated cooler conditions associated with this feature, but points north and east of this system could be warmer than expected for the first half of the period. This may push stronger above normal readings into the Northeast. In the West, the warm risk continues to preside over the region with more much above normal coverage possible through much of the period. Late in the period, a high pressure system diving into the Plains may provide below normal readings to parts of the region. However, the origin of this high pressure is not a very cold one.



A +3F to +4F  
  A +5F to +7F  
  MA +8F to +14F  
  SA +15 or Higher  
 B -3F to -4F  
  B -5F to -7F  
  MB -8F to -14F  
  SB -15 or Lower



Local forecast by  
"City, St" or "ZIP"

### Atlantic Tropical Weather Outlook

Alternate versions  
Text-only | PDA | Cell

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Satellite | Radar  
Aircraft Recon  
Advisory Archive  
Experimental  
Mobile Products  
E-mail Updates  
Audio/Podcasts  
GIS Data | RSS  
Help with Advisories

Marine Forecasts  
Atlantic and E Pacific  
Analysis Tools  
Gidded Marine  
Help with Marine

Hurricane Awareness  
Be Prepared | Learn  
Storm Surge  
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Research  
Hurricane Hunters  
Saffir-Simpson Scale  
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Glossary/Acronyms  
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Breakpoints

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Seasons Archive  
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ASNT20 KNHC 221141  
TWOAT  
TROPICAL WEATHER OUTLOOK  
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL  
800 AM EDT WED SEP 22 2010

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

THE NATIONAL HURRICANE CENTER IS ISSUING ADVISORIES ON TROPICAL STORM LISA...LOCATED ABOUT 450 MILES WEST-NORTHWEST OF THE CAPE VERDE ISLANDS.

SURFACE OBSERVATIONS...SATELLITE IMAGES...AND RADAR DATA FROM CURACAO INDICATE THAT AN AREA OF LOW PRESSURE HAS FORMED OVER THE SOUTH-CENTRAL CARIBBEAN SEA. THIS SYSTEM HAS THE POTENTIAL TO BECOME A TROPICAL DEPRESSION LATER TODAY OR TOMORROW AS IT MOVES WESTWARD AT 15 MPH TOWARD THE WESTERN CARIBBEAN. THERE IS A HIGH CHANCE...60 PERCENT...OF THIS SYSTEM BECOMING A TROPICAL CYCLONE DURING THE NEXT 48 HOURS. REGARDLESS OF ADDITIONAL DEVELOPMENT...SQUALLS ARE LIKELY TO OCCUR OVER THE NETHERLANDS ANTILLES...AND THE NORTHERN COASTS OF WESTERN VENEZUELA AND COLOMBIA TODAY. THIS SYSTEM ALSO HAS THE POTENTIAL TO PRODUCE HEAVY RAINS OVER PORTIONS OF CENTRAL AMERICA IN A COUPLE DAYS.

ELSEWHERE...TROPICAL CYCLONE FORMATION IS NOT EXPECTED DURING THE NEXT 48 HOURS.

\$\$  
FORECASTER AVILA/BERG

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Released: September 10, 2010 at 10:30 a.m. (eastern time) for the week ending September 10, 2010  
First Release: September 23, 2010

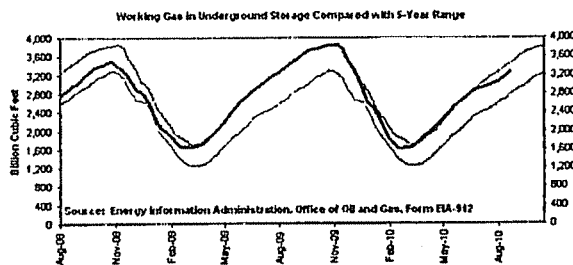
Working Gas In Underground Storage, Lower 48 other formats: [Summary.Txt](#) [CSV](#)

Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	09/10/10	09/03/10	Change	Year Ago (09/10/09)		5-Year (2003-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,766	1,712	54	1,870	-5.6	1,759	0.4
West	491	478	13	471	4.2	418	17.5
Producing	1,010	974	36	1,108	-8.8	899	12.3
<b>Total</b>	<b>3,267</b>	<b>3,164</b>	<b>103</b>	<b>3,449</b>	<b>-5.3</b>	<b>3,075</b>	<b>6.2</b>

Notes and Disclaimers

**Summary**  
Working gas in storage was 3,267 Bcf as of Friday, September 10, 2010, according to EIA estimates. This represents a net increase of 103 Bcf from the previous week. Stocks were 182 Bcf less than last year at this time and 192 Bcf above the 5-year average of 3,075 Bcf. In the East Region, stocks were 7 Bcf above the 5-year average following net injections of 54 Bcf. Stocks in the Producing Region were 111 Bcf above the 5-year average after a net injection of 36 Bcf. Stocks in the West Region were 73 Bcf above the 5-year average after a net addition of 13 Bcf. At 3,267 Bcf, total working gas is within the 5-year historical range.

- Data
- History (KLS)
- 5-Year Averages, Maximum, Minimum, and Year-Ago Stocks (KLS)
- References
- Methodology
- Differences Between Monthly and Weekly Data
- Revision Policy
- Related Links
- Storage Basics
- Natural Gas Weekly Update
- Natural Gas Navigator



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2003 through 2009.  
Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

# Gas Daily

Friday, September 17, 2010

## Triple-digit build ends 13-week storage slump

As a particularly sweltering summer across much of the US comes to an end, so, too, has the string of below-average weekly gas storage injections.

The Energy Information Administration on Thursday reported a 103-Bcf build for the week ending September 10, lifting nationwide stocks to 3.267 Tcf. The triple-digit injection marks the first above average build in 13 weeks, halting the erosion of the surplus over the five-year average, which had dwindled to 166 Bcf as of September 3.

Thursday's reported injection, which was well above consensus expectations, showed a reversal in that trend. Now, analysts say the evaporating heat means the market will start to see the strong production growth that the hotter-than-normal summer had previously masked.

Ron Denhardt, analyst at Strategic Energy and Economic Research, said there has been a lot of uncertainty about the underlying supply/demand balance. "Last week and this week suggests it is quite loose, which is what we suspected, but it wasn't showing up in the data," Denhardt said.

"I think we will see continued bearish [storage] reports through the rest of the non-heating season," he added. "Looking at it without hurricanes, we should end up at 3.75 Tcf" as of the end of the injection season, or slightly below last year's 3.807 Tcf peak.

Pax Saunders, an analyst at Gelber & Associates, said that until the past two reports the producing region had seen primarily net withdrawals this summer — not injections.

While many in the marketplace attributed the unusual drawdowns to the extreme heat in the region, Saunders said they likely were a function of the weak premium in winter-month gas pricing, which took away the incentive to inject into storage.

Until last week, Henry Hub cash was trading above the NYMEX contract, but when that trend reversed itself, it gave marketers added incentive to store gas for the winter, he said.

Saunders also believes storage inventories will keep on making up lost ground through the remainder of the injection season, which ends around November 1. He noted, however, that the October and November NYMEX contracts have already priced in that theory, though the winter-month NYMEX contracts might begin to decline. — *Cheryl Buchta*

**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**August 26, 2010 Release**

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008		Average 2009	\$	Average 2010	\$	Average 2011	
Summer 2008		Summer 2009	\$	Summer 2010	\$	Summer 2011	
Winter 2008- 2009		Winter 2009- 2010	\$	Winter 2010- 2011	\$		



**GAS PRICE SCORECARD: OCTOBER 2010 – MARCH 2011**

Bearish Neutral Bullish  


U.S. Supply Issues	Outlook	Commentary
U.S. Production		A production growth slowdown of late partly reflects anomalies that inflated expansion in the early stages of 2010. But Y/Y production gains should more than offset even 100 BCF of storm losses over the next two months.
LNG Imports		LNG imports have dropped to contractual minimums with little change foreseen in the months ahead since Henry Hub prices will remain too low to justify sales into the GOM.
Canadian Exports		The resiliency of Canadian exports has depended on sub-normal storage refills, but widening storage deficits should reverse that process at the expense of exports to the U.S.
Mexican Pipeline Imports		Signs of a slowdown in domestic production growth are helping to restore pipeline imports from the U.S. to historic norms to satisfy expanding demand.
Storage Levels		Thanks to the summer 2010 heat wave, sizable Y/Y storage deficits have developed ahead of the final two months of the injection season. But storage deficits should give way to similar Y/Y levels during 1Q11.
U.S. Demand Issues	Outlook	Commentary
Economy		Near-term U.S. economic growth looks increasingly shaky in the aftermath of negative surprises, but the manufacturing sector outlook remains decidedly healthier, especially where gas-intensive industries dominate.
Electric Generation		More gas price markdowns are needed to make coal-to-gas substitution comparable with a year ago. Without the continued benefit of the summer heat wave, the EG gas burn should remain close to year-earlier levels.
Industrial Sector		The V-shape recovery of industrial gas demand from last year's massive losses is expected to taper down partly from much harder Y/Y comparisons and with more "gas intensity" increases doubtful.
Res/Com Heating		PIRA's "Hybrid" (i.e. the average of 30-year and 10-year normal HDDs) points to moderate Y/Y losses concentrated toward the late stages of the 2010-2011 heating season.
Other Issues	Outlook	Commentary
NYMEX Prices and Speculation		After narrowing, net non-commercial NYMEX shorts have expanded to ~151 thousand lots. But the "hot money" funds remain capable of weighing further on gas futures given the late April record net short position of ~205 thousand lots.
Overall Assessment	Outlook	Commentary
Price Outlook		Even if tropical storms help trim storage builds, a curtailment of horizontal gas drilling must precede sustainably higher gas prices. Gas-on-gas competition should put greater downward pressure on front-month contracts than later-dated contracts until such a drilling "correction" has been firmly established.

# Gas Daily

Tuesday, September 14, 2010

## Analyst says supply to overwhelm demand in 2011

**Calling the gas market "unrelentingly ugly," investment bank Raymond James & Associates said Monday it has cut its 2011 gas price forecast to \$4.25/Mcf from \$4.75/Mcf and its long-term-gas forecast to \$5.50/Mcf from \$6/Mcf.**

**"The key supply/demand fundamentals in 2011 — core supply, industrial demand, and electrical demand — look even worse today than they did six months ago,"** Raymond James analyst Marshall Adkins said in a report.

**The four variables influencing the market for next year, Adkins said, are a sharp increase in gas supply compared with 2010; a modest rise in industrial and power generation demand; additional coal-to-gas switching; and a return to normal weather, which should reduce year-over-year gas consumption.**

That trend could yield a "theoretical summer-ending storage of over 4.2 to 4.4 Tcf" in 2011, the report said. "This means the market will need to price out about 300 Bcf, or roughly 1 Bcf/d, of natural gas supply. Since that probably won't happen, at \$4.75, we've lowered our 2011 natural gas price forecast from \$4.75/Mcf to \$4.25/Mcf."

**As a result of "stubbornly high gas drilling activity and increasing well productivity," US gas supply has seen "robust gas supply growth since late 2009," Adkins pointed out. Even though that growth trend has recently flattened, "we believe the stagnation is bottleneck-related (pipelines, frac crews, etc.) and temporary in nature."**

**Accordingly, the firm expects gas supply will resume its upward march, increasing 3.5 Bcf/d on a year-to-year basis through 2011.**

Despite tepid projections for the US economy, Adkins said he anticipates a 500,000 Mcf/d increase in economy-related power generation demand next year, as well as additional fuel-switching.

"China's voracious appetite for coal has left Europe in need of more thermal coal," Adkins said. "Since they will likely look to the US to fire their coal plants, we expect increased US coal exports to increase US natural gas demand by about 1 Bcf/d in 2011."

But all of that will not be enough to sustain prices, according to Adkins. "Even assuming a robust increase in the economy-related gas demand in 2011, the gas market will still need additional coal switching or production shut-ins next year," he said. "This will likely require prices much lower than our prior \$4.75/Mcf forecast." — *Rodney White*

# Gas Daily

Thursday, September 16, 2010

## Report: Gas prices may be pressured lower by LNG imports in 2011

US gas prices, already under pressure from low-cost shale production and depressed industrial demand, could move even lower next year if predictions of increased liquefied natural gas imports materialize, Deutsche Bank analysts said in slashing their 2011 price forecast to \$4.50/MMBtu from \$6/MMBtu.

In a note to clients made public Tuesday, the bank said that while the industry has largely viewed 2009 and 2010 as a cyclical low for prices, 2011 is "potentially a worse year to come."

"Much will depend on the behavior of Qatar in bringing LNG into the market, but our view is that volumes are highly likely to arrive," Deutsche Bank said. And given that US demand has been relatively impervious to lower prices, any boost in LNG imports will force higher-cost domestic production to shut in.

The analysts argued that volumes of Qatari LNG have been understated and will create a larger impact than expected. "We believe the market is underestimating the growth in incremental LNG supply that Qatar will supply over the coming year, doubling the US LNG imports to 2.6 Bcf/d into a market we expect to remain oversupplied," the report said. Demand recovery "is the only way to avoid a very painful two years, 2011 and 2012, for marginal US gas producers, [and] we are not convinced it will happen." --- Adam Bennett



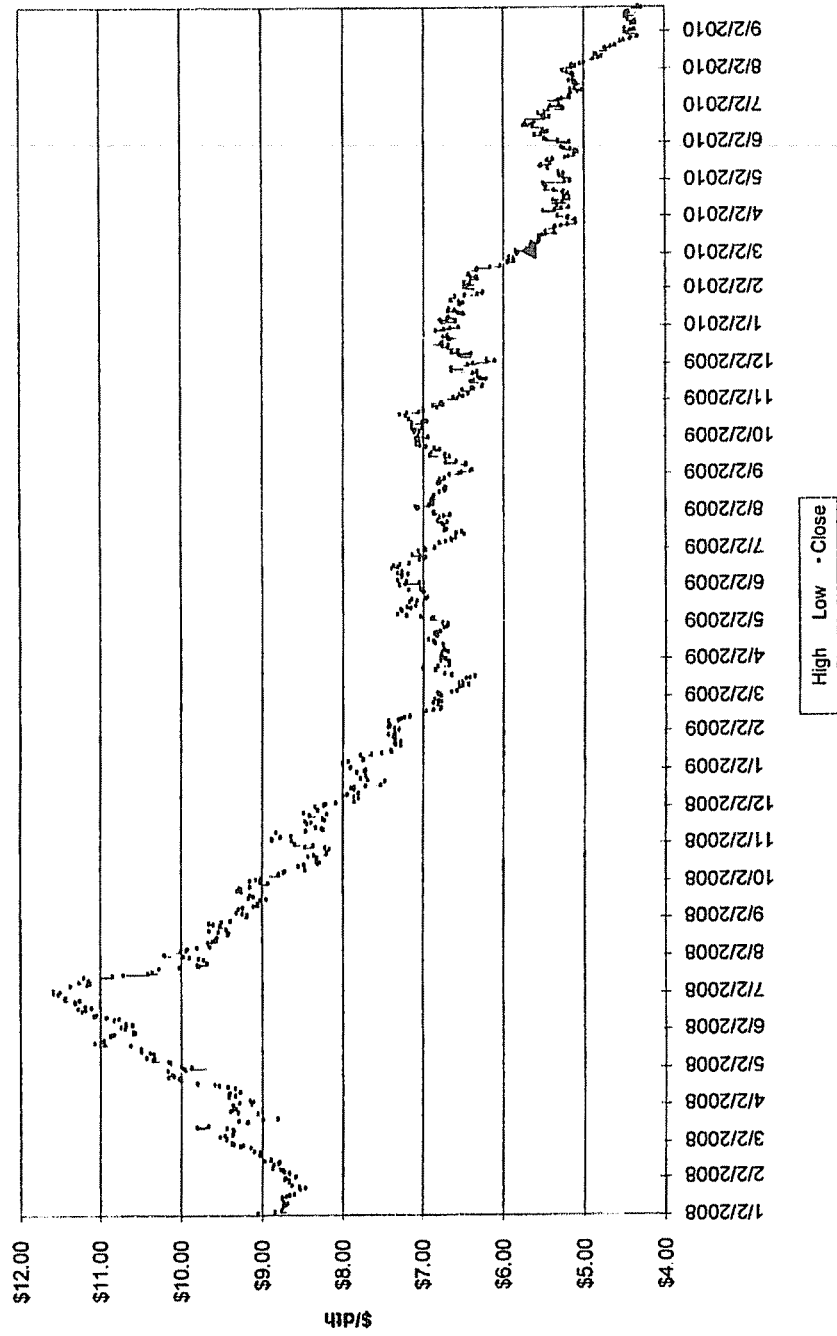
September 20, 2010

Natural gas fell over 20 cents today on moderate volume and a rise in volatility. The market started to fall last night and never recovered. **Despite the decent move today, it was fairly quiet as we slid down into a zone that the market perceives as the area where it belongs based on all fundamental information.** That is why the increase in volatility is a little confusing. Normally, dropping into a zone like this would be accompanied by a drop in volatility. We are still 6 business days away from October expiration and it rose 5.2% in volatility and even November rose 2.2%. **This leads us to believe that there is a strong chance that the market will not stay in this area for long and based on the fact that there is nothing usual in the 6 to 15 day forecast and there are no hurricanes anywhere at the moment, we think that a move lower is eminent and the \$3.50 level will be tested within the next week to ten days.**

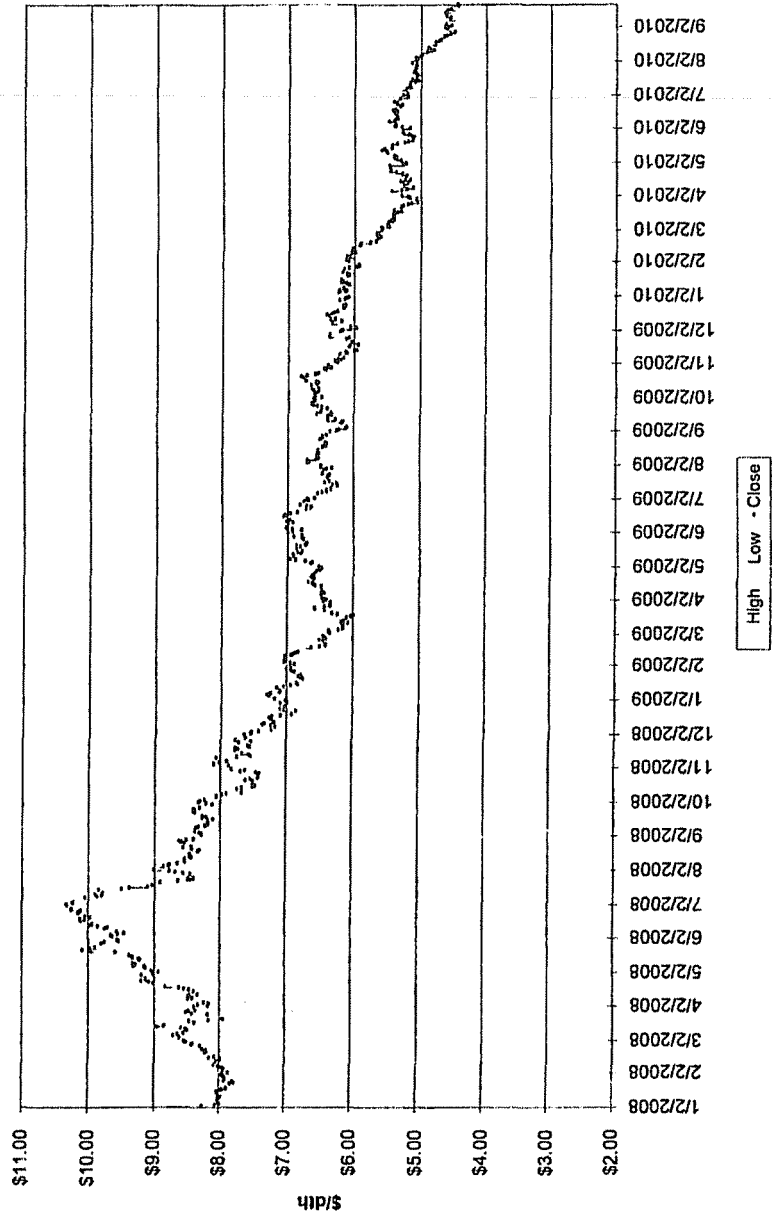
**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**September 8, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	4.98
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	4.84
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	4.75
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	4.61
May-08	11.27	May-09	3.83	May-10	4.14	May-11	4.60
Jun-08	12.69	Jun-09	3.80	Jun-10	4.80	Jun-11	4.59
Jul-08	11.09	Jul-09	3.38	Jul-10	4.63	Jul-11	4.56
Aug-08	8.26	Aug-09	3.14	Aug-10	4.32	Aug-11	4.55
Sep-08	7.67	Sep-09	2.97	Sep-10	3.89	Sep-11	4.65
Oct-08	6.74	Oct-09	4.00	Oct-10	3.99	Oct-11	4.76
Nov-08	6.68	Nov-09	3.66	Nov-10	4.53	Nov-11	5.02
Dec-08	5.82	Dec-09	5.34	Dec-10	4.77	Dec-11	5.24
Average 2008	\$ 8.862	Average 2009	\$ 3.943	Average 2010	\$ 4.545	Average 2011	\$ 4.763
Summer 2008	\$ 9.700	Summer 2009	\$ 3.516	Summer 2010	\$ 4.257	Summer 2011	\$ 4.617
Winter 2008- 2009	\$ 5.242	Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.774		

Winter Strip Nov10 - Mar11



Summer Strip 2011



## Short-Term Energy Outlook

September 8, 2010 Release  
(Next update October 13, 2010)

### Natural Gas

**U.S. Natural Gas Consumption.** EIA expects total natural gas consumption will increase by 4.0 percent from 2009 levels to 65.0 billion cubic feet per day (Bcf/d) in 2010 and then remain relatively flat in 2011. The power generation and industrial sectors account for the bulk of the projected increase in consumption in 2010 over 2009.

**Projected consumption of natural gas for power generation grows by nearly 1.3 Bcf/d to 20.2 Bcf/d in 2010.** The use of natural gas for electric power generation surged this year because of the 23 percent increase in U.S. cooling degree-days, resulting in an over 300 Bcf (11 percent) increase in natural gas consumption in the power generation sector over the last 4 months compared with the same period last year. Projected natural gas consumption in the power generation sector falls by 0.4 Bcf/d (2.0 percent) next year because of the expected return to near-normal summer temperatures.

Projected use of natural gas in the industrial sector also grows significantly in 2010, increasing by 6.4 percent, from 16.8 Bcf/d in 2009 to 17.9 Bcf/d in 2010. Forecasted industrial-sector consumption growth slows to 1.2 percent in 2011 as the projected increase in the natural-gas-weighted industrial production index slows from 7.0 percent in 2010 to 2.1 percent in 2011.

**U.S. Natural Gas Production and Imports.** EIA predicts total marketed natural gas production will increase by 1.2 Bcf/d (2.1 percent) to 61.2 Bcf/d in 2010. Projected production declines gradually in 2011, falling by 1.2 Bcf/d (1.9 percent) as relatively low prices depress drilling activity.

A total of 7.9 Bcf of natural gas production was shut in because of hurricanes during June, July, and August, compared with EIA's original projection of 57.4 Bcf for those 3 months. Nevertheless, the next 2 months are typically the height of the hurricane season and additional outages are included in this forecast. Based on the latest NOAA hurricane forecast, during the final 3 months of the hurricane season this forecast includes 66.3 Bcf in outages with almost two-thirds of that total occurring in September.

EIA forecasts gross pipeline imports of 9.2 Bcf/d in 2010, an increase of 1.3 percent from 2009. Forecasted imports of liquefied natural gas (LNG) average 1.25 Bcf/d in 2010 and 1.32 Bcf/d in 2011. Low U.S. prices have discouraged imports, and ample domestic natural gas production has reduced the need for large quantities of LNG despite significantly higher consumption.

### Global Crude Oil and Liquid Fuels

**Crude Oil and Liquid Fuels Overview.** For the third month in a row, EIA's view of the world oil market remains largely unchanged. Despite a slight reduction in forecast global demand growth and the drop in world oil prices in recent weeks, the projected gradual reduction in global oil inventories over the forecast period should lend support to firming oil prices. World oil prices are expected to rise slowly as global economic growth leads to higher global oil demand, growth in non-OPEC oil supply slows in 2011, and members of the Organization of the Petroleum Exporting Countries (OPEC) continue to support world oil prices.

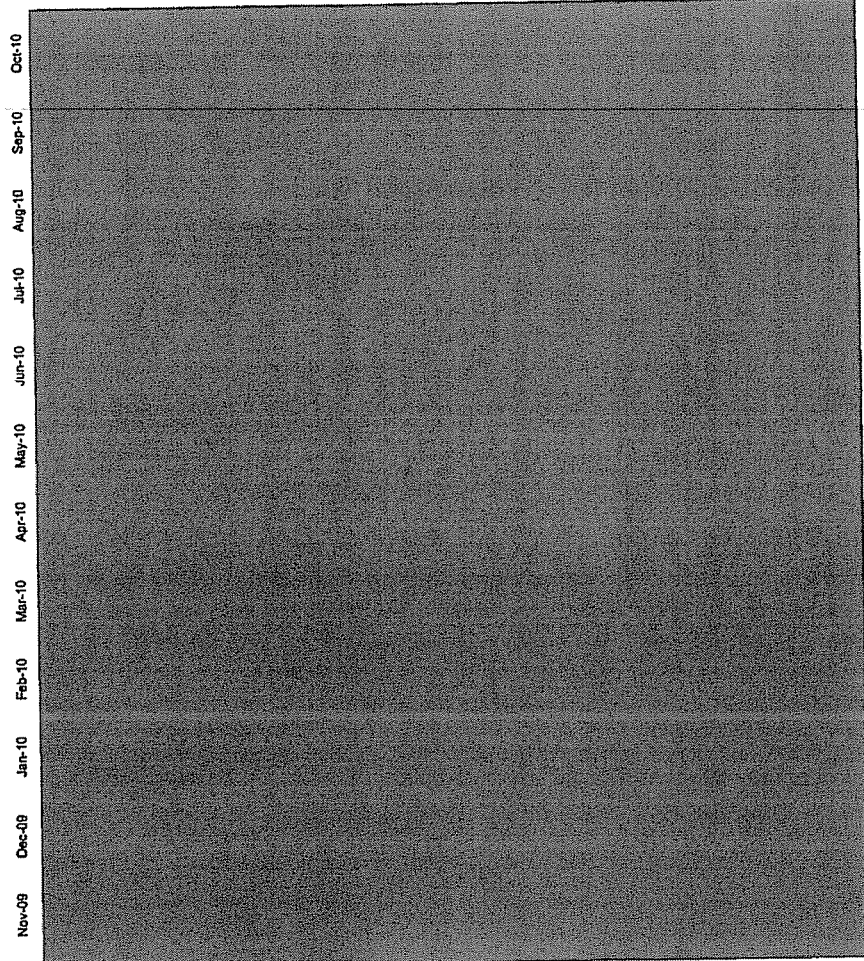
**EIA projects that the West Texas Intermediate (WTI) spot price, which averaged \$77 per barrel in August, will average \$77 per barrel in the fourth quarter of 2010 and \$82 per barrel in 2011, slightly below the forecasts in last month's Outlook.**



Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
October 20, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Dec 10–Feb 11)	↓	Long	NOAA predicting above average temperatures for December 2010–February 2011 for southern half of the CONUS with below normal temperatures in northern area of CONUS from Minnesota to West coast.	12
Mid Term Forecast (30-60 days)	↓	Long	November is predicted to be normal and December weather is predicted to be 1.5% warmer than normal based on 10 year normals.	13
Short Term Forecast (6-10 days)	↔	Short	Much of CONUS Above normal early in the period, Below normal temperatures move west to the Mississippi Valley by the end of the period.	14
Tropical Storm Activity	↔	Short	40% chance that a low pressure system located between Honduras and the Cayman Islands will become a tropical cyclone in the next 48 hours.	15
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage Injections for the week ending October 8th were 91 BCF. Storage levels are at 3,590 TCF which is 3.2% lower than last year and 7.4% higher than the 5 year average.	16
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011: [REDACTED] Winter 2010/11: [REDACTED]	↑↓	Long	GAS PRICE SCORECARD: November 2010–March 2011 PIRA's price outlook is Bearish. "The intensive pace of horizontal gas drilling over the past month sets the stage for even more bearish U.S. fundamentals next year."	17-18
Gas Daily	↓	Long	US gas supply and demand are expected to remain out of balance through the end of 2012, keeping downward pressure on prices. Drilling to hold acreage for production, along with cash-and-carry agreements with joint-venture partners and asset sales, are keeping gas flowing despite bearish signals.	19
Gas Daily	↓	Long	Liquids-drilling frenzy causing a glut of associated gas that continues to drive prices lower. "Gas is an afterthought—the productivity of liquids is making a good return on its own." Several producers have said they could make a tidy profit even at sub-\$1/MMBtu gas prices.	20-21
Gas Daily	↔	Long	Gas supplies are adequate to meet consumer needs this heating season even if the US experiences a repeat of last winter's record demand. "You'd have to build an incredible disaster scenario for the coming winter heating season to believe that we're not going to be able to physically supply the market this year."	22
Gas Daily	↔	Long	Gas prices should remain relatively stable this winter as robust production meets higher demand from the industrial and electricity sectors. "Assuming we don't get any large weather extremes, more than what we anticipate, we actually think we can handle some pretty wide fluctuations in the weather with steady prices."	23
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$4.411 Winter 2010/11: \$4.518	↓	Long	The projected Henry Hub annual average spot price is expected to be \$4.478 per MMBtu in 2010, a \$.54/MMBTU increase over the 2009 average and \$4.582 per MMBtu in 2011.	24
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↓	Short	Closed at \$3.94	25
Summer 2011 Strip Chart	↓	Short	Closed at \$4.24	26
<b>Economy</b>				
Demand	↑	Long	EIA projects total natural gas consumption will increase by 4.6% and 0.1% in 2010 and 2011, respectively. Growth in gas used for power generation and industrial users account for the majority of the increase from 2009 to 2010. The projected 0.1% increase in total natural gas consumption in 2011 is the result of a 1% increase in residential, commercial and industrial natural gas consumption, offset by a 1% decline in electric power sector consumption.	27
Supply	↓	Long	EIA expects total marketed natural gas production to increase 3.5% in 2010 and decrease by 1.5% in 2011. EIA forecast gross pipeline imports of 9.2 Bcf/d in 2011, an increase of 1.5% from 2010.	27
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$80 per barrel this winter, \$2.50-per-barrel increase over last winter. EIA expects world oil prices will rise gradually as global economic growth leads to higher global oil demand and growth in non-OPEC oil supply slows in 2011.	27
<p>Meeting Minutes: 10th Floor North Conference Room - 1:00 pm Attendees: Jeff Korn, Mike Brumback, Terry Bates, Joachim Fischesser, Steve Niederbauer</p> <p>Discussed market fundamentals including weather (end of the hurricane season and lack of hurricane activity), storage levels, PIRA and EIA price forecasts, analysts projections of gas prices, amount of supply available, economic influences on supply and demand and the current positions of the DEO and DEK Hedging Programs. Based on discussions, a decision was made that no additional hedging is necessary at this time.</p>				

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 10/19/10



Nov-09 Dec-08 Jan-10 Feb-10 Mar-10 Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10

**Load Forecast**  
 City Gate Load Forecast (Mcf)  
 TCO FSS Injections (Mcf)  
 Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf)  
 Tennessee "Withdrawals" (Mcf)  
 Total Withdrawals (Mcf)

**Amount Hedged (dth/day)**  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar  
 Fixed Price  
 Cost Averaging  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Total Hedged (dth/day)

**Type of Hedging Product(s)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

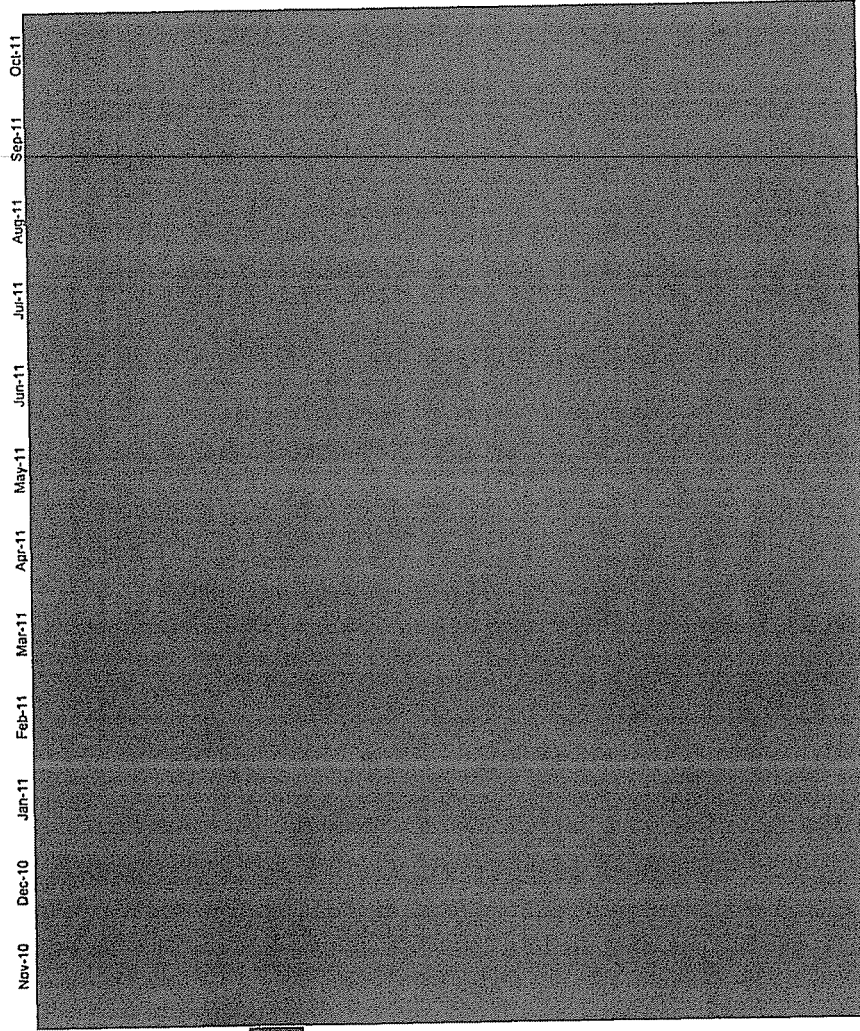
**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**AmL Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

5

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 10/19/10



Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11

**Load Forecast**  
 City Gas 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  
 Collar  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Amount Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 10/19/10

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
[Redacted Data]												

**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/draw)**

Fixed Price  
 Fixed Price  
 Collar  
 Total Hedged (dth/draw)  
 Total Hedged (dth)

**Types of Hedging Products (1)**

Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**

Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Amount Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 10/19/10

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
[Redacted Data]												

**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)**

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

**Types of Hedging Products (1)**

Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**

Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Am't Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

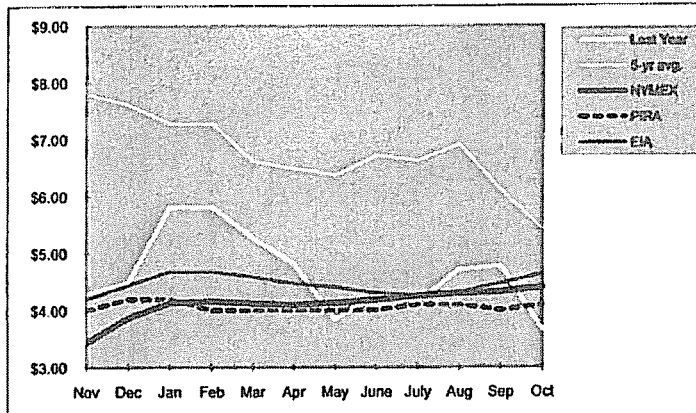
10/19/2010

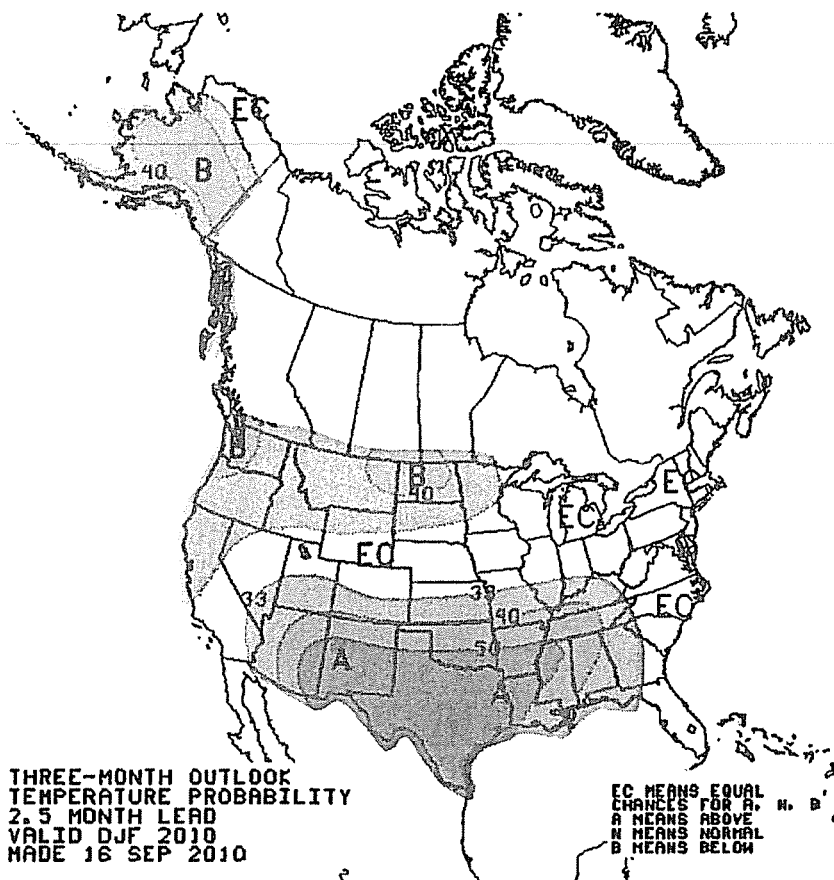
Duke Energy Kentucky  
 Hedging Program  
 Current Position

Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (10/31/10)	
		Dth/day	Dth/mo	Required dth/day	Allowed dth/day
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 Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2010					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2010					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2010					

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

	Historic Prices:			NYMEX Closing Price			Hedged Prices	
	5-yr. avg.	Last Year		PIRA	EIA	NYMEX	Ohio	Kentucky
	(05/06-09/10)	(2009-2010)		27-Sep-10	13-Oct-10	19-Oct-10		
Nov	\$7.80	\$4.29			\$4.200	\$3.431		
Dec	\$7.62	\$4.49			\$4.440	\$3.870		
Jan	\$7.28	\$5.81			\$4.680	\$4.130		
Feb	\$7.28	\$5.81			\$4.680	\$4.165		
Mar	\$6.61	\$5.27			\$4.590	\$4.122		
Apr	\$6.49	\$4.82			\$4.470	\$4.095		
May	\$6.37	\$3.84			\$4.410	\$4.130		
June	\$6.72	\$4.27			\$4.300	\$4.189		
July	\$6.63	\$4.16			\$4.270	\$4.256		
Aug	\$6.92	\$4.72			\$4.320	\$4.303		
Sep	\$6.10	\$4.77			\$4.470	\$4.326		
Oct	\$5.43	\$3.65			\$4.640	\$4.410		
12 Month Avg	\$6.77	\$4.66			\$4.456	\$4.119		
Summer Average					\$4.411	\$4.244		
Winter Average					\$4.518	\$3.944		





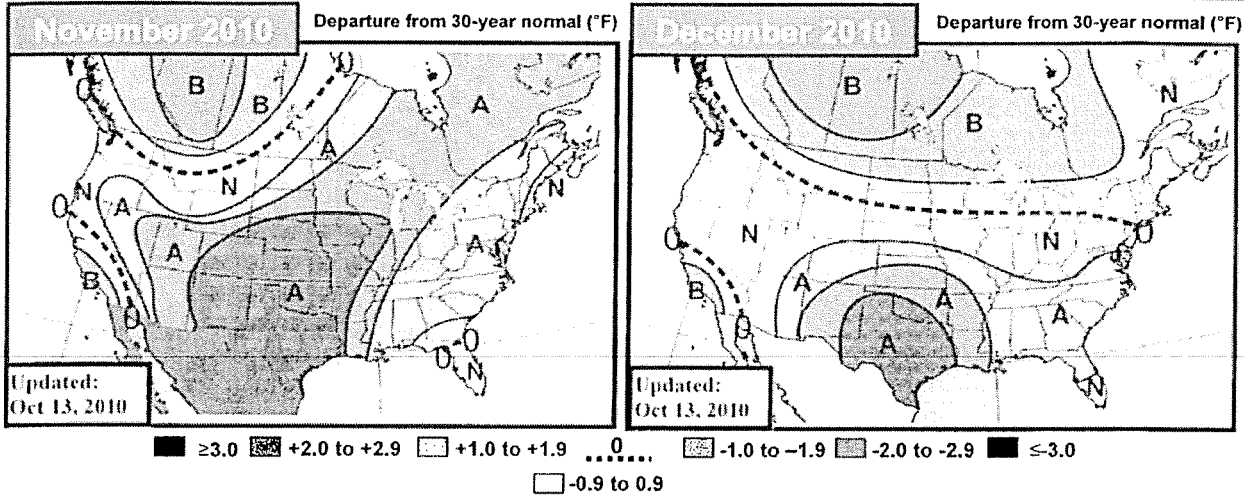




# EarthSat's 30-60 Day Outlook

Wednesday, October 13, 2010

Forecaster: SS/BH/TH



**Previous**  
Only marginal tweaks  
Warm-dominated outlook overall

There was just a slight warm change in the November outlook with the belows hedged back a bit across Western Canada. Otherwise, the outlook remains the same with widespread above normal temperatures across the majority of the US, with a focus of the strongest warmth over the southern Plains. The forecast is still based primarily on the strengthening La Nina, with the Nino 3.4 region of the Pacific now at -1.8C below normal. The most recent MEI value for Aug-Sep was -1.99, which is a record for that timeframe and is the lowest reading of any time period since 1955. Looking at the five strongest MEI years (1954, '64, '70, '73, and '88) since 1950, only 1970 saw more HDDs than normal nationwide for November (and 1970 was very close to normal). The composite map for those years is seen to the right.

**MEI Analogs**

Nov GWHDD** Forecasts	*10Y Normal updated to '00-09
Nov 2010 Fcst: <b>535.0</b>	10Y Normal* 534.4
	30Y Normal 575.5
	Nov-2009 472.2

No Change  
\*\*National Gas-Weighted HDDs

**Previous**  
Cooler Midwest & Northeast

Some cool changes were made to the forecast for December. More widespread below normal temperatures were added to eastern Canada, and to a lesser extent the upper Midwest. Temperatures closer to normal are expected and Northeast. Meanwhile, warm continues across the South, particularly in Texas. Like November, the December forecast is based primarily upon the very strong La Nina expected to continue through the month. The MEI analogs are similar to our weighted ENSO analogs, showing stronger warmth across Texas and cooler conditions in the northern tier. Our forecast is also a bit cooler across the north and east since a few of the analog years (particularly 1970, 1964, and 1988) indicate a cooler pattern in parts of those areas in December.

**MEI Analogs**      **EarthSat Weighted ENSO analogs**

Dec GWHDD** Forecasts	*10Y Normal updated to '00-09
Dec 2010 Fcst: <b>855.0</b>	10Y Normal* 868.1
	30Y Normal 873.8
	Dec-2009 926.8

Change: +10  
\*\*National Gas-Weighted HDDs

**Tracking October**

Since last week's update, we've lost much of the cool anomalies across the Midwest. Near-record warmth over the past week has driven the anomalies above normal across the northern and central Midwest, and near normal in the southern Midwest. Cool anomalies remain across the Southeast, though they are not as strong as we saw the week. Meager to extensive warm anomalies across the West. The overall pattern is a decent fit with our final 30 Day outlook, though there are certainly some issues with the magnitude, with stronger cool anomalies in the Gulf Coast and stronger warm anomalies in the Rockies and northern Plains. The current 15 Day outlook favors continued warmth in the West and some slightly cooler temperatures in the Midwest.



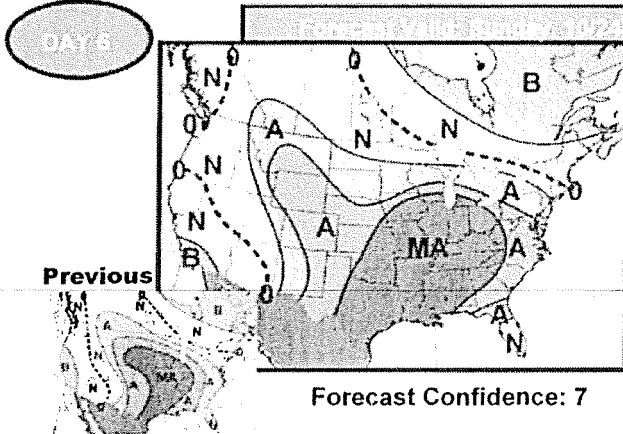


# EarthSat's 6-10 Day Forecast-Detailed

Tuesday, October 19, 2010

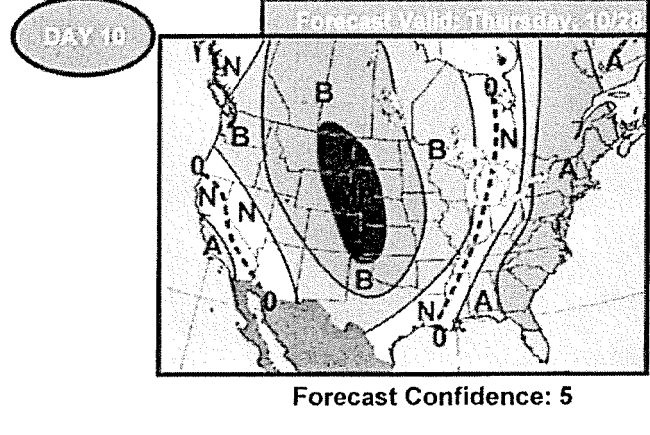
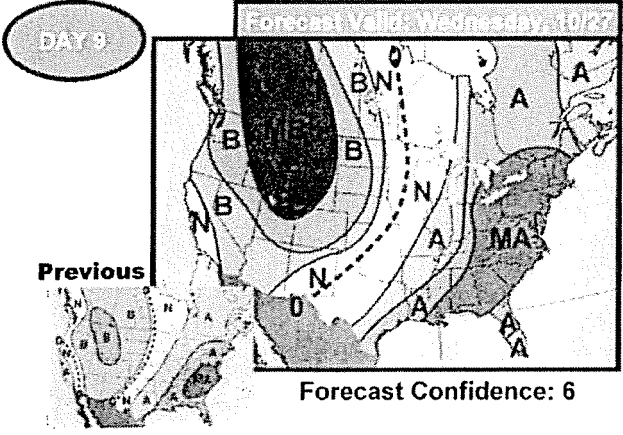
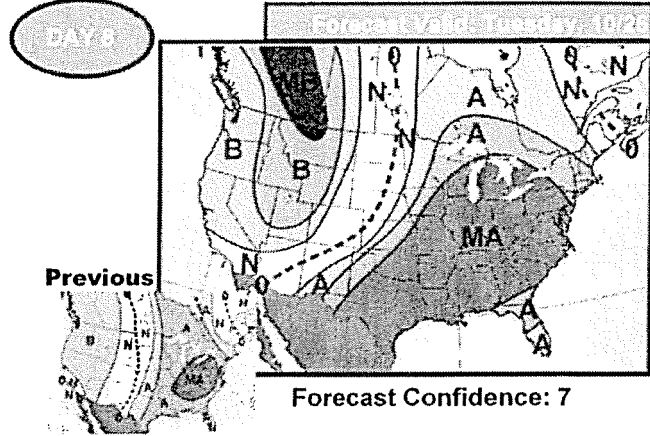
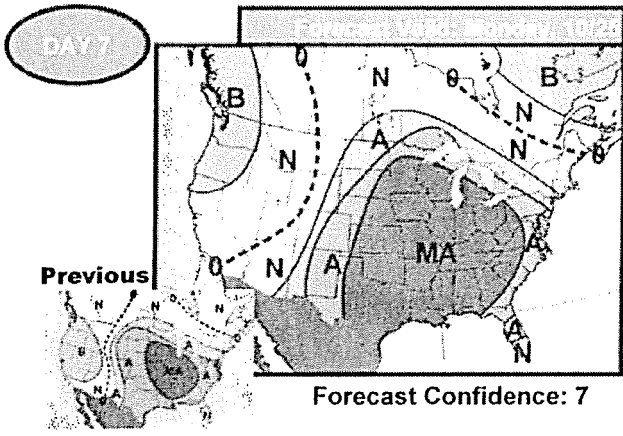
Forecaster: BH/AC

## EarthSat Temperature Deviations



**Today's Forecast:**  
**Stronger Cool Down Occurs In West**  
 Warmer Temperatures Build Into Northeast Late

Cooler risks lie in the Upper Great Lakes and Northeast during the onset of the period, but risks quickly switch to the warmer direction for the second half of the period as strong southerly flow sets up in these areas. Under that warm risk, more widespread much aboves may occur. The East Coast may stay warmer late, particularly with the chance for an additional day of much above normal temperatures at period's end. Meanwhile, a stronger cool down may take shape in the West as depicted in the operational models. More much belows could reach the Mid-Centimeter at period's end.



A +3F to +4F  
  A +5F to +7F  
  MA +8F to +14F  
  SA +15 or Higher  
 B -3F to -4F  
  B -5F to -7F  
  MB -8F to -14F  
  SB -15 or Lower



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## Atlantic Tropical Weather Outlook

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TWOAT  
TROPICAL WEATHER OUTLOOK  
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL  
800 AM EDT TUE OCT 19 2010

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

A LARGE LOW PRESSURE SYSTEM IS LOCATED OVER THE NORTHWESTERN CARIBBEAN SEA ABOUT MIDWAY BETWEEN HONDURAS AND THE CAYMAN ISLANDS. SHOWERS AND THUNDERSTORMS HAVE BECOME A LITTLE BETTER ORGANIZED... AND ENVIRONMENTAL CONDITIONS ARE CONDUCIVE FOR SOME ADDITIONAL DEVELOPMENT OVER THE NEXT COUPLE OF DAYS. THERE IS A MEDIUM CHANCE...40 PERCENT...OF THIS DISTURBANCE BECOMING A TROPICAL CYCLONE DURING THE NEXT 48 HOURS AS IT MOVES TOWARD THE NORTH-NORTHWEST AT 5 TO 10 MPH. AN AIR FORCE RESERVE UNIT RECONNAISSANCE AIRCRAFT IS SCHEDULED TO INVESTIGATE THIS SYSTEM THIS AFTERNOON...IF NECESSARY.

ELSEWHERE...TROPICAL CYCLONE FORMATION IS NOT EXPECTED DURING THE NEXT 48 HOURS.

\$\$  
FORECASTER STEWART/CANGIALOSI

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## Weekly Natural Gas Storage Report

Released: October 14, 2010 at 10:30 a.m. (eastern time) for the Week Ending October 8, 2010  
 Next Release: October 21, 2010

### Working Gas in Underground Storage, Lower 48

other formats: [Summary](#) [TXT](#) [CSV](#)

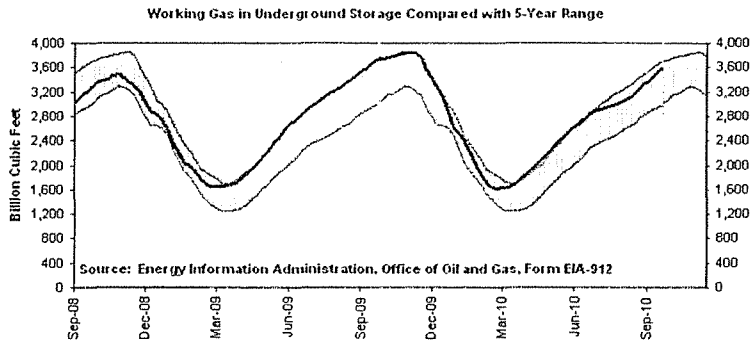
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	10/08/10	10/01/10	Change	Year Ago (10/08/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,963	1,920	43	2,025	-3.1	1,923	2.1
West	503	497	6	503	0.0	452	11.3
Producing	1,124	1,082	42	1,180	-4.7	968	16.1
<b>Total</b>	<b>3,590</b>	<b>3,499</b>	<b>91</b>	<b>3,708</b>	<b>-3.2</b>	<b>3,343</b>	<b>7.4</b>

#### Notes and Definitions

#### Summary

Working gas in storage was 3,590 Bcf as of Friday, October 8, 2010, according to EIA estimates. This represents a net increase of 91 Bcf from the previous week. Stocks were 118 Bcf less than last year at this time and 247 Bcf above the 5-year average of 3,343 Bcf. In the East Region, stocks were 40 Bcf above the 5-year average following net injections of 43 Bcf. Stocks in the Producing Region were 156 Bcf above the 5-year average of 968 Bcf after a net injection of 42 Bcf. Stocks in the West Region were 51 Bcf above the 5-year average after a net addition of 6 Bcf. At 3,590 Bcf, total working gas is within the 5-year historical range.

- 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



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2005 through 2009.  
 Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

PIRA  
 North American Gas Price Overview  
 Per MMBTU  
 September 27, 2010 Release

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008	\$	Average 2009	\$	Average 2010	\$	Average 2011	\$
Summer 2008	\$	Summer 2009	\$	Summer 2010	\$	Summer 2011	\$
Winter 2008- 2009	\$	Winter 2009- 2010	\$	Winter 2010- 2011	\$		

**North American Gas Forecast Monthly**



September 27, 2010

NATURAL GAS

**GAS PRICE SCORECARD: NOVEMBER 2010 – MARCH 2011**

Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
U.S. Production		The post-March slowdown of production growth has been replaced by a clear-cut acceleration that points to dry gas production topping 60 BCF/D in 4Q10. Horizontal gas rig counts are the driving force.
LNG Imports		LNG imports have dropped to contractual minimums with little change foreseen in the months ahead since Henry Hub prices will remain too low to justify sales into the GOM.
Canadian Exports		As we had expected, widening storage deficits caused a redirection of supply away from exports, and net shipments to the U.S. have moved to sizable Y/Y deficits.
Mexican Pipeline Imports		Mexico's IMEF monthly survey has been relatively flat over the past several months, but stronger structural Y/Y growth of demand would push dependency on U.S. supply higher.
Storage Levels		In the current month, storage refills are on a pace to top the year-earlier rate by ~2 BCF/D. Without pre-November hurricane shut-ins, storage is forecast to be ~0.1 TCF lower by October 31, but a Y/Y surplus is expected by January.
U.S. Demand Issues	Outlook	Commentary
Economy		The M/M U.S. economic seesaw continues with a decided improvement over the past month as opposed to the macro-economic signals delivered in July. Volatility is in vogue.
Electric Generation		Further Henry Hub gas price markdowns since last month's report have helped future gas-fired EG to move higher and within striking distance of 2010 levels.
Industrial Sector		The pace of Y/Y Industrial gas demand growth is expected to moderate in the months ahead, and PIRA's indicators of gas demand by U.S. manufacturers through August 2010 are in step with that assessment.
Res/Com Heating		PIRA's "Hybrid" (i.e. the average of 30-year and 10-year normal HDDs) points to small 4Q10 Y/Y losses widening to larger declines in 1Q11.
Other Issues	Outlook	Commentary
NYMEX Prices and Speculation		NYMEX futures have been range bound due in part to offsetting position shifts held by commercial and non-commercials. Net noncommercial shorts increased over the past few weeks, but the related bearish price pressure was largely offset by increased commercial buying.
Overall Assessment	Outlook	Commentary
Price Outlook		PIRA's 2011 Reference Case is ~\$0.15/MMBtu below last month's forecast but the Y/Y percentage markdowns relative to NYMEX gas futures are extremely similar. The intensive pace of horizontal gas drilling over the past month sets the stage for even more bearish U.S. fundamentals next year than before.

# Gas Daily

Friday, September 24, 2010

## Analyst eyes late 2012 for gas price recovery

**US gas supply and demand are expected to remain out of balance through the end of 2012, keeping downward pressure on prices,** a veteran energy analyst said Thursday at Platts' Pipeline Development and Expansion Conference in Houston.

According to Wood Mackenzie Vice President Ed Kelly, **drilling to hold acreage for production, along with cash-and-carry agreements with joint-venture partners and asset sales, are keeping gas flowing despite bearish price signals. That situation will begin reversing itself starting in the fourth quarter of 2012, when "price alone will have to support production," he said.**

**Until that point, however, the US gas glut is expected to remain, leading Wood Mackenzie to reduce its forecast for 2011 from above \$5/MMBtu last month to \$4.58/MMBtu.**

Given the ongoing domestic production boom, particularly in shale plays, imports of gas from Canada or abroad are likely to decline due primarily to a lack of demand, Kelly said.

"We're now calling for a peak of 2 Bcf/d of liquefied natural gas imports into the US next year, then a steady decline, so it is almost irrelevant on the supply side," he said, comparing that figure to previous estimates of up to 4.5 Bcf/d of LNG imports by the middle of the decade. "The LNG wave has become a trickle."

**The extended low-price environment is likely to keep producers focusing on natural gas liquids to take advantage of an increasing price spread between gas and oil. The upshot, Kelly said, is that the rate of return for dry gas production will have to increase in order to entice producers to shift capital budgets back toward gas.**

**"Current rig counts don't reflect sustainable supply growth equilibrium," he explained. "But they won't really change in 2011.** It's not until 2012 that the cure really begins to take hold. Demand growth begins to take up around the same time ... with positive gas demand growth in power generation [by 2013]. And by 2015 it's sort of off to the races."

In fact, Credit Suisse analyst Teri Viswanath said at the conference, **gas demand for power generation will grow through 2020 as coal-fired plants are retired as part of a long-term trend of coal-to-gas switching.**

More than 20 GW of coal-fired power is set for retirement through 2020, five times more than was retired in the 1990s, Viswanath said. And that number could reach as high as 40 or 50 GW as changes in Environmental Protection Agency rules force older, less-efficient coal plants to be taken out of service, she said.

Kelly concurred with that assessment, putting Wood Mackenzie's forecast at 47 GW of coal-fired generation switching to gas over the next 10 years. He added that once the market begins to re-balance itself, the large reserves in shale plays will keep the market from switching to a gas shortfall thanks to the 20 Bcf/d being added to domestic supply by 2020. — *Joshua Starnes*

# Gas Daily

Friday, October 15, 2010

As price spreads widen, 'gas is an afterthought'

With the price spreads between natural gas, crude oil and natural gas liquids at historically wide levels, exploration-and-production companies have embarked on a liquids-drilling frenzy, causing a glut of associated gas that continues to drive prices lower.

Yet several producers have said they could make a tidy profit even at sub-\$1/MMBtu gas prices as the combination of higher liquids prices, an influx of joint-venture capital and the need to keep drilling to hold leases have made them relatively insensitive to the depressed gas market.

"Gas is an afterthought," said RBC Capital Markets analyst Scott Hanold. "The productivity of liquids is making a good return on its own."

Historical NYMEX prices show the gas-oil ratio is now at one of its widest levels in five years. On Wednesday, the November NYMEX gas futures contract settled at \$3.696/MMBtu, while November NYMEX crude futures settled at \$83.01/barrel, bringing the oil-to-gas price ratio to 23-to-1. The year-to-date average ratio stands at 18-to-1 when comparing the prompt-month NYMEX gas futures contract against the similar prompt-month crude contract.

Year-ago levels show the oil-to-gas price ratio at 16-to-1, while the five-year average is 12-to-1.

Additionally, as of Wednesday the spot price of purity ethane, the NGL of choice for the petrochemicals industry as a feedstock, averaged 58.5 cents/gallon, down 20% from-year-to-date levels but still at a premium to the 53.75 cents/gallon a year ago and 43.75 cents/gallons in 2008, according to Platts assessments.

A slew of analyst estimates of breakeven prices show liquids-rich plays are lowering the bar at which gas drilling is profitable in spite of depressed gas prices.

The most recent estimates from Credit Suisse show four unconventional plays could break even if NYMEX gas prices fall below \$3.60/MMBtu: Texas and Oklahoma's Granite Wash, South Texas' Eagle Ford, the southwest portion of the Appalachia-based Marcellus Shale, and Oklahoma's Cana Shale, all of which are liquids-rich.

As such, producers have been allocating their capital expenditures more toward oil-rich plays and shifting some rigs away from dry-gas shale formations.

The rig counts in states that hold such plays have seen explosive growth, Baker Hughes statistics show. In Texas, there are now 368 rigs operating, up from 244 a year ago. Similarly, in Pennsylvania — where producers are hastily moving rigs from dry to wet gas patches — the rig count was 122 as of October 1, compared with just 66 a year earlier.

The stout rate of return that liquids promise seems to be one of the primary motivations for producers traditionally focused on gas.

At Petrohawk Energy's Hawkville Field in the Eagle Ford, the company gets a 50% rate of return with \$4/MMBtu gas, President Dick Stoneburner said recently. In another Eagle Ford field even



**richer in liquids — the Black Hawk — Petrohawk is getting more than a 200% rate of return at current price levels, Stoneburner said.**

Banking on returns like those, companies such as Chesapeake Energy have also aggressively moved their operations toward oilier plays, with CEO Aubrey McClendon pledging on Wednesday that the company would become one of the top five oil producers in the US.

Chesapeake executives also indicated that the firm's liquids output is expected to grow 79% next year and 21% in 2012, as increased drilling activity in the Eagle Ford and other liquids plays drives oil volumes. The Oklahoma-based company forecasts its 2012 oil production at between 38,000 and 44,000 barrels/d, double the 19,000 barrels/d expected this year.

Additionally, capital partners have strongly indicated their preferences for such plays, with almost half of the merger-and-acquisition deals done this year alone transacted in liquids-rich fields. Some \$8.6 billion of the \$19 billion invested by joint-venture partners in shale plays overall this year is going toward Eagle Ford-centered deals.

**Because of this influx of outside capital, most E&Ps, particularly in liquids plays, have their capex budgets for this year and next covered, spurring them to acquire an increasing amount of acreage and become even more aggressive with their drilling programs. As such, natural gas prices are set to remain depressed through at least 2011, several analysts said, and some are even pushing that timeline further back to 2012 as more deep pockets emerge.**

Indeed, there have been indications producers are willing to accept gas prices far below the current NYMEX strip

Last week, Chesapeake sold some of its Barnett Shale production to a unit of Barclays for \$1.15 billion, a deal that essentially signaled its willingness to accept a gas price of \$2.95/MMBtu for the next five years. Société Générale analyst Laurent Key said the deal still allows Chesapeake to make 50 cents/MMBtu even at that price level.

Analysts cautioned, however, that several factors could hinder the race to drill liquids, including a possible ethane glut and a cutback of dry gas drilling that could narrow the huge gas-oil price spread.

Approximately 900,000 barrels/d of new ethane production has come on line since 2009, with another 100,000 barrels/d expected next year, according to industry analysts.

While midstream outfits have announced a slew of projects targeted at moving liquids further downstream or adding fractionation capacity, they will only begin to come on stream in the middle of next year.

Petrochemicals market sources, however, told Platts they were skeptical of any serious price impact such a glut could have, saying there is still strong demand for ethane along the Gulf Coast.

In a research note released Monday, Morgan Stanley analysts reinforced this sentiment, noting that even if the price of ethane fell to 30 cents/gallon — a level not seen in the past five years, Platts data shows — the resulting change in the price of crude would be a drop of no more than 6%.

Analysts also warned the gaping price differentials might eventually contract as the flagging NYMEX gas strip ultimately urges some companies to cut production significantly.

**Credit Suisse's director of natural gas research, Teri Viswanath, noted that roughly 20% of gas production is taking place in lower-cost shale plays, while others require gas prices upwards of \$4/MMBtu.**

**"Price does matter — price always matters," Viswanath said. "Until we get back to a \$5/MMBtu or \$6/MMBtu environment, production will decline."** —Samantha Santa Maria, Eunice Bridges

# Gas Daily

Tuesday, October 5, 2010

## AGA: Winter supply picture 'very, very strong'

**Gas supplies are adequate to meet consumer needs this heating season even if the US experiences a repeat of last winter's record demand**, the American Gas Association said Monday.

"The market is robust enough to meet that demand from a physical standpoint, and clearly prices are lower than what we saw two years ago," said Chris McGill, AGA's managing director of policy analysis. "And we don't see a significant change in that going forward."

The utility trade group expects an estimated 2.838 Tcf of gas consumption this heating season, including 964 Bcf, or 34%, from residential customers; 514 Bcf, or 18%, from commercial customers; 630 Bcf, or 22%, from industry; and 540 Bcf, or 20%, from electric power generators.

On the supply side, AGA expects the US to draw on about 2.875 Tcf this winter, including about 1.8 Tcf, or 62%, produced from US wells; 830 Bcf, or 29%, pulled from storage; 230 Bcf, or 8%, of net imports from Canada; and 40 Bcf, or 1.3%, imported via liquefied natural gas terminals.

**"The supply picture seems very, very strong right now," McGill said. "You'd have to build an incredible disaster scenario for the coming winter heating season to believe that we're not going to be able to physically supply the market this year."**

At the same briefing in AGA's Washington office, the National Energy Assistance Director's Association made the case for holding steady federal funding to the Low Income Home Energy Assistance Program.

**"The average benefit for LIHEAP is about \$500, which doesn't sound like a lot of money," said Mark Wolfe, the group's executive director. "But if you're living from paycheck to paycheck or unemployment check to unemployment check, that's the amount of money that gets you through the winter."**

**Wolfe said the program is serving 8.8 million households, about twice the beneficiaries it had two years ago." The reason the number's doubled is pretty straightforward — the economy has really tanked," he said.**

Next year, the program could see its funding cut from \$5.1 billion to \$3.3 billion, if a congressional conference committee uses the figure approved by the Senate. The House version would keep it at \$5.1 billion.

Wolfe said states and AGA asked for \$7.5 billion, which he quickly learned would be impossible given the tight budget. But he said holding it at the current level is essential. A survey of families that received energy aid last year found that 61% said it prevented shut-offs, compared with 54% in 2008.

"What that really means is the money made a difference in a very tough period," he said. "LIHEAP is clearly making a difference. It's not a big program like food stamps, but it's the kind of program that helps people deal with this very difficult bill that comes in the winter." — *Meghan Gordon*

# Gas Daily

Wednesday, October 6, 2010

## NGSA: Balanced market to mean stable prices

**Gas prices should remain relatively stable this winter as robust production meets higher demand from the industrial and electricity sectors,** the Natural Gas Supply Association said Tuesday.

"Our fundamental theme for this year's outlook is market resiliency," said Steven Kirchhoff, NGSA chairman and ExxonMobil Gas and Power Marketing's vice president for the Americas. **"We have a strong production story, a strong supply story. We're at some of the highest levels we've seen in several decades, and expectations are for those levels to stay relatively stable."**

In its 2010-2011 winter outlook, the trade group for US gas producers predicted overall average demand of 79.8 Bcf/d from November through March, up 2.4% from last winter. Most of the surge is expected to come from a 5% increase in industrial demand to 20.3 Bcf/d and a 7% uptick in electricity-generation demand to 17.3 Bcf/d.

At the same time, NGSA said some of the highest domestic production rates in years should keep prices stable. The forecast calls for 57.5 Bcf/d of average winter production, or 4% more than last year, along with higher annual well completions and rig counts for the period and a modest rise in liquefied natural gas imports.

**"We expect enough supply to come on board to put downward pressure on natural gas prices over the winter,"** NGSA President and CEO Skip Horvath said.

**Meanwhile, the group expects flat pressure on prices from the "strained" economic recovery, nearly normal weather conditions and strong, but not record setting, storage levels. "Assuming we don't get any large weather extremes, more than what we anticipate, we actually think we can handle some pretty wide fluctuations in the weather with steady prices," Kirchhoff said.**

Horvath said the industry added three times the storage capacity from 2006 to 2010 that it did three years earlier, half of which is in salt dome caverns that can be cycled dozens of times a year and are therefore "great for power generation."

"While it's slowing down, we just went through a burst of storage activity," Horvath said. "That's the market telling us something. That's the market expecting natural gas to be used in a very flexible way."

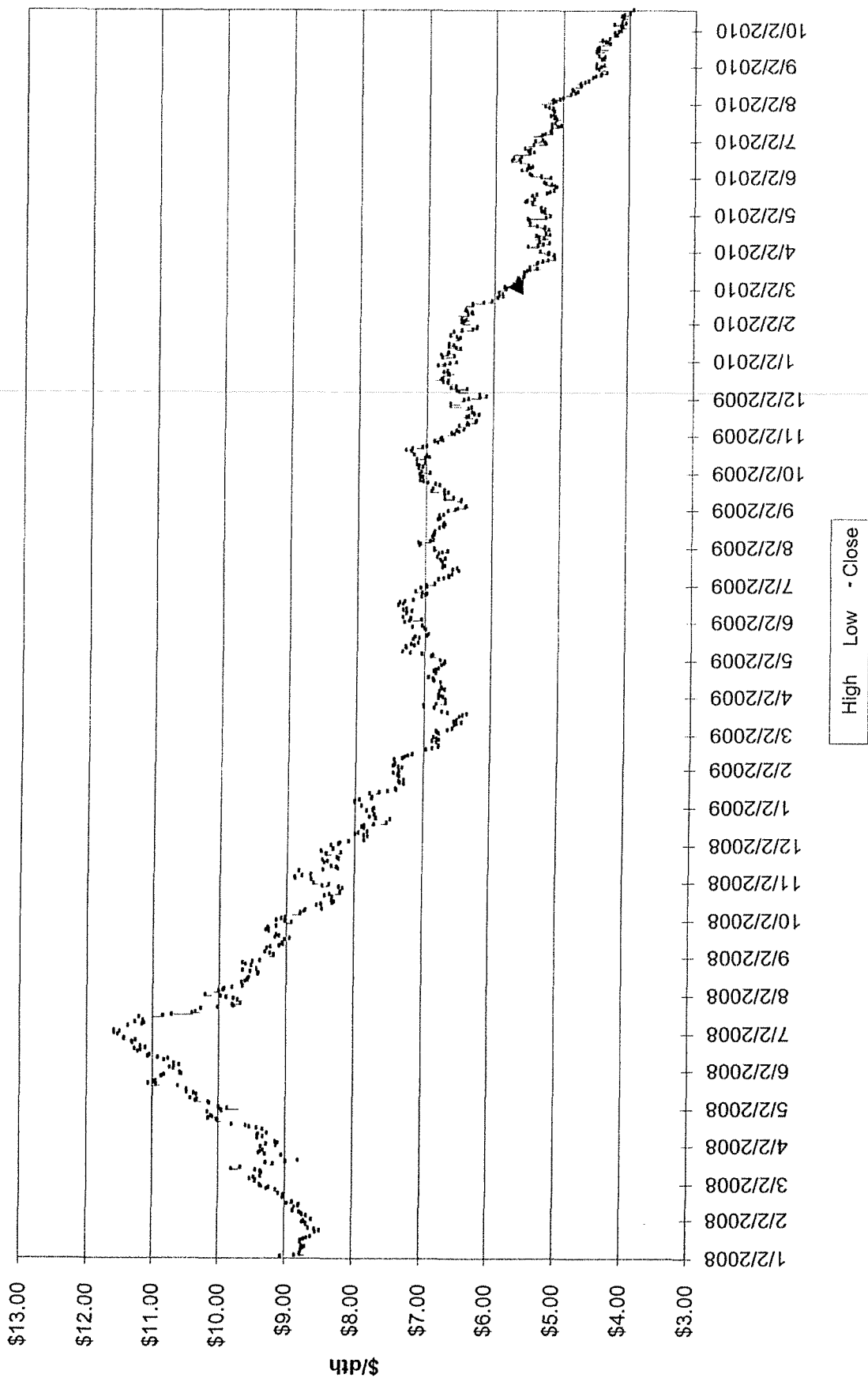
Factors that could skew the NGSA's predictions include the extent of the economic revival in the industrial sector, levels of coal-to-gas switching and the global availability of LNG.

"The important takeaway is the apparent strength and stability of supply along the entire natural gas value chain," Kirchhoff said. — *Meghan Gordon*

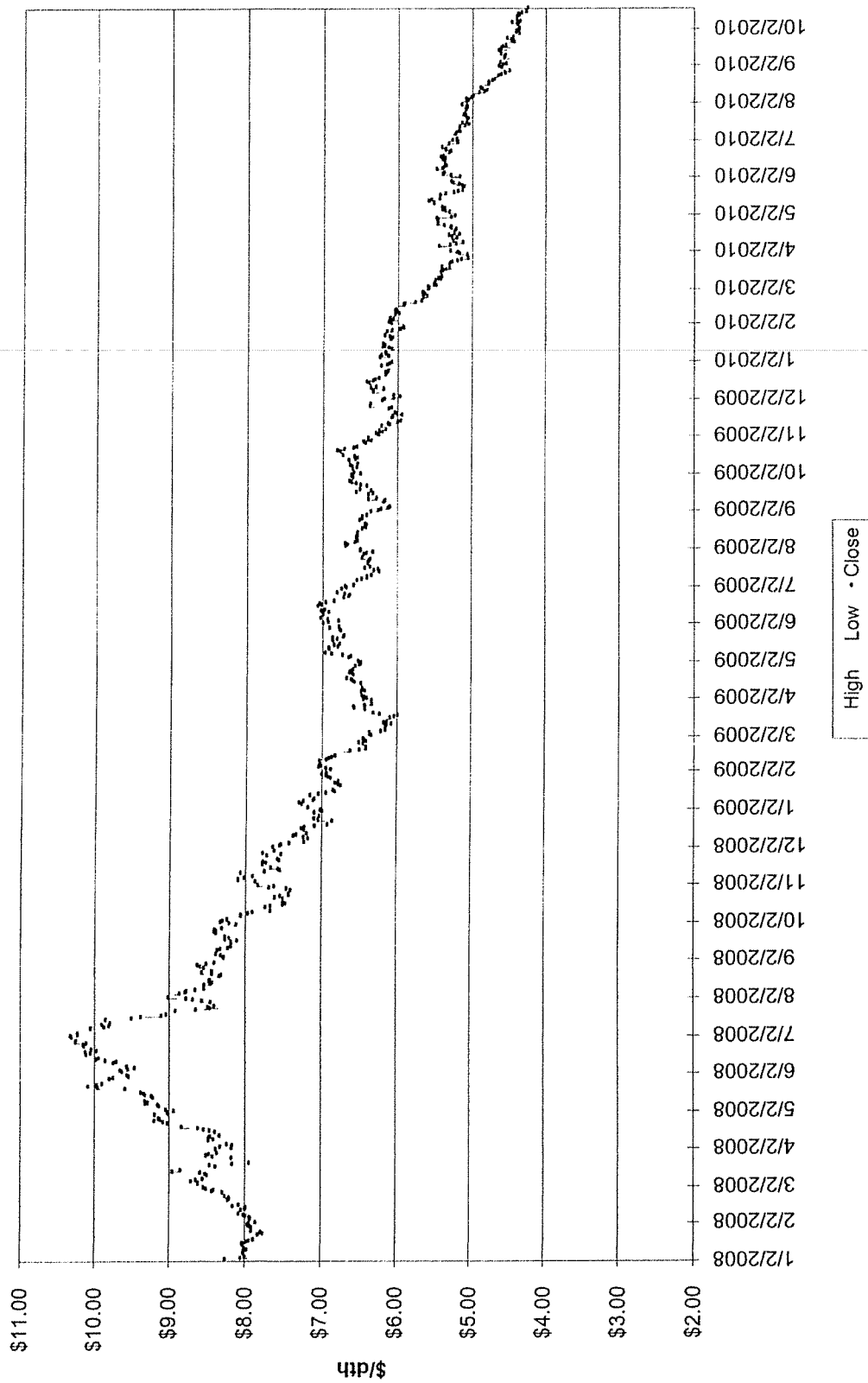
**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**October 13, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	4.68
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	4.68
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	4.59
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	4.47
May-08	11.27	May-09	3.83	May-10	4.14	May-11	4.41
Jun-08	12.69	Jun-09	3.80	Jun-10	4.80	Jun-11	4.30
Jul-08	11.09	Jul-09	3.38	Jul-10	4.63	Jul-11	4.27
Aug-08	8.26	Aug-09	3.14	Aug-10	4.32	Aug-11	4.32
Sep-08	7.67	Sep-09	2.97	Sep-10	3.89	Sep-11	4.47
Oct-08	6.74	Oct-09	4.00	Oct-10	3.85	Oct-11	4.64
Nov-08	6.68	Nov-09	3.66	Nov-10	4.20	Nov-11	4.90
Dec-08	5.82	Dec-09	5.34	Dec-10	4.44	Dec-11	5.25
Average 2008	\$ 8.862	Average 2009	\$ 3.943	Average 2010	\$ 4.478	Average 2011	\$ 4.582
Summer 2008	\$ 9.700	Summer 2009	\$ 3.516	Summer 2010	\$ 4.237	Summer 2011	\$ 4.411
Winter 2008- 2009	\$ 5.242	Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.518		

Winter Strip Nov10 - Mar11



Summer Strip 2011



# Short-Term Energy and Winter Fuels Outlook

October 13, 2010 Release  
(Next update November 9, 2010)

## Natural Gas

U.S. Natural Gas Consumption. EIA projects total natural gas consumption will increase by 4.6 percent and 0.1 percent in 2010 and 2011, respectively. Consumption of natural gas in the industrial and electric power sectors makes up the bulk of the year-over-year increase in consumption in 2010. Projected industrial natural gas consumption rises by 7.4 percent in 2010, driven by the projected 6.7 percent increase in the natural-gas-weighted industrial production index. The forecasted 7.6 percent growth in 2010 natural gas consumption in the electric power sector is partially due to the very warm summer weather, which led to an increase in electricity demand for cooling. Estimated natural gas consumption for electric power through August 2010 averaged 20.75 billion cubic feet per day (Bcf/d) compared with 19.23 Bcf/d through August 2009, a 7.9-percent increase.

The projected 0.1 percent increase in total natural gas consumption in 2011 is the result of about a 1-percent increase in residential, commercial, and industrial natural gas consumption, offset by a 1-percent decline in electric power sector consumption. The projected increase in residential and commercial consumption next year is the result of a forecasted 1.7-percent increase in U.S. population-weighted heating degree-days. Industrial sector natural gas consumption growth is driven by the projected 2 percent increase in the natural-gas-weighted industrial production index. Despite a slight decrease (0.3 percent) in electricity consumption in 2011, projected electric-power-sector natural gas consumption falls by 1 percent primarily because of forecasted increases in nuclear and renewable-based electricity generation.

U.S. Natural Gas Production and Imports. Marketed natural gas production in the lower-48 states is expected to rise by 3.5 percent this year. EIA expects total U.S. marketed natural gas production to decrease by 1.5 percent in 2011, less than the 1.9 percent reduction forecast in last month's Outlook.

The increase in the natural-gas-directed drilling rig count since mid-2009, comprised of a growing share of natural-gas-directed horizontal drilling rigs in the lower-48 states, contributed to the production growth in 2010. Over the last year, the natural gas rig count increased from 712 on October 2, 2009, to 962 on October 1, 2010, according to Baker Hughes. However, the pace of drilling for natural gas is expected to moderate slightly over the forecast period. The growing spread between petroleum liquids and natural gas prices has also favored a shift towards drilling in shale formations that contain a higher proportion of liquids.

EIA forecasts gross pipeline imports of 9.2 Bcf/d in 2011, an increase of 1.5 percent compared with 2010. Forecasted imports of liquefied natural gas (LNG) average 1.23 Bcf/d in 2010, a slight decline from 2009 levels. Growing domestic production and low U.S. prices relative to European and Asian markets have discouraged LNG imports. Nevertheless, EIA expects LNG imports to grow slightly in 2011 to 1.32 Bcf/d, a 7-percent increase.

## Global Crude Oil and Liquid Fuels

Crude Oil and Liquid Fuels Overview. As member states of the Organization of the Petroleum Exporting Countries (OPEC) prepare to meet on October 14 to discuss market conditions, they face an oil market outlook largely unchanged from the previous few months. While commercial oil inventories in the Organization for Economic Cooperation and Development (OECD) countries remain high, floating oil storage has been declining, and EIA believes that a gradual projected reduction in OECD oil inventories over the forecast period should support firming oil prices. The economic outlook has also remained substantially the same, with Asian countries continuing to lead global economic growth. World oil prices are expected to rise gradually as global economic growth leads to higher global oil demand and growth in non-OPEC oil supply slows in 2011. EIA expects OPEC production will rise over the forecast period, keeping oil prices from increasing dramatically. Should OPEC not increase production as global consumption recovers, oil prices could be significantly higher than the central forecast. Conversely, should the global economic recovery be slower than expected, prices could be lower than our forecast.

Duke Energy  
Hedging Program  
Remaining Base Not Yet Locked In  
Winter 2010-11

	November	December	Dth/Day January	February	March	Total	% System Supply
<u>Duke Energy Ohio</u> Previously Hedged	[REDACTED]						
Total System Supply	[REDACTED]						
<u>Duke Energy Kentucky</u> Previously Hedged	[REDACTED]						
Total System Supply	[REDACTED]						
<u>Duke Energy--Total</u> Previously Hedged	[REDACTED]						
Total	[REDACTED]						

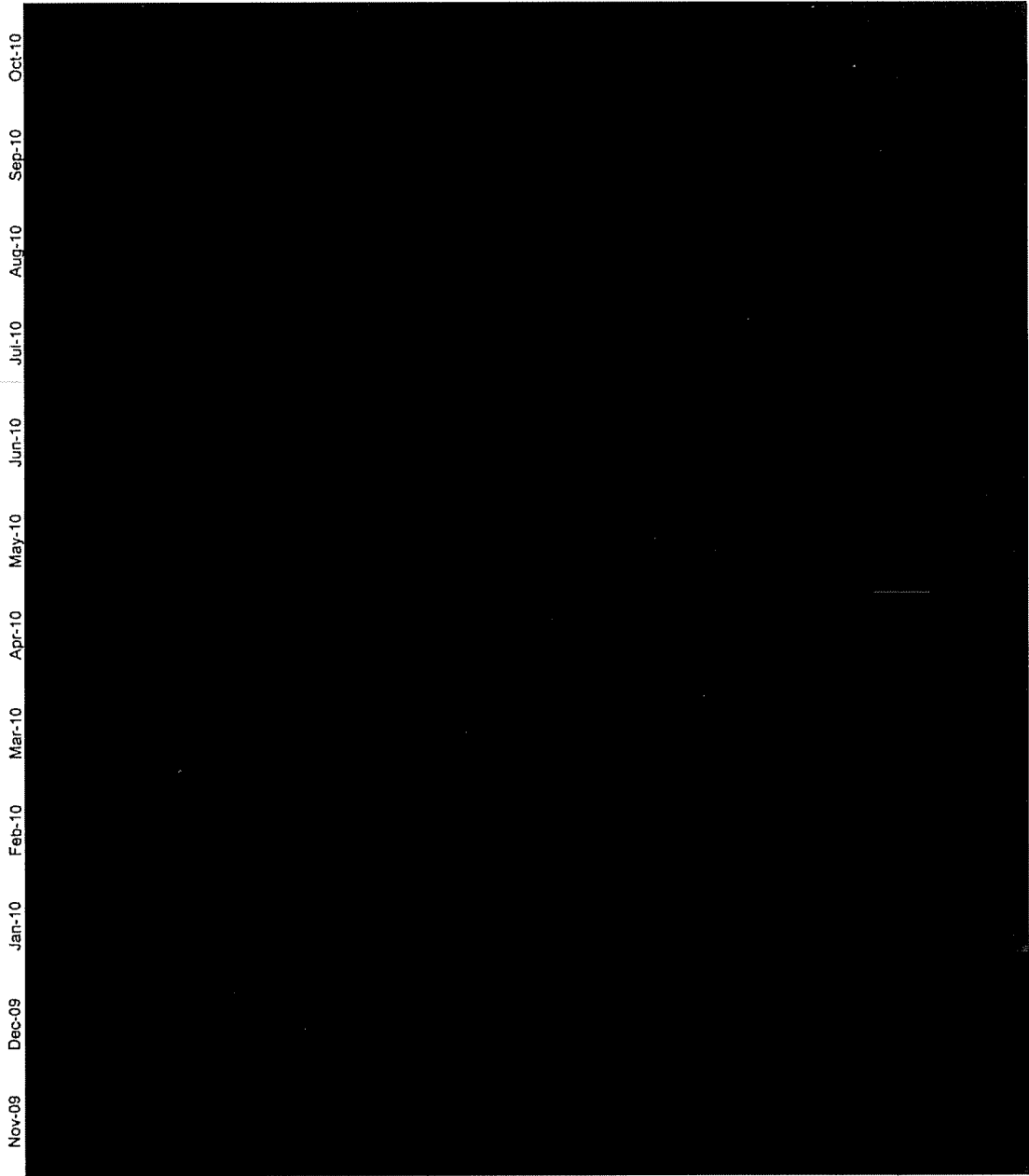


Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
November 18, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Dec 10--Feb 11)	↓	Long	NOAA predicting above average temperatures for December 2010--February 2011 for large portions of the CONUS	12
Mid Term Forecast (30-60 days)	↓	Long	December is predicted to be 1.9% warmer than normal based on 10 year normals and January weather is predicted to be 1.7% warmer than normal.	13
Short Term Forecast (6-10 days)	↑	Short	Early in period--Cold in west, Above Normal in East Later in the period--Below Normal pushes to the East Coast	14
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage injections for the week ending November 5th were 19 BCF Storage levels are at 3.840 TCF which is 0.8% higher than last year and 9.8% higher than the 5 year average	15
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011 Winter 2010/11	↓	Long	GAS PRICE SCORECARD: January--March 2011 PIRA's price outlook is Bearish "NYMEX contract lows between [redacted] and [redacted] looks fully justified by the pace of storage builds The outlook for 1Q11 storage accordingly has jumped to unmatched high levels."	16-17
Gas Daily	↓	Long	A return to more normal weather, coupled with continued increases in gas production Barclays Capital cutting their price forecast for 2011 below \$4/MMBtu Without a drop in US rig count below 800, current price level will likely continue for at least the next year and possibly longer	18
Gas Daily	↓	Long	US gas prices are expected to remain in the \$4/MMBtu area for the next couple of years as industrial demand remains soft and production remains robust. About half of North America's shale gas is economically recoverable at \$5/MMBtu with a 14% to 16% return on equity.	19
Gas Daily	↓	Long	US gas supplies will be 3 Bcf/d higher in 2011 than 2010 and, without extreme weather, prices are "heading for another train wreck" next year "Simple math tells us that under more normalized weather, we're actually looking at an astonishing 1.8 to 1.9 Tcf of gas in storage at the end of winter."	20
Gas Daily	↑	Long	"Even though we've got this big pressure of the oversupply sitting on top of natural gas, you will see that this market is still volatile, and volatility says it can go up regardless of the fundamentals "	21
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$4.180 Winter 2010/11: \$4.036	↓	Long	Pointing to robust production and storage levels, along with mild weather and the absence of significant hurricane activity. EIA slashed its gas price estimates	22-24
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↑	Short	Closed at \$3.98	25
Summer 2011 Strip Chart	↑	Short	Closed at \$4.14	26
<b>Economy</b>				
Demand	↑	Long	EIA projects total natural gas consumption will average 65 Bcf/day in 2010 (4% increase from 2009) and then rise slightly in 2011 to 65.4 Bcf/d. Growth in gas used for power generation and industrial users account for the majority of the increase from 2009 to 2010 Power generation surged this year because of the 23% increase in U.S. cooling degree-days.	27
Supply	↑	Long	EIA expects total marketed natural gas production to increase by 2.5% in 2010 and decrease by 1.2% in 2011. The drop in 2011 is a result of a 13.5% production decline in GOM production The decline in GOM production in 2011 is due to the 2010 drilling moratorium and the projected increase in hurricane-induced production outages.	27
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$83 per barrel for the winter (Oct 1--Mar 31) a \$5.50 per barrel increase over last winter Growth in global oil consumption remains strong. Continued upward revisions of this year's world oil consumption have led to an expected world consumption growth of 2.0 million bbl/d for 2010.	27

Meeting Minutes: 10th Floor North Conference Room - 1:00 pm  
Attendees: Jeff Kern, Jim Mehring, Mitch Marlon, Mike Brumback, Joachim Fischesser, Terry Bates, Steve Niederbaumer  
Discussed market fundamentals including weather, storage inventory levels, PIRA and EIA forecasts for the Winter 2010/11 and Summer 2011, 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, updated DEO and DEK's hedging program to reflect changes to target levels to reflect the revised "Next Target" date. Significant discussion took place around the record storage level and the possible impact on prices. In addition, discussed the impact of "Normal Weather" and continued increased production on prices. Based on these factors, a decision was made not to hedge additional volumes at this time.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2009 - October 2010  
 As of 11/17/10



	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Tenaska "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth/day)</b>												
Fixed Price (												
Fixed Price (												
Fixed Price (												
Collar (												
Fixed Price												
Cost Averaging												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>Amt Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. injections) (Dth)												
% Hedged & Storage												
Seasonal %												

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 11/17/10

Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11



**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  
 Fixed Price  
 Collar  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Amt Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 11/17/10

Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12

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

Types of Hedging Products (1)  
 Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost  
 Winter  
 Summer

Estimated EGC per Dth at City Gate  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

Amt Hedged with Storage @ City Gate  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 11/17/10

Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13

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)

TBD  
 TBD  
 TBD

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

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

Winter  
 Summer

Estimated EGC per Dth at City Gate

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

Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.



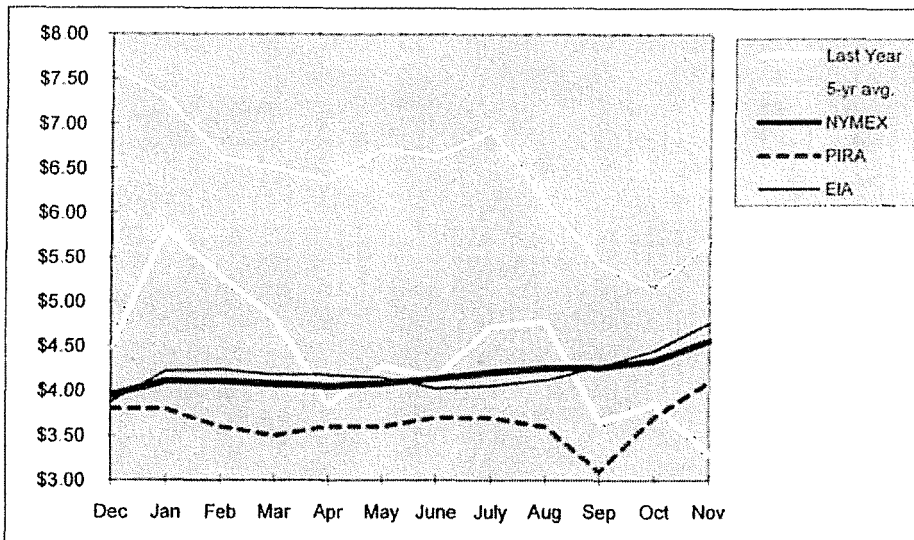
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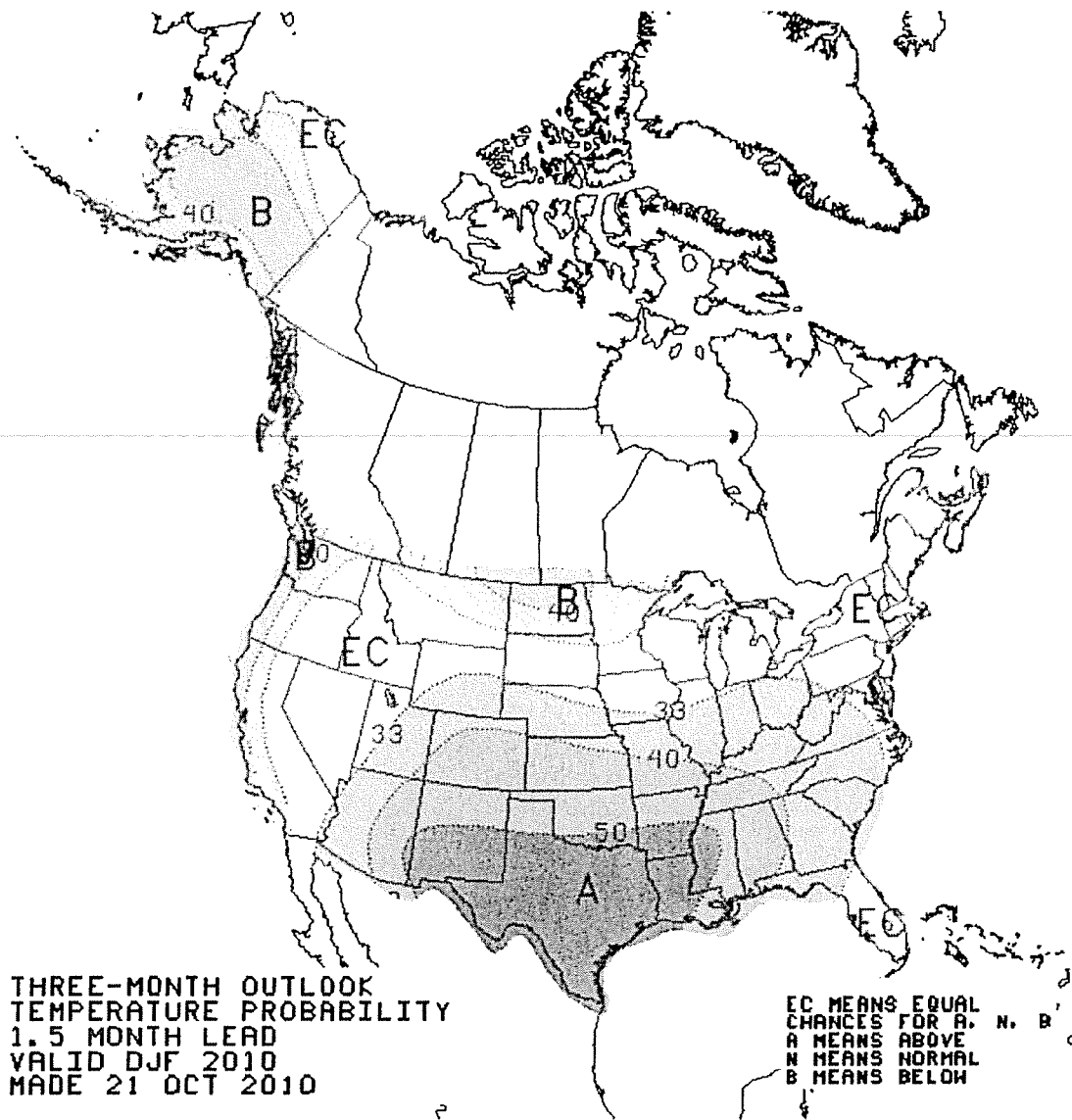
Duke Energy Kentucky  
 Hedging Program  
 Current Position

Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (3/31/11)	
		Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11 Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2011					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2011					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2011					
Apr-13					
May-13					
Jun-13					
Jul-13					
Aug-13					
Sep-13					
Oct-13					
Summer 2013					
Target Levels By March 31, 2011					

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

Historic Prices:							Hedged Prices	
NYMEX Closing Price							Ohio	Kentucky
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)		PIRA 27-Oct-10	EIA 9-Nov-10	NYMEX 17-Nov-10		
Dec	\$7.62	\$4.49			\$3.870	\$3.950		
Jan	\$7.28	\$5.81			\$4.220	\$4.107		
Feb	\$6.61	\$5.27			\$4.240	\$4.107		
Mar	\$6.49	\$4.82			\$4.180	\$4.076		
Apr	\$6.37	\$3.84			\$4.180	\$4.053		
May	\$6.72	\$4.27			\$4.150	\$4.086		
June	\$6.63	\$4.16			\$4.030	\$4.139		
July	\$6.92	\$4.72			\$4.060	\$4.207		
Aug	\$6.10	\$4.77			\$4.120	\$4.251		
Sep	\$5.43	\$3.65			\$4.270	\$4.261		
Oct	\$5.13	\$3.84			\$4.450	\$4.337		
Nov	\$5.69	\$3.29			\$4.760	\$4.557		
12 Month Avg	\$6.42	\$4.41			\$4.211	\$4.178		
Summer Average					\$4.180	\$4.191		
Winter Average					\$4.254	\$4.159		





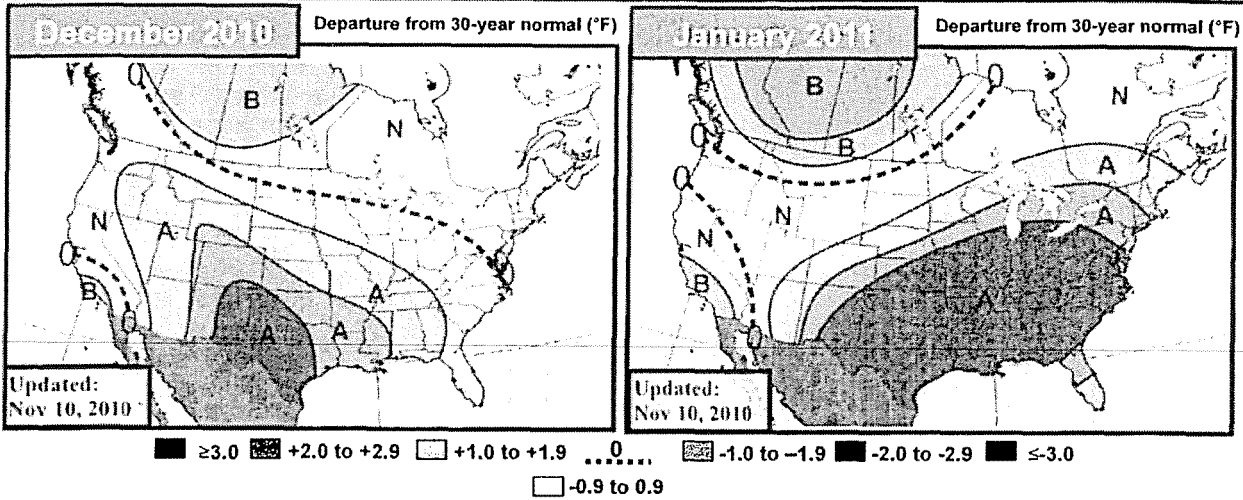




# EarthSat's 30-60 Day Outlook

Wednesday, November 17, 2010

Forecaster: SS/BH/TH



**Previous**

### Greenland block leads to early December chill

Camps expected to warm after early cold event

Some cold changes were made to the forecast across the eastern US, with anomalies trimmed back and eliminated from the East and the upper Midwest. The reason for this cold change is an expected Greenland block that looks to establish itself late in November and sustain through at least the first part of December, allowing cold air to spill into the Eastern US. The GFS ensemble mean outlook shows the NAO trending strongly negative through early December, while the GFS ensemble shows strong height anomalies in the Arctic. The forecast could trend even colder if blocking persists, which would lead to a pattern that is somewhat similar to what the CFS is showing for December. However, in past La Nina events which started out cold in December, the month as a whole still ended up quite warm as blocking broke down and La Nina took over (see Editors notes for more details).

**Dec GWHDD\*\* Forecasts** \*10Y Normal updated to '00-09

<b>Dec 2010 Fcst:</b>	<b>852.0</b>	<b>10Y Normal*</b>	868.1
		<b>30Y Normal</b>	873.8
		<b>Dec-2009</b>	926.8

Change: +15 \*\*National Gas-Weighted HDDs

**Previous**

### No changes to forecast

La Nina keeps forecast warmer than normal

No changes were made to the forecast in January with a moderate to strong La Nina favoring widespread warmth across the southern, central and eastern US while cold air builds across western Canada. The ECMWF ensemble monthly outlooks that came out earlier this week support this warmer outlook, showing widespread above normal temperatures from the Southwest through the Rockies, Plains, Midwest and East, with the strongest warmth in the southern Plains and Texas. The latest ENSO analogs offer up a bit of a colder risk to the forecast however, showing below normal temperatures in the Northeast and some stronger cold extending from the Canadian Prairies down into the northern Plains and upper Midwest.

**Jan GWHDD\*\* Forecasts** \*10Y Normal updated to '00-09

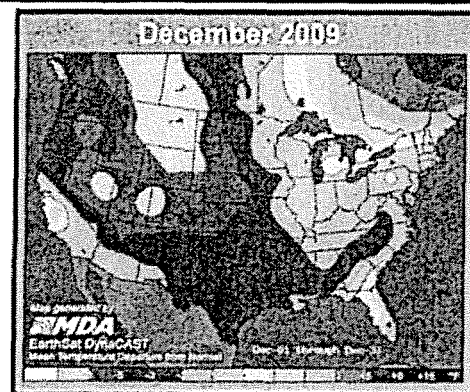
<b>Jan 2011 Fcst:</b>	<b>910.0</b>	<b>10Y Normal*</b>	926.1
		<b>30Y Normal</b>	977.6
		<b>Jan-2010</b>	989.5

No change \*\*National Gas-Weighted HDDs

### Tracking November

Final 30 Day Outlook, Final 30 Day Outlook, Final November 1st, Current Forecast (11/17/10)

The first half of the month has had little to no change, while a colder trend has occurred through the 30-day outlook. Overall, the 30-day outlook has shifted towards a mix of above normal in the Rocky Mountains and western Midwest, and below normal in the Southwest. The 30-day outlook is now a bit cooler than the 30-day outlook from the 11/10/10, with a slight warming in the Southwest. The 30-day outlook is now a bit cooler than the 30-day outlook from the 11/10/10, with a slight warming in the Southwest. The 30-day outlook is now a bit cooler than the 30-day outlook from the 11/10/10, with a slight warming in the Southwest.



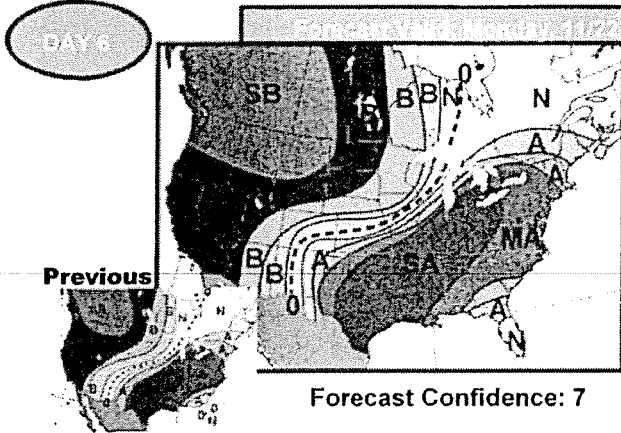


# EarthSat's 6-10 Day Forecast-Detailed

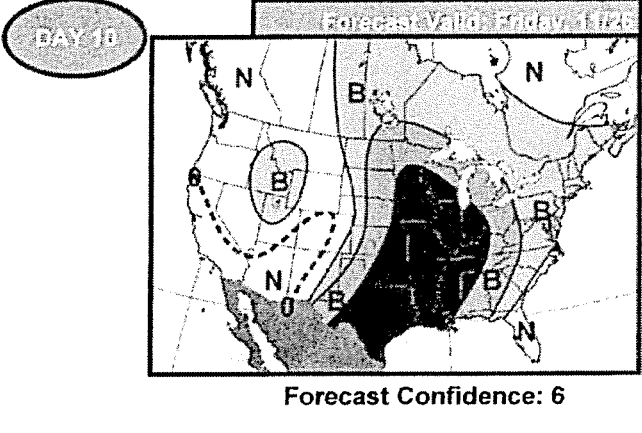
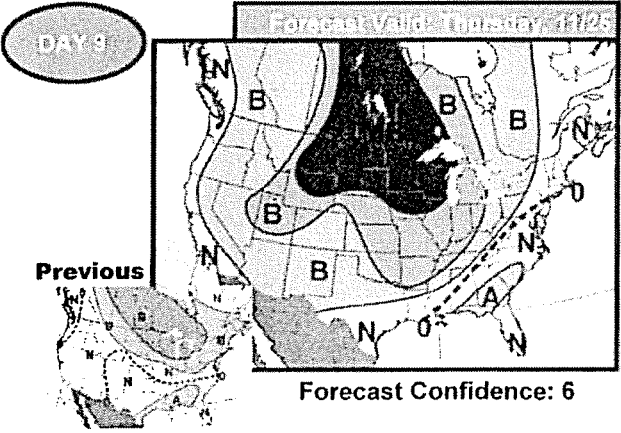
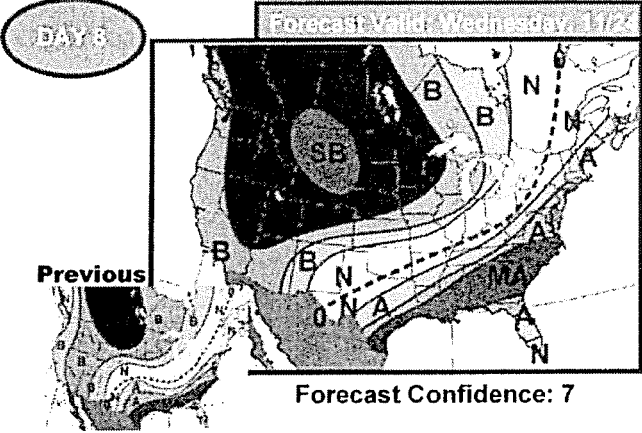
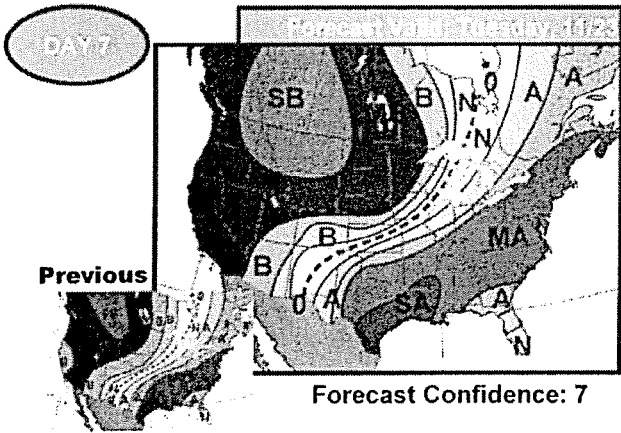
Wednesday, November 17, 2010

Forecaster: BH/AC

## Forecast Temperature Deviations



**Today's Forecast:**  
**Very Cold Air Presses Into Plains, Midwest Late**  
**Above To Much Aboves For East Through First Half**  
A strong cold air mass in western Canada dives into the Plains and Midwest by the latter part of the period. Compared to yesterday's outlook, the cold air mass is a little stronger and faster in reaching these areas. Meanwhile, there remains the potential for colder readings to exist across the Plains and Midwest in the form of more widespread much below to even strong below temperatures. The only model appearing to be an outlier for the forecast is the European operational model, which dissipates this cold air quickly. Timing of the cold air mass into these regions will continue to be a concern as well. The progression of the cold air into the East does occur, but the core of the colder air may stay just to the west of the East Coast late.



A +3F to +4F  
  A +5F to +7F  
  MA +8F to +14F  
  SA +15 or Higher  
 B -3F to -4F  
  B -5F to -7F  
  MB -8F to -14F  
  SB -15 or Lower

**North American Gas Forecast Monthly**



October 27, 2010

**NATURAL GAS**

**GAS PRICE SCORECARD: JANUARY – MARCH 2011**

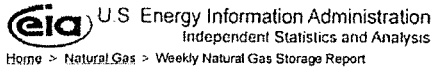
Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
<i>U.S. Production</i>		With the gas market approaching 2011 without large drilling pullbacks, the potential for a massive supply glut is becoming increasingly likely. PIRA's metrics suggest that a gas rig reduction of 230 or so from current levels is needed.
<i>LNG Imports</i>		The global LNG "surplus" is being absorbed by high overseas demand and constrained Russian exports. In 1Q11, LNG imports are forecast to decline by ~0.6 BCF/D, but a mild European/Asian winter poses an upside risk.
<i>Canadian Exports</i>		Canadian exports early next year will depend on the uncertain size of storage draws and the pace of WCSB production declines. Alberta's drilling recovery could narrow production losses relative to our Reference Case.
<i>Mexican Pipeline Imports</i>		Slower gas demand growth should mitigate rising Mexican dependency on U.S. supply, but near-term domestic risks appear weighted toward the downside.
<i>Storage Levels</i>		Thanks in part to mild October weather, this month's net storage build should reach an all-time October high, and November 1 <sup>st</sup> stocks will also hit a record high for that date.
U.S. Demand Issues	Outlook	Commentary
<i>Economy</i>		The latest ISM and Dallas Fed surveys indicate that the near-term outlook for manufacturing will lead to slower expansion, but Gulf Coast "Energy Belt" prospects look better than those for the U.S. as a whole.
<i>Electric Generation</i>		An even lower Henry Hub gas price forecast than before is not expected to trigger sizable Y/Y gains by gas-fired EG in early 2011, partly because gas already had captured large-scale market share from coal EG in the Eastern Grid.
<i>Industrial Sector</i>		More moderate Y/Y industrial gas demand growth has become increasingly evident alongside PIRA's GUMI calculation of gas-weighted manufacturing output. Y/Y demand gains should fall decidedly under 1 BCF/D.
<i>Res/Com Heating</i>		PIRA's "Hybrid" (i.e. the average of 30-year and 10-year normal HDDs) points to ~1.5 BCF/D 1Q11 Y/Y losses with "conservation" playing a wildcard role.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>		The expansion in the net non-commercial NYMEX short futures position that began in August ended in recent weeks likely in deference to uncertainty associated with temperatures during the approaching heating season. The threat of renewed selling, however, remains a bearish risk as does increased hedging on the part of producers.
Overall Assessment	Outlook	Commentary
<i>Price Outlook</i>		The past month's Henry Hub gas price meltdown from a \$3.89 September average to recent front-month NYMEX contract lows between \$3.30 and \$3.40 looks fully justified by the pace of storage builds. The outlook for 1Q11 storage accordingly has jumped to unmatched high levels.

PIRA  
 North American Gas Price Overview  
 Per MMBTU  
 October 27, 2010 Release

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008	\$	Average 2009	\$	Average 2010	\$	Average 2011	
Summer 2008	\$	Summer 2009	\$	Summer 2010	\$	Summer 2011	
Winter 2008- 2009	\$	Winter 2009- 2010	\$	Winter 2010- 2011	\$		

Weekly Natural Gas Storage Report



[Glossary](#)

Weekly Natural Gas Storage Report

[Release Schedule](#)  
[Sign Up for Email Updates](#)

Released: November 10, 2010 at 12:00 p.m. (eastern time) for the Week Ending November 5, 2010  
 Next Release: November 18, 2010

Working Gas in Underground Storage, Lower 48

other formats: [Summary](#) [IXI](#) [CSV](#)

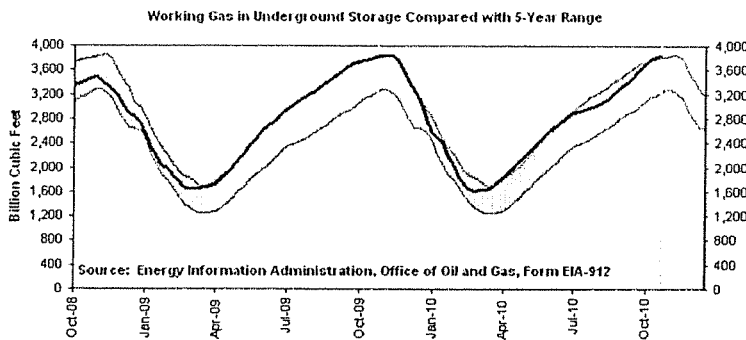
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	11/05/10	10/29/10	Change	Year Ago (11/05/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	2,087	2,087	0	2,092	-0.2	2,004	4.1
West	520	516	4	520	0.0	473	9.9
Producing	1,233	1,218	15	1,198	2.9	1,021	20.8
<b>Total</b>	<b>3,840</b>	<b>3,821</b>	<b>19</b>	<b>3,809</b>	<b>0.8</b>	<b>3,498</b>	<b>9.8</b>

Notes and Definitions

Summary

Working gas in storage was 3,840 Bcf as of Friday, November 5, 2010, according to EIA estimates. This represents a net increase of 19 Bcf from the previous week. Stocks were 31 Bcf higher than last year at this time and 342 Bcf above the 5-year average of 3,498 Bcf. In the East Region, stocks were 83 Bcf above the 5-year average following no net change in storage levels. Stocks in the Producing Region were 212 Bcf above the 5-year average of 1,021 Bcf after a net injection of 15 Bcf. Stocks in the West Region were 47 Bcf above the 5-year average after a net addition of 4 Bcf. At 3,840 Bcf, total working gas is above the 5-year historical range.

- 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



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2005 through 2009. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

# Gas Daily

Thursday, October 21, 2010

## Barclays: 2011 'littered with bearish indicators'

A return to more normal weather, coupled with continued increases in gas production from shale plays, has analysts at Barclays Capital cutting their price forecast for 2011 below \$4/MMBtu.

"The beatings will continue until morale improves," James Crandell's team at the investment bank quipped in a note issued late Tuesday. Without a drop in the US rig count below 800 — something Barclays doesn't see on the horizon — current price levels will likely continue for at least the next year and possibly longer.

"We expect only a moderate pullback of drilling in 2011, with the rig count dropping to 900 by the end of next year," the report said. "This would yield continued supply growth and leave 2011 more oversupplied than 2010. Perhaps more telling, it would carry supply momentum into 2012 as well."

As a result, Barclays reduced its 2011 average US spot price forecast by about 4%, to \$3.94/MMBtu, and cut its 2012 price forecast by 17% to \$4.50/MMBtu. "2011 is expected to be littered with bearish indicators," Barclays said. "Aggregate demand is likely to drop in 2011, largely owing to an assumed return to normal weather."

The bank did predict a slight uptick in industrial demand even as residential and commercial demand stay flat next year. That leaves it to the power-generation sector to absorb the surplus gas, meaning prices must stay low enough to prompt fuel-switching. "Prices in 2011 will likely be forced to drop to levels that chew a hole in the market share of coal," the analysts said.

Barclays also cut its long-term forecast for gas prices by 10%, to 5.25/MMBtu in 2015, again believing that drillers will continue producing more gas than the market demands.

"A turnaround in prices must, therefore, come from a turn in producer actions," Barclays concluded. "While we are not predicting that producers will forever oversupply the market, there is no sign of a meaningful drilling cut on the horizon. Cash prices alone will not force the rig count lower." — Bill Holland

# Gas Daily

Wednesday, November 10, 2010

## Gas prices to remain at \$4 for several years in oversupplied market: analyst

**US gas prices are expected to remain in the \$4/MMBtu area for the next couple of years as industrial demand remains soft and production remains robust, a gas market analyst said Tuesday.**

Kevin Petak, vice president of gas market modeling at ICF International, said in a webinar that while industrial demand dropped off during the 2007-2009 recession, gas production continued to rise as unconventional shale gas production took off.

The Fairfax, Virginia-based analyst noted that **gas rigs peaked at 1,500 before the recession and fell off to around 700 as \$3/MMBtu to \$4/MMBtu prices persisted. But in the summer of 2009, drilling activity bounced to about 1,000 rigs where it has remained over the past year, he noted.**

**Even more telling is that over the past decade, the mix of vertical and horizontal rigs has changed with horizontal rigs now making up 70-80% of the rig activity in the past year, he said.**

The boon of horizontal drilling in the prolific shales has made it possible for producers to coax more gas out of the ground with fewer wells as they discover more efficient drilling methods, he said.

**Petak also noted that about half of North America's shale gas is economically recoverable at \$5/MMBtu with a 14% to 16% .return on equity.**

In the near term, Petak said he sees modest gas demand growth, most of which will come from industrials in an post-recession market.

Long term, however, Petak said he expects gas prices to get better as the demand increases from the electricity sector. "The total growth in the power sector is expected to double over the next 20 years," he said, adding that the projection is not inconsistent with the 2000-2008 trend before the recession trimmed demand.

By 2025, the growth in electrical load growth and the rebound in the economy will push demand from 70 Bcf/d to 100 Bcf/d, he said, noting that supply will grow to meet the demand.

Meeting that demand should not prove difficult as currently, the North American market has 300 Tcf of proven reserves and 3,400 Tcf of unproved reserves, he said. That is enough gas to satisfy current consumption levels for 140 years, he said.

**Petak said he expects to see a gradual increase in prices over the next several years to 2020 with prices stabilizing in the \$6/MMBtu to \$7/MMBtu area.**

"\$3/MMBtu to \$4/MMBtu is not sufficient enough to make the robust production growth needed over time," he said, adding that producers will have to "run hard on the treadmill" to meet the increased demand over the next decades. — Cheryl Buchta

# Gas Daily

Tuesday, November 16, 2010

## Analyst: Prices heading for 2011 'train wreck'

**US gas supplies will be 3 Bcf/d higher in 2011 than 2010 and, without extreme weather, prices are "heading for another train wreck" next year,** investment bank Raymond James said Monday.

Raymond James analyst John Freeman said an analysis of production data from publicly traded producers shows gas supplies increasing by as much as 1.5 Bcf/d in the fourth quarter after posting gains of 500,000 Mcf/d in the third quarter and 400,000 Mcf/d in the second quarter.

"This fits the (fairly linear) growth trend that we've observed since late 2009, with supply growth averaging 250,000 to 500,000 Mcf/ each month," Freeman said. "Our back-of-the-envelope math suggests September production could be up 500,000 to 1 Bcf/d."

Driving the production gains are the large independent US producers, Freeman said, while the supermajors are focused on more international projects.

**He cautioned the market not to count on a repeat of higher winter gas prices this year, as opposed to last year when intense cold snaps drew down storage inventories quickly. "Extreme weather-related demand sucked about 1.25 to 2 Bcf/d out of the system vs. seasonal norms. As such, we would expect withdrawals to be meaningfully lower this year under more normalized weather conditions," he said.**

**"Simple math tells us that under more normalized weather, we're actually looking at an astonishing 1.8 to 1.9 Tcf of gas in storage at the end of winter,"** Freeman said.

"\$4/Mcf gas? Who cares? Drill, baby, drill," he quipped. "Maybe that's not exactly what's going through operators' minds, but the resiliency of the natural gas rig count over the past seven months has shown a considerable degree of inelasticity to natural gas prices."

Freeman posited several reasons for the trend: **drillers holding leases through production, independents shifting to liquids-rich plays, producers increasing hedging to bolster wellhead gas values, and joint-venture partners carrying the bulk of drilling costs.**

"It's easier to drill when other people pay for it," he noted. — *Bill Holland*



# Gas Daily

Wednesday, November 10, 2010

## High gas prices could return despite glut: ConocoPhillips analyst

Calling shale a "game changer" has become a cliché in the natural gas world for good reason, but it hasn't changed the market's susceptibility to erratic prices. ConocoPhillips analyst Jim Duncan said Tuesday.

"Even though we've got this big pressure of the oversupply sitting on top of natural gas, you will see that this market is still volatile, and volatility says it can go up regardless of the fundamentals," Duncan told the LDC Gas Forum in Toronto.

Duncan, director of market analysis for ConocoPhillips Gas and Power, told the group of about 300 Canadian gas buyers to count on uncertain prices as drillers react to the shale glut.

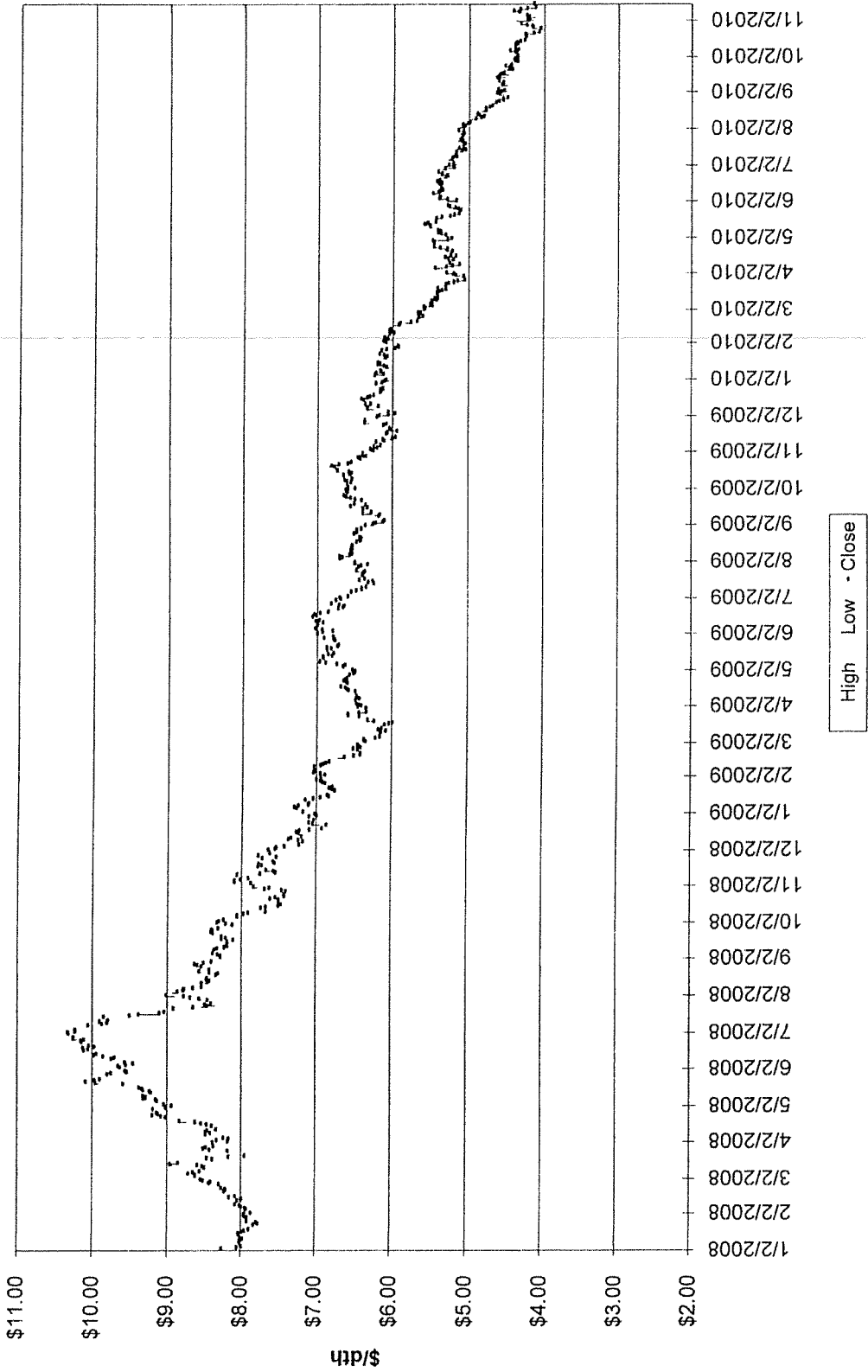
"The mass move to oil has not even started yet," he said. "As we get further into next year, more and more rigs will be pulled into the oil side, which will ultimately impact natural gas. That's the series that the price has shown over the past several years."

Duncan said five factors could jolt the gas market: oil prices and oil-rich shale plays; the severity of winter; a double-dip recession, which he said isn't likely; and legislative attempts to boost gas consumption on the grounds that it is more environmentally friendly than other fossil fuels.

His pitch that gas buyers consider the possibility of future price spikes wasn't without self-interest, he admitted.

"Yes, we can see that natural gas has very little to go downward," Duncan said. "The endgame for long-term stability in pricing is to do something about the low prices now and work with somebody who can supply you, which of course we can." — *Meghan Gordon*

Summer Strip 2011



# Short-Term Energy Outlook

November 9, 2010 Release  
(Next update December 7, 2010)

## Natural Gas

**U.S. Natural Gas Consumption.** This month's *Outlook* forecasts that total natural gas consumption will grow by 4.3 percent to 65.0 billion cubic feet per day (Bcf/d) in 2010, and then rise slightly in 2011 to 65.4 Bcf/d. This growth in 2010 is largely due to increases in industrial and electric power sector consumption of natural gas. Hot weather in the summer and low natural gas prices drove the increased use of natural gas for electric power generation in 2010. Forecast population-weighted cooling degree-days for the United States drop by 16 percent, from 1,460 in 2010 to 1,231 in 2011. As a result, natural gas consumption for electric power generation falls slightly in 2011, even as natural gas prices drop.

**Residential consumption of natural gas, which remains flat from 2009 to 2010, will rise by 1.8 percent in 2011, corresponding to a predicted 2.9-percent increase in heating degree-days.** In the first quarter of 2011, residential natural gas consumption will average 25.8 Bcf/d, a decline of about 3 percent from the first quarter of 2010, when cold weather drove residential consumption. Commercial and residential consumption will remain flat in 2010 and rise slightly in 2011.

**U.S. Natural Gas Production and Imports.** EIA is raising the marketed natural gas production forecast by an average of 0.2 Bcf/d in 2010 and 0.4 Bcf/d in 2011 compared with last month's *Outlook*. **Marketed natural gas production in the current forecast increases by 2.5 percent this year, but still falls by 1.2 percent in 2011. The drop in 2011 is a result of a 13.5-percent production decline in GOM production, which is only partially offset by a small increase in lower-48 production. The relatively greater decline in GOM production in 2011 is due to an estimated 90 Bcf less production because of the 2010 drilling moratorium and the projected increase in hurricane-induced production outages of about 30 Bcf in the GOM next year compared with a relatively calm season this year.**

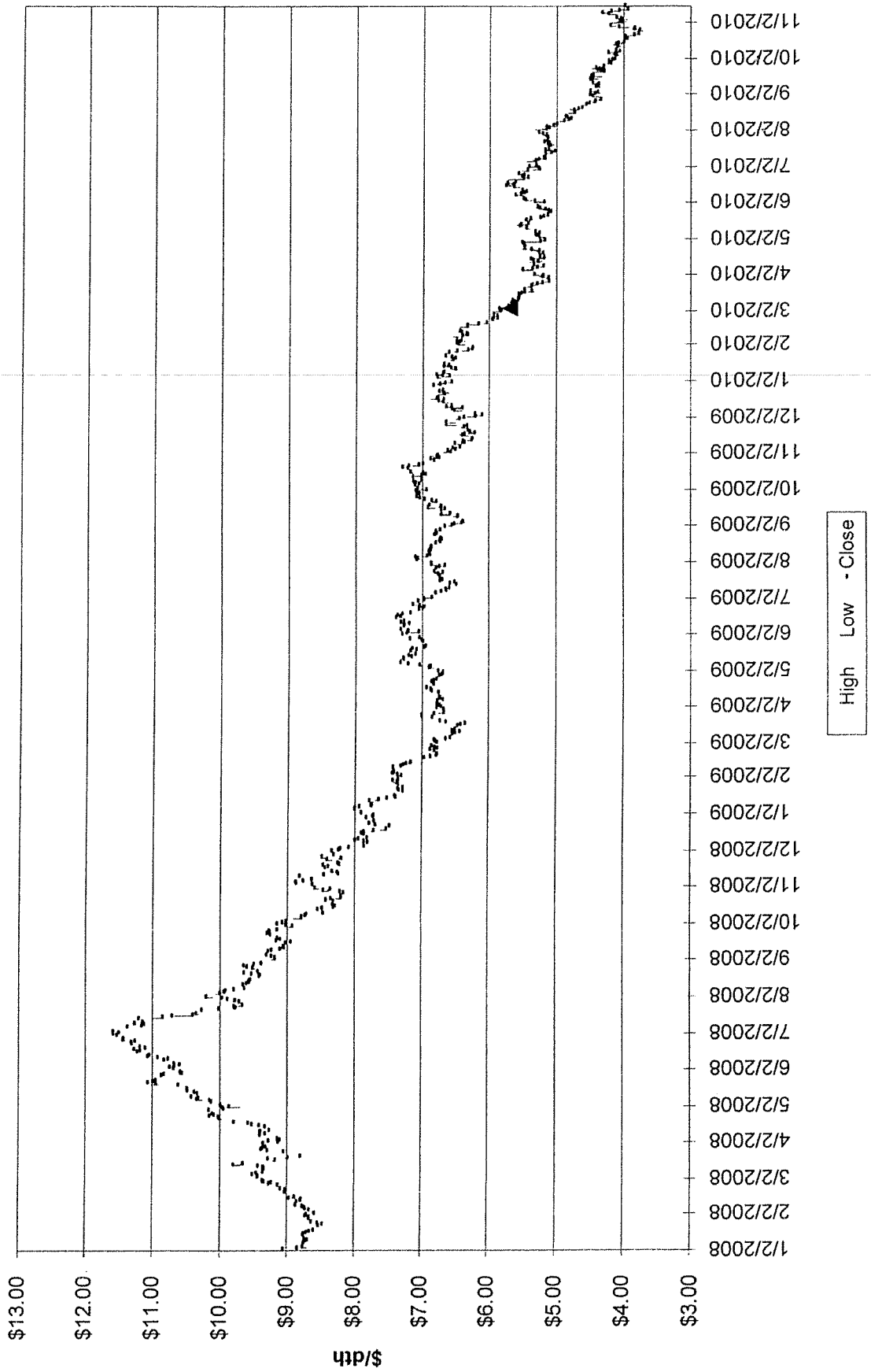
The increase in the natural-gas-directed drilling rig count since mid-2009, comprised of a growing share of horizontal drilling rigs in the lower-48 states, contributed to the natural gas production growth in 2010. The number of rigs drilling for natural gas reported by Baker Hughes increased from a low of 665 in July 2009 to 973 in April 2010. Over the last 6 months the natural gas rig count has stayed relatively unchanged, ending October 2010 with 969 active rigs. Drilling activity declines modestly in 2011 because of relatively lower natural gas prices. The large price difference between petroleum liquids and natural gas prices on an energy-equivalent basis contributes to an expected shift towards drilling in shale formations that contain a higher proportion of liquids.

EIA expects gross pipeline imports of 9.1 Bcf/d in 2011, an increase of 1.4 percent compared with 2010 imports. Projected liquefied natural gas (LNG) imports average 1.27 Bcf/d in 2010, a 2.3 percent increase from the 2009 levels. High domestic production and low U.S. prices relative to European and Asian markets have discouraged LNG imports into North America. However, LNG imports grow slightly in 2011 to 1.32 Bcf/d, a 4.5-percent increase from 2010 levels.

## Global Crude Oil and Liquid Fuels

**Crude Oil and Liquid Fuels Overview.** Growth in global oil consumption remains strong. In the current *Outlook*, the projected growth in world real GDP (weighted by oil consumption) is 3.9 percent in 2010. Continued upward revisions this year's world oil consumption, particularly for Europe and China, have led to an expected world consumption growth of 2.0 million bbl/d for 2010. EIA expects this consumption growth to be met in almost equal parts by a 1.0 million bbl/d increase in production from Organization of the Petroleum Exporting Countries (OPEC) and 1.0 million bbl/d increase in non-OPEC supply. While commercial oil inventories in the Organization for Economic Cooperation and Development (OECD) countries remain high, floating oil storage has been declining. EIA believes that the projected gradual reduction in OECD oil inventories over the forecast period should lend support to firming oil prices.

Winter Strip Nov10 - Mar11



50

Residential gas consumption is expected to remain flat from 2009 to 2010 before increasing by 1.8% next year thanks to a predicted 2.9% hike in heating degree-days.

According to EIA, commercial and residential consumption will remain flat in 2010 and rise slightly in 2011.

EIA raised its month-ago forecast for marketed natural gas production by an average of 200,000 Mcf/d in 2010 and 400,000 Mcf/d next year. It now expects production to increase 2.5% this year before falling by 1.2% in 2011.

The falloff next year was pegged to a projected 13.5% decline in Gulf of Mexico production, only partially offset by a small increase in Lower-48 state production.

# Gas Daily

Wednesday, November 10, 2010

## EIA slashes gas price forecast by 50 cents

Pointing to robust production and storage levels, along with mild weather and the absence of significant hurricane activity, the Energy Information Administration on Tuesday again slashed its gas price estimates, while noting that demand has begun to rebound.

The November short-term energy outlook includes a 4.3% increase in US gas consumption this year, higher pipeline and liquefied natural gas imports next year, a hike in marketed gas production for this year but a drop in 2011, and a net gas storage withdrawal in November.

EIA cut 50 cents from its month-ago projection for fourth-quarter Henry Hub spot prices, putting the new target at \$3.66/MMBtu. The first-quarter 2011 estimate was cut 44 cents to \$4.21/MMBtu.

Similar reductions were made in annual targets, with the 2010 spot price now expected to average \$4.35/MMBtu, down 12 cents from October's report, and 2011 down 27 cents to \$4.31/MMBtu. The adjustment for 2011 was "based on the upward revisions in the domestic production and inventory forecasts."

The Henry Hub spot price averaged \$3.45/MMBtu in October, a drop of 43 cents from September, the agency reported. "The decline in prices over the past two months was partly the result of high production, mild weather, and the absence of significant hurricane activity in the Gulf of Mexico, all of which contributed to the large inventory build," said the report.

The projected price rise to \$4.22/MMBtu in January was pegged to the increase in winter space-heating demand.

EIA also said that "uncertainty over future natural gas prices is slightly higher this year compared with last year at this time," noting that gas futures for January 2011 delivery (for the five-day period ending November 4) averaged \$4.13/MMBtu, "and the average implied volatility over the same period was 41%." This produced lower and upper bounds for the 95% confidence interval for January 2011 contracts of \$3.06/MMBtu and \$5.59/MMBtu, respectively.

"At this time last year, the natural gas January 2010 futures contract averaged \$5.20/MMBtu and implied volatility averaged 35%," it said, noting that the corresponding lower and upper limits of the 95% confidence interval were \$3.52/MMBtu and \$7.67/MMBtu.

On the demand side, EIA now expects consumption this year of 65 Bcf/d, a 4.3% hike over 2009, "largely due to increases in industrial and electric power sector consumption." Hot weather in the summer and low prices were responsible for the robust gas consumption by electric generators, said the report.

Looking ahead to 2011, the agency sees a very slight increase in demand to 65.4 Bcf/d.

Projected population-weighted cooling degree-days for the US dropped by 16%, from 1,460 in 2010 to 1,231 in 2011, according to the report. "As a result, natural gas consumption for electric power generation falls slightly in 2011, even as natural gas prices drop."

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**November 9, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	4.22
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	4.24
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	4.18
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	4.18
May-08	11.27	May-09	3.83	May-10	4.14	May-11	4.15
Jun-08	12.69	Jun-09	3.80	Jun-10	4.80	Jun-11	4.03
Jul-08	11.09	Jul-09	3.38	Jul-10	4.63	Jul-11	4.06
Aug-08	8.26	Aug-09	3.14	Aug-10	4.32	Aug-11	4.12
Sep-08	7.67	Sep-09	2.97	Sep-10	3.89	Sep-11	4.27
Oct-08	6.74	Oct-09	4.00	Oct-10	3.43	Oct-11	4.45
Nov-08	6.68	Nov-09	3.66	Nov-10	3.67	Nov-11	4.76
Dec-08	5.82	Dec-09	5.34	Dec-10	3.87	Dec-11	5.06
Average 2008	\$ 8.862	Average 2009	\$ 3.943	Average 2010	\$ 4.352	Average 2011	\$ 4.310
Summer 2008	\$ 9.700	Summer 2009	\$ 3.516	Summer 2010	\$ 4.177	Summer 2011	\$ 4.180
Winter 2008- 2009	\$ 5.242	Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.036		

Duke Energy  
 Hedging Program  
 Remaining Base Not Yet Locked In  
 Winter 2010-11

	Dth/Day					Total	% System Supply
	November	December	January	February	March		
<u>Duke Energy Ohio</u> Previously Hedged	[REDACTED]						
Total System Supply	[REDACTED]						
<u>Duke Energy Kentucky</u> Previously Hedged	[REDACTED]						
Total System Supply	[REDACTED]						
<u>Duke Energy--Total</u> Previously Hedged al						[REDACTED]	



Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
December 15, 2010

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Dec 10–Feb 11)	↓ ↑	Long	NOAA predicting above average temperatures for December 2010–February 2011 for large portions of the CONUS. Weather Services International is predicting colder-than-normal weather for the northern half of the CONUS for the period.	10-11
Mid Term Forecast (30-60 days)	↑ ↓	Long	January is predicted to be 1.5% colder than normal based on 10 year normals and February weather is predicted to be 4.3% warmer than normal.	12
Short Term Forecast (6-10 days)	↑	Short	Below normal temperatures in North, Central and Eastern portions of CONUS with above normal temperatures in West and Southwest.	13
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↑	Long	Storage withdrawals for the week ending December 3rd were 89 BCF. Storage levels are at 3.725 TCF which is 1.5% lower than last year and 9.8% higher than the 5 year average. Storage withdrawals to be reported on Thursday are expected in the 150 BCF range, which is well above average.	14
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011 Winter 2010/11	↓	Long	GAS PRICE SCORECARD: January–March 2011 PIRA's price outlook is Bearish. "The arrival of peak seasonal demand, warnings of a major cold air influx, and new evidence that the U.S. gas rig count has finally peaked are encouraging bullish market sentiment that could generate an escalation of producer hedging that would inhibit the required pullback of gas rigs in 2011."	15-16
Gas Daily	↓	Long	"Domestic natural gas volume growth will continue to be driven by still elevated drilling activities in several prolific shale gas plays as well as operational efficiency gains". UBS reduced 2010 forecast by 6% to \$4.39/MMBtu and 2011 forecast by 8% to \$4.60/MMBtu.	17
Gas Daily	↑	Long	Prices are expected to turnaround by the middle of 2011 as producers feel the effects of fewer forward hedges, expiring leases, reduced spending by foreign investors and concerns about an oversupply of natural gas liquids.	18-19
Gas Daily	↑	Long	Stricter US regulations on air emissions will force the retirement of older coal plants starting 2011 with natural gas-fired plants potentially gaining another 5 Bcf/d of the power-generation market by 2015.	20-21
Gas Daily	↑	Long	Fracking has been effectively banned in New York's portion of the Marcellus Shale for nearly two years while the state conducts an environmental impact study on the drilling technique's effect on water quality.	22-23
Gas Daily	↑	Long	Lease sales planned for the Gulf of Mexico in March and August of 2011 will be pushed back until late next year at the earliest as part of a revamped offshore drilling plan.	24-25
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$4.186 Winter 2010/11: \$4.106	↓	Long	The projected Henry Hub natural gas spot price averages \$4.37/MMBtu for 2010, a \$0.42/MMBtu increase over the 2009 average. EIA expects the Henry Hub spot price to average \$4.33/MMBtu in 2011.	26
<b>Technical Analysis</b>				
Winter 2010-11 Strip Chart	↑	Short	Closed at \$4.42	27
Summer 2011 Strip Chart	↑	Short	Closed at \$4.50	28
<b>Economy</b>				
Demand	↔	Long	EIA projects total natural gas consumption will average 66 Bcf/day in 2010 (6% increase from 2009) and then drop slightly in 2011 to 65.4 Bcf/d. Growth in gas used for power generation and industrial users account for the majority of the increase from 2009 to 2010.	29
Supply	↔	Long	EIA expects total marketed natural gas production to increase by 3.5% in 2010 and decrease by 0.1% in 2011. The decline of 14.3% in GOM production in 2011 is mostly offset by a 1.4% increase in the lower 48 non-GOM production.	29
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$84 per barrel for the winter (Oct. 1–Mar 31) more than \$6.00 per barrel increase over last winter. Growth in global oil consumption remains strong. Continued upward revisions of this year's world oil consumption have led to an expected world consumption growth of 2.0 million bbl/d for 2010. Projected WTI prices rise to \$89 per barrel by the end of 2011.	29

**Meeting Minutes: 10th Floor North Conference Room - 1:00 pm**  
Attendees: Jeff Kern, Jim Mehring, Mitch Marton, Mike Brumback, Joachim Fischesser, Terry Bates, Steve Niederbaumer

Discussed market fundamentals such as weather, storage inventory levels, and economic factors such as supply and demand. Discussed the PIRA 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 positions within Ohio and Kentucky hedging plans and that no additional hedging is required under the plans at this time. In addition, discussed the spreads between current NYMEX prices, forecasts, and historical prices. Discussed the cold December temperatures impact on NYMEX price. After much discussion, a decision was made not to hedge additional gas for the Winter of 2010/2011. In addition, a decision was made to closely monitor pricing on the 2-year strip beginning April 2011 to March 2013.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 12/14/10

	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth/day)</b>												
Fixed Price												
Fixed Price												
Collar												
Fixed Price												
Fixed Price												
Fixed Price												
Collar												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>Amt Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 12/14/10

Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12

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

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

Winter  
 Summer

Estimated EGC per Dth at City Gate

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

Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 12/14/10

Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13

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)

TBD  
 TBD  
 TBD

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

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

Winter  
 Summer

Estimated EGC per Dth at City Gate

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

Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

12/14/2010

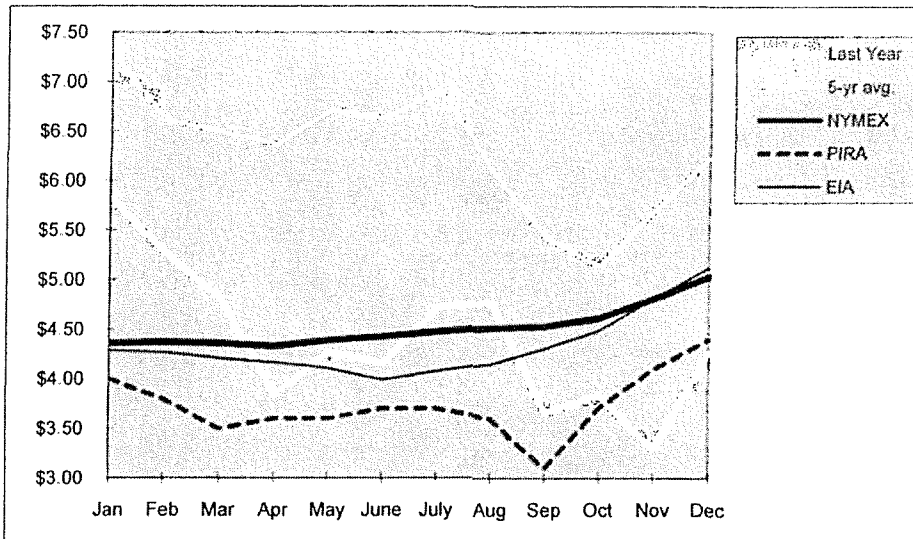
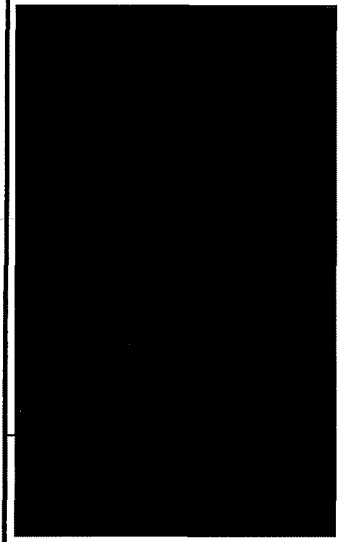
Duke Energy Kentucky  
 Hedging Program  
 Current Position

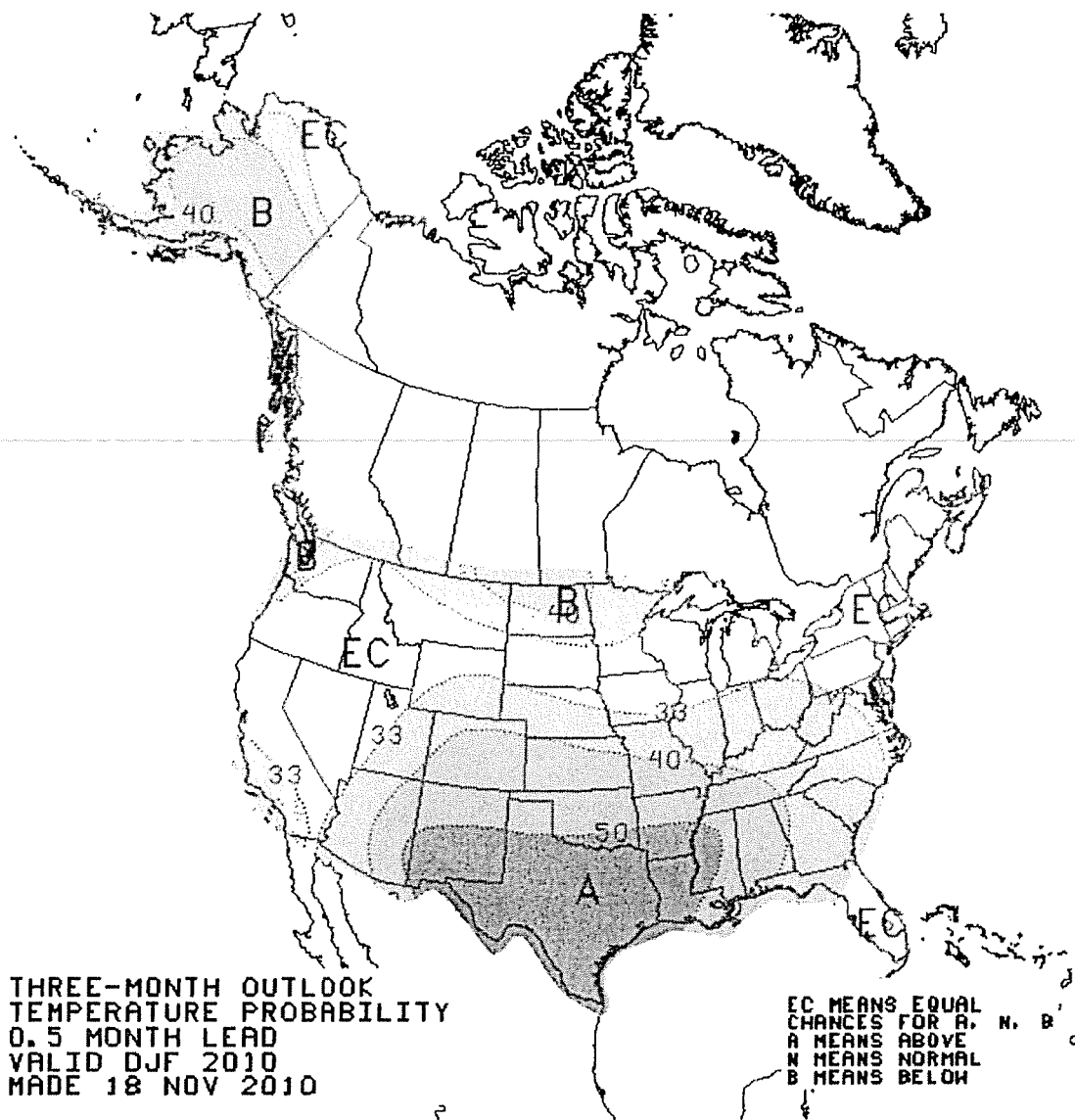
Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (3/31/11)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2011					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2011					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2011					
Apr-13					
May-13					
Jun-13					
Jul-13					
Aug-13					
Sep-13					
Oct-13					
Summer 2013					
Target Levels By March 31, 2011					

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

Historic Prices:						
NYMEX Closing Price						
	5-yr. avg. (05/06-09/10)	Last Year (2009-2010)		PIRA 23-Nov-10	EIA 7-Dec-10	NYMEX 14-Dec-10
Jan	\$7.28	\$5.81			\$4.290	\$4.358
Feb	\$6.61	\$5.27			\$4.270	\$4.374
Mar	\$6.49	\$4.82			\$4.210	\$4.360
Apr	\$6.37	\$3.84			\$4.170	\$4.331
May	\$6.72	\$4.27			\$4.110	\$4.390
June	\$6.63	\$4.16			\$3.990	\$4.425
July	\$6.92	\$4.72			\$4.080	\$4.477
Aug	\$6.10	\$4.77			\$4.150	\$4.515
Sep	\$5.43	\$3.65			\$4.310	\$4.532
Oct	\$5.13	\$3.84			\$4.490	\$4.615
Nov	\$5.69	\$3.29			\$4.810	\$4.808
Dec	\$6.23	\$4.27			\$5.120	\$5.034
12 Month Avg	\$6.30	\$4.39			\$4.333	\$4.518
Summer Average					\$4.186	\$4.469
Winter Average					\$4.540	\$4.587

Hedged Prices  
 Ohio Kentucky





# Gas Daily

Tuesday, November 23, 2010

## WSI: Winter months to average colder than normal in northern states

The northern half of the US can expect colder-than-normal weather through the next three months, while the southern states can expect higher-than-normal temperatures on average, private forecaster Weather Services International said Monday.

"The strong La Niña event combined with the persistent negative phase of the North Atlantic Oscillation should result in a cold winter across most of the northern half of the US this winter, especially across the northern Rockies and the north-central states," said WSI Chief Meteorologist Todd Crawford. "A very mild winter is likely in south-central states, where 13 of the last 14 moderate/strong La Niña events have been warm."

The eastern states are expected to average close to normal, with the best chances for cold weather in December, he said, adding that any mild spells may be short-lived.

WSI predicts 2,474 natural gas-weighted heating degree days overall for December through February, within 1% of the 1971-2000 mean and 4% less than last year. Electric-weighted heating degree days are expected to be 10% less than last year. — *Stephanie Seay*

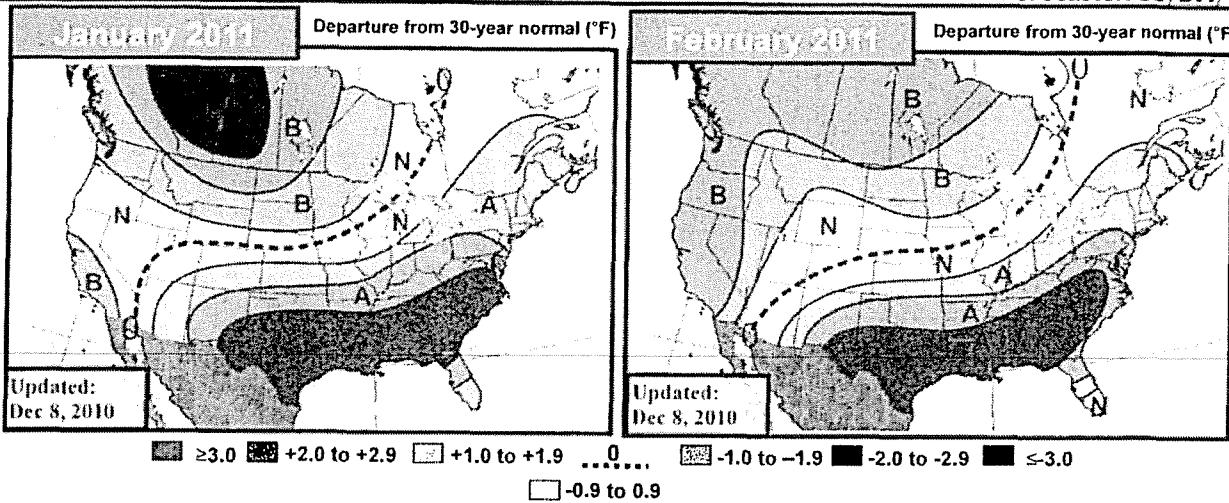




# EarthSat's 30-60 Day Outlook

Wednesday, December 08, 2010

Forecaster: SS/BH/TH



**Previous**

**Colder Overall, Especially Northwest to Midwest**

La Nina still allows for warmth across the South

On the heels of a very cold December, the January outlook has been cooled a bit with more widespread belows across the northern Rockies and northern Plains, and some slight weakening of the aboves in the South and southern Midwest. Whether or not this forecast verifies will depend on the strong upper-latitude blocking pattern that has dominated the weather thus far in December can break down and allow for a more typical La Nina-like pattern to resume. For guidance as to whether or not this is realistic, we look for any other moderate/strong La Nina years that were cold-dominated in December. The years that match that description best are 1955 and 1950. The composite result of those years is indeed warmer in January.

**Previous**

Minor cold changes in the Midwest

Colder in Western Canada

Some minor cold changes were made to the February outlook, but overall the theme remains the same with warmer conditions expected across the South and East and colder conditions expected in the West. As with the January forecast, the risks to this forecast will be highly dependent on whether additional period of upper latitude blocking can develop. If we again look at 1950 and 1955 as analog years for this cold start of winter, we see the map in the lower right which shows generally good agreement the pattern that we show, though the magnitude of the cold in the West and into the northern Plains is much greater than we're expecting, while more widespread warmth is seen into the Northeast and Eastern Canada.

**Jan GWHDD\*\* Forecasts** \*10Y Normal updated to '00-09

10Y Normal*	926.1
30Y Normal	977.6
Jan-2010	989.5

**Jan 2011 Fcst:** **940.0**

Change: +20

\*\*National Gas-Weighted HDDs

**Feb GWHDD\*\* Forecasts** \*10Y Normal updated to '00-09

10Y Normal*	783.0
30Y Normal	789.5
Jan-2010	850.5

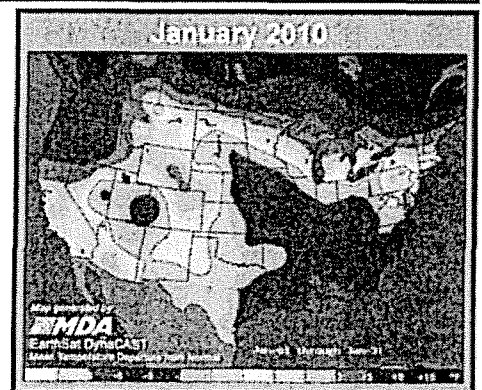
**Feb 2011 Fcst:** **749.0**

Change: +5

\*\*National Gas-Weighted HDDs

**December so far**

After a very successful November forecast, this is a very little question on the December forecast. Looking at the 30-day outlook, the pattern remains consistent with the 15-day outlook. The pattern is similar to that of the 15-day outlook, with a strong upper-latitude blocking pattern that has dominated the weather thus far in December. The pattern is similar to that of the 15-day outlook, with a strong upper-latitude blocking pattern that has dominated the weather thus far in December. The pattern is similar to that of the 15-day outlook, with a strong upper-latitude blocking pattern that has dominated the weather thus far in December.



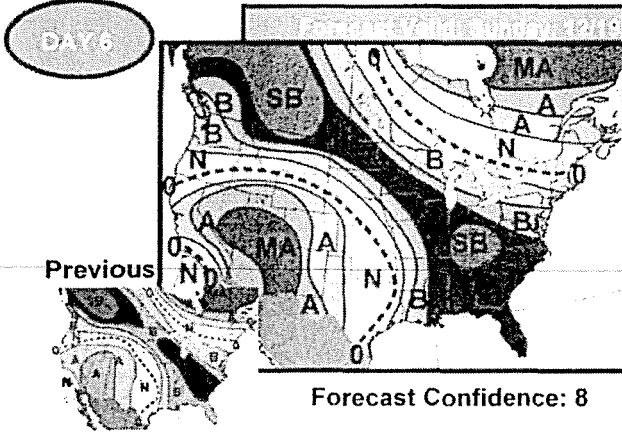


# EarthSat's 6-10 Day Forecast-Detailed

Tuesday, December 14, 2010

Forecaster: KT/AC

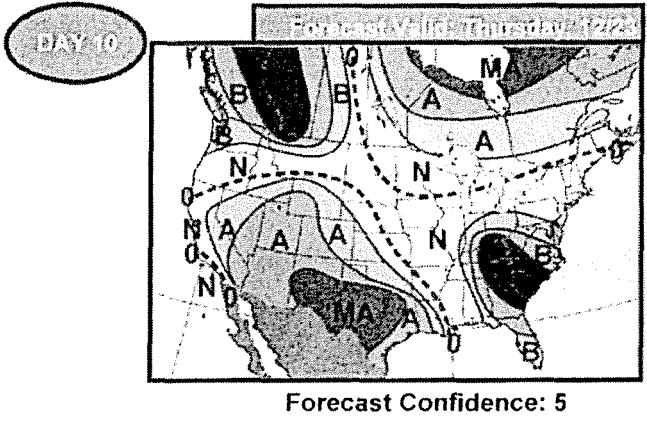
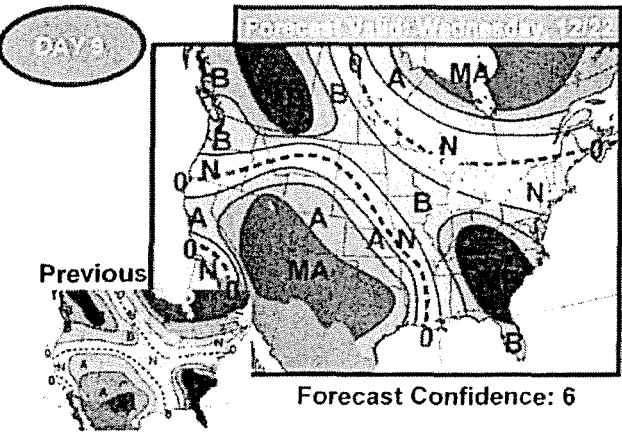
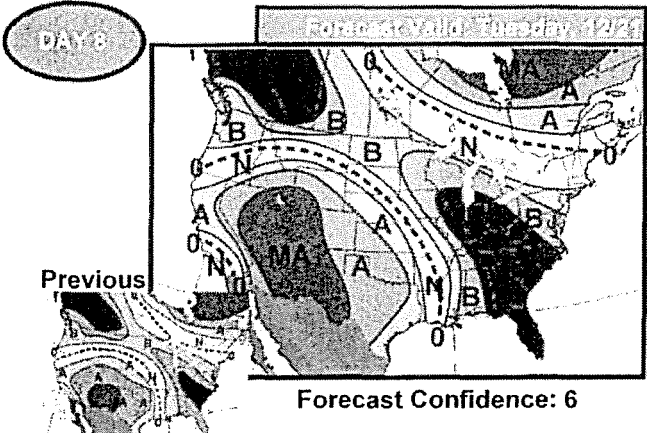
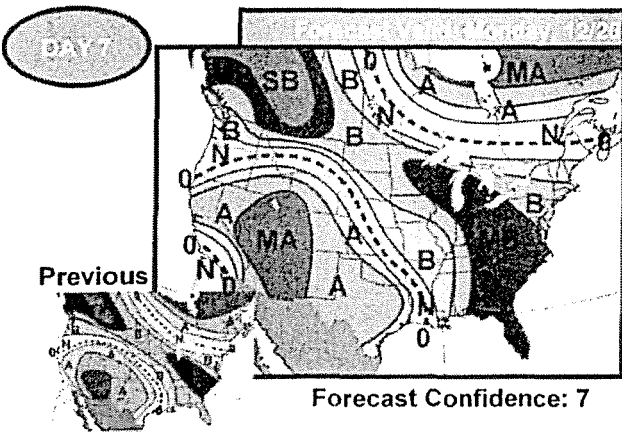
## Forecast Validity: Monday, 12/20



### Today's Forecast:

#### Slightly Colder Outlook For Mid-Atlantic, MW Early Much Aboves Aim To Reach Texas Late

Temperatures were dropped a little more across the Midwest and Mid-Atlantic region during the early part of the period as a storm system off the East Coast filters colder air further into these regions. There is still room for readings to be colder in the eastern Midwest. Continued ridging across the southern half of the Interior West permits more widespread much above normal conditions for the Four Corners region. This warmth advances into Texas during the latter part of the period with the operational models most aggressive with pushing in these conditions for Texas. Strong below normal temperatures persist through the first half of the period across western Canada, but ease to much belows by the latter part of the period.



A +3F to +4F  
  A +5F to +7F  
  MA +8F to +14F  
  SA +15 or Higher  
 B -3F to -4F  
  B -5F to -7F  
  MB -8F to -14F  
  SB -15 or Lower

## Weekly Natural Gas Storage Report

Released: December 8, 2010 at 10:30 a.m. (eastern time) for the Week Ending December 3, 2010  
Next Release: December 16, 2010

### Working Gas in Underground Storage, Lower 48

other formats: [Summary.TXI](#) [CSV](#)

Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	12/03/10	11/26/10	Change	Year Ago (12/03/09)		5-Year (2005-2009) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	2,002	2,053	-51	2,065	-3.1	1,921	4.2
West	477	498	-21	518	-7.9	462	3.2
Producing	1,246	1,263	-17	1,198	4.0	1,010	23.4
<b>Total</b>	<b>3,725</b>	<b>3,814</b>	<b>-89</b>	<b>3,782</b>	<b>-1.5</b>	<b>3,393</b>	<b>9.8</b>

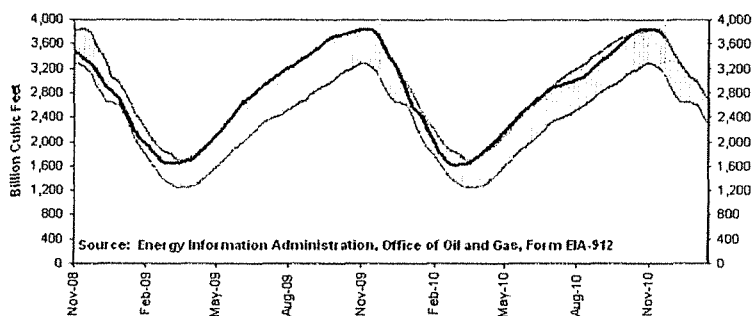
#### Notes and Definitions

#### Summary

Working gas in storage was 3,725 Bcf as of Friday, December 3, 2010, according to EIA estimates. This represents a net decline of 89 Bcf from the previous week. Stocks were 57 Bcf less than last year at this time and 332 Bcf above the 5-year average of 3,393 Bcf. In the East Region, stocks were 81 Bcf above the 5-year average following net withdrawals of 51 Bcf. Stocks in the Producing Region were 236 Bcf above the 5-year average of 1,010 Bcf after a net withdrawal of 17 Bcf. Stocks in the West Region were 15 Bcf above the 5-year average after a net drawdown of 21 Bcf. At 3,725 Bcf, total working gas is within the 5-year historical range.

- 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

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 2005 through 2009.  
Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

PIRA  
 North American Gas Price Overview  
 Per MMBTU  
 November 23, 2010 Release

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008	\$	Average 2009	\$	Average 2010		Average 2011	\$
Summer 2008	\$	Summer 2009	\$	Summer 2010		Summer 2011	\$
Winter 2008- 2009	\$	Winter 2009- 2010	\$	Winter 2010- 2011			

North American Gas Forecast Monthly



November 23, 2010

NATURAL GAS

**GAS PRICE SCORECARD: JANUARY – MARCH 2011**

Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
U.S. Production		Despite the past two weekly pullbacks of gas-oriented rig counts, dry gas production looks headed for further sequential gains into 1H11. A contributing factor will be the backlog of drilled but uncompleted gas wells.
LNG Imports		The lull in U.S. LNG imports continues with minimal prospects for a meaningful uptick before 2Q11. But attention is shifting toward future LNG exports from the GOM with Sabine Pass and Freeport leading and China the destination.
Canadian Exports		Canadian gas rig counts remain depressed by historical standards, but the structural transformation in Alberta will result in much higher rig productivity than before.
Mexican Pipeline Imports		Major uncertainty lingers over how Mexico will cope with production declines in older oil fields, and related stepped-up spending could reduce resources directed at gas plays.
Storage Levels		Given extremely difficult Y/Y comparison in Dec-Feb R/C heating and growing Lower 48 production, a whopping ~0.4 TCF storage surplus looks plausible by end-Feb-11.
U.S. Demand Issues	Outlook	Commentary
Economy		The latest macro-economic readings have been generally positive since the launch of QE2, but inventory accumulation remains a dangerous backbone for incremental manufacturing activity.
Electric Generation		Lower gas prices are expected to provide only marginal help for gas-fired EG in early 2011, but the largest battle between gas and coal for EG market share may be on the horizon partly depending on the curtailment of production growth.
Industrial Sector		Y/Y industrial gas demand growth has shown further signs of fading from its remarkably strong pace throughout 1H10, and gains in the coming months seem likely to remain modest.
Res/Com Heating		PIRA's "hybrid" GWHDD assumption points to a Y/Y decline in R/C gas heating of 3-4 BCF/D (300 BCF) from December through February.
Other Issues	Outlook	Commentary
NYMEX Prices and Speculation		A ~50,000 lot decline in NYMEX Managed Money short positions was followed by two weeks ended Nov. 16 <sup>th</sup> , in which those shorts increased by ~10,000 lots. Renewed short covering, as well as an influx of outright buying, was likely at work given the price gains booked after Nov. 16 <sup>th</sup> and this has the capacity to feed upon itself in the near term.
Overall Assessment	Outlook	Commentary
Price Outlook		The arrival of peak seasonal demand, warnings of a major cold air influx, and new evidence that the U.S. gas rig count has finally peaked are encouraging bullish market sentiment that could generate an escalation of producer hedging that would inhibit the required pullback of gas rigs in 2011.

# Gas Daily

Monday, December 13, 2010

## UBS slices winter, long-term price forecasts

**Citing continued strong growth in gas production from shale plays, investment bank UBS on Friday cut its fourth-quarter gas price forecast by 20% to \$3.80/MMBtu and its first-quarter 2011 price outlook by 14% to \$4.30/MMBtu.**

"Exploration-and-production management and investors are universally bearish on natural gas prices given current concerns of robust supply growth and a massive inventory of low-cost natural gas shale plays that can be developed," UBS said in a note to clients.

The bank cited recent data from the Energy Information Administration showing that US production grew 5.5% year-over-year in the third quarter and 1.3% between the second and third quarters of this year alone.

**"Domestic natural gas volume growth will continue to be driven by still elevated drilling activities in several prolific shale gas plays as well as operational efficiency gains,"** the report said. "Our E&P team believes this production growth places downward pressure on US gas prices."

**As a result, UBS reduced its full-year 2010 gas price forecast by 6% to \$4.39/MMBtu and its 2011 forecast by 8% to \$4.60/MMBtu. Further out, the bank projected that prices would average \$5/MMBtu in 2012, \$5.50/MMBtu in 2013 and \$6/MMBtu in 2014 — all down about 8% from its previous predictions.**

In all cases, UBS is calling for gas prices slightly below those indicated by the current NYMEX gas futures strip and the consensus estimates of most other analysts.

# Gas Daily

Monday, November 22, 2010

## Analyst: Downward price pressures ease in 2011

**While an abundance of gas has pushed prices to an eight-year low, the market can expect a turnaround by the middle of next year as producers feel the effects of fewer forward hedges, expiring leases, reduced spending by foreign investors and concerns about an oversupply of natural gas liquids,** according to a report released Friday.

**Forward hedges secured in 2009 have insulated gas producers from falling prices, and some have been forced to continue drilling even at a loss because of lease requirements. The production of higher priced liquids from shale plays has also insulated many producers from lower natural gas revenues,** said Valerie Wood, president of Vernon, Wisconsin-based consulting firm Energy Solutions.

**But beginning next year those pressures will ease, Wood said, and by 2012 prices should rebound to the \$5-\$6/MMBtu area.**

**The market can also expect a rebound in demand starting next year,** Wood said. "If the second round of quantitative easing proposed by the Federal Reserve stimulates economic recovery, natural gas prices will begin to respond to the anticipation of renewed demand, particularly from the electric-generation and industrial sectors," she said.

She did warn, however, that the Fed's actions could instead have the opposite effect, devaluing the US dollar and pushing crude oil prices past \$100/barrel, which could hinder consumer spending.

In the gas market, "the speculative sector has continued to retain a very large net short position, which is indicative of their belief that more price downside exists," she said. "By mid-2011, if production levels are declining and demand levels are rising, this sector may shift from being a more aggressive seller to a more aggressive buyer in the marketplace, and buying will push natural gas prices higher."

**In addition to lower gas prices, Wood noted that increased reliance on unconventional shale gas exposes the nation to "longer-term risks," due to less supply diversification. Indeed, increased onshore production could kill plans for an Alaskan or Canadian gas pipeline and raises the potential for force majeure situations when wellheads freeze,** she said.

Already, numerous US and Canadian liquefied natural gas import terminals are underutilized. Next year, more LNG owners are expected to propose plans to convert those facilities into export terminals, Wood said.

Abundant gas supply and lower prices will likely mean accelerated switching of coal-fired power plants to gas, Wood added. That lack of fuel diversity could in turn lead to electric price volatility, she said.

In the near term, "technical indicators point to an early winter or mid-winter price rally, to be followed by another price decline, which will take natural gas prices toward a seasonal first-quarter low," Wood predicted. "Also, history indicates that major price rallies occur two-and-half to three years apart, with the most recent rallies occurring in 2005 and 2008."

**For buyers, "the price bottom may not yet be in, but barring a double-dip recession it is probably close, and the first half of 2011 is expected to provide some very good buying opportunities for the rest of 2011, 2012 and even 2013," Wood said.**

**For sellers, “lower prices aren’t expected to disappear quickly. But by 2012, prices are expected to return to the \$5-\$6/MMBtu range, which should be viewed as more favorable to nationwide production basins.” — Stephanie Seay**



# Gas Daily

Tuesday, December 14, 2010

## FBR: Gas could grab 5 Bcf/d under EPA rules

**Stricter US regulations on air emissions will force the gradual retirement of older coal plants starting next year, investment bank FBR Capital said Monday, with natural gas-fired plants potentially gaining another 5 Bcf/d of the power-generation market by 2015.**

**The retirements will be forced by a slew of toughened Clean Air Act regulations for nitrogen oxides, sulfur dioxides and hazardous air pollutants, such as mercury.** The Environmental Protection Agency plans to start tightening those regulations next year and continuing the squeeze on air pollutants through 2015

**Analyst Ben Salisbury at FBR said as long as gas prices stay below \$6/MMBtu or \$7/MMBtu, it makes economic sense to retire smaller coal plants built more than 30 years ago.** Gas has been trading between \$3.50/MMBtu and \$4.50/MMBtu for most of 2010; on the futures strip for the NYMEX gas contract, prices don't near \$7/MMBtu until January 2020.

"At current gas prices, the temptation to retire coal units and replace them with a combined-cycle gas turbine (CCGT) may be difficult to resist," FBR said.

**FBR's analysis follows two previous studies released within the past month by Deutsche Bank and The Brattle Group, both saying the combination of low gas prices and tighter EPA regulations are setting the stage for gas to capture more of the power market. Gas burns more efficiently in power plants than coal, emitting 50% less carbon with none of the mercury or sulfur dioxides.**

FBR estimates that roughly 45 GW worth of plants will be retired under EPA's new regulations, about 15% of the coal-fired fleet and 50% of the 100 GW of coal plants that do not have sulfur dioxide scrubbers installed. FBR's analysis includes the 12 GW of capacity already slated for retirement.

FBR said the range of potential retirements could vary between 30 GW and 70 GW, with small units built before 1970s representing 32 GW most likely to be retired. "A low case of 30 GW is plausible, and a high case near 70 GW by 2018 is conceivable based on wide-scale replacement of coal capacity with natural gas," the report said.

The decision to invest in environmental controls versus retiring, replacing or repowering existing coal-fired generation would depend on the strictness of new regulations "and the spread between the cost of gas and coal."

In FBR's estimation, the average retired coal unit would be one that was built in the mid-1960s and fall in the 110 MW-120 MW range with a utilization factor in the low-50% area.

"Compliance will be expensive regardless of whether a utility invests \$700/kW and higher on environment controls or replaces at \$950/kW with a CCGT," it said, with expenditures topping \$80 billion and borne 75% to 80% by regulated utilities, which are responsible for 239 GW of coal-fired generation versus 71 GW owned by merchant utilities.

FBR expects that "regulated utilities will retrofit larger units and replace smaller units with CCGT capacity."

According to the report, the politics of the Midwest will shape the timetable for many of the upcoming retirements, with the Obama administration and EPA being pressured to keep low-cost power prices in Ohio and Indiana, crucial swing vote states, running through the economic downturn.

EPA has already slowed its planned implementation of the new clean air rules. FBR suspects the slowdown, which began with Friday's delay in ozone emission regulations, stems not only from politics but a fear of litigation and concerns about electric grid reliability in some areas.

# Gas Daily

Tuesday, December 14, 2010

## Paterson vetoes drilling ban, then issues his own

**New York Governor David Paterson has ordered a ban on hydraulic fracturing of gas wells until "at least July 1, 2011," and ordered the state's Department of Environmental Conservation to "intensify its analysis" of fracking's potential impact on the environment.**

Paterson, who will leave office next month, also vetoed a bill the New York Legislature passed in late November that would have banned both horizontal fracking and more conventional vertical drilling until May 15.

Paterson's counsel, Peter Kiernan, said the governor's executive order "obviates the need for a moratorium on high-volume fracking. However, vertical drilling has been a fact in this state for 40 years without demonstrable environmental damage. Permitting for such drilling will continue unless the DEC's comprehensive review requires it to be stopped."

Kiernan said that in issuing the order, **the governor "emphasized that there must be absolutely no doubt that high-volume fracking is safe. The enormous revenues that could eventuate from such drilling would not be worth the cost of serious environmental harm. All available evidence, including data from other states, will be examined."**

**Fracking has been effectively banned in New York's portion of the Marcellus Shale for nearly two years while the state conducts an environmental impact study on the drilling technique's effect on water quality.** The legislative ban passed November 30 was designed to give the incoming administration of Governor-Elect Andrew Cuomo — like Paterson, a Democrat — additional time to consider whether fracking should be allowed.

Paterson's actions Saturday succeeded in pleasing both environmentalists and producers, to varying degrees. In a statement, a coalition of 12 environmental groups said the moratorium sets a national precedent and signals Paterson's "understanding that high-volume hydraulic fracturing ... threatens both public health and the environment."

"With today's action, Governor Paterson has acknowledged that fracking poses serious threats to our health and safe drinking water," Kate Sinding with the Natural Resources Defense Council said in a separate statement.

"But this moratorium only protects us so much," Sinding added. "While he has called time-out on some kinds of drilling, there remains a gaping loophole remaining that leaves New Yorkers at risk from the dangers of fracking," she said, referring to the continued allowance of vertical wells. "Because it may be harder to deny permits for horizontal wells once vertical wells are drilled, there is a risk that companies could do an end-run around the ongoing environmental review process."

Brad Gill, executive director the New York Independent Oil and Gas Association, welcomed the governor's decision to veto the legislation, which he said "would have had far-reaching consequences to the state's oil and natural gas industry, and to the communities in which our member companies work."

Gill called the vetoed bill "a flawed piece of legislation replete with unintended and dire consequences for the people and businesses in our industry." He added that producers are hopeful the veto would "set the stage for a more reasoned and rational public discussion about these issues going forward."

**New York Mayor Michael Bloomberg said in a Monday statement that fracking is “a dangerous thing for New York because our water supply comes from there, and if it turns out that it pollutes the water we would have an insurmountable problem that could jeopardize the whole city.”**

“I understand the need for jobs, I understand the need for energy, I’m a big believer that we should convert our electricity generation over to nuclear and to hydro and to natural gas and get away from coal,” he said. But “sometimes you have to make some decisions that aren’t in your short-term economic interests to ensure the safety of everybody long-term.”

In addition to the state’s EIS, the Environmental Protection Agency is conducting a two-year study to determine whether fracking poses a threat to drinking water. — *Rodney White, Jeff Barber*

# Gas Daily

Thursday, December 2, 2010

## Interior curtails offshore leasing; industry irked

Lease sales planned for the Gulf of Mexico in March and August of 2011 will be pushed back until late next year at the earliest as part of a revamped offshore drilling plan, Interior Secretary Ken Salazar announced Wednesday.

Salazar also reversed plans announced in March to open the eastern Gulf of Mexico and parts of the Atlantic to offshore exploration in the upcoming 2012-2017 five-year drilling plan.

Salazar said the lessons learned from April's BP Macondo blowout and oil spill in the Gulf are behind the decision to halt the expansion of offshore drilling announced by President Barack Obama in March, weeks before the accident at the Deepwater Horizon platform.

"As a result of the Deepwater Horizon oil spill, we learned a number of lessons, most importantly that we need to proceed with caution and focus on creating a more stringent regulatory regime," Salazar said in a telephone briefing with reporters.

"As that regime continues to be developed and implemented, we have revised our initial March leasing strategy to focus and expend our critical resources on areas with leases that are currently active," he said. "Our revised strategy lays out a careful, responsible path for meeting our nation's energy needs while protecting our oceans and coastal communities."

Salazar said scientific and environmental analysis of the Atlantic will proceed but that no lease sales will be planned until after 2017. A sale scheduled for next year off the coast of Virginia had already been canceled in the wake of the Macondo spill.

Reaction to the news was predictable, with industry groups saying the more cautious approach would cost jobs while environmental organizations said the new approach was prudent.

**"This decision shuts the door on new development off our nation's coasts and effectively ensures that new American jobs will not be realized," Jack Gerard, president of the American Petroleum Institute, said in a statement. "It will stifle investment, deny billions in revenue for critical government services and increase our dependence on foreign energy sources."**

Virginia Governor Bob McDonnell, an advocate for drilling off his state's coast, called Wednesday's announcement "irresponsible and short-sighted."

"It demonstrates a complete lack of confidence in the entrepreneurial spirit of American industry and its ability to fix the problems experienced in the Gulf spill, and no confidence in the ability of the US government to better plan for and react to offshore emergencies," the Republican governor said.

But environmental groups praised the decision. "Today, anyone who loves our beaches, who fishes in the ocean or who depends on a healthy coastal economy can thank the Obama administration for protecting the Atlantic and Pacific coasts and the west coast of Florida from oil drilling," Environment America said in a statement. "The only way to truly keep our coasts and ocean ecosystems safe is to keep them rig-free."

In the Arctic, lease sales in the Beaufort and Chukchi seas were already put on hold in March and will continue to be off the table, Salazar said. A permit submitted by Shell Oil to explore in the Beaufort Sea will be considered, but additional analysis of Shell's plans could delay the granting of the permit.

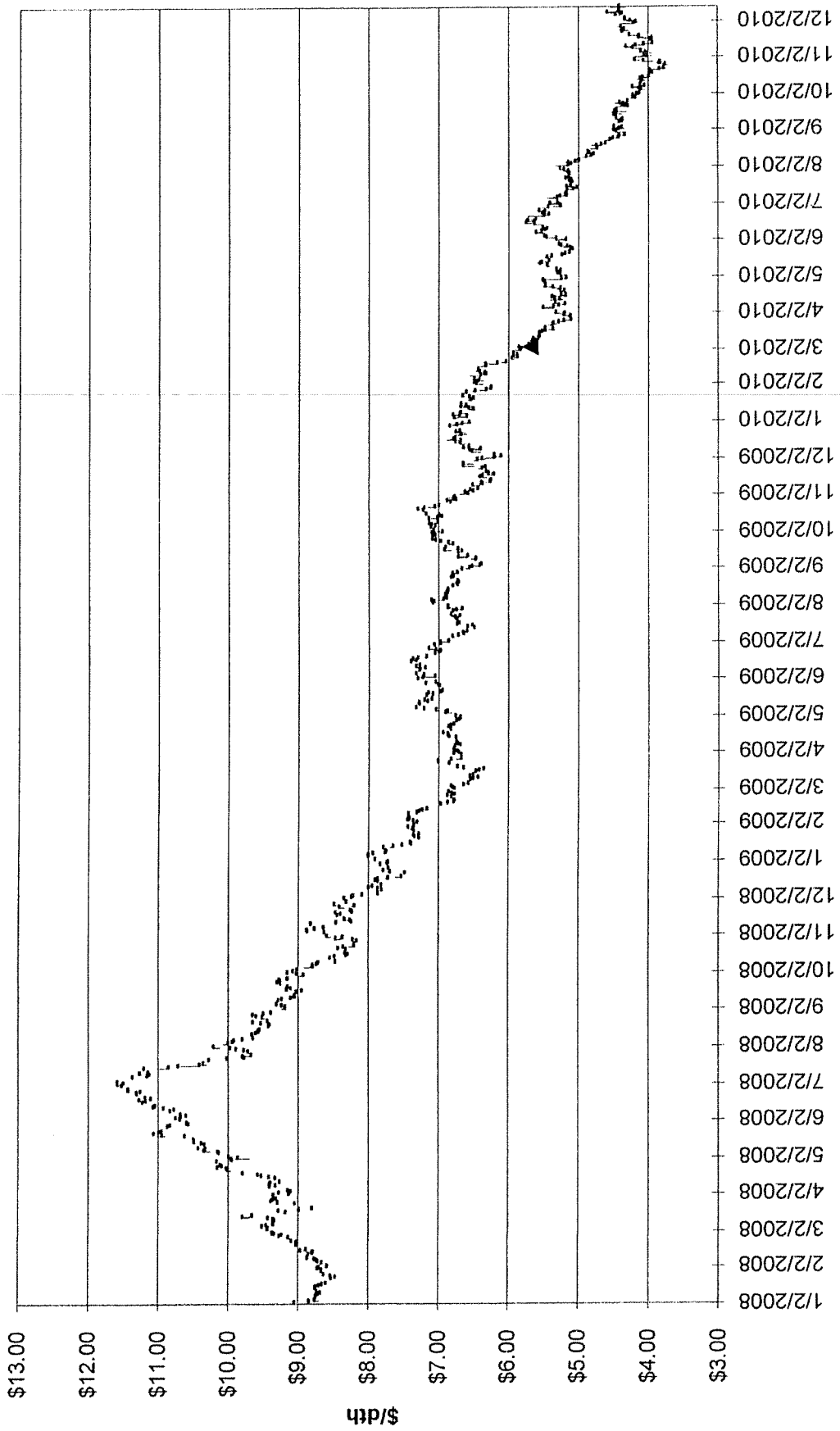
"We are processing their permit in the normal course," Michael Bromwich, director of the Bureau of Ocean Energy Management, Regulation and Enforcement, said during the conference call with reporters. "We're not going to be constrained by any deadlines. We understand that Shell needs a decision. When we have completed our review and analysis, we will be in a position to reach a decision." — *Gary Gentile*

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**December 7, 2010 Release**

Jan-08	7.99	Jan-09	5.24	Jan-10	5.83	Jan-11	4.29
Feb-08	8.54	Feb-09	4.51	Feb-10	5.32	Feb-11	4.27
Mar-08	9.41	Mar-09	3.96	Mar-10	4.29	Mar-11	4.21
Apr-08	10.18	Apr-09	3.49	Apr-10	4.03	Apr-11	4.17
May-08	11.27	May-09	3.83	May-10	4.14	May-11	4.11
Jun-08	12.69	Jun-09	3.80	Jun-10	4.80	Jun-11	3.99
Jul-08	11.09	Jul-09	3.38	Jul-10	4.63	Jul-11	4.08
Aug-08	8.26	Aug-09	3.14	Aug-10	4.32	Aug-11	4.15
Sep-08	7.67	Sep-09	2.97	Sep-10	3.89	Sep-11	4.31
Oct-08	6.74	Oct-09	4.00	Oct-10	3.43	Oct-11	4.49
Nov-08	6.68	Nov-09	3.66	Nov-10	3.71	Nov-11	4.81
Dec-08	5.82	Dec-09	5.34	Dec-10	4.05	Dec-11	5.12
Average 2008	\$ 8.862	Average 2009	\$ 3.943	Average 2010	\$ 4.370	Average 2011	\$ 4.333
Summer 2008	\$ 9.700	Summer 2009	\$ 3.516	Summer 2010	\$ 4.177	Summer 2011	\$ 4.186
Winter 2008- 2009	\$ 5.242	Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.106		

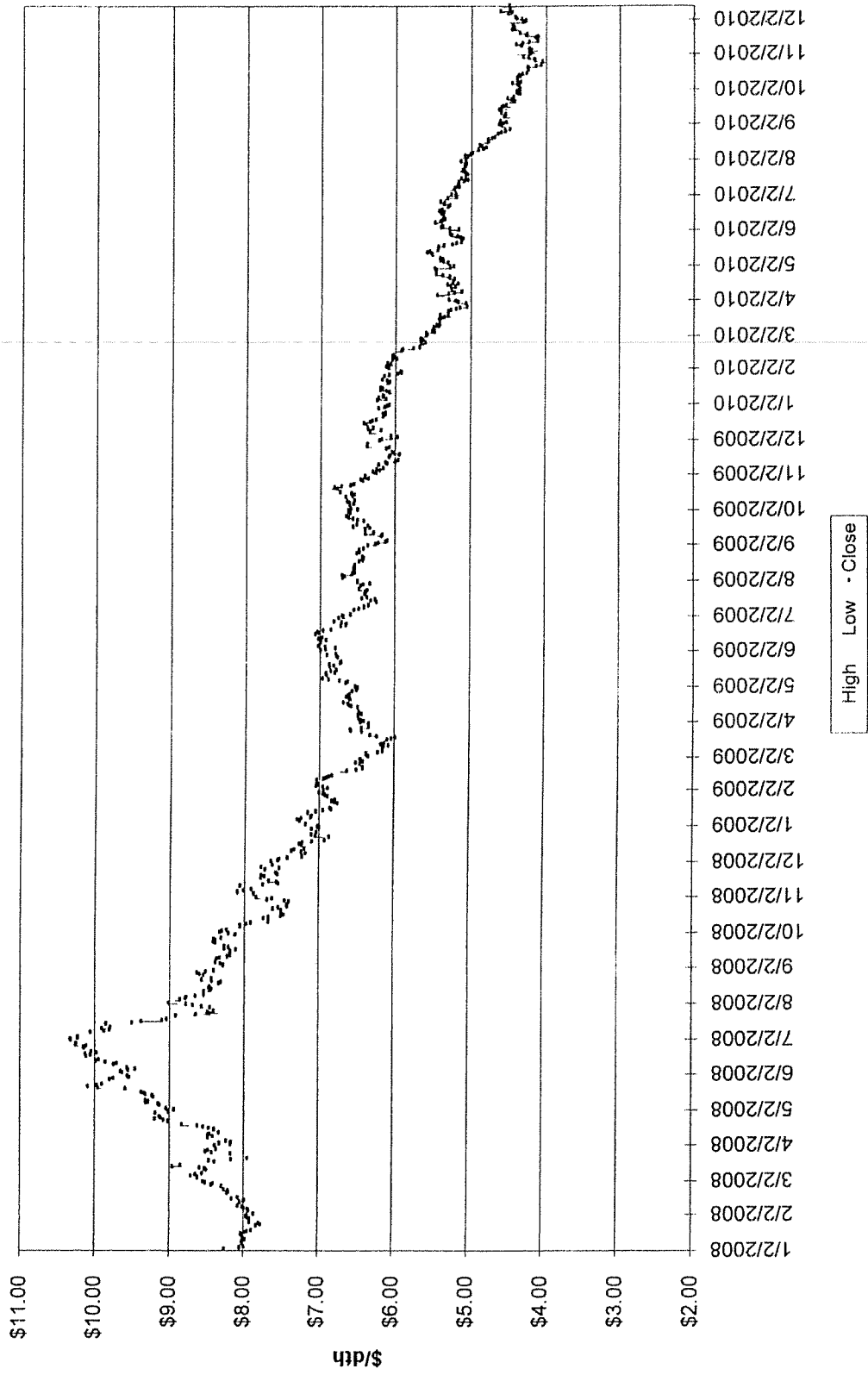
26

Winter Strip Nov10 - Mar11





Summer Strip 2011



# Short-Term Energy Outlook

December 7, 2010 Release  
(Next update January 11, 2011)

## Natural Gas

**U.S. Natural Gas Consumption.** This month's Outlook, for the first time, reflects recent changes in the Form EIA-857 monthly natural gas survey methodology in the forecasts for residential and commercial natural gas consumption. The new survey methodology should not significantly change reported total annual consumption volumes. However, EIA expects significant changes in the seasonality of reported residential and commercial sector natural gas consumption from historical reporting norms as the improved reporting on the EIA-857 leads to more accurate monthly reports. For example, first quarter 2011 forecast residential plus commercial consumption is 1.7 billion cubic feet per day (Bcf/d) lower in this forecast compared with last month's Outlook, while fourth quarter 2011 consumption is 3.8 Bcf/d higher.

**U.S. Natural Gas Production and Imports.** Forecast marketed natural gas production increases by 3.5 percent in 2010, up from 2.5 percent in last month's Outlook. The revision is largely due to unexpectedly high production during the month of September as reported in the EIA Natural Gas Monthly. Natural gas production in 2011 has also been revised upwards, but EIA still predicts a total year-over-year decline of 0.1 percent in 2011. An expected 14.3-percent decline in GOM production is mostly offset by a 1.4 percent increase in the lower 48 non-GOM production.

The increase in the natural-gas-directed drilling rig count since mid-2009, combined with a growing share of horizontal drilling rigs in the lower-48 States, contributed to natural gas production growth in 2010. The number of rigs drilling for natural gas reported by Baker Hughes Incorporated increased from a low of 665 in July 2009 to 973 in April 2010. Over the last 6 months the natural gas rig count has stayed relatively unchanged, but in the last several weeks it has appeared to show the beginning of an expected decline, ending November with 953 rigs. EIA expects drilling activity to decline in 2011 because of relatively lower natural gas prices. The large price difference between petroleum liquids and natural gas prices on an energy-equivalent basis contributes to an expected shift towards drilling in shale formations that contain a higher proportion of liquids.

EIA expects gross pipeline imports of 8.4 Bcf/d in 2011, a decrease of 6.3 percent compared with 2010 pipeline imports. This is a significant revision of last month's forecast of a 1.4-percent increase. EIA expects that Canadian gas will become less competitive as new U.S. pipelines and increased lower-48 production with lower transport costs displace imports. Projected liquefied natural gas (LNG) imports average 1.25 Bcf/d in 2010, a 1.0-percent increase from 2009 levels. Imports in 2011 fall to 1.21 Bcf/d, a decline of 2.9 percent. High domestic production, high inventories, and low U.S. prices relative to European and Asian markets should continue to discourage LNG imports into North America.

## Global Crude Oil and Liquid Fuels

**Crude Oil and Liquid Fuels Overview.** Gradual tightening in global oil markets continues to support world oil prices. Projected liquid fuels consumption growth of 2 million barrels per day (bbl/d) in 2010 is almost double the growth in supply from countries outside of the Organization of the Petroleum Exporting Countries (OPEC), which has led to rising demand for OPEC crude oil production and declining global oil inventories. While overall commercial oil inventories in the Organization for Economic Cooperation and Development (OECD) countries remain high, stock levels are unevenly distributed with some regions experiencing tightness in recent months. Both floating and reported on-shore inventories have been declining, and EIA believes that the projected continued reduction in OECD stocks over the forecast period should lend support to firming oil prices.

Duke Energy  
 Hedging Program  
 Remaining Base Not Yet Locked In  
 Winter 2010-11

	Dth/Day					Total	% System Supply
	November	December	January	February	March		
<u>Duke Energy Ohio</u> Previously Hedged	[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]							
<b>Total</b> System Supply	[REDACTED]					[REDACTED]	[REDACTED]
<u>Duke Energy Kentucky</u> Previously Hedged	[REDACTED]					[REDACTED]	[REDACTED]
[REDACTED]							
<b>Total</b> System Supply	[REDACTED]					[REDACTED]	[REDACTED]
<u>Duke Energy--Total</u> Previously Hedged	[REDACTED]					[REDACTED]	[REDACTED]
11	[REDACTED]					[REDACTED]	[REDACTED]

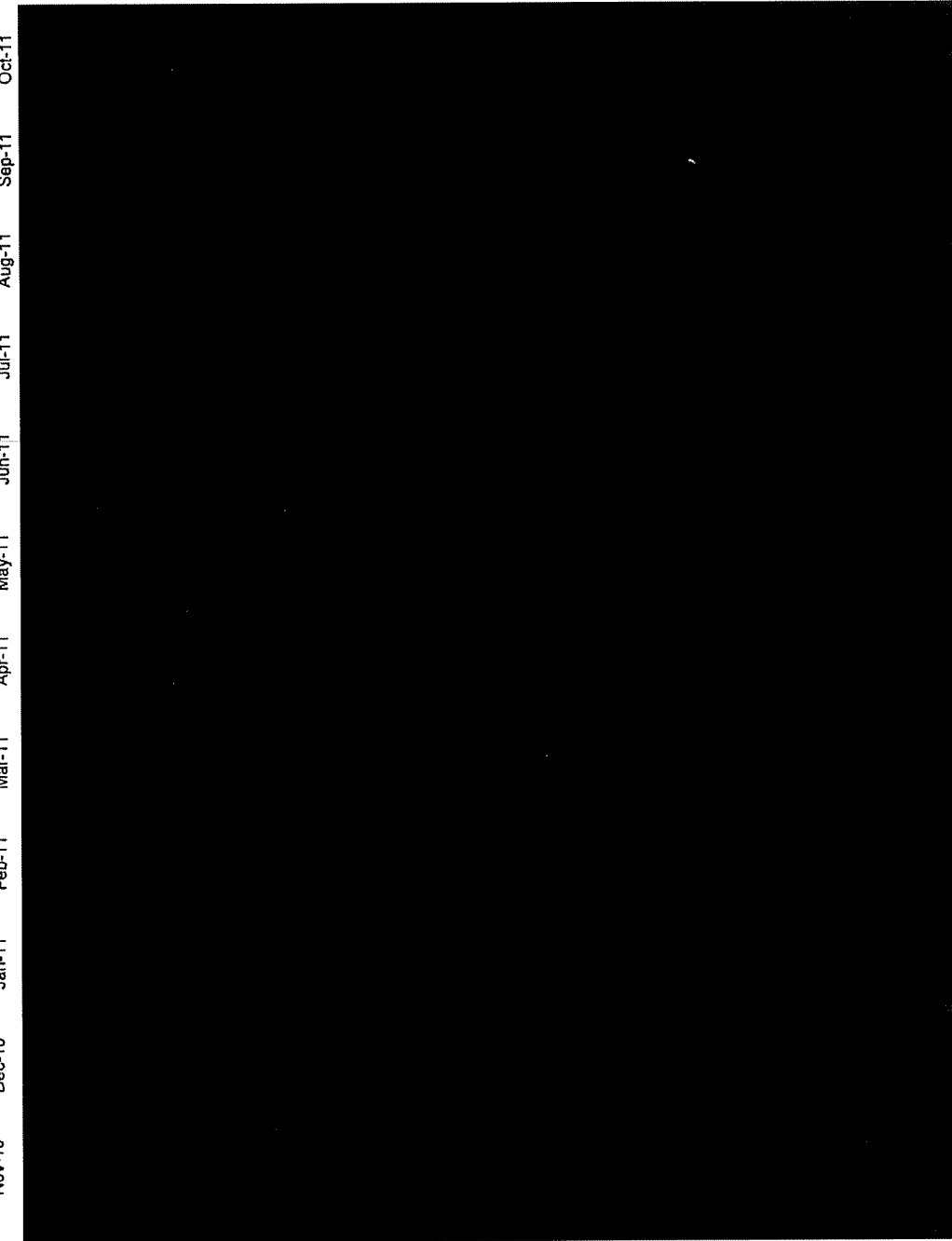
Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
January 20, 2011

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Jan 11–Mar 11)	↓	Long	NOAA predicting above average temperatures for January 2011–March 2011 for large portions of the southern CONUS. Below normals on the west coast and the northern portion of CONUS from the west coast to Michigan.	10
Mid Term Forecast (30-60 days)	↑	Long	February is predicted to be 2.2% colder than normal based on 10 year normals and March weather is predicted to be 9.4% colder than normal.	11
Short Term Forecast (6-10 days)	↑	Short	Below normal temperatures for the Eastern portions of CONUS with above normal temperatures in Northwest	12
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↑	Long	Storage withdrawals for the week ending January 7th were 138 BCF. Storage levels are at 2.959 TCF which is 2.4% higher than last year and 5.8% higher than the 5 year average. Storage withdrawals to be reported on Thursday are expected to be this seasons highest in the 230 BCF range, which is above average but below last years result of 245 BCF.	13
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011: [REDACTED] Winter 2010/11: [REDACTED]	↓	Long	GAS PRICE SCORECARD: January–June 2011. PIRA's price outlook is Bearish. Despite cold-than-normal weather, 1st quarter storage levels are unlikely to sink below last year's levels barring very cold weather. Rising production should push coal-to-gas substitution higher, but not materially impact prices.	14-15
Gas Daily	↓	Long	In its Annual Energy Outlook for 2011, EIA more than doubled its estimate of recoverable gas reserves in the US, from 353 Tcf to 827 Tcf. EIA predicts average wellhead prices will stay below \$5/Mcf (in current dollars) through 2022 and remain below \$7/Mcf through 2035.	16
Gas Daily	↑↓	Long	Excess supply is the reason investment bank Macquarie has predicted 2011 prices at \$4.40/MMBtu, \$5.25 for 2012 and \$5.50 for 2013. US gas producers keep drilling because they are making money.	17
Gas Daily	↓	Long	Citing shale boom, Tudor Pickering Holt slashes 2011 US price forecast 20% to \$4/Mcf. E&P companies will produce 1.5 Bcf/day more than the market needs, if price do not fall enough supplies will overwhelm storage capacity.	18
Gas Daily	↓	Long	Gas prices will average \$3.75/Mcf in 2011 and average \$4.25/Mcf for 2012 according to Raymond James. Citing gas supply growth of 5% with little corresponding increase in demand.	19
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$3.900 Winter 2010/11: \$4.536	↑↓	Long	The projected Henry Hub natural gas spot price averages \$4.02/MMBtu for 2011 and \$4.50/MMBtu for 2012. EIA predicted the storage level to be at 1.8 Tcf at the end of March which is about 7% more than a year earlier.	20 & 21
<b>Technical Analysis</b>				
Winter 2011-12 Strip Chart	↑	Short	Closed at \$5.11	22
Summer 2011 Strip Chart	↑	Short	Closed at \$4.62	23
<b>Economy</b>				
Demand	↔	Long	EIA projects total natural gas consumption to decline by 0.9% in 2011. All sectors except industrial are expected to decline. Industrial is projected to increase 1.1%. In 2012, total consumption grows by 1.6% to 66.5 Bcf/day.	24
Supply	↔	Long	Total marketed natural gas production increased significantly in 2010 by an estimated 2.4 Bcf/day or 4.1%. EIA expects average total production to fall by 0.3% in 2011. The projected decline in production in 2011 and increase in natural gas consumption in 2012 contribute to a strengthening of natural gas prices late in this year and next.	24
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$93 per barrel in 2011, \$14 higher than the average 2010 price. For 2012, EIA projects WTI prices to continue to rise, with a forecast average price of \$99 per barrel in the 4th quarter of 2012.	24

**Meeting Minutes: 10th Floor North Conference Room - 1:00 pm**  
*Attendees: Jeff Kern, Mitch Martion, Mike Brumback, Joachim Fischesser, Terry Bates, Steve Niederbauer*  
 Discussed results of December 20, 2010 purchase: ConocoPhillip's was the lowest bidder for a fixed price deal for the period Nov. 1, 2011–Mar. 31, 2013 for [REDACTED] Dth/day for DEK. The winning price was [REDACTED]. In addition, discussed current market conditions including current weather forecasts, storage levels (including the [REDACTED] Bcf withdrawal released 1/20/2011) and various analysts projections as well as EIA's forecasts for Supply and Demand of the Natural Gas markets and Oil prices. Discussed the current hedging positions for both DEO and DEK. Based on the discussion, a determination was made not to propose additional hedging at this time.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 01/18/11

Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11



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 ( [redacted] )  
 Fixed Price ( [redacted] )  
 Collar ( [redacted] )  
 Fixed Price ( [redacted] )  
 Fixed Price ( [redacted] )  
 Fixed Price ( [redacted] )  
 Collar ( [redacted] )  
 Total Hedged (dth/day)  
 Total Hedged (dth)

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

Winter  
 Summer

Estimated ESC per Dth at City Gate

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

Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

4

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 01/18/11

	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12
[REDACTED]												

<b>Load Forecast</b>
City Gate Load Forecast (Mcf)
TCO FSS Injections (Mcf)
Total Requirements (Mcf)
TCO FSS Withdrawals (Mcf)
Other "Withdrawals" (Mcf)
Total Withdrawals (Mcf)
<b>Amount Hedged (dth/day)</b>
Fixed Price
Fixed Price
Fixed Price
Collar
Total Hedged (dth/day)
Total Hedged (dth)
<b>Types of Hedging Products (1)</b>
Fixed Price
Price Caps
No-Cost Collars
<b>Embedded Hedged Cost</b>
Winter
Summer
<b>Estimated EGC per Dth at City Gate</b>
Estimated System Supply (Gross)
Hedged % of System Supply
Seasonal % of System Supply
<b>Amt Hedged with Storage @ City Gate</b>
Hedged (City Gate) (Dth)
Storage Withdrawal (Dth)
Market (Dth)
Total (incl. Injections) (Dth)
% Hedged & Storage
Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

5

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 01/18/11

Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13

**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  
 TBD  
 TBD  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Amt. Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

1/18/2011

Duke Energy Kentucky  
 Hedging Program  
 Current Position

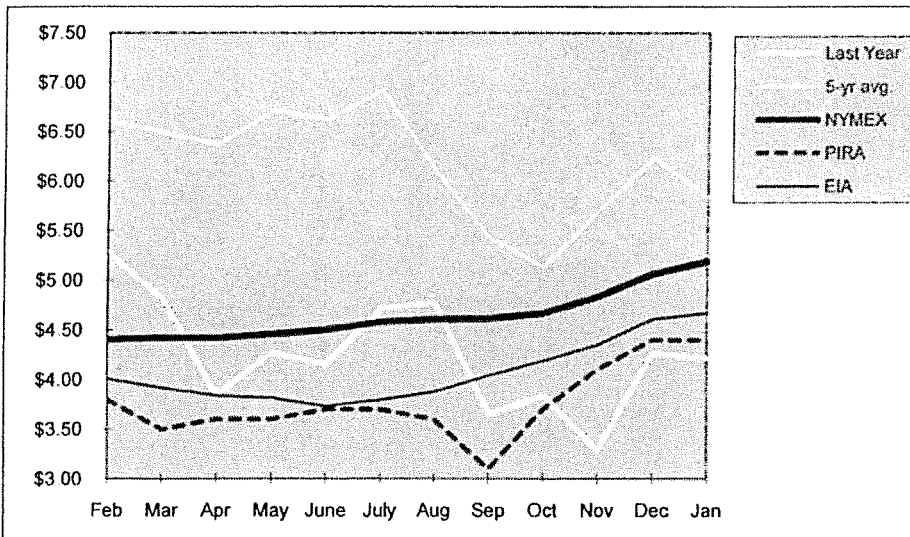
Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (3/31/11)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2011					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2011					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2011					
Apr-13					
May-13					
Jun-13					
Jul-13					
Aug-13					
Sep-13					
Oct-13					
Summer 2013					
Target Levels By March 31, 2011					

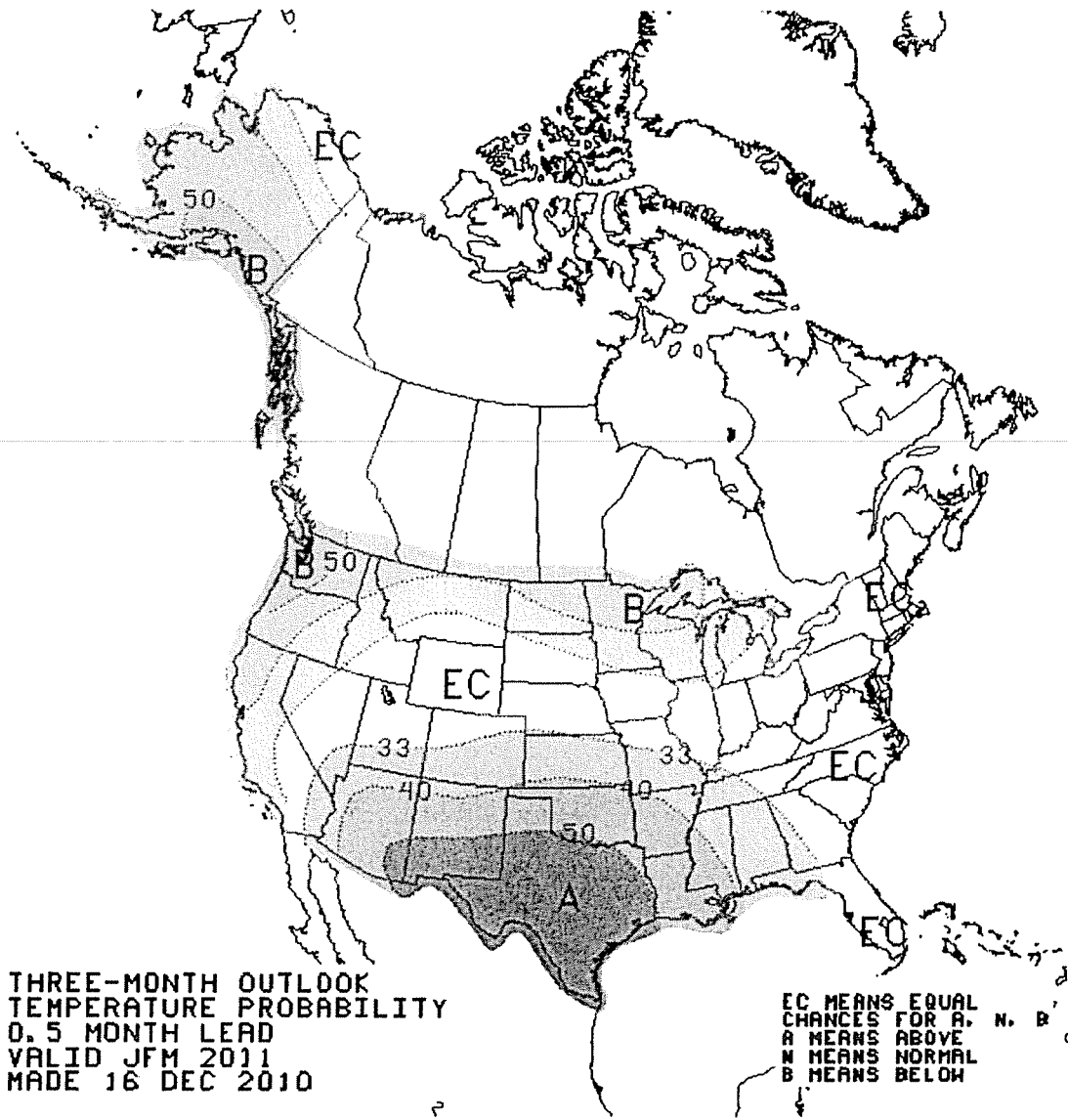


### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

Historic Prices:						
NYMEX Closing Price						
	5-yr. avg. (06/07-10/11)	Last Year (2010-2011)		PIRA 22-Dec-10	EIA 11-Jan-11	NYMEX 18-Jan-11
Feb	\$6.61	\$5.27			\$4.010	\$4.404
Mar	\$6.49	\$4.82			\$3.920	\$4.422
Apr	\$6.37	\$3.84			\$3.840	\$4.421
May	\$6.72	\$4.27			\$3.820	\$4.460
June	\$6.63	\$4.16			\$3.730	\$4.504
July	\$6.92	\$4.72			\$3.800	\$4.581
Aug	\$6.10	\$4.77			\$3.880	\$4.609
Sep	\$5.43	\$3.65			\$4.040	\$4.615
Oct	\$5.13	\$3.84			\$4.190	\$4.669
Nov	\$5.69	\$3.29			\$4.350	\$4.831
Dec	\$6.23	\$4.27			\$4.610	\$5.061
Jan	\$5.84	\$4.22			\$4.670	\$5.189
12 Month Avg	<b>\$6.18</b>	<b>\$4.26</b>			<b>\$4.072</b>	<b>\$4.647</b>
Summer Average					\$3.900	\$4.551
Winter Average					\$4.312	\$4.781

Hedged Prices	
Ohio	Kentucky



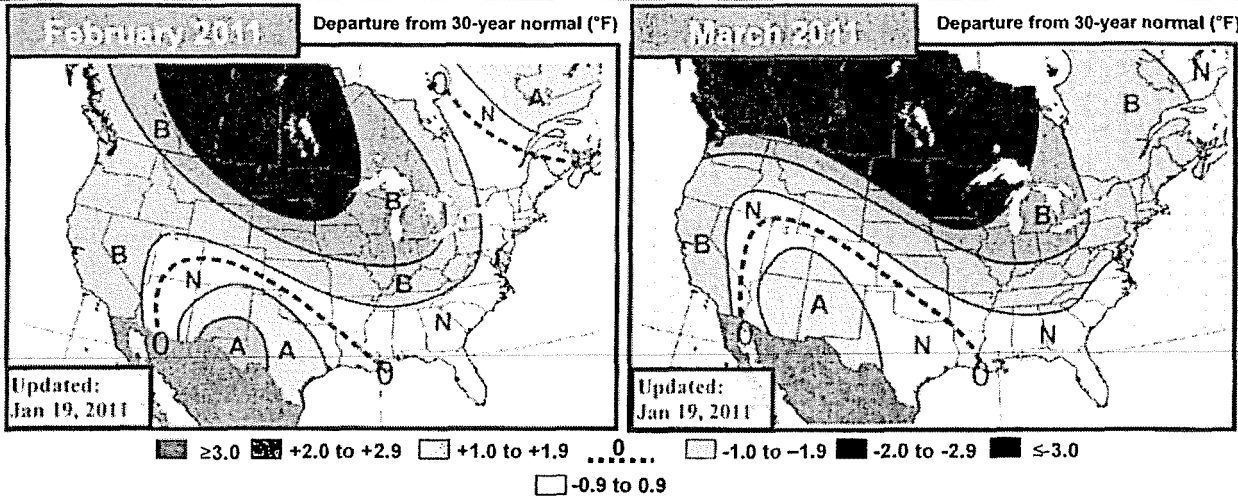




# EarthSat's 30-60 Day Outlook

Wednesday, January 19, 2011

Forecaster: SS/BH/TH/RG



**Previous** **Colder Midwest to East**  
**Aboves limited to Texas**

Changes to the February forecast were towards a colder direction with more widespread below normal temperatures across the Midwest and less aboves seen in the Southeast. The changes were based in part on a persistent upper-latitude blocking pattern that has lasted through much of the winter thus far and has outweighed the expected effects of La Nina. Also, the ECMWF monthly outlook shows good support for this forecast. As far as the details for this month goes, the month may start off with weak upper-latitude blocking (neutral-positive AO and neutral NAO) which could allow for briefly warmer temps to develop over the Eastern half, but any such milder stretch could be limited by a stubbornly negative EPO signal. In addition, the PNA may stay positive, increasing support for an Eastern trough. Given the persistent upper-latitude blocking, which has tended to strengthen on a cycle of every 15 days or so lately, temperature departures may then trend colder through mid-month.

**Previous** **Minor cold changes**  
**Will upper-latitude blocking continue?**

Changes were to the colder direction in March as well, but were not quite as extensive, with the belows extended into the Tennessee Valley but more limited in the Interior West. The big question will be whether upper-latitude blocking remains strong in March, which increase confidence in this cold scenario. A couple of recent winters (2000-01 and 2004-05) featuring a strong -NAO block for March led to widespread belows across the Eastern half. Interestingly, the 2004-05 winter overall produced little cold despite an El Nino being in control. This goes to show that with a dominant Greenland ridge in place, cold anomalies will often develop over the East in March regardless of ENSO trends. For what it's worth, the ECMWF monthly outlook is substantially warmer than this forecast, showing widespread aboves from Texas and the Plains eastward.

**Feb GWHDD\*\* Forecasts** \*10Y Normal updated to '01-10

<b>Feb 2011 Fcst:</b>	<b>816.0</b>	<b>10Y Normal*</b>	<b>798.8</b>
		<b>30Y Normal</b>	<b>789.5</b>
		<b>Feb-2010</b>	<b>850.5</b>

Change: +11

\*Note: 10Y norms have now been updated to '01-10      \*\*National Gas-Weighted HDDs

**Mar GWHDD\*\* Forecasts** \*10Y Normal updated to '01-10

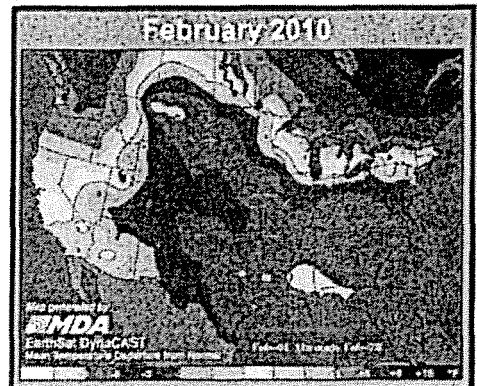
<b>Mar 2011 Fcst:</b>	<b>678.0</b>	<b>10Y Normal*</b>	<b>619.9</b>
		<b>30Y Normal</b>	<b>634.7</b>
		<b>Mar-2010</b>	<b>566.7</b>

Change: +3      \*\*National Gas-Weighted HDDs

**January so far**

Final 10 Day Outlook    Final 30 Day Outlook    Validated January 1-10    Current Forecast 1/18-1/24

January continues to vary much colder than expected with widespread below normal temperatures seen across a wide portion of the US. The only warmer areas seen in the month thus far are seen in parts of the West and the New England/Eastern Canada. The current forecast for the final 10 day outlook shows a continuation of the cold conditions with a weak to strong negative EPO signal, and a strong negative NAO signal. The current forecast for the month shows below normal temperatures from the Plains into the Midwest, South, and Mid-Atlantic, and aboves along the West Coast.



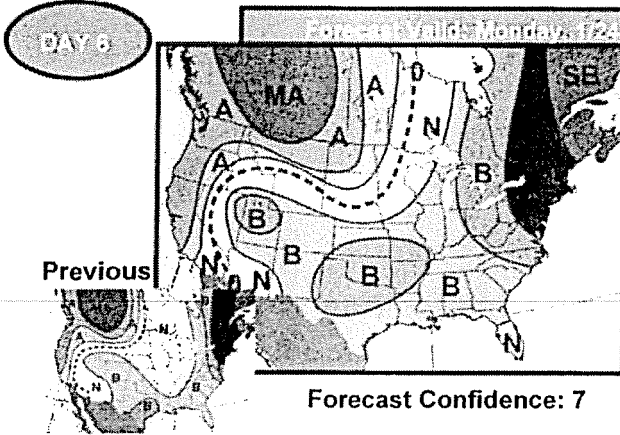


# EarthSat's 6-10 Day Forecast-Detailed

Wednesday, January 19, 2011

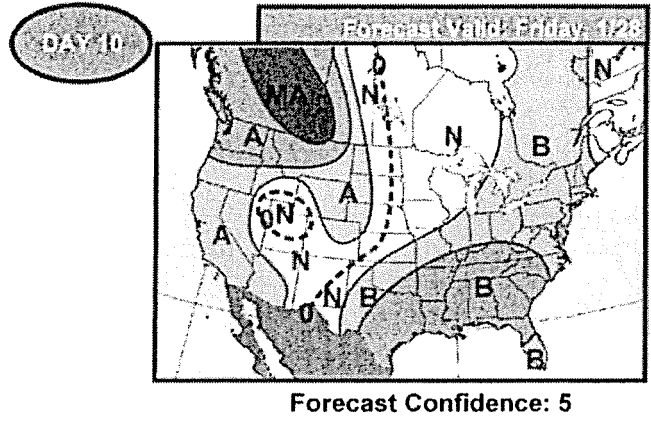
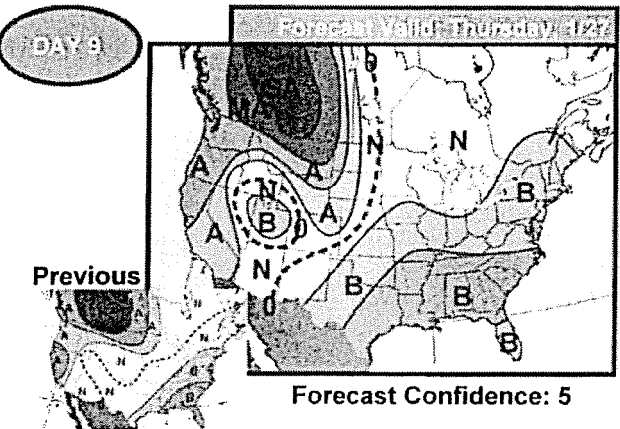
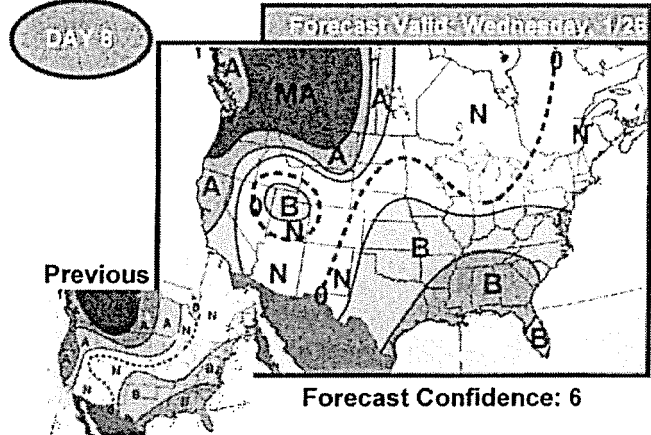
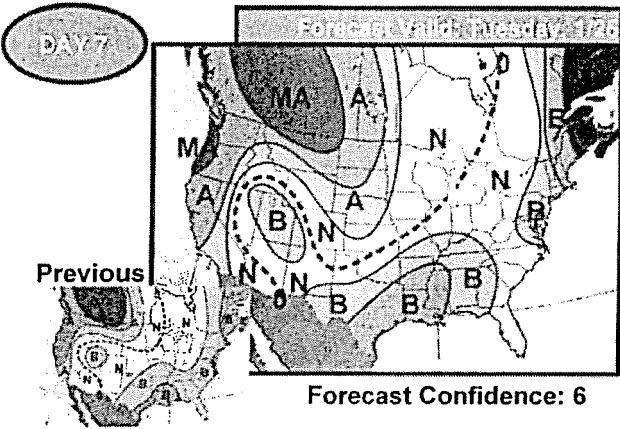
Forecaster: BH/AC

## 6-10 Day Forecast: Temperature Deviations



**Today's Forecast:**  
**Colder Outlook For Eastern Half Of Nation In 2nd Half**  
**Warmth Settles Over The Northwest**

Still some colder risks are present in the New England states during the onset of the period where more strong below normal temperatures may persist across the region. Another trend to the cooler side has taken shape per most guidance during the second half of the period for the eastern half of the nation, and the forecast reflects this idea. However, the intensity is debated as the American models are more robust with this cold air mass than the European models. Should the American models be more accurate, widespread much below normal readings could exist. Meanwhile, warmth holds on across the Northwest and may become stronger than forecast under a stronger +PNA.



A +3F to +4F  
  A +5F to +7F  
  MA +8F to +14F  
  SA +15 or Higher  
 B -3F to -4F  
  B -5F to -7F  
  MB -8F to -14F  
  SB -15 or Lower

## Weekly Natural Gas Storage Report

Released: January 20, 2011 at 10:30 a.m. (eastern time) for the Week Ending January 14, 2011.  
Next Release: January 27, 2011

### Working Gas in Underground Storage, Lower 48

other formats: [Summary](#) [TXT](#) [CSV](#)

Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	01/14/11	01/07/11	Change	Year Ago (01/14/10)		5-Year (2006-2010) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,384	1,510	-126	1,420	-2.5	1,467	-5.7
West	364	390	-26	399	-8.8	363	0.3
Producing	968	1,059	-91	824	17.5	835	15.9
<b>Total</b>	<b>2,716</b>	<b>2,959</b>	<b>-243</b>	<b>2,642</b>	<b>2.8</b>	<b>2,665</b>	<b>1.9</b>

#### Notes and Definitions

#### Summary

Working gas in storage was 2,716 Bcf as of Friday, January 14, 2011, according to EIA estimates. This represents a net decline of 243 Bcf from the previous week. Stocks were 74 Bcf higher than last year at this time and 51 Bcf above the 5-year average of 2,665 Bcf. In the East Region, stocks were 83 Bcf below the 5-year average following net withdrawals of 126 Bcf. Stocks in the Producing Region were 133 Bcf above the 5-year average of 835 Bcf after a net withdrawal of 91 Bcf. Stocks in the West Region were 1 Bcf above the 5-year average after a net drawdown of 26 Bcf. At 2,716 Bcf, total working gas is within the 5-year historical range.

#### Data

[History \(XLS\)](#)  
[5-Year Averages, Maximum, Minimum, and Year-Ago Stocks \(XLS\)](#)

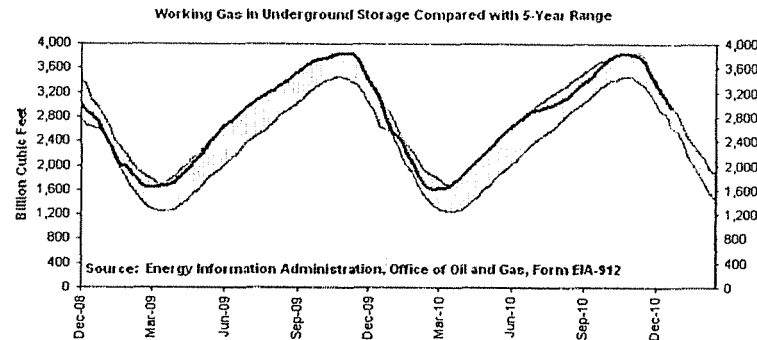
#### References

[Methodology](#)  
[Differences Between Monthly and Weekly Data](#)

#### Revision Policy

#### Related Links

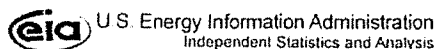
[Storage Basics](#)  
[Natural Gas Weekly Update](#)  
[Natural Gas Navigator](#)



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2006 through 2010.  
Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

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Glossary



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## Weekly Natural Gas Storage Report

Released: January 13, 2011 at 10:30 a.m. (eastern time) for the Week Ending January 7, 2011  
 Next Release: January 20, 2011

### Working Gas in Underground Storage, Lower 48

other formats: [Summary.TXT](#) [CSV](#)

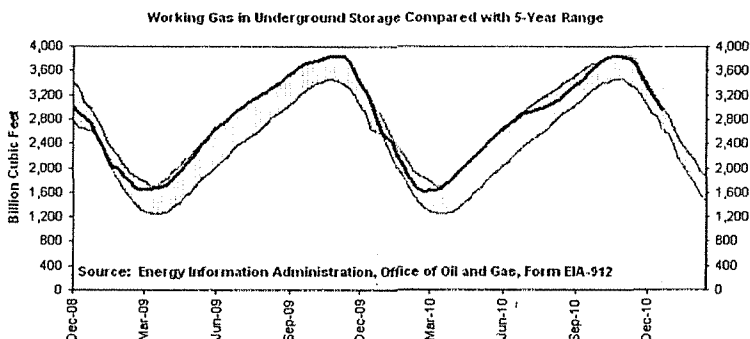
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	01/07/11	12/31/10	Change	Year Ago (01/07/10)		5-Year (2006-2010) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	1,510	1,590	-80	1,553	-2.8	1,545	-2.3
West	390	428	-38	417	-6.5	380	2.6
Producing	1,059	1,079	-20	920	15.1	874	21.2
<b>Total</b>	<b>2,959</b>	<b>3,097</b>	<b>-138</b>	<b>2,890</b>	<b>2.4</b>	<b>2,798</b>	<b>5.8</b>

#### Notes and Definitions

#### Summary

Working gas in storage was 2,959 Bcf as of Friday, January 7, 2011, according to EIA estimates. This represents a net decline of 138 Bcf from the previous week. Stocks were 69 Bcf higher than last year at this time and 161 Bcf above the 5-year average of 2,798 Bcf. In the East Region, stocks were 35 Bcf below the 5-year average following net withdrawals of 80 Bcf. Stocks in the West Region were 185 Bcf above the 5-year average of 874 Bcf after a net withdrawal of 20 Bcf. Stocks in the Producing Region were 10 Bcf above the 5-year average after a net drawdown of 38 Bcf. At 2,959 Bcf, total working gas is within the 5-year historical range.

- 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



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2006 through 2010. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**December 22, 2010 Release**

Jan-08		Jan-09		Jan-10		Jan-11	
Feb-08		Feb-09		Feb-10		Feb-11	
Mar-08		Mar-09		Mar-10		Mar-11	
Apr-08		Apr-09		Apr-10		Apr-11	
May-08		May-09		May-10		May-11	
Jun-08		Jun-09		Jun-10		Jun-11	
Jul-08		Jul-09		Jul-10		Jul-11	
Aug-08		Aug-09		Aug-10		Aug-11	
Sep-08		Sep-09		Sep-10		Sep-11	
Oct-08		Oct-09		Oct-10		Oct-11	
Nov-08		Nov-09		Nov-10		Nov-11	
Dec-08		Dec-09		Dec-10		Dec-11	
Average 2008	\$	Average 2009	\$	Average 2010	\$	Average 2011	\$
Summer 2008	\$	Summer 2009	\$	Summer 2010	\$	Summer 2011	\$
Winter 2008-2009	\$	Winter 2009-2010	\$	Winter 2010-2011	\$		

North American Gas Forecast Monthly



December 22, 2010

NATURAL GAS

**GAS PRICE SCORECARD: JANUARY – JUNE 2011**

Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
U.S. Production	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	The backlog of drilled but uncompleted gas wells and other issues make it increasingly difficult to either pin down current production, or near-term levels based on drilling. But Y/Y gains of at least ~3 BCF/D remain most likely in 1H11.
LNG Imports	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	National Balancing Point (NBP) premiums relative to Henry Hub remain at \$4-\$5/MMBtu, and cold European weather should sustain such high premiums holding LNG imports far under 2010 volumes, especially in 1Q11.
Imports from Canada	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Alberta's structural transformation to higher productivity gas wells pose upside risks to imports from Canada, but volumes during 1H11 still should fall considerably short Y/Y.
Exports to Mexico	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Numerous and expanding downside risks to domestic gas production translate into improving pipeline export prospects for the U.S.
Storage Levels	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Unusually cold December weather has forestalled a resumption of sizable Y/Y storage surpluses, but end-March 2011 levels should be well above last year, barring an extremely cold 1Q.
U.S. Demand Issues	Outlook	Commentary
Economy	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Macroeconomic readings remain ambivalent overall, and the inventory accumulation support to this year's GDP growth will soon vanish. But leading indicators for gas-intensive manufacturing have strengthened.
Electric Generation	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Gas prices should remain low enough to sustain large EG market share gains from coal, but even more intensive penetration of the coal stack will be difficult, given the scale of coal-to-gas substitution already realized.
Industrial Sector	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Although Y/Y industrial gas demand growth has slowed as expected, the Dallas Fed's TMI suggests that Y/Y gains will be more resilient than previously expected in 2011.
Res/Com Heating	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	PIRA's 10-year-normal GWHDD assumption for 1Q11 points to a reduced Y/Y R/C gas heating, but a 30-year normal would increase demand close to last year's average.
Other Issues	Outlook	Commentary
NYMEX Prices and Speculation	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	NYMEX gas futures have been caught between bullish temperatures and bearish fundamentals outside of weather. Commodity indices buying and potential front-running by the active funds could provide support going into 2011. But the threat of fresh short-hedges from producers seems likely to limit price appreciation to the \$5/MMBtu area.
Overall Assessment	Outlook	Commentary
Price Outlook	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Despite December's unexpected 12-14% colder than 10-year-normal GWHDDs, 1Q11 storage looks unlikely to sink below last year's levels barring very cold ongoing weather. Rising Y/Y production should push the EG sector's coal-to-gas substitution higher, but further gains will not come easy.



# Gas Daily

Friday, December 17, 2010

## EIA more than doubles shale reserves estimate

Driven by surging production from shale plays and low prices for decades to come, natural gas will shoulder its way to a larger piece of the US energy mix, mainly at the cost of coal, the Energy Information Administration said Thursday.

In its Annual Energy Outlook for 2011, EIA more than doubled its estimate of technically recoverable gas reserves in the US, from 353 Tcf to 827 Tcf, largely by including new data from drilling results in the Marcellus, Haynesville and Eagle Ford shales. The agency projects that shale will increase from 14% of total US gas production in 2009 to 45% by 2035.

EIA also foresees a steady 0.8%/year growth in overall gas supplies between 2011 and 2035, or 16% overall, balanced against a 13.5% increase in gas consumption over the same period.

As supply continues to outstrip demand, imports are expected to shrink from 940 Bcf in 2009 to just 2 Bcf in 2035, EIA projects, as Canadian pipeline gas and liquefied natural gas from abroad are crowded out by domestic shale gas.

A downside for producers to the surge in reserves and production is that EIA predicts average wellhead prices will stay below \$5/Mcf (in current dollars) through 2022 and remain below \$7/Mcf through 2035.

EIA's "reference" case does not account for any change in law or policy — particularly in regard to greenhouse gas emissions — over the period it examines.

The size of US shale reserves and the continuing improvement by drillers in extracting that gas cost-effectively leads EIA to believe producers will continue drilling despite the low prices, said Michael Schaal, acting director for petroleum, gas and biofuels in EIA's Office of Energy Analysis.

"In the longer term, the application of drilling techniques and locating the sweet spots allows them to provide a rationalization" for continued production, Schaal said.

He theorized that as time passes, producers' ability to identify those sweet spots will continue to improve, and some drilling to hold leases by production will drop off as producers fine-tune where the most prolific shale formations are located.

While EIA projects that coal will remain the country's dominant power-generation fuel through 2035, some of coal's market share in that sector will give way to natural gas.

"Coal consumption in the electric power sector in 2035 is about 1.3 quadrillion Btu (53 million short tons) lower in the 2011 reference case than in the 2010 reference case ... as a result of higher levels of natural gas use for power generation due to relatively lower natural gas prices," the report said.

Specifically, EIA predicts that coal's share of the electric-generation market will drop by about two percentage points by 2035, with gas and renewables picking up the slack and capturing all new demand growth.

Gas' share of that market will increase from 23% to 25% in 2035, it said, while renewables' share will surge from 1% to 14% in response to federal tax credits and individual state mandates. — Gary Gentile, Bill Holland

commissioners, includes a mandatory clearing requirement for all futures, options and swaps contracts, which has spurred some fears that certain energy contracts that would be exempt from mandatory clearing requirements in the US may not receive that exemption in FBOTs.

BG Americas & Global LNG, the UK-based natural gas company, wrote that the CFTC should "clarify the clearing requirement for foreign exchanges in the final rule to specify that the mandatory clearing requirements on foreign exchanges will be no different from the clearing requirements on US exchanges."

But Levin, who wants strict requirements on FBOTs in order to prevent "large price swings" in energy and agriculture commodity markets, wrote that new requirements for FBOTs are needed since they will help close loopholes that have allowed excessive speculation in foreign exchanges. Those include the "London loophole," in which he said traders avoided CFTC jurisdiction by directing crude oil trades through ICE Futures Exchange in London.

Levin, the chairman of the Senate Homeland Security and Governmental Affairs Permanent Subcommittee on Investigations, said that loophole "allowed traders of US commodities to avoid CFTC oversight and enforcement authority by trading on foreign exchanges."

"The proposed rule appears designed to prevent cross-market trading abuses and close the London loophole, which allowed traders to evade US oversight," Levin wrote. "It should result in strengthening of the commission's enforcement program to ultimately provide for greater investor protection."

About 90 individuals and smaller energy groups and companies, including the West Virginia Oil Marketers and Grocers Association, the Georgia Oilmen's Association, Pen Fern Oil Company and Scullin Oil Company, submitted a form letter in support of the new registration requirements for FBOTs.

They wrote that FBOTs need to be subject to ownership caps the CFTC is considering, must make the trading data available, must adopt position limits and "implement prohibitions on manipulation and excessive speculation." — *Brian Scheid*

### Barclays: Gas market oversupplied, price to average \$3.94 this year

Gas prices will average \$3.94/MMBtu this year, investment bank Barclay's said in a note to clients this week.

While prices may briefly drop as low as \$2/MMBtu at some points during 2011, analyst James Crandell said, power generators switching to cheaper gas from coal will provide the buffer prices need to stay near \$4/MMBtu on average.


"While supply growth will likely outstrip core demand again this year, a large, price-responsive component of demand in the form of coal displacement should mop up that extra supply," Crandell said.

Gas producers will keep drilling in spite of the low prices, Crandell predicted, because much of their production is hedged at prices higher than \$4/MMBtu. He thinks producers will only slow drilling and shut in wells if prices sink to around \$2/MMBtu and stay there for a prolonged period — a prospect he doesn't see as likely.

The power markets to watch for coal displacement start in the eastern US, where gas starts displacing coal at \$5.50/MMBtu and grows to 3.75 Bcf/d at \$4/MMBtu, Crandell said. He estimated that in 2010, gas picked up 2.4 Bcf/d of power demand from coal at an average price of \$4.38/MMBtu.

Overall, he estimates that the market will again be oversupplied by 2 Bcf/d as industrial, commercial and residential demand don't grow beyond 2010 levels.

"The supply side would likely join the response as well," Crandell said. "While well-hedged producers will continue drilling in a \$4 gas market, we expect that in a \$2 market, not only would a wave of producers revisit drilling budgets, but a number would also consider shutting in existing production." — *Bill Holland*

		<b>Volume 28 / Issue 13 / Thursday, January 20, 2011</b> 0885-6935	
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# Gas Daily

Wednesday, January 19, 2011

## Macquarie calls for sub-\$6 gas for next three years

Investment bank Macquarie kept its \$4.40/MMBtu gas price forecast intact for this year and said Tuesday it is bearish on prices for the next three years because of shale gas production.

Macquarie analyst Jan Stuart predicted that gas prices would average \$5.25/MMBtu in 2012 and \$5.50/MMBtu in 2013, saying he was basically paralleling the current NYMEX futures strip.

"Excess supply remains the key," Stuart said. "Having added significant reserves in shale plays, the industry is still getting better at developing the new resources."

US gas producers keep drilling because they are generating profits either from higher-priced liquids or because their costs are rock-bottom, Stuart said, and he doesn't see that changing.

Stuart thinks the gas rig count needs to drop below 850 to have any impact on prices and he doesn't see that happening anytime soon because drillers are making money with the current 900-plus rigs in operations.

"The industry is capable of adding to supply at significantly lower cost than would have seemed reasonable even one or two years ago," Stuart said. "In fact, at our long-run price of \$6/MMBtu, the lion's share of the nonconventional natural gas resource base appears to be yielding better than 20% after-tax internal rates of return."

Stuart said he's optimistic that prices could go higher in 2012 and beyond.

"Higher demand for power generation, some measure of industry rationalization and other as yet unpredictable changes will in all likelihood drive natural gas prices higher, we think possibly beginning as early as next year," he said.— *Bill Holland*

# Gas Daily

Thursday, January 6, 2011

## Citing shale boom, TPH slashes 2011 price forecast 20% to \$4/Mcf

Even though the year is less than a week old, Tudor Pickering Holt's top gas analyst is already saying, "Wait 'til next year" for a gas price recovery.

**TPH's Dave Pursell on Tuesday slashed his 2011 US price forecast by 20% to \$4/Mcf, citing a single factor: shale gas.**

"Shale is king. Period," he wrote in a note to clients. "At year-end 2010, roughly 40% of US rigs were drilling in oil or gas shale plays, and oil service companies spent all year reallocating their equipment to these areas. What was the attraction given soft gas prices? Asset quality, asset availability, asset longevity, and liquids."

**Shale plays "are long-lived, have relatively low geologic risk, and there are hundreds of thousands of drilling locations," he said. "Therefore, there is visibility in being able to spend big dollars over a long period of time. In the minds of these long-term players, low gas prices for a few years are an annoyance but are also creating an opportunity."**

**Pursell estimates that exploration-and-production companies will produce 1.5 Bcf/d more gas than the market needs this year at prices above \$4/Mcf. And if prices don't fall far enough for gas to steal market share from coal in the power generation sector, he warned that supplies will overwhelm the nation's storage capacity.**

Pursell sees gas prices averaging \$4/Mcf in the first quarter, \$3.50/Mcf in the second quarter, \$4/Mcf in the third quarter and \$4.50/Mcf in the fourth quarter. As for 2012, Pursell is calling for an increase to \$5/Mcf, with another bump to \$6/Mcf in 2013.

"Can the market 'fix itself' without lower gas prices?" Pursell asked. "Yes, if the rig count falls 150 rigs in the emerging shale plays (soon!) or cold weather remains this winter or [there's] a hot summer."

**However, "we don't believe the rig count will fall far enough or fast enough to prevent low gas prices during the first half of 2011," Pursell said. "The gas market needed upstream spending to slow, but meaningful slowing seems unlikely."**

The only relief valve for the gas glut, then, is on the demand side, Pursell said.

"Our math suggests that at least roughly 2 Bcf/d of incremental gas demand in 2010 is due to low-priced gas taking share from coal-fired power generation," he said. **"As the gas market remains oversupplied, we think \$4/Mcf gas could result in an additional 1 Bcf/d incremental gas demand in the power sector (above normal growth), which would be sufficient to prevent a storage overflow situation in October 2011 (i.e., storage would end slightly below 4 Tcf)."** — Bill Holland

# Gas Daily

Tuesday, January 4, 2011

## Gas prices will average \$3.75/Mcf in 2011, Raymond James predicts

**Gas prices will average \$3.75/Mcf this year and dip to a low of \$3.25/Mcf during the third quarter, investment bank Raymond James predicted Monday in a note to clients.**

Continued growth of gas supplies will keep a damper on prices, Raymond James said, predicting a \$4.25/Mcf average this winter, \$3.50/Mcf in the spring, \$3.25/Mcf in the summer and \$4/Mcf for the last three months of 2011.

**The bank also introduced its first prediction for 2012, calling for gas prices to average \$4.25/Mcf, about 13% less than the current NYMEX strip.**

"Will this be enough to slow supply and rebalance the market?" analyst Marshall Adkins asked. "Not in the near future, but it's a step in the right direction."

**Adkins predicted that gas supply will grow 5%, or 3.5 Bcf/d, this year with little corresponding increase in demand. Prices have to fall to \$3.25/Mcf or below to induce enough coal-to-gas switching by the power sector to soak up excess supply this summer, he said.**

"This is simply not going to happen if gas prices are above \$4/Mcf," he noted. "For comparison, we've only switched a total of 2 Bcf/d away from coal over the past two years combined. To stimulate the necessary amount of coal switching, natural gas prices may need to fall below \$3/Mcf this summer."

**Creating more gas demand depends on structural changes to the US energy economy that won't happen in the short term, but they will over the long haul, Adkins said.**

Eventually he sees more gas demand coming from power generators switching from coal, industrial users ramping up their capacity to take advantage of low prices, and the refueling infrastructure being built in the US so cars and trucks can substitute natural gas for gasoline.

**In the meantime, will producers begin heeding the signal of low prices and take their foot off the drilling pedal? "Exploration-and-production operators drilled right through \$4/Mcf gas prices in 2009 and 2010, and we expect them to do so in 2011," Adkins projected.**

**E&Ps have three major motivations for that, he said: They are drilling with "other people's money" via joint ventures; the associated liquids are paying for the gas in plays such as Texas' Eagle Ford Shale; and many firms make money even in a sub-\$4/Mcf world if they drill in the relatively low-cost Marcellus Shale or Pinedale Anticline.** — Bill Hollan

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**January 11, 2011 Release**

Jan-09	5.24	Jan-10	5.83	Jan-11	4.02	Jan-12	4.67
Feb-09	4.51	Feb-10	5.32	Feb-11	4.01	Feb-12	4.64
Mar-09	3.96	Mar-10	4.29	Mar-11	3.92	Mar-12	4.41
Apr-09	3.49	Apr-10	4.03	Apr-11	3.84	Apr-12	4.28
May-09	3.83	May-10	4.14	May-11	3.82	May-12	4.18
Jun-09	3.80	Jun-10	4.80	Jun-11	3.73	Jun-12	4.07
Jul-09	3.38	Jul-10	4.63	Jul-11	3.80	Jul-12	4.26
Aug-09	3.14	Aug-10	4.32	Aug-11	3.88	Aug-12	4.44
Sep-09	2.97	Sep-10	3.89	Sep-11	4.04	Sep-12	4.50
Oct-09	4.00	Oct-10	3.43	Oct-11	4.19	Oct-12	4.71
Nov-09	3.66	Nov-10	3.71	Nov-11	4.35	Nov-12	4.82
Dec-09	5.34	Dec-10	4.25	Dec-11	4.61	Dec-12	5.03
Average 2009	\$ 3.943	Average 2010	\$ 4.387	Average 2011	\$ 4.018	Average 2012	\$ 4.501
Summer 2009	\$ 3.516	Summer 2010	\$ 4.177	Summer 2011	\$ 3.900	Summer 2012	\$ 4.349
Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 3.982	Winter 2010- 2011	\$ 4.536		

# Gas Daily

Wednesday, January 12, 2011

## EIA cuts 2011 Henry Hub forecast 7% to \$4.02

**The Energy Information Administration's near-term and annual gas price forecasts swung in opposite directions Tuesday as the agency boosted its first-quarter estimate by 8% but slashed its full-year prediction by 7%.**

**In its January short-term energy outlook, EIA said its first-quarter Henry Hub spot price forecast is now \$4.58/MMBtu, up 32 cents from last month. Its new 2011 forecast is \$4.02/MMBtu, down 31 cents.**

EIA said higher production and a drop in consumption in the first half of 2011, compared with the same period a year earlier, would moderate prices. The forecast calls for an annual low of \$3.73/MMBtu in June and a high of \$4.61/MMBtu in December.

**The agency predicted that the gas market will tighten in 2012, with the Henry Hub spot price increasing to an average of \$4.50/MMBtu for the year.**

Working gas storage inventories are expected to stay at or near record levels through most of 2011, EIA said. Storage facilities held about 3.1 Tcf at the end of 2010, about 1% less than the record high set in December 2009.

**EIA predicted that storage facilities will hold about 1.8 Tcf of working gas at the end of the winter heating season in March, about 7% more than a year earlier. The agency attributed that to more production and a slightly warmer winter than 2009-10.**

The agency said relatively low gas prices would lead to a gradual decline in production throughout the year and would keep sending drillers on the hunt for higher-priced, liquids-rich gas.

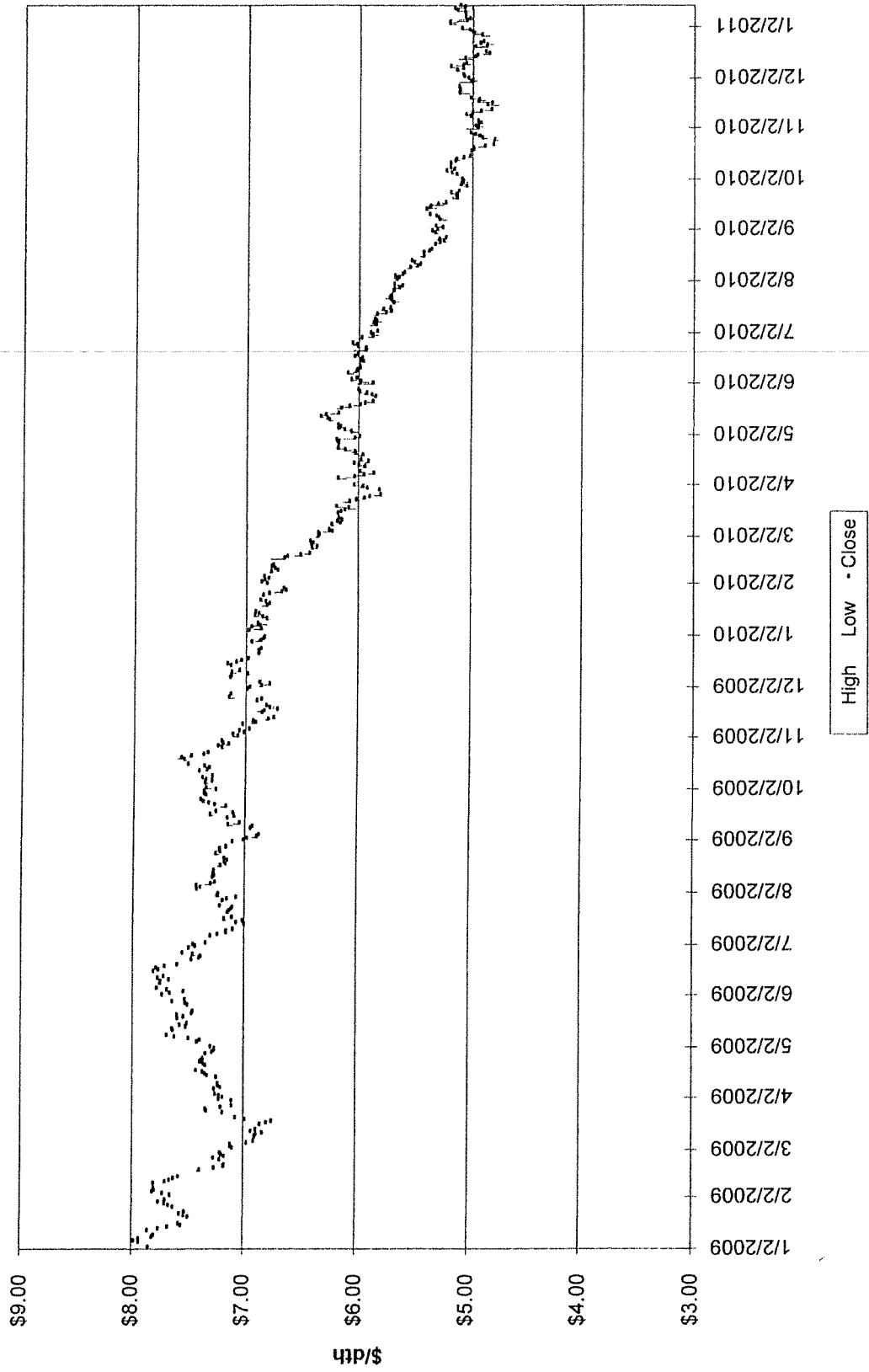
**EIA sees gas consumption falling by 0.9% in 2011 on forecasts for a more moderate winter and a return to near-normal summer temperatures. In 2012, gas demand is expected to grow by 1.6% to 66.5 Bcf/d.**

EIA predicted that gas pipeline imports would keep falling in 2011 to 8.6 Bcf/d — a year-over-year drop of 4.3% — and to 8.2 Bcf/d in 2012, a drop of 4.4%. "Canada gas will become less competitive as new US pipelines and increased Lower-48 production with lower transport costs displace imports," the outlook said.

Likewise, the forecast for liquefied natural gas imports drops to 1.1 Bcf/d this year, a 4.7% decrease from 2010 levels. LNG imports could rebound modestly to 1.2 Bcf/d in 2012, the agency said.

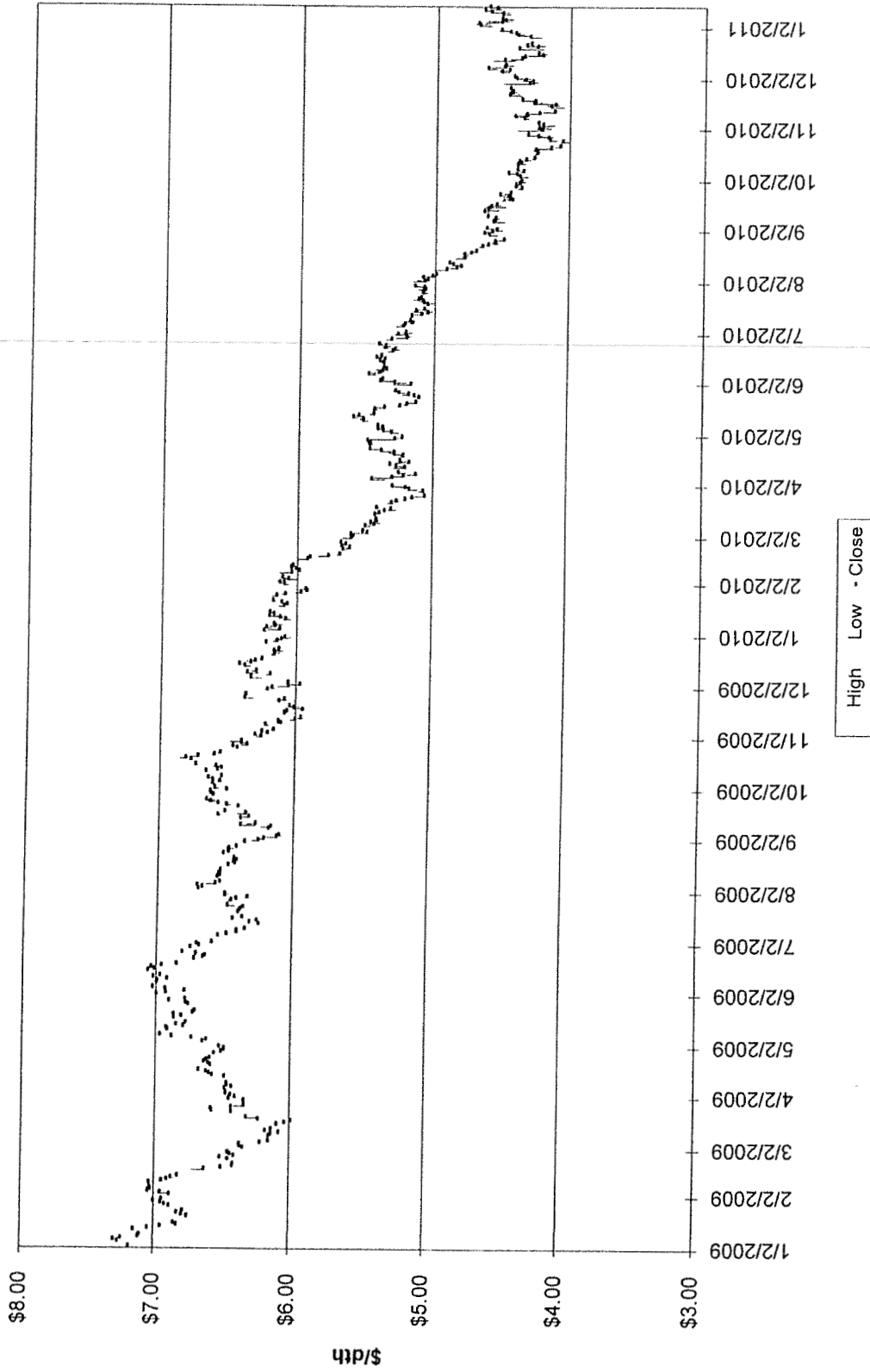
**"High domestic production, high inventories and low US prices relative to European and Asian markets should continue to discourage LNG imports into North America," EIA said. — Meghan Gordon**

Winter Strip Nov11 - Mar12





Summer Strip 2011



# Short-Term Energy Outlook

January 11, 2011 Release  
(Next update February 8, 2011)

## Natural Gas

**U.S. Natural Gas Consumption.** EIA expects total natural gas consumption to decline by 0.9 percent in 2011. Projected residential and commercial consumption fall by about 2.7 percent in 2011 partly because of the forecast of 1.3 percent fewer heating degree-days during the winter months this year compared with last year, but also because of recent changes in the way EIA collects and reports natural gas consumption data. Forecast natural gas consumption in the electric power sector falls by 1.0 percent in 2011 because of the forecast return to near-normal summer weather compared with the very warm summer last year. Forecast cooling degree-days fall by 16 percent, from 1,468 in 2010 to 1,234 in 2011. Only industrial sector natural gas consumption rises in 2011, by 1.1 percent, because of the 1.2 percent increase in the natural-gas-weighted industrial production index.

Total natural gas consumption grows by 1.6 percent in 2012 to 66.5 billion cubic feet per day (Bcf/d). While projected commercial and residential consumption decline by a slight 0.2 percent from 2011 to 2012, the electric power and industrial sectors drive growth with projected increases of 3.6 and 1.6 percent, respectively.

**U.S. Natural Gas Production and Imports.** Total marketed natural gas production increased significantly in 2010, by an estimated 2.4 Bcf/d, or 4.1 percent. Declines in production of 0.07 Bcf/d and 0.46 Bcf/d in Alaska and the GOM, respectively, were offset by a 2.9 Bcf/d increase in lower-48 onshore production. EIA expects average total production to fall by 0.3 percent in 2011. The latest EIA data for monthly natural gas production, which are for October 2010, showed a slight decline in the lower-48 states from the previous month. EIA expects this gradual decline to continue throughout 2011 because of a falling drilling rig count in response to lower prices. The number of rigs drilling for natural gas reported by Baker Hughes Inc. increased from a low of 665 in July 2009 to 973 in April 2010. Over the following 6 months the natural gas rig count stayed relatively unchanged, but in the last several weeks the rig count has fallen and ended December 2010 at 919 rigs, a level not seen since February 2010. The large price difference between petroleum liquids and natural gas on an energy-equivalent basis contributes to an expected shift towards drilling for liquids.

The projected decline in production in 2011 and increase in natural gas consumption in 2012 contribute to a strengthening of natural gas prices late in this year and next. As natural gas prices begin to rise, forecast production rebounds in 2012, growing by 2.2 percent. Projected total marketed production averages 64.2 Bcf/d in December 2012 compared with 62.3 Bcf/d and 60.6 Bcf/d in December 2010 and December 2011, respectively.

EIA expects gross pipeline imports of 8.6 Bcf/d in 2011 and 8.2 Bcf/d in 2012, year-over-year decreases of 4.3 and 4.4 percent, respectively. Canadian gas will become less competitive as new U.S. pipelines and increased lower-48 production with lower transport costs displace imports. Projected liquefied natural gas (LNG) imports average 1.1 Bcf/d in 2011, a 4.7-percent decrease from 2010 levels. Imports in 2012 grow modestly to 1.2 Bcf/d. High domestic production, high inventories, and low U.S. prices relative to European and Asian markets should continue to discourage LNG imports into North America.

## U.S. Crude Oil

EIA expects the price of West Texas Intermediate (WTI) crude oil to average about \$93 per barrel in 2011, \$14 higher than the average price last year. For 2012, EIA expects WTI prices to continue to rise, with a forecast average price of \$99 per barrel in the fourth quarter 2012. EIA's forecast assumes U.S. real gross domestic product (GDP) grows 2.2 percent in 2011 and 2.9 percent in 2012, while world real GDP (weighted by oil consumption) grows by 3.3 percent and 3.7 percent in 2011 and 2012, respectively.

Duke Energy  
 Hedging Program  
 Remaining Base Not Yet Locked In  
 Winter 2010-11

	Dth/Day					Total	% System Supply
	November	December	January	February	March		
<u>Duke Energy Ohio</u> Previously Hedged	[REDACTED]						
Total System Supply	[REDACTED]						
<u>Duke Energy Kentucky</u> Previously Hedged	[REDACTED]						
Total System Supply	[REDACTED]						
<u>Duke Energy--Total</u> Previously Hedged	[REDACTED]						
11	[REDACTED]						

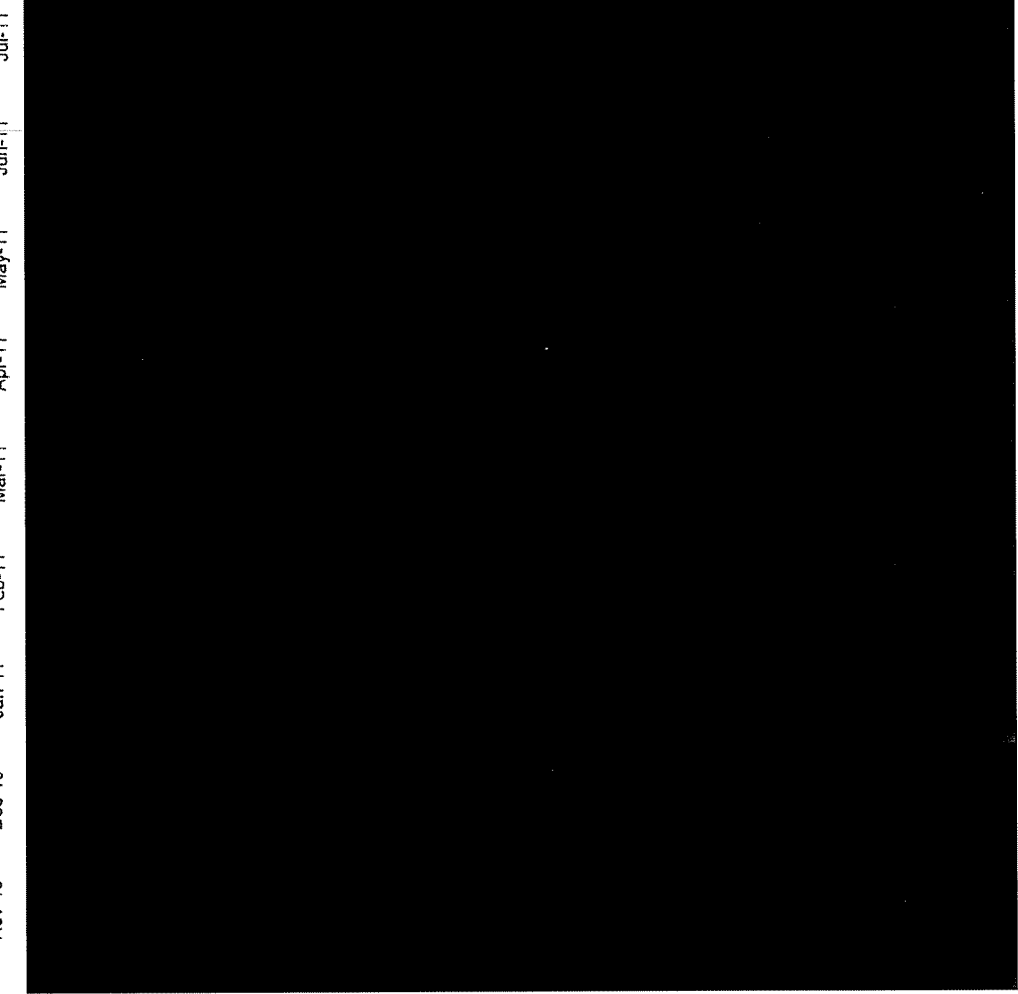
Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
February 17, 2011

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Feb 11--Apr 11)	↓	Long	NOAA predicting above average temperatures for February 2011--April 2011 for large portions of the southern CONUS. Below normals on the west coast and the northern portion of CONUS from the west coast to Michigan.	10
Mid Term Forecast (30-60 days)	↑	Long	March is predicted to be 6.1% colder than normal based on 10 year normals and April weather is predicted to be 6.5% colder than normal.	11
Short Term Forecast (6-10 days)	↓	Short	Above normal temperatures from the Central States to the East Coast for most of the period.	12
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↑	Long	Storage withdrawals for the week ending February 11th were 233 BCF. Storage levels are at 1.911 TCF which is 6.9% lower than last year and 6.3% lower than the 5 year average. Last year's withdrawal was 190 BCF, five-year average 139 BCF.	13
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011: ██████████ Winter 2011/12: ██████████	↓	Long	GAS PRICE SCORECARD: April--June 2011 PIRA's price outlook is Bearish. "Best Case" 1Q11 weather scenario points to an end-March Y/Y storage deficit, but producer hedging and short selling should curb price rally.	14-15
Gas Daily	↑	Long	Demand for natural gas in North America will increase 1.9%/year through 2030, and almost 95% of that growth will come from the power generation sector. Use of natural gas as a power-generation fuel will nearly double in North America from 2005 to 2030 according to ExxonMobil.	16-17
Gas Daily	↓	Long	The "torrid pace of growth" of natural gas production will slow as storage and pipeline capacity limits are tested, leading to a 5% cap on production growth in 2011. Following 2011, Bentek predicted a "new era of efficient and price-responsive supply growth" that will coincide with further economic recovery.	18
Gas Daily	↑	Long	Several fertilizer manufactures have reopened idled plants due to cheap natural gas prices and increased demand for their product.	19
Wood Mackenzie--North America Gas: Transitions, Trends, and Trigger in 2011	↑	Long	Watch for the following transitions, trends, and triggers in 2011: US production declining, Gas prices shifting up. Mounting opposition to hydraulic fracturing and DEO approving LNG exports	20
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$3.984 Winter 2011/12: \$4.570	↓	Long	The projected Henry Hub natural gas spot price averages \$4.163/MMBtu for 2011 and \$4.577/MMBtu for 2012. EIA predicted the storage level to be at 1.651 Tcf at the end of March which is about 120 Bcf less than projected in January.	21-22
<b>Technical Analysis</b>				
Winter 2011-12 Strip Chart	↓	Short	Closed at \$4.73	23
Summer 2011 Strip Chart	↓	Short	Closed at \$4.18	24
<b>Economy</b>				
Q1 Macro Update: 2011	↑	Long	Wood Mackenzie expects global GDP growth of 3.4% and 3.1% in 2011 and 2012 respectively. Stronger growth in the US up from 1.8% in 2011 to 3.1%. In the US, this reflects further fiscal stimulus announced in December which is expected to boost the economy onto a self-sustaining growth trajectory.	25
Demand	↔	Long	EIA projects total natural gas consumption to remain flat from 2010 to 2011. All sectors except industrial are expected to decline. Industrial is projected to increase 1.7%. In 2012, total consumption grows by 1% to 66.8 Bcf/day.	26-27
Supply	↔	Long	Total marketed natural gas production increased significantly in 2010 by an estimated 4.4%. EIA expects average total production to increase by 0.8% in 2011. Increasing consumption, especially in the electric power sector, contributes to higher prices and more economic incentive to resume drilling. Total domestic natural gas production increases 1.1% in 2012.	26-27
Oil Market	↑	Long	EIA expects WTI crude oil to average about \$93 per barrel in 2011, \$14 higher than the average 2010 price. For 2012, EIA projects WTI prices to continue to rise, with a forecast average price of \$98 for 2012.	26-27

**Meeting Minutes: 412 Annex Conference Room - 1:00 pm**  
**Attendees:** Jim Mehring, Jeff Kern, Mitch Martin, Joachim Fischesser, Terry Bates, Steve Niederbaumer  
 Discussed the current market fundamentals including weather, storage levels ██████ Bcf withdrawal for week ending February 11, 2011), supply and demand and analyst thoughts on the current gas market conditions. In addition, discussed DEO and DEK's hedging programs, the amount of gas currently hedged within those programs and that the targets will be reset April 1st. Discussed the Cost Averaging technique used in 2009, it's benefits and issues. Determined that using this technique would require larger volumes hedged than what is currently allowed through March 31, 2011. Will review at the next meeting as allowed volumes will be revised upward for the periods under consideration.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 02/15/11

Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11



**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  
 Fixed Price  
 Collar ( )  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar ( )  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Am't Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

4

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 02/15/11

Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12

**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  
 Fixed Price  
 Fixed Price  
 Collar  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**  
 Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**  
 Winter  
 Summer

**Estimated EGC per Dth at City Gate**  
 Estimated System Supply (Gross)  
 Hedged % of System Supply  
 Seasonal % of System Supply

**Amt Hedged with Storage @ City Gate**  
 Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

5

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 02/15/11

	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
<b>Load Forecast</b>												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
<b>TCO FSS Withdrawals (Mcf)</b>												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
<b>Amount Hedged (dth/day)</b>												
Fixed Price												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
<b>Types of Hedging Products (1)</b>												
Fixed Price												
Price Caps												
No-Cost Collars												
<b>Embedded Hedged Cost</b>												
Winter												
Summer												
<b>Estimated EGC per Dth at City Gate</b>												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
<b>Amt Hedged with Storage @ City Gate</b>												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

2/15/2011

Duke Energy Kentucky  
 Hedging Program  
 Current Position

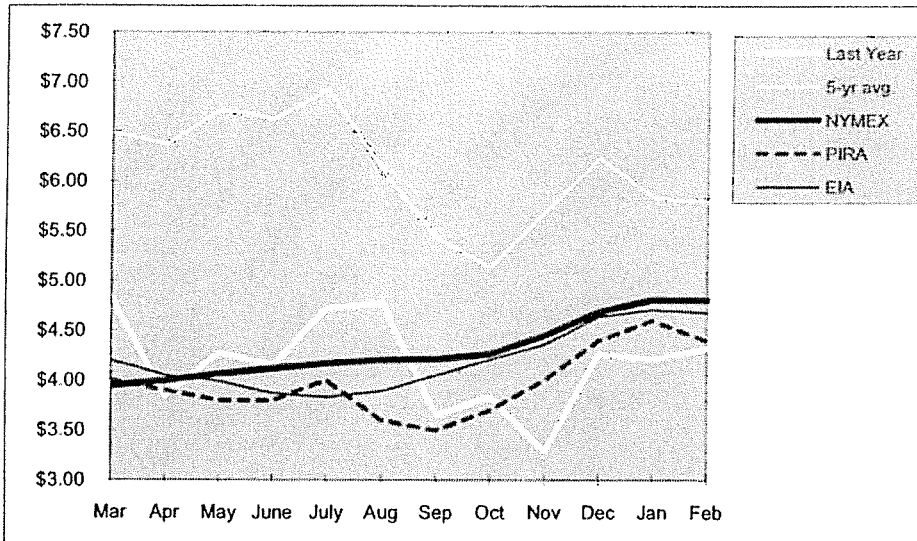
Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (3/31/11)	
		Total Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2011					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2011					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2011					
Apr-13					
May-13					
Jun-13					
Jul-13					
Aug-13					
Sep-13					
Oct-13					
Summer 2013					
Target Levels By March 31, 2011					

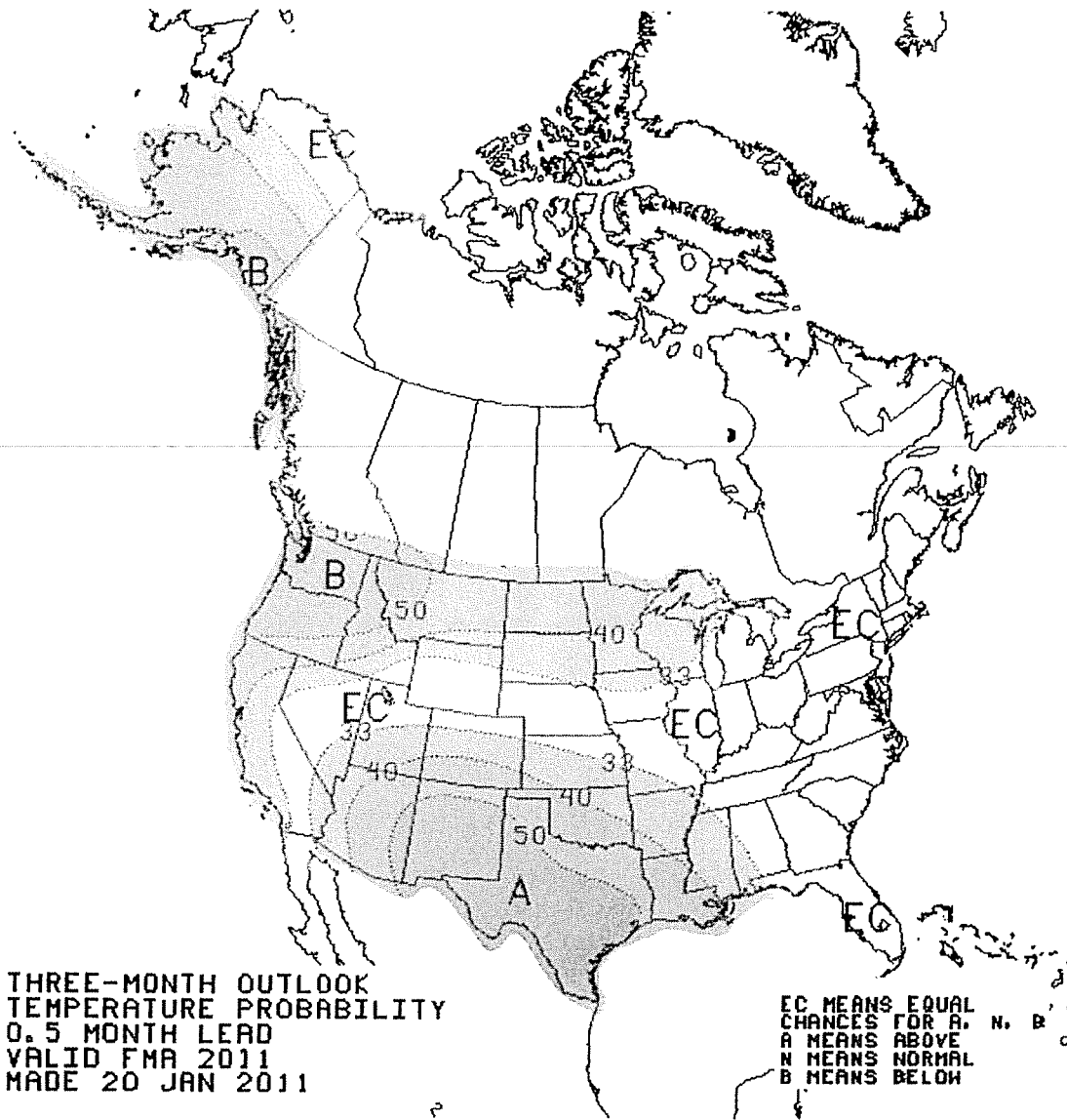


**COMPARISON OF HISTORIC SPOT & PROJECTED PRICES  
 TO CURRENT FUTURES PRICES**

Historic Prices:						
NYMEX Closing Price						
	5-yr. avg. (06/07-10/11)	Last Year (2010-2011)		PIRA 26-Jan-11	EIA 8-Feb-11	NYMEX 16-Feb-11
Mar	\$6.49	\$4.82			\$4.200	\$3.943
Apr	\$6.37	\$3.84			\$4.050	\$3.994
May	\$6.72	\$4.27			\$3.990	\$4.062
June	\$6.63	\$4.16			\$3.870	\$4.118
July	\$6.92	\$4.72			\$3.830	\$4.170
Aug	\$6.10	\$4.77			\$3.890	\$4.204
Sep	\$5.43	\$3.65			\$4.050	\$4.215
Oct	\$5.13	\$3.84			\$4.210	\$4.264
Nov	\$5.69	\$3.29			\$4.360	\$4.450
Dec	\$6.23	\$4.27			\$4.640	\$4.685
Jan	\$5.84	\$4.22			\$4.710	\$4.812
Feb	\$5.80	\$4.32			\$4.680	\$4.804
12 Month Avg	\$6.11	\$4.18			\$4.207	\$4.310
Summer Average					\$3.984	\$4.147
Winter Average					\$4.518	\$4.539

Hedged Prices  
 Ohio Kentucky



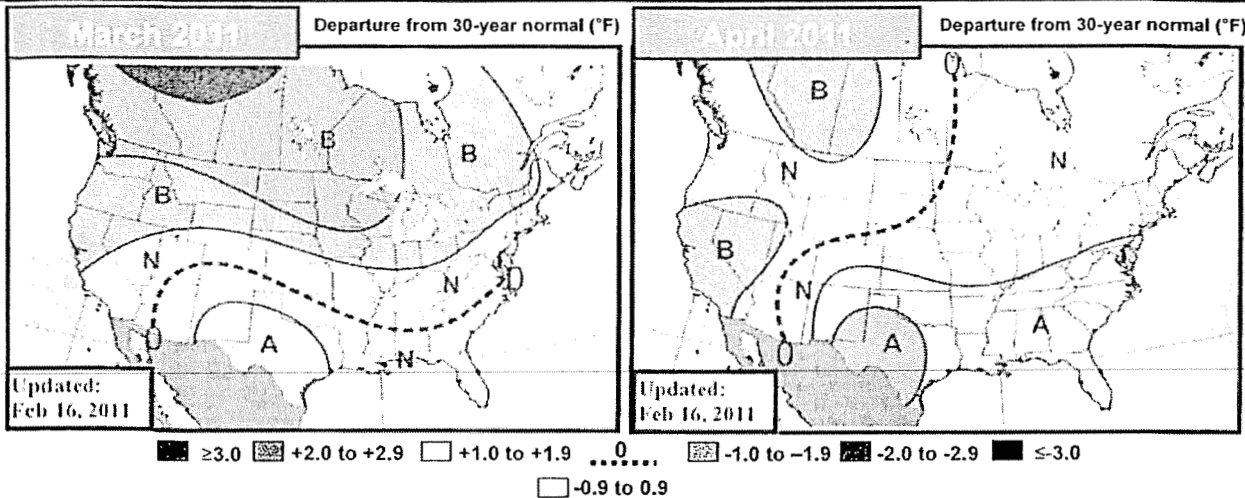




# EarthSat's 30-60 Day Outlook

Wednesday, February 16, 2011

Forecaster: SS/BH/TH/RG



**Previous** Colder in the West  
Not as cold in the East

The forecast features marginal warm changes over the East and South and colder changes across the West. A Southern ridge has been persistent of late, and looks to remain prominent in the pattern during the early part of March, keeping the South above normal and allowing mild surges of air to reach parts of the Midwest and East at times. However, with cold air pressing down from western Canada, a sharp temperature boundary looks to set up across the Midwest and Mid-Atlantic or Northeast. Negative trends in the EPO may help more sustained cold develop over the East and Midwest, but with the PNA appearing to remain negative through early March, prolonged periods of belows are not expected. The West has trended colder, as the trough that has developed over the region shows little sign of making a quick departure. Upper-latitude blocking looks like it will remain weak (+AO and +NAO), though a stronger blocking event could return during the month. If a stronger block does emerge, our forecast risks colder across the Eastern half.

Mar GWHDD** Forecasts	*10Y Normal updated to '01-10
Mar 2011 Fcst: <b>658.0</b>	10Y Normal* 619.9
	30Y Normal 634.7
	Mar-2010 566.7
Change: -5	

\*\*National Gas-Weighted HDDs

**Previous** More warmth in Texas  
Staying cool in the West

The forecast remains above average across much of the Eastern half and below average over the West, with some slight warm changes in Texas this week. We do not anticipate as many extreme anomalies for this shoulder month, so demands should be rather minimal. Forecast drivers other than the weakening La Nina include the warm AMO, which correlates well with aboves across the South, and the cold PDO, which generally supports belows over much of the West. Soil moisture anomalies may also be a factor, existing dry conditions over the South, Lower Midwest and Mid-Atlantic could provide some feedback, enhancing the warmth over these regions. Oppositely, wetter-than-normal soils over the Rockies and SoCal could enhance the chilly-cool air expected here. Second-year La Nina analogs are also supportive of the cool-West / mild-East pattern – these include 1955, 1999, and 2008. However, there is a risk that upper-latitude blocking could become a more dominant forecast driver, possibly leading to an outcome that's colder than our forecast across the Eastern half.

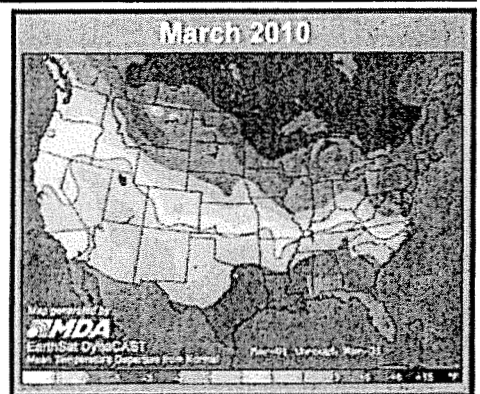
Apr GWHDD** Forecasts	*10Y Normal updated to '01-10
Apr 2011 Fcst: <b>358.0</b>	10Y Normal* 336.1
	30Y Normal 369.0
	Apr-2010 279.1
Change: -4	

\*\*National Gas-Weighted HDDs

**February so far**

Final 60 Day Outlook    Final 30 Day Outlook    Verified Feb. 1-15    Verif + forecast (out to 2/28)

The first half of February certainly did not match our expectations, with much colder conditions than expected across the southern tier and warmer conditions in the northwest. If the month were to end today the forecast would verify very poorly overall. However, a major pattern change is taking place and the latter part of the month looks to end up much warmer across the eastern half of the US and much colder in the West. The resulting composite combining the past verification and the expected forecast (see upper right Verif + forecast) shows above-normal temperatures for the month across most of the Midwest and East and belows across most of the West, with the strongest cold in the southern Rockies and the strongest warmth in the Mid-Atlantic. That composite would verify well with our 60 Day outlook in the West and the Mid-Atlantic, but would still be a big miss across Texas and in the upper Midwest.



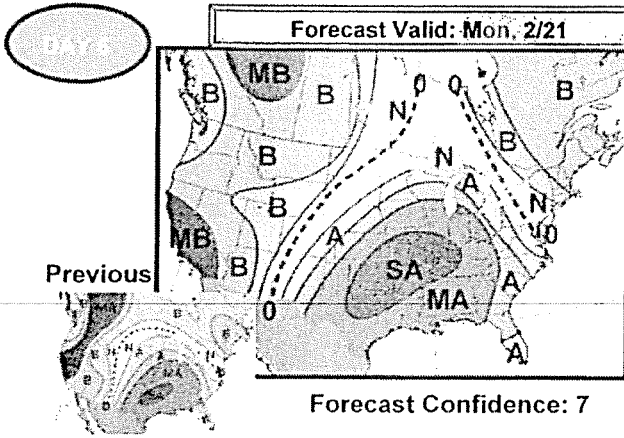


# EarthSat's 6-10 Day Forecast-Detailed

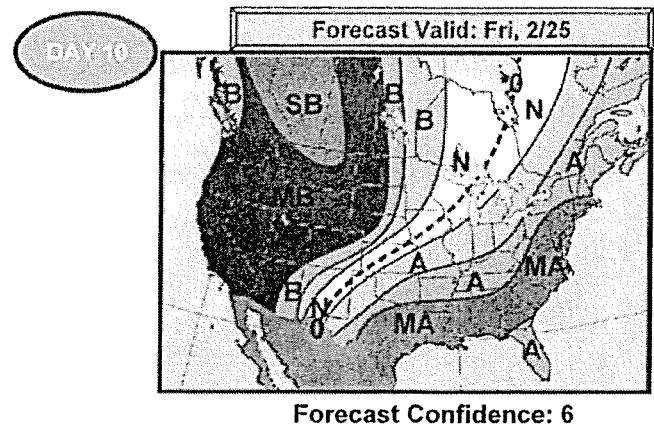
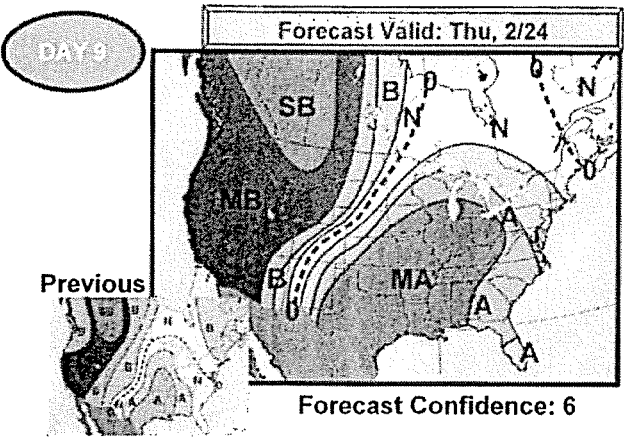
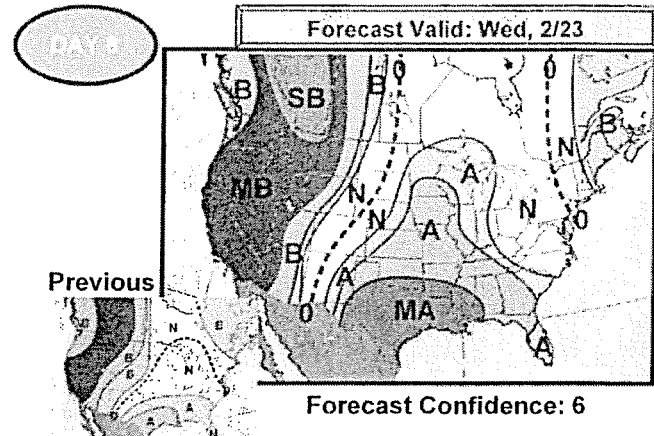
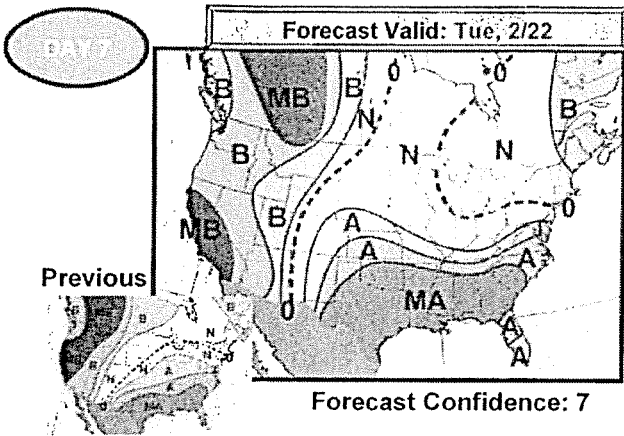
Wednesday, February 16, 2011

Forecaster: BH/AC

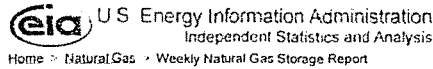
## Forecast Temperature Deviations



**\*Second Half Warming Trend Occurs In East\***  
**\*Stronger Cold Aims For Plains, W. Midwest Late\***  
 A trough is still present over the Northeast during the early part of the period, but the debate with this feature concerns its strength and duration. There is the chance for cooler air to linger longer than expected. However, warmer temperatures begin to push toward the East for the latter part of the period with the development ahead of a storm system moving through the Midwest. The warmth could be stronger along the eastern Midwest and East during this time frame. At the same time, colder air becomes more available for the Plains and western Midwest, according to the American models. Should this scenario pan out, stronger cold may reach these regions at period's end and at a faster rate.



A +3F to +4F    A +5F to +7F    MA +8F to +14F    SA +15 or Higher  
 B -3F to -4F    B -5F to -7F    MB -8F to -14F    SB -15 or Lower



Home > Natural Gas > Weekly Natural Gas Storage Report

[Glossary](#)

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## Weekly Natural Gas Storage Report

Released: February 17, 2011 at 10:30 a.m. (eastern time) for the Week Ending February 11, 2011.  
Next Release: February 24, 2011

### Working Gas in Underground Storage, Lower 48

other formats: [Summary.TXT](#) [CSV](#)

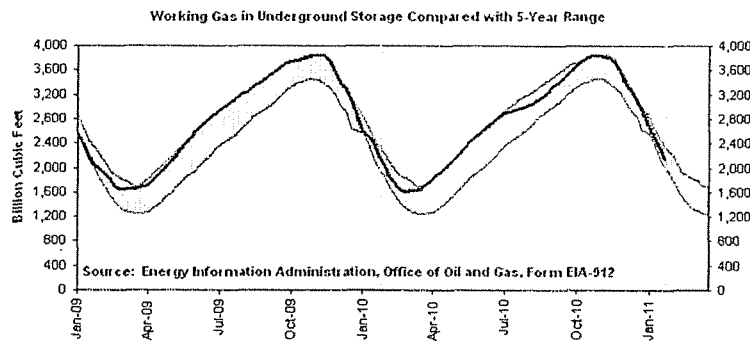
Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	02/11/11	02/04/11	Change	Year Ago (02/11/10)		5-Year (2006-2010) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	937	1,055	-118	1,045	-10.3	1,072	-12.6
West	276	300	-24	325	-15.1	287	-3.8
Producing	698	789	-91	682	2.3	680	2.6
<b>Total</b>	<b>1,911</b>	<b>2,144</b>	<b>-233</b>	<b>2,052</b>	<b>-6.9</b>	<b>2,039</b>	<b>-6.3</b>

#### Notes and Definitions

#### Summary

Working gas in storage was 1,911 Bcf as of Friday, February 11, 2011, according to EIA estimates. This represents a net decline of 233 Bcf from the previous week. Stocks were 141 Bcf less than last year at this time and 128 Bcf below the 5-year average of 2,039 Bcf. In the East Region, stocks were 135 Bcf below the 5-year average following net withdrawals of 118 Bcf. Stocks in the Producing Region were 18 Bcf above the 5-year average of 680 Bcf after a net withdrawal of 91 Bcf. Stocks in the West Region were 11 Bcf below the 5-year average after a net drawdown of 24 Bcf. At 1,911 Bcf, total working gas is within the 5-year historical range.

- 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](#)



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2006 through 2010. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**January 26, 2011 Release**

Jan-09		Jan-10		Jan-11		Jan-12	
Feb-09		Feb-10		Feb-11		Feb-12	
Mar-09		Mar-10		Mar-11		Mar-12	
Apr-09		Apr-10		Apr-11		Apr-12	
May-09		May-10		May-11		May-12	
Jun-09		Jun-10		Jun-11		Jun-12	
Jul-09		Jul-10		Jul-11		Jul-12	
Aug-09		Aug-10		Aug-11		Aug-12	
Sep-09		Sep-10		Sep-11		Sep-12	
Oct-09		Oct-10		Oct-11		Oct-12	
Nov-09		Nov-10		Nov-11		Nov-12	
Dec-09		Dec-10		Dec-11		Dec-12	
Average 2009	\$	Average 2010		Average 2011		Average 2012	\$
Summer 2009	\$	Summer 2010		Summer 2011		Summer 2012	\$
Winter 2009- 2010	\$	Winter 2010- 2011		Winter 2011- 2012			

**North American Gas Forecast Monthly**



January 26, 2011

NATURAL GAS

**GAS PRICE SCORECARD: APRIL 2011 – JUNE 2011**

Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
<i>U.S. Production</i>		The pullback of gas-oriented rig counts shows no sign of reaching the levels required to balance the 2011 U.S. gas market, and the fragmented structure of gas drilling contractors also doesn't augur well for timely reductions.
<i>LNG Imports</i>		Membership in the U.S. LNG "Re-exports Club" is escalating with the stage set for sizable additional re-export volumes benefitting from low HH prices in relation to overseas markets, but 2Q11 LNG imports will be near flat Y/Y.
<i>Canadian Exports</i>		Lower expected end-March storage should contribute to faster 2Q11 Canadian storage builds that will limit exports to the U.S., even if Y/Y production losses are modest.
<i>Mexican Pipeline Imports</i>		For 2011, net imports from the U.S. are projected to increase by ~0.3 BCF/D, but more aggressive growth looms ahead if gas production falters at a faster than forecast rate.
<i>Storage Levels</i>		The onslaught of extremely frigid 1Q11 weather now points to relatively flat Y/Y end-March storage comparisons, but we continue to foresee a Y/Y storage surplus by 3Q11, or earlier.
U.S. Demand Issues	Outlook	Commentary
<i>Economy</i>		Macro-economic readings continue to be by and large positive and forward views of manufacturing even more so. But the Y/Y expansion of industrial gas demand faces headwinds from the strength of the 2010 recovery.
<i>Electric Generation</i>		Low year-earlier costs associated with gas-fired CCGTs relative to coal-fired EG limit the scope of further gas market penetration at the expense of coal.
<i>Industrial Sector</i>		The slowdown of industrial gas demand growth of late reflects a decoupling between gas-weighted output and gas use demonstrating the sector's reduced gas intensity. If this decoupling trend continues, downside risks are indicated relative to PIRA's gas demand forecast.
<i>Res/Com Heating</i>		Unusually mild 2Q10 weather means that R/C gas heating should achieve a Y/Y gain of ~1 BCF/D in 2Q11, if temperatures are relatively normal.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>		Reported non-commercial NYMEX short futures positions increased to ~360,000, up 50,000 lots in a mere two weeks. This was almost identical to the ~51,000 expansion in long futures added by swap dealers, which we suspect was influenced by rebalancing on the part of some commodity funds. For now, though, commercial traders, namely producers, have not increased their short positions by much but likely would at higher price levels, if realized.
Overall Assessment	Outlook	Commentary
<i>Price Outlook</i>		From a gas bull's perspective, the gradual emergence of a "best case" 1Q11 weather scenario points to an end-March Y/Y storage deficit, but producer hedging and potential short selling by the hot money funds should curb price rallies in the context of a re-emerging post-1Q11 storage surplus.

# Gas Daily

Friday, January 28, 2011

## Exxon: Power will drive demand for shale gas

Demand for natural gas in North America will increase 1.9%/year through 2030, ExxonMobil said Thursday in its annual energy outlook, and almost 95% of that growth will come from the power-generation sector as the US and Canada move away from coal.

In the developed world, gas will overtake coal as the dominant fuel for electricity production, ExxonMobil predicted. "Under any scenario, natural gas is an attractive fuel choice for power generation. It is abundant and produces up to 60% less CO2 emissions than coal."

Also, "gas-fired generation plants are based on proven technology, can be built quickly and are already cost-effective today," the supermajor said. "ExxonMobil expects demand for natural gas for power generation to rise by about 85% [globally] from 2005 to 2030. By 2030, gas will be providing more than 25% of the world's electricity needs and will be well-positioned to become the top source for electricity production."

All that power demand is being driven by population and economic growth over the next 20 years, ExxonMobil said.

The Irving, Texas-based producer said gas' share of the North American energy mix would grow from 21% today to 26% by 2030. "Use of natural gas as a power-generation fuel will nearly double in North America from 2005 to 2030," it said.

The gas needed to meet that demand will come in massive, cheap quantities, according to ExxonMobil. For some countries, liquefied natural gas supplies will be the primary source; for others, particularly the US and Canada, much of the gas will come from shale plays.

"Globally, unconventional gas production is projected to grow fivefold from 2005 to 2030," ExxonMobil said. "The largest growth by far is in the US, where unconventional production meets well over half of US gas demand by 2030."

The company predicted that North American gas production from shale formations would hit 40 Bcf/d by 2030 and account for roughly one-fifth of global gas supplies.

Meanwhile, global demand for energy of all kinds will increase 35% by 2030, with demand in emerging countries rising by more than 70%, according to the outlook, which ExxonMobil uses to help guide its global investment decisions.

"Our energy outlook clearly points to a growing demand for energy globally, which reflects improving living standards for millions of people around the world," Chairman and CEO Rex Tillerson said in a statement. "The forecasts also show a shift toward natural gas as businesses and governments look for reliable, affordable and cleaner ways to meet energy needs. Newly unlocked supplies of shale gas and other unconventional energy sources will be vital in meeting this demand."

The outlook predicts that global electricity demand will grow by more than 80% through 2030 from 2005 levels. In developing countries, electricity use is expected to soar more than 150%. The predictions take into account advances in efficiency.



The outlook also predicts that renewable sources of energy, including wind, solar and biofuels, will grow at an annual rate of about 10% on average through 2030. But given that they start from such a small base, renewable will only contribute about 2.5% of worldwide energy usage by 2035, it said.

ExxonMobil is a major shale gas player, having bought Fort Worth based shale-focused producer XTO Energy for \$41 billion, including debt, in December 2009 (*GD 12/15*). ExxonMobil also owns millions of acres of leasehold in potentially gas-rich shale plays in Germany and Poland.

— *Bill Holland, Gary Gentile*

# Gas Daily

Wednesday, February 2, 2011

## Production growth to cap at 5% in 2011 as producers adjust plans: Bentek

The recent “torrid pace of growth” of natural gas production will slow as storage and pipeline capacity limits are tested, leading to a 5% cap on production growth in 2011, according to a report released Wednesday by Bentek Energy.

Bentek stated market conditions, upcoming operational issues and low prices will send producers a signal to put on the brakes and adjust drilling plans.

A number of factors could also help slow the pace of growth, including the winding down of drilling to hold production and a decline in drilling cost-carries from joint venture deals, the report stated.

Bentek said the expiring held-by-production obligations will allow operators to shift rigs away from peripheral leases and concentrate activity in the sweet spots, such as rich gas plays, in order to increase margins in a low-price environment.

While rig counts may fall, production should remain relatively flat or even grow in some key basins as producers focus on these sweet spots and work through an inventory of non-completed wells, Bentek said.

In addition, the report stated the 2,300 uncompleted wells in the Haynesville, Marcellus, Eagle Ford and Barnett shale plays constitute a low-cost inventory already “in the ground” and will cap future price increases.

Meanwhile, the drilling cost-carries from joint ventures will begin expiring between 2011 and 2013, limiting their downward impact on development costs, the analysts said.

Higher-value hedges also will continue to roll off, exposing producers to the lower-price environment, the report said.

It also predicts the 2011 oversupply will continue to bring down futures calendar-year strips, hindering hedging strategies and lowering the economic prospects of some drilling investments.

“Ultimately these factors will lead producers to cut E&P spending and drilling plans, resulting in slower supply growth,” the report said.

Following this year, Bentek predicted a “new era of efficient and price-responsive supply growth” that will coincide with further economic recovery and a renewed interest in natural gas from a number of demand sectors.

The report also stated associated gas produced from oil and liquids-rich wells between 2010 and 2015 is expected to grow by 2.5 Bcf/d to a total of 10 Bcf/d.

Bentek is a unit of Platts, a division of The McGraw-Hill Companies. — *Eunice Bridges*

# Gas Daily

Monday, February 14, 2011

## Low gas prices prop up earnings, prompt fertilizer makers to reopen plants

Several fertilizer manufacturers have been prompted by relatively cheap natural gas and higher demand for their end-products to reopen plants idled several years earlier when gas prices made their production costs too high.

The plants were mostly taken offline in the early 2000s, when high gas prices prompted the companies to seek cheaper imports, since natural gas accounts for about 70% to 90% of the cost of ammonia for feedstock. In addition, many of the manufacturers are flush with cash as they reap the benefits of stronger demand for their products.

Potash Corporation of Saskatchewan reported late last month that its fourth-quarter earnings more than doubled from a year earlier to \$482.3 million.

While gas prices were generally lower in the quarter than a year earlier, PCS said total average gas costs across its operations actually rose 24% to \$5.62/MMBtu, including hedging. Most of the increase was due to higher gas costs for its ammonia facilities in Trinidad, which are indexed to the Tampa, Florida, ammonia price and reflected higher prices for that end-product.

PCS announced in early February that it will restart its ammonia plant in Geismar, Louisiana, due to lower gas prices there. The plant has the capacity to use about 51,000 MMBtu/d of gas to produce up to 1,500 tons/d of ammonia. It was idled in 2003 due to high gas prices.

The company said it would spend about \$158 million to bring the plant back up over the next 18 months.

Other plants in the process of being restarted due to falling gas costs include the Beaumont, Texas, ammonia plant owned by Pandora Methanol, with the capacity to use about 8.7 Bcf/year to produce some 225,000 tons of product. LSB Industries says its Pryor, Oklahoma, nitrogen plant continues to be brought up to full production of 525 tons/d, which would consume about 17,850 MMBtu/d of gas.

On Wednesday, Agrium said its wholesale results for the fourth quarter were aided by 18% lower gas prices, with the firm paying \$3.97/MMBtu on average. The Calgary-based company earned \$158 million in the fourth quarter, quadrupling its year-ago results. That included pre-tax gains of \$4 million on gas and other commodity hedge positions, the company noted. — *Stephanie Seay*



## North America Gas: Transitions, trends, and triggers in 2011

### Executive Summary

In the North American gas industry, 2010 was another difficult year for just about everyone except petrochemical producers and other industrials, who benefitted from low gas prices and a weakening dollar. Otherwise, though, the sluggish economic recovery meant continued pressure on utilities, and low gas prices brought upstream consolidation, creative strategies to push production growth despite weak cash flows, massive coal displacement, and even discussion of LNG exports as a strategy for diversifying beyond a saturated domestic market. This year, however, will be marked by transitions across the natural gas value chain, as the industry moves from a period of over-supply to a more sustainable growth path by the end of next year. Watch for the following transitions, trends, and triggers in 2011:

- US production declining—finally
- Gas prices shifting up—a little
- Tight oil drilling surpassing shale gas drilling
- Fewer acquisitions focused on dry gas shales
- Mounting opposition to hydraulic fracturing
- Emerging new sources of demand
- Coal players exploring ways to increase exports
- Chemical plants using more NGLs
- Pipeline rate restructuring
- The Department of Energy approving LNG exports
- Energy policy remaining stalled—unless oil prices shoot up
- New options being considered for Alaskan gas

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**February 8, 2011 Release**

Jan-09	5.24	Jan-10	5.83	Jan-11	4.49	Jan-12	4.71
Feb-09	4.51	Feb-10	5.32	Feb-11	4.37	Feb-12	4.68
Mar-09	3.96	Mar-10	4.29	Mar-11	4.20	Mar-12	4.46
Apr-09	3.49	Apr-10	4.03	Apr-11	4.05	Apr-12	4.35
May-09	3.83	May-10	4.14	May-11	3.99	May-12	4.25
Jun-09	3.80	Jun-10	4.80	Jun-11	3.87	Jun-12	4.14
Jul-09	3.38	Jul-10	4.63	Jul-11	3.83	Jul-12	4.34
Aug-09	3.14	Aug-10	4.32	Aug-11	3.89	Aug-12	4.53
Sep-09	2.97	Sep-10	3.89	Sep-11	4.05	Sep-12	4.59
Oct-09	4.00	Oct-10	3.43	Oct-11	4.21	Oct-12	4.81
Nov-09	3.66	Nov-10	3.71	Nov-11	4.36	Nov-12	4.92
Dec-09	5.34	Dec-10	4.25	Dec-11	4.64	Dec-12	5.14
Average 2009	\$ 3.943	Average 2010	\$ 4.387	Average 2011	\$ 4.163	Average 2012	\$ 4.577
Summer 2009	\$ 3.516	Summer 2010	\$ 4.177	Summer 2011	\$ 3.984	Summer 2012	\$ 4.430
Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.204	Winter 2011- 2012	\$ 4.570		

# Gas Daily

Wednesday, February 9, 2011

## EIA ups price forecast, lowers inventory outlook

The Energy Information Administration on Tuesday made modest increases to its near-term gas price forecasts, raising its first-quarter Henry Hub estimate 4 cents, or less than 1%, to \$4.62/MMBtu and boosting its 2011 estimate by 14 cents, or about 3%, to \$4.16/MMBtu.

In its February short-term energy outlook, the agency also hiked its second-quarter forecast by 7 cents, or about 2%, to \$4.25/MMBtu.

Last month's cold snap prompted EIA to drop its outlook for gas storage inventories at the end of the winter heating season. It predicted 1,651 Bcf will remain in storage by late March, 120 Bcf less than it projected in its January outlook.

EIA said it expects price uncertainty to remain low through 2011 compared with last year. It reiterated that the gas market would begin to tighten in 2012, when the Henry Hub spot price is expected to rise to a \$4.58/MMBtu average.

The report said gas consumption would stay flat from 2010 to 2011. Residential and commercial usage is expected to dip less than 3%, while industrial consumption is expected to increase 2.4%.

On the supply side, total marketed production would "slow considerably" to 0.8% this year, EIA said, as an expected 1 Bcf/d increase in Lower-48 output is likely to be partially offset by a 0.4 Bcf/d dip in gas coming from the Gulf of Mexico.

For 2012, the agency predicted that total consumption will grow 1% to 66.8 Bcf/d. It said higher usage by the power-generation and industrial sectors would be partially offset by declines in residential and commercial usage.

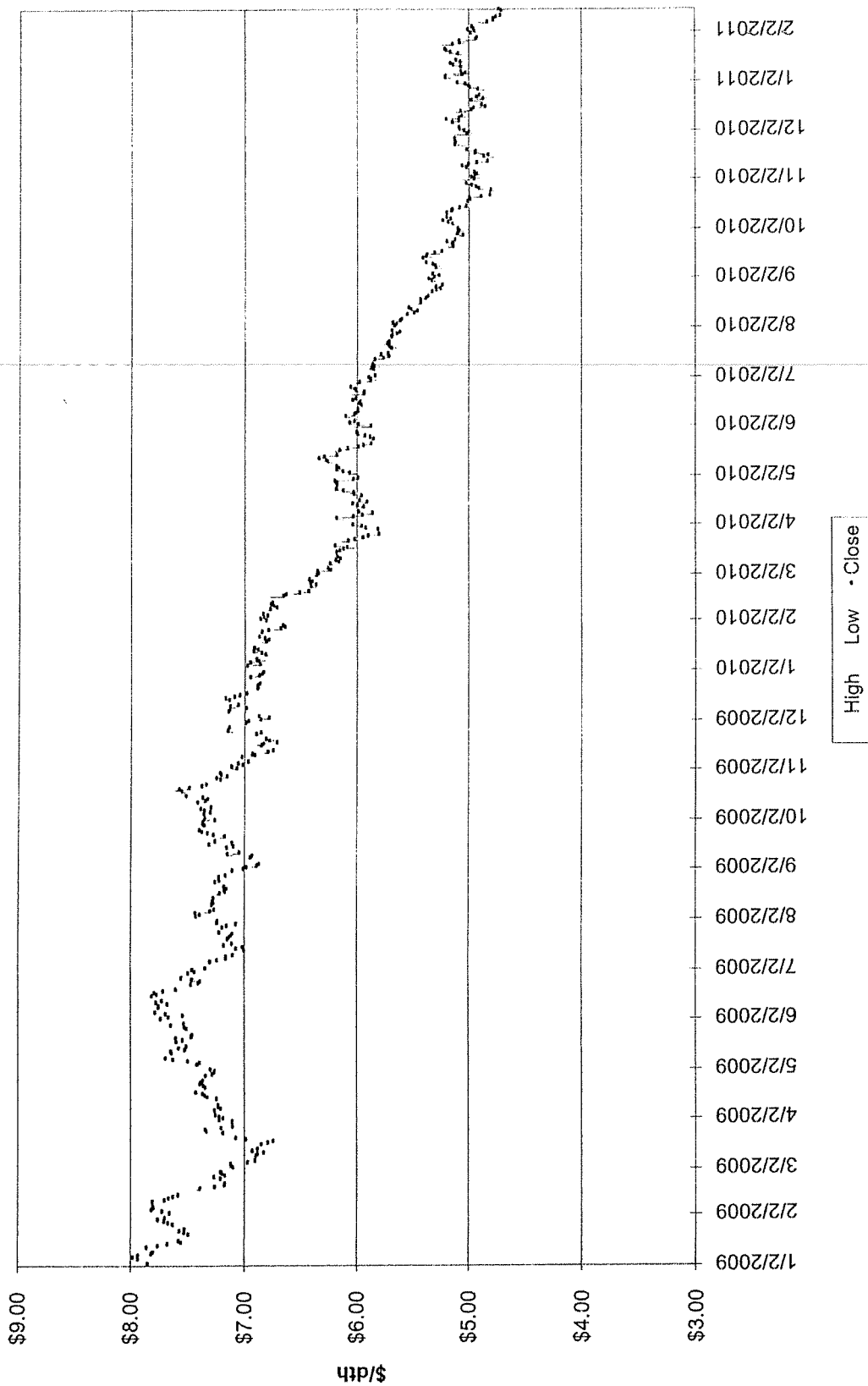
"Increasing consumption, especially in the electric power sector, contributes to higher prices and more economic incentive for producers to resume drilling," EIA said.

The outlook for gas pipeline imports remains weak. EIA said the US would import 8.7 Bcf/d in 2011, a 4.2% drop from last year, and 8.2 Bcf/d in 2012, a 5.5% drop.

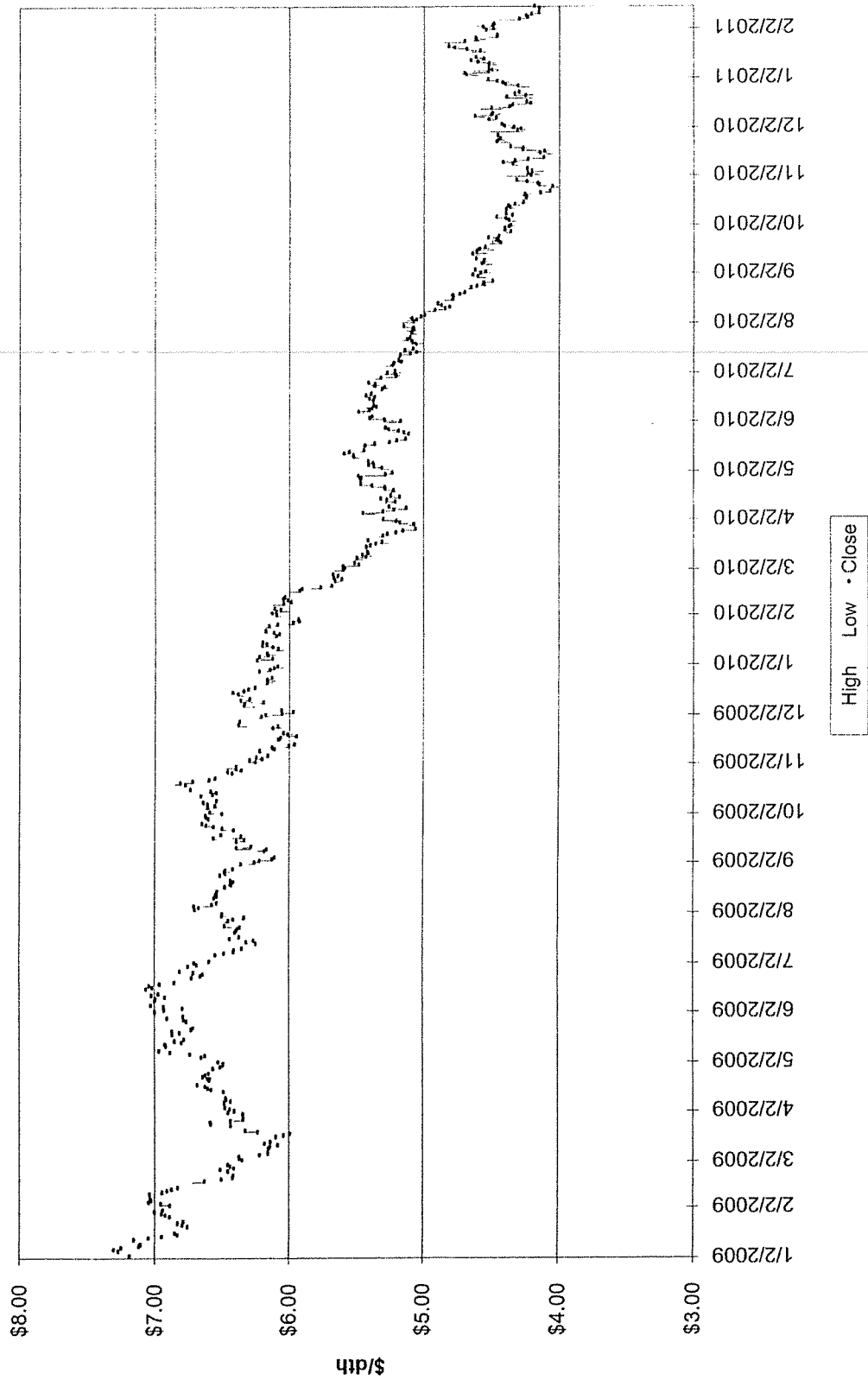
The report said LNG import terminals would handle an estimated 1.1 Bcf/d this year, 4.4% less than 2010 levels, before growing modestly to 1.2 Bcf/d in 2012.

"High domestic production, high inventories and low US prices relative to European and Asian markets should continue to discourage LNG imports," EIA said. — *Meghan Gordon*

Winter Strip Nov11 - Mar12



Summer Strip 2011





## Q1 Macro Update: 2011 – The Year of Reckoning

### Executive Summary

- Global growth over the next couple of years has been revised up from our September forecast. **Wood Mackenzie expect global GDP growth of 3.4% and 3.1% in 2011 and 2012 respectively (constant US\$). Notably, we see stronger growth in the US (up from 1.8% in 2011 to 3.1%) and China (8.7% to 9.4%). In the US, this reflects further fiscal stimulus announced in December which is expected to boost the economy onto a self-sustaining growth trajectory.** In China, this revision reflects a more modest slowdown as tightening policies take time to feed through to the real economy.
- **Serious risks to this outlook remain. Although unlikely in our view, the European sovereign debt crisis could turn into a banking crisis.** This would likely be triggered by one or more European economies restructuring (defaulting on) their sovereign debt with unintended consequences. The threat of such a catastrophe is likely to be sufficient to ensure European policy makers prevent it from happening. But as always, this will depend on their political support and crucially, their ability to explain to their electorate why short-term pain may be preferential to medium-term anarchy.
- Inflation is becoming an issue in Europe and continues to be an issue in the developing world. Policies to lower inflation in China, Brazil and India will slow GDP growth in these economies over the short- to medium-term. Inflation in Europe could lead to interest rate hikes in H2 2010 which would act to slow recovery in Europe, and contribute to currency appreciation against the US dollar as interest rate differentials widen.

# Short-Term Energy Outlook

February 8, 2011 Release  
(Next update March 8, 2011)

## Natural Gas

**U.S. Natural Gas Consumption.** EIA expects that total natural gas consumption will remain flat from 2010 to 2011. Reported residential and commercial consumption are expected to decline by 0.3 percent and 2.4 percent, respectively, primarily because of changes to EIA's methodology for collecting and reporting natural gas consumption data. Industrial consumption rises from 18.0 billion cubic feet per day (Bcf/d) in 2010 to 18.3 Bcf/d in 2011 as the natural-gas weighted industrial production index increases 2.4 percent year over year.

Total consumption grows 1 percent in 2012, from 66.2 Bcf/d to 66.8 Bcf/d. Increases in natural gas consumption in the electric power sector (2.9 percent) and industrial sector (1.2 percent) are partially offset by slight declines in residential and commercial consumption. EIA expects electric power sector and industrial sector consumption to grow by 2.9 percent and 1.2 percent, respectively, in 2012.

**U.S. Natural Gas Production and Imports.** Total marketed natural gas production grew strongly throughout 2010 (4.4 percent), increasing from 59.7 Bcf/d in January to an estimated 63.7 Bcf/d in December. Year-over-year growth in 2011 is expected to slow considerably to just 0.8 percent as an increase of 1.0 Bcf/d in the lower-48 states is partially offset by a decline of 0.4 Bcf/d in the GOM.

The latest EIA data for monthly natural gas production showed an increase in lower-48 states' production for November 2010, reversing October's decline. Modest declines are expected to resume and continue through 2011, however, because of a falling drilling rig count in response to lower prices. The number of rigs drilling for natural gas reported by Baker Hughes Inc. increased from a low of 665 in July 2009 to 973 in April 2010. Over the following 6 months the natural gas rig count stayed relatively unchanged. However, over the last 3 months the rig count has fallen, dropping to 911 rigs as of February 4. The large price difference between petroleum liquids and natural gas on an energy-equivalent basis contributes to an expected shift towards drilling for liquids rather than for dry gas.

Increasing consumption, especially in the electric power sector, contributes to higher prices and more economic incentive for producers to resume drilling. Total domestic natural gas production increases 1.1 percent in 2012. Lower-48 production is expected to increase throughout 2012 from 55.0 Bcf/d in January to 57.4 Bcf/d in December, which would be strong growth, but significantly less than during 2010. Federal GOM production declines slightly, by 0.4 percent (0.02 Bcf/d) in 2012.

EIA expects gross pipeline imports of 8.7 Bcf/d in 2011 and 8.2 Bcf/d in 2012, year-over-year decreases of 4.2 and 5.5 percent, respectively. Projected imports of liquefied natural gas (LNG) average 1.1 Bcf/d in 2011, a 4.4-percent decrease from 2010 levels. LNG imports in 2012 grow modestly to 1.2 Bcf/d. High domestic production, high inventories, and low U.S. prices relative to European and Asian markets should continue to discourage LNG imports.

## Global Crude Oil and Liquid Fuels

**Crude Oil and Liquid Fuels Overview.** EIA expects a continued tightening of world oil markets over the next two years. World oil consumption grows by an annual average of 1.5 million barrels per day (bbl/d) through 2012 while the growth in supply from non-Organization of the Petroleum Exporting Countries (non-OPEC) countries averages about 0.3 million bbl/d this year and remains flat in 2012. Consequently, EIA expects the market will rely on both inventories and significant increases in the production of crude oil and non-crude liquids in OPEC member countries to meet world demand growth. While on-shore commercial oil inventories in the Organization for Economic Cooperation and Development (OECD) countries remained high last year, floating oil storage fell sharply in 2010, and EIA expects that OECD oil inventories will decline over the forecast period to close to the middle of the previous 5-year range by the end of 2012.

There are many significant uncertainties that could push oil prices higher or lower than current expectations. Among the uncertainties are decisions by key OPEC member countries regarding their production response to the global recovery in oil demand; the rate of economic recovery, both domestically and globally; fiscal issues facing national and sub-national governments; and China's efforts to address concerns regarding its growth and inflation rates. In addition, even though Egypt is not a major supplier of crude oil or natural gas to world markets, the recent unrest in that country raises the concern that unrest could spread to other countries in the region with a larger role in supplying world energy markets or that key transit routes for energy and other goods could be disrupted.

Duke Energy  
Hedging Program  
Remaining Base Not Yet Locked In  
Winter 2010-11

	<u>Dth/Day</u>					<u>Total</u>	<u>% System Supply</u>
	<u>November</u>	<u>December</u>	<u>January</u>	<u>February</u>	<u>March</u>		
<u>Duke Energy Ohio</u> Previously Hedged							
<u>Total</u> System Supply							
<u>Duke Energy Kentucky</u> Previously Hedged							
<u>Total</u> System Supply							
<u>Duke Energy--Total</u> Previously Hedged							
<u>Total</u>							

Gas Commercial Operations  
Hedging Program  
Market Indicators Summary  
March 17, 2011

	Price Pressure	Term	Comments	Page Ref
<b>Weather</b>				
Long Term Forecast (Mar 11--May 11)	↑ ↓	Long	NOAA predicting above average temperatures for March 2011--May 2011 for large portions of the southern CONUS. Below normals on the west coast and the northern portion of CONUS from the west coast to Wisconsin.	10
Mid Term Forecast (30-60 days)	← →	Long	April is predicted to be 2.9% colder than normal based on 10 year normals and May weather is predicted to be 6.6% warmer than normal.	11
Short Term Forecast (6-10 days)	↓	Short	Much Above and Strong Above Dominate early period in Mid-West and South, Below and Much Below in North-East later in period.	12
Tropical Storm Activity	↑	Short	2011 Atlantic-basin hurricane season will bring an above-average number of Atlantic basin tropical storms and a 73% chance that at least one major hurricane will hit the US coast.	13
<b>Storage Inventory</b>				
EIA Weekly Storage Report	↓	Long	Storage withdrawals for the week ending March 4th were 71 BCF. Storage levels are at 1.674 TCF which is 1.9% higher than last year and 1.3% higher than the 5 year average. "Current weather forecasts have us now looking for an end of season finish above 1.6 Tcf, definitely bearish after all of the demand we've been running this winter."	14
<b>Industry Publications</b>				
PIRA Energy Group Summer 2011: [REDACTED] Winter 2011/12: [REDACTED]	↓	Long	GAS PRICE SCORECARD: April--Sept 2011 PIRA's price outlook is Bearish. U.S. production is outpacing demand--storage surpluses expected to return in 3Q11.	15-16
The Monthly Advisor	↓	Long	Pricing Analysis: "At a Glance"--Near-term weather outlooks are not supportive for Prices, Storage expected to reach a new high before Oct. 31, 2011, Production still rising, Higher-priced NGL's could increase drilling.	17
Gas Daily	↓	Long	Cheaper shale drilling technology imminent--current shale gas drilling is inefficient, technologies needed to make it cheaper are only 2 to 3 years away.	18
Gas Daily	↑	Long	Coal-to-gas switching this year is likely to provide a substantial floor to, or even prompt a significant recovery in natural gas prices. Estimated that as much as 2.5 Bcf/d of coal displacement this year.	19
Gas Daily	← →	Long	Rising demand for LNG in Japan is likely to tighten supply in other gas-consuming regions but will have little impact on US gas prices.	20
<b>Government Agencies</b>				
Energy Information Administration Summer 2011: \$3.957 Winter 2011/12: \$4.576	↓	Long	The projected Henry Hub natural gas spot price averages \$4.10/MMBtu for 2011 and \$4.579/MMBtu for 2012. EIA predicted the storage level to be at 1.549 Tcf at the end of March which is about 102 Bcf less than projected in February.	21
<b>Technical Analysis</b>				
Winter 2011-12 Strip Chart	↑	Short	Closed at \$4.77	22
Summer 2011 Strip Chart	↑	Short	Closed at \$4.13	23
<b>Economy</b>				
Demand	← →	Long	EIA projects total natural gas consumption to remain flat in 2011. All sectors except industrial are expected to decline. Industrial is projected to increase 4.0%. In 2012, total consumption grows by 1% to 67.2 Bcf/day on gains by the power-generation and industrial sectors.	24
Supply	← →	Long	Total marketed natural gas production increased significantly in 2010 by an estimated 4.4%. EIA expects average total production to increase by 0.8% in 2011. Total domestic natural gas production increases 0.9% in 2012.	24
Oil Market	↑	Long	Continuing unrest in Libya as well as other North African and Middle Eastern countries has led to the highest crude oil prices since 2008. EIA expects WTI crude oil to average about \$102 per barrel in 2011, \$23 higher than the average 2010 price. For 2012, EIA projects WTI prices to continue to rise, with a forecast average price of \$105 for 2012.	25

**Meeting Minutes: 412 Annex Conference Room - 1:00 pm**  
*Attendees: Jim Mehring, Jeff Kern, Joachim Fischesser, Steve Niederbaumer*

Discussed market fundamentals such as weather, storage inventory levels, and economic factors such as supply and demand. Discussed analyst projections and PIRA, EIA and NYMEX pricing information. Discussed our current positions within the Ohio and Kentucky hedging plans. In addition, significant discussion about the earthquake in Japan and its impact on the world's natural gas markets as well as impacts to the US gas market including near term volatility. Based on the current volatility in the markets and the lack of clarity about the impacts of the earthquake a decision was made to reassess additional hedging opportunities at next months meeting.

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2010 - October 2011  
 As of 03/15/11

	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11
[Redacted Data]												

**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  
 Fixed Price  
 Collar ( )  
 Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar ( )  
 Total Hedged (dth/day)  
 Total Hedged (dth)

**Types of Hedging Products (1)**

Fixed Price  
 Price Caps  
 No-Cost Collars

**Embedded Hedged Cost**

Winter  
 Summer

**Estimated EGC per Dth at City Gate**

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

**Amt Hedged with Storage @ City Gate**

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (Incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2011 - October 2012  
 As of 03/15/11

Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12

Load Forecast

City Gate Load Forecast (Mcf)  
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 Total Withdrawals (Mcf)

Amount Hedged (dth/day)

Fixed Price  
 Fixed Price  
 Fixed Price  
 Collar

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

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

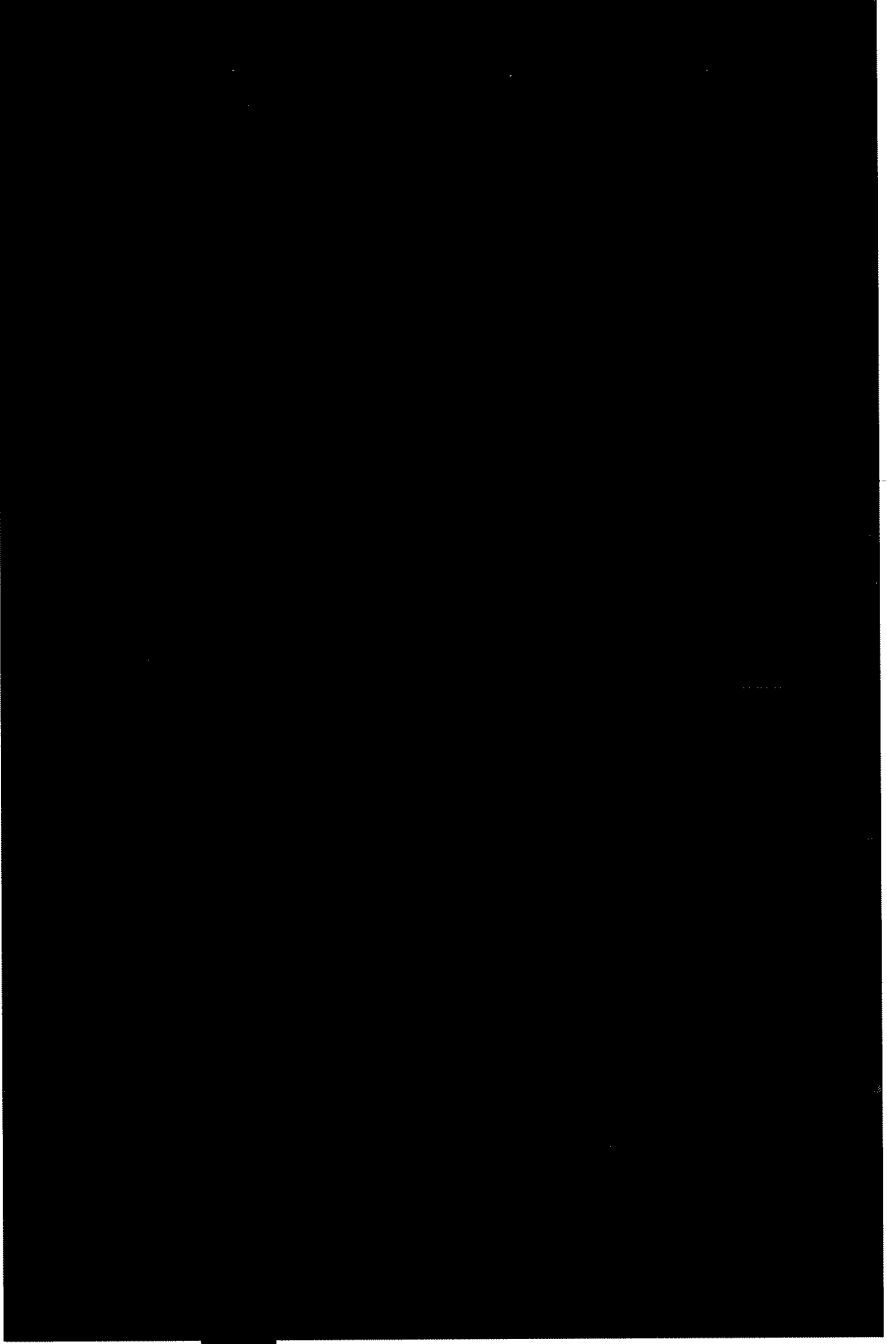
Winter  
 Summer

Estimated EGC per Dth at City Gate

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

Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. Injections) (Dth)  
 % Hedged & Storage  
 Seasonal %



(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

5

Duke Energy Kentucky  
 Hedging Program - Current Position  
 November 2012 - October 2013  
 As of 03/15/11

Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13

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  
 TBD  
 TBD

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

Types of Hedging Products (1)

Fixed Price  
 Price Caps  
 No-Cost Collars

Embedded Hedged Cost

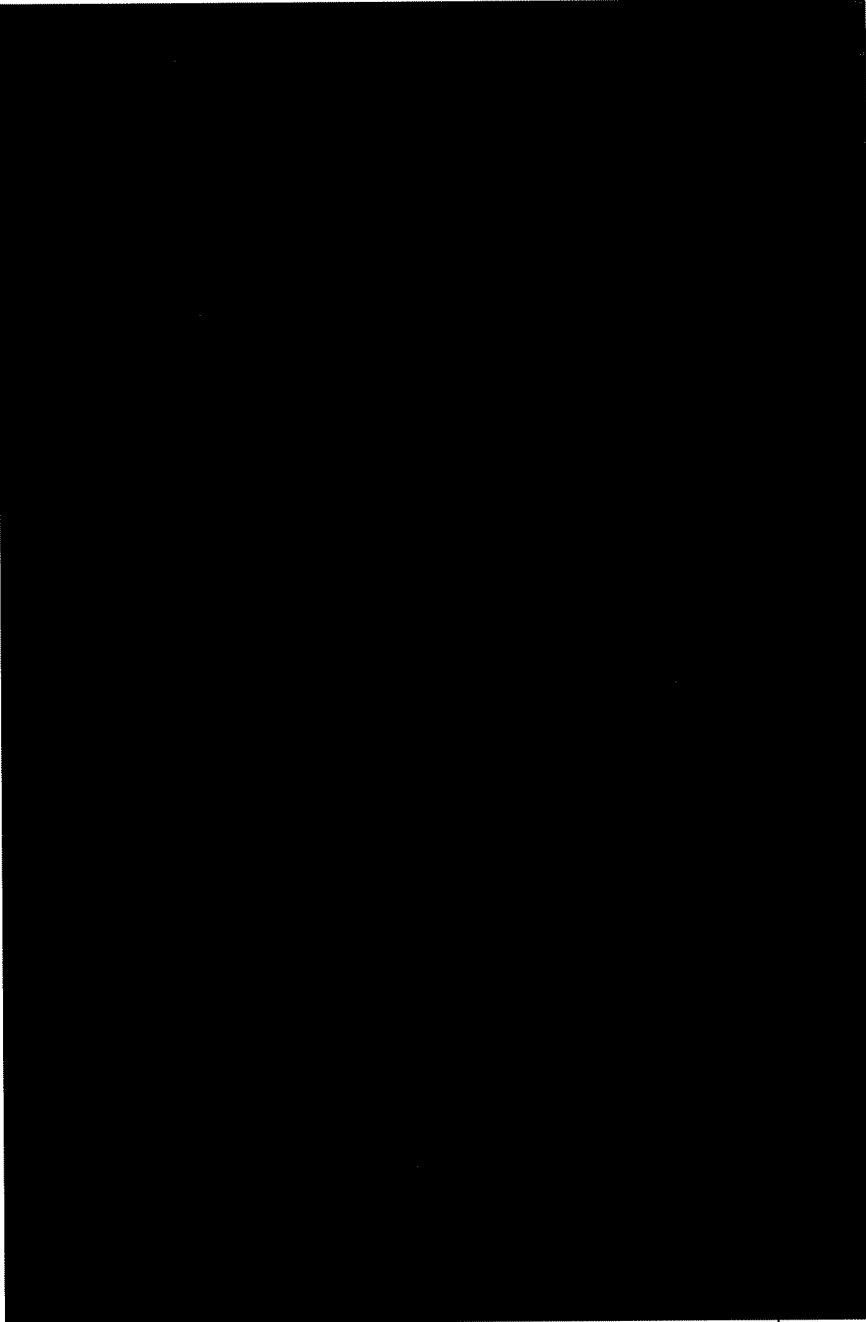
Winter  
 Summer

Estimated EGC per Dth at City Gate

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

Am't Hedged with Storage @ City Gate

Hedged (City Gate) (Dth)  
 Storage Withdrawal (Dth)  
 Market (Dth)  
 Total (incl. injections) (Dth)  
 % Hedged & Storage  
 Seasonal %



(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.



3/15/2011

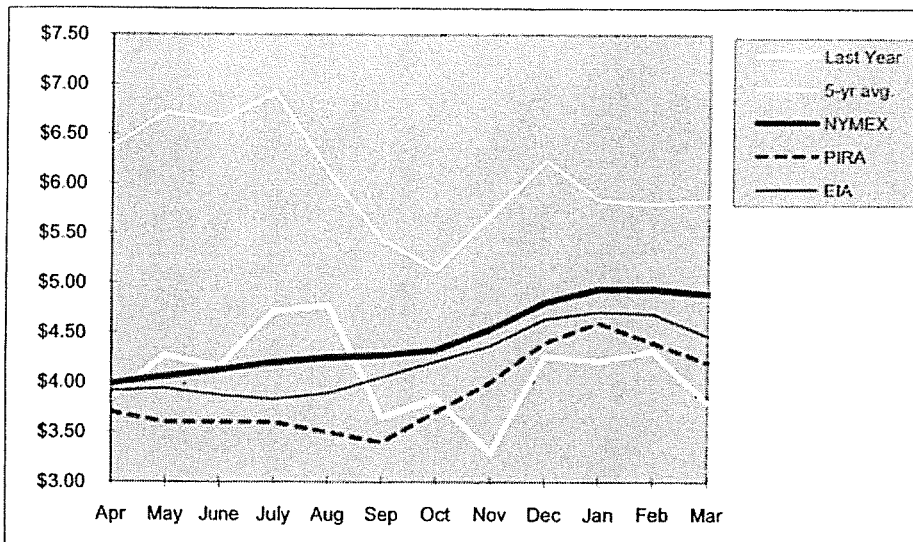
Duke Energy Kentucky  
 Hedging Program  
 Current Position

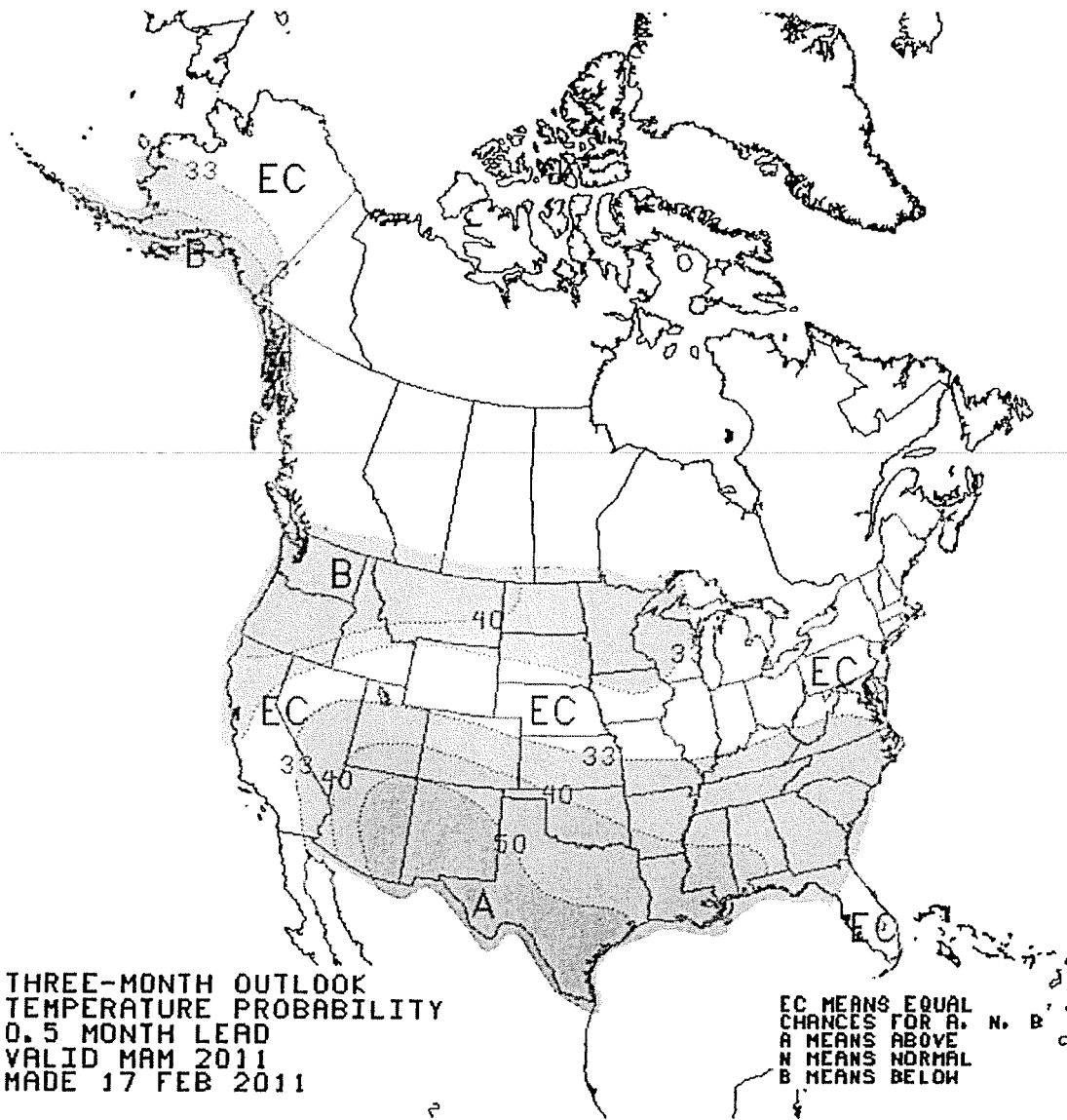
Delivery Month	System Supply Dth/mo	Hedged to Date		Next Target (3/31/11)	
		Dth/day	Dth/mo	Required dth/day	Allowed dth/day
Nov-10					
Dec-10					
Jan-11					
Feb-11					
Mar-11					
Winter 10/11					
Storage Gas					
Excluding Storage Gas					
Including Storage Gas					
Target Levels By October 31, 2011					
Apr-11					
May-11					
Jun-11					
Jul-11					
Aug-11					
Sep-11					
Oct-11					
Summer 2011					
Target Levels By March 31, 2011					
Nov-11					
Dec-11					
Jan-12					
Feb-12					
Mar-12					
Winter 11/12					
Target Levels By October 31, 2011					
Apr-12					
May-12					
Jun-12					
Jul-12					
Aug-12					
Sep-12					
Oct-12					
Summer 2012					
Target Levels By March 31, 2011					
Nov-12					
Dec-12					
Jan-13					
Feb-13					
Mar-13					
Winter 12/13					
Target Levels By October 31, 2011					
Apr-13					
May-13					
Jun-13					
Jul-13					
Aug-13					
Sep-13					
Oct-13					
Summer 2013					
Target Levels By March 31, 2011					

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

Historic Prices:						
NYMEX Closing Price						
	5-yr. avg. (06/07-10/11)	Last Year (2010-2011)		PIRA 24-Feb-11	EIA 8-Mar-11	NYMEX 16-Mar-11
Apr	\$6.37	\$3.84			\$3.910	\$3.986
May	\$6.72	\$4.27			\$3.940	\$4.059
June	\$6.63	\$4.16			\$3.870	\$4.125
July	\$6.92	\$4.72			\$3.830	\$4.202
Aug	\$6.10	\$4.77			\$3.890	\$4.249
Sep	\$5.43	\$3.65			\$4.050	\$4.271
Oct	\$5.13	\$3.84			\$4.210	\$4.325
Nov	\$5.69	\$3.29			\$4.370	\$4.536
Dec	\$6.23	\$4.27			\$4.640	\$4.805
Jan	\$5.84	\$4.22			\$4.710	\$4.940
Feb	\$5.80	\$4.32			\$4.690	\$4.937
Mar	\$5.83	\$3.79			\$4.470	\$4.890
12 Month Avg	<b>\$6.06</b>	<b>\$4.09</b>			<b>\$4.215</b>	<b>\$4.444</b>
Summer Average					\$3.957	\$4.174
Winter Average					\$4.576	\$4.822

Hedged Prices	
Ohio	Kentucky



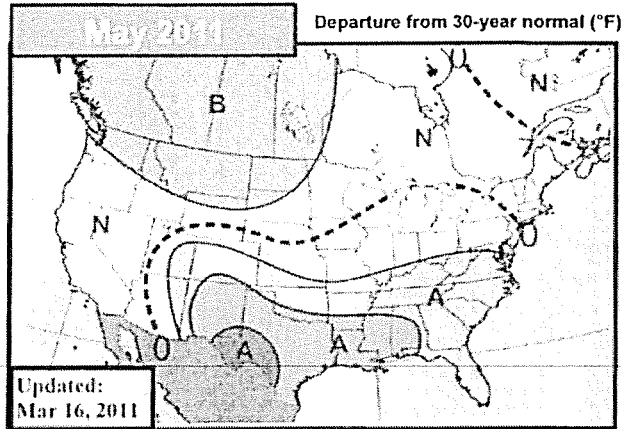
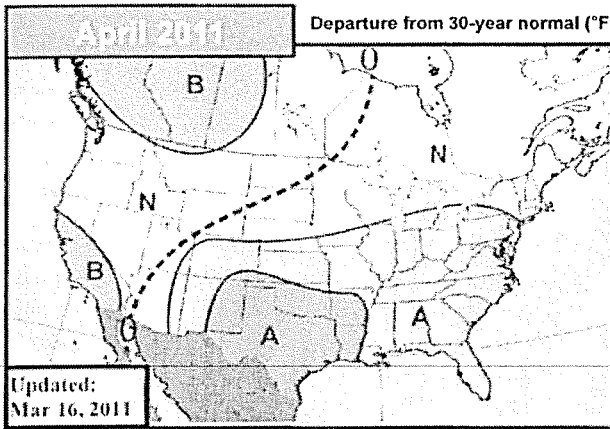


# EarthSat's 30-60 Day Outlook



Wednesday, March 16, 2011

Meteorologists: SS/BH/TH/RG



Legend for temperature anomalies:  
 ■ ≥3.0 ■ +2.0 to +2.9 □ +1.0 to +1.9 ... 0 ... □ -1.0 to -1.9 ■ -2.0 to -2.9 ■ ≤-3.0  
 □ -0.9 to 0.9

**Previous** Slightly warmer in the southern Rockies  
Slightly cooler Great Lakes region

Marginal warm changes have been made over Texas and the Southwest, while the Great Lakes region has slightly cooled. We continue to forecast widespread aboves across the East and South, and over much of the Midwest. The seasonal drivers including a weakening La Nina, warm AMO and cold PDO all favor the warm-dominated Eastern half, as do several prior analog years (1950, 1955, 1999 and 2008) featuring similar atmospheric conditions. Furthermore, the persistent Southern drought has expanded northward into the Carolinas and Central Plains / Southeast Rockies, increasing support for the forecast warmth. The Gulf of Alaska low, having recently established itself, should remain a prominent feature; this tends to flood much of the nation with Pacific air, and limits cold air availability. A cold pool may remain over western Canada, but without the stronger blocking that could be provided via an Alaskan ridge, this cooler air mass should struggle to penetrate into the US. That said, the risk of more dominant -NAO blocking could force a cooler outcome over the Eastern half.

Apr GWHDD** Forecasts	*10Y Normal updated to '01-10		
Apr 2011 Fcst:	346.0	10Y Normal*	336.1
		30Y Normal	369.0
		Apr-2010	279.1
No Change			

\*\*National Gas-Weighted HDDs

**No changes to the forecast**  
Remaining warm in the South

No changes have been made to the May forecast, which still features warmth across the South. We do show seasonably cool air over the Northeast and Upper Midwest where possible -NAO blocking could provide a little more cooling. The better May correlations with -NAO blocking deliver cool anomalies to the West, Northern Rockies and Northern Plains, which closely matches our forecast map. Weakening La Nina analogs make the case for a cooler stream running across the Northern tier, but the cool anomalies are fairly weak across the Northeast, Great Lakes and Upper Midwest. With the warm AMO, cold PDO and the likely persistence of drought conditions over the Southern tier remaining dominant drivers, aboves are well-supported from the Southern Rockies to the Mid-Atlantic. The GOA low should continue to induce cool onshore flow along the West Coast, and support troughiness over the Interior West. If this feature wanes during the month, warmer air could overspread the West. More dominant blocking could cause a cooler outcome over the Central US.

May PWCCD** Forecasts	*10Y Normal updated to '01-10		
May 2011 Fcst:	116.0	10Y Normal*	108.8
		30Y Normal	98.4
		May-2010	135.2
No Change			

\*\*National Pop-Weighted CDDs

**March so far**

The 1st half of March has evolved far with our forecast, supporting the strong overall cool across the northern Rockies and northern Plains and the warmth in Texas and the Southwest but down in warmer than expected across the West Coast and the eastern Midwest and Northeast. When taking a look at our 15 Day forecast, we can anticipate out nearly up to the end of the month, and a few changes to our 30 Day forecast well in line with a warmer March than expected from a number of 50% level of normal 50% (100% and 150% 100% normal) and a 10% portion of the Midwest and the Atlantic. The remaining 35% of the 30 Day CDD is cooler than normal than the 30% of normal of 610 for the March 1-15 period.



# 6-10 Day Forecast—Detailed

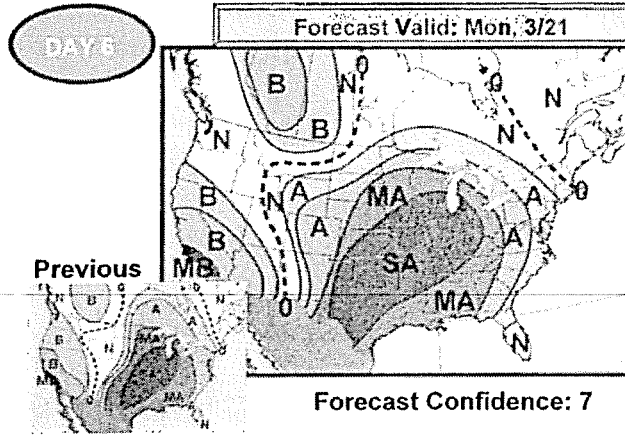


EarthSat Weather

Wednesday, March 16, 2011

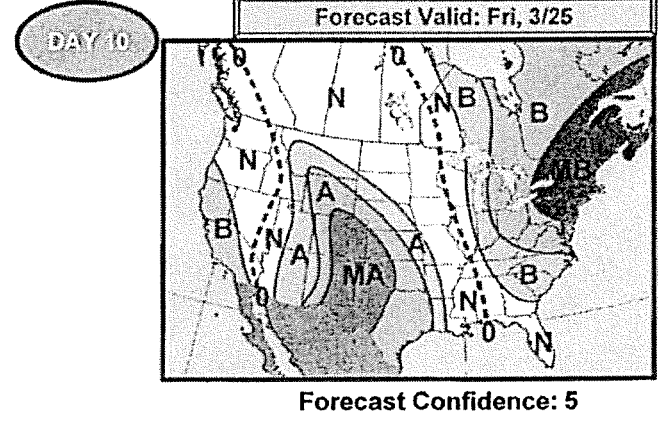
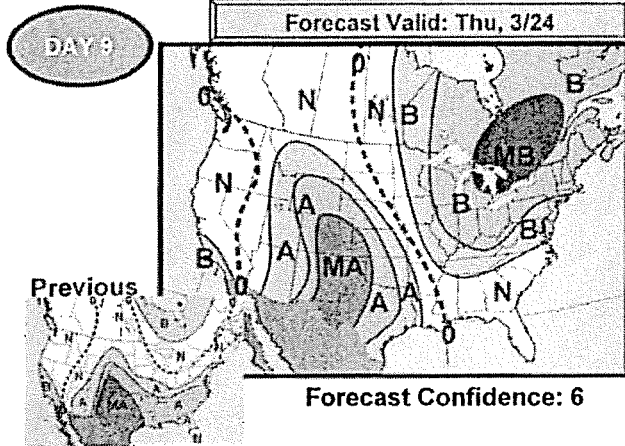
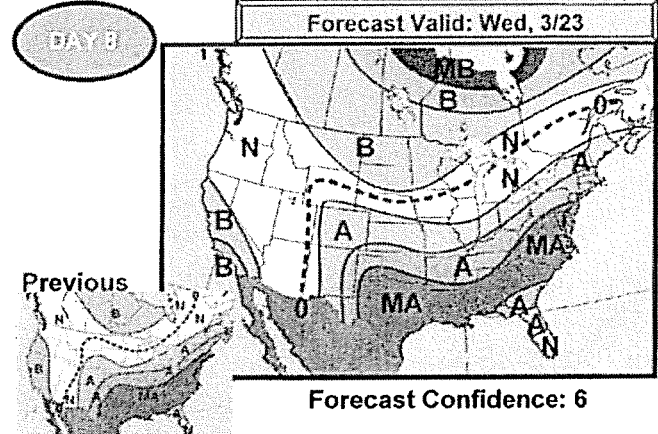
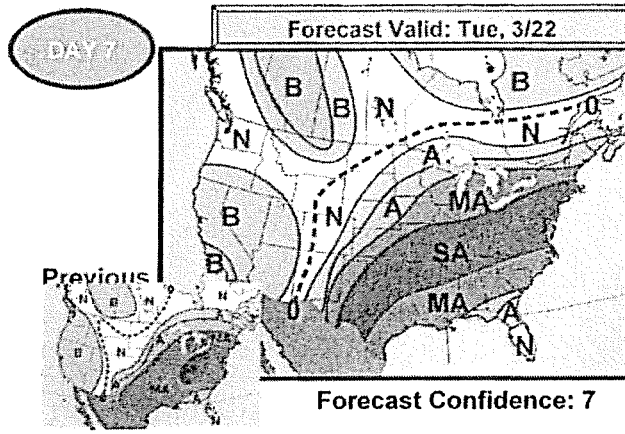
Meteorologist: AC/BH

## Forecast Temperature Deviations



**\*MAs, SAs Dominate Early Period In MW, South\***  
**\*Cold Air Mass Aims To Bring MBs To Northeast Late\***

Abundant warmth encompasses much of the eastern half for the first part of the period with widespread much above to strong above normal temperatures from the Midwest to the South and Mid-Atlantic. Some of these areas could still be warmer than expected, particularly for the East Coast in the mid-period. However, the shift to the cooler side quickly occurs for the latter part of the period along the East. There is the potential for below normal readings to dig into the South with cooler air still available to impact the Northeast and East Coast at period's end. Depending on the timing and strength of that cold air mass in the East late, a warmer outlook may develop in the Rockies and Plains late.



A +3F to +4F    A +5F to +7F    MA +8F to +14F    SA +15 or Higher  
 B -3F to -4F    B -5F to -7F    MB -8F to -14F    SB -15 or Lower



## CSU Initial 2011 Hurricane Outlook

According to the initial forecast by the Colorado State University (CSU) hurricane forecasting team of Phil Klotzbach and Bill Gray, the 2011 Atlantic-basin hurricane season will bring an above-average number of Atlantic basin tropical storms and a 73 percent probability that at least one major hurricane (category strength 3-4-5) will make landfall on the U.S. coastline. CSU forecasts 17 named storms, 9 hurricanes, and 5 major hurricanes. The number of storms forecasted for 2011 are actually similar to the actual results of 2010. However, one difference is that while the 2010 season was the third most active season in the Atlantic Ocean, it was also the first time in recorded history that 12 hurricanes formed in the Atlantic basin without a single one making landfall in the United States. CSU will issue updates to its hurricane outlook on April 6, June 1, and August 3.

Weekly Natural Gas Storage Report

**eia** U.S. Energy Information Administration  
Independent Statistics and Analysis  
Home > Natural Gas > Weekly Natural Gas Storage Report

Glossary

Release Schedule  
Sign Up for Email Updates

**Weekly Natural Gas Storage Report**

Released: March 17, 2011 at 10:30 a.m. (eastern time) for the Week Ending March 11, 2011  
Next Release: March 24, 2011

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

other formats: Summary, TXT, CSV

Region	Stocks in billion cubic feet (Bcf)			Historical Comparisons			
	03/11/11	03/04/11	Change	Year Ago (03/11/10)		5-Year (2006-2010) Average	
				Stocks (Bcf)	% Change	Stocks (Bcf)	% Change
East	697	748	-51	773	-9.8	760	-8.3
West	221	223	-2	284	-22.2	244	-9.4
Producing	700	703	-3	560	25.0	591	18.4
<b>Total</b>	<b>1,618</b>	<b>1,674</b>	<b>-56</b>	<b>1,617</b>	<b>0.1</b>	<b>1,595</b>	<b>1.4</b>

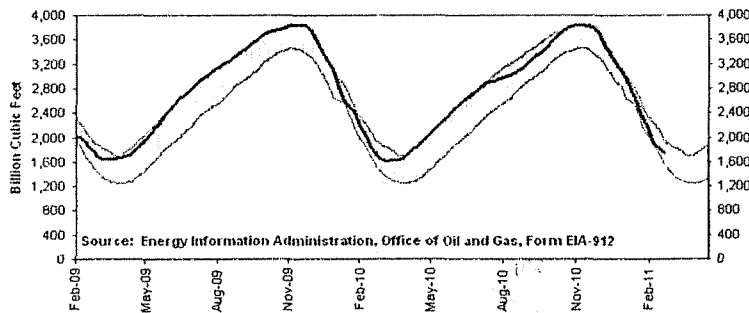
Notes and Definitions

Summary

Working gas in storage was 1,618 Bcf as of Friday, March 11, 2011, according to EIA estimates. This represents a net decline of 56 Bcf from the previous week. Stocks were 1 Bcf higher than last year at this time and 23 Bcf above the 5-year average of 1,595 Bcf. In the East Region, stocks were 63 Bcf below the 5-year average following net withdrawals of 51 Bcf. Stocks in the Producing Region were 109 Bcf above the 5-year average of 591 Bcf after a net withdrawal of 3 Bcf. Stocks in the West Region were 23 Bcf below the 5-year average after a net drawdown of 2 Bcf. At 1,618 Bcf, total working gas is within the 5-year historical range.

- 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

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 2006 through 2010.  
Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods.

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**PIRA**  
**North American Gas Price Overview**  
**Per MMBTU**  
**February 24, 2011 Release**

Jan-09		Jan-10		Jan-11		Jan-12	
Feb-09		Feb-10		Feb-11		Feb-12	
Mar-09		Mar-10		Mar-11		Mar-12	
Apr-09		Apr-10		Apr-11		Apr-12	
May-09		May-10		May-11		May-12	
Jun-09		Jun-10		Jun-11		Jun-12	
Jul-09		Jul-10		Jul-11		Jul-12	
Aug-09		Aug-10		Aug-11		Aug-12	
Sep-09		Sep-10		Sep-11		Sep-12	
Oct-09		Oct-10		Oct-11		Oct-12	
Nov-09		Nov-10		Nov-11		Nov-12	
Dec-09		Dec-10		Dec-11		Dec-12	
Average 2009	\$	Average 2010	\$	Average 2011	\$	Average 2012	\$
Summer 2009	\$	Summer 2010	\$	Summer 2011	\$	Summer 2012	\$
Winter 2009-2010	\$	Winter 2010-2011	\$	Winter 2011-2012	\$		

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North American Gas Forecast Monthly



February 24, 2011

NATURAL GAS

**GAS PRICE SCORECARD: APRIL 2011 – SEPTEMBER 2011**

Bearish Neutral Bullish

U.S. Supply Issues	Outlook	Commentary
<i>U.S. Production</i>		Even with relatively swift reductions in horizontal gas rig counts the upward march of weather-adjusted production could contribute to storage congestion pricing during 2H11.
<i>LNG Imports</i>		The threat of another possible LNG "dump" into the U.S. is being replaced by excitement over the prospect of LNG exports from new North American liquefaction plants.
<i>Canadian Trade</i>		Evidence is fast growing that the days of sizable Y/Y losses of Canadian production are coming to an end in part thanks to more horizontal drilling in liquids-oriented plays. But exports should decline nevertheless.
<i>Mexican Trade</i>		Downside demand risks look more than fully offset by falling non-associated gas production with gas-oriented drilling almost becoming difficult even to locate.
<i>Storage Levels</i>		Frigid 1Q11 weather now points to lower Y/Y end-March storage extending into 2Q11, but a Y/Y storage surplus still looms for 3Q11.
U.S. Demand Issues	Outlook	Commentary
<i>Economy</i>		Macro-economic readings remain very positive, but the possible interplay between soaring oil prices and consumer spending place those prospects at an increasing risk.
<i>Electric Generation</i>		Low year-earlier gas-fired CCGT costs relative to coal-fired EG will limit the scope of deeper gas market penetration of the "coal stack" absent a 2009-style gas price crash.
<i>Industrial Sector</i>		Slower industrial gas demand growth is not surprising, but the weakness of industrial electricity demand is difficult to reconcile with the manufacturing sector's recovery.
<i>Res/Com Heating</i>		Unusually mild weather in March and April 2010 means that RJC gas heating should achieve a sizable Y/Y gain if temperatures are close to 30-year normals.
Other Issues	Outlook	Commentary
<i>NYMEX Prices and Speculation</i>		Short-term speculators used the latest price rally that carried the NYMEX nearby over \$4.80/MMBtu — its high-water mark of the heating season — as a selling opportunity. More specifically, the reported NYMEX short futures position held by non-commercials swelled during the last four weeks as managed money accounts cut their long positions and added to their shorts by a net amount of ~70,000 lots. This swing is even more dramatic if ICE natural gas futures are included.
Overall Assessment	Outlook	Commentary
<i>Price Outlook</i>		The overriding issue facing 2011 injection season gas balances remains the expected strength of U.S. production absent an unexpectedly severe and early pullback of horizontal gas drilling. Demand does not look up to the task up keeping pace with rising production, thereby undermining gas prices when storage surpluses return in 3Q11.



## Pricing Analysis: “At a Glance”

### **Bearish Factors**

- Near-term weather outlooks are not supportive for prices.
- The producing region has already started injecting into storage.
- Analysts expect storage to reach a new high before Oct. 31, 2011.
- The EIA projects a 2011 gas price of \$4.10/Mcf at the Henry Hub.
- Natural gas production in the Lower 48 states rose again in December 2010 and is now 9% higher than one year ago.
- Traders have been vocal about their intentions to “sell” as prices move toward the \$5 per MMBtu level, and “selling” pushes prices right back down.
- Significant snowpack in the Northwest should increase hydropower supplies, displacing an estimated 1.5 Bcf/day of natural gas.
- Higher-priced NGLs could incent natural gas drilling.

### **Bullish Factors**

- The extreme net-short position being held by speculators and hedge funds.
- Preliminary outlooks for this year’s Atlantic-basin tropical storm season.

### **Neutral Factors**

- Implementation of the Dodd-Frank Wall Street Reform Bill is still an unknown.
- More states are looking at stricter regulations on fracking, including the required disclosure of the chemicals used.

# Gas Daily

Monday, March 14, 2011

## CEO: Cheaper shale drilling technology imminent

The CEO of oilfield services giant Schlumberger on Friday reiterated his stance that current shale gas drilling is inefficient, but he said the technologies needed to make it cheaper and easier are only two to three years away.

"We can't keep losing 70% of fresh water in order to drill" shale wells, Andrew Gould told the audience at the CERAWEEK industry conference in Houston. "The current efficiency of multi-stage fracks is quite low. There is opportunity to exploit shale resources at a much lower cost."

Gould noted that shale geology was not being evaluated with adequate tools to identify where gas, oil or liquids could be found in greatest abundance and where they could be most easily recoverable.

Gould previously described current shale drilling efforts as a combination of "brute force and ignorance;" on Friday, he added: "We now just open up as much of the surface of the rock as we can and only find that 20% to 25% of it is good."

But he offered some hope. "It may be two to three years before the industry gets there. You're probably looking at drilling shorter horizontals, fracking selectively rather than fracking the whole thing, and there's a very good chance the cost is going to go down."

The current cost of drilling a shale well generally ranges from \$5 million to \$10 million, depending on the location.

In the same vein, Houston oil services company Baker Hughes on Thursday unveiled three new technologies for sand management, hydraulic fracturing and drilling in unconventional formations.

One of the new systems, AutoTrak, is designed for more accurate drilling of long horizontal shale wells.

Schlumberger has already made inroads into enhancing gas and oil extraction from shale. Last year, it acquired drilling technology provider Smith International, saying a major factor behind the move was the attractiveness of North American shale gas plays.

Last month, it debuted a new drill bit designed to more quickly penetrate shale laterals amid a low-hydraulic energy environment, ultimately reducing rig drilling time.— *Samantha Santa Maria*

# Gas Daily

Tuesday, March 1, 2011

## Report: Gas prices to get lift from fuel-switching

Coal-to-gas switching this year is likely to provide a substantial floor to, or even prompt a significant recovery in, natural gas prices, Credit Suisse analysts predicted in a report Monday.

"We think the rising cost of delivered coal continues to influence dispatch decisions and thereby creates a natural floor of backstop for gas prices," wrote Stefan Revielle and Teri Viswanath.

They anticipate an incremental 1.25 Bcf/d of coal-to-gas switching in the Southeast alone this year. The country as a whole, Viswanath told Platts, could expect to see as much as 2.5 Bcf/d of coal displacement this year.

The trend was set in motion about a decade ago when there was a significant build-out of new gas-fired plants while coal development stalled, the analysts noted.

Citing statistics from the Energy Information Administration, they said generation from coal plants increased by 5.3% in 2010 compared with year-ago levels, while gas-fired generation outpaced that at 6.5%.

"Or stated another way, coal-fired plants contributed 45.2% of total US generation last year, or a [year-on-year] rise of 0.4% in market share," the analysts wrote, "while the total share of electricity supplied by gas plants increased by 0.5% in comparison, to 24.1%."

Among the reasons for the increasing move to gas: some generators' low-cost fuel hedges are rolling off and, as a result, those facilities — particularly in the Southeast, where such fuel-switching has historically been more prevalent than in other regions — are becoming more exposed to spot commodity prices.

The Southeast "has a diverse installed capacity and higher rail charges," and therefore is more prone to fuel competition, the report said. — *Samantha Santa Maria*

# Gas Daily

Tuesday, March 15, 2011

## Japan quake to tighten LNG supply; US seen unaffected

**Rising demand for LNG in earthquake-hit Japan is likely to tighten the availability of supplies to other gas-consuming regions, such as Europe and particularly the UK, traders said Monday.**

**But one industry analyst said the earthquake's fallout would have little effect on US gas prices.**

"In 2007, Japanese liquefied natural gas imports rose 0.5 to 1 Bcf/d due to nuclear plant outages following an earthquake," Jefferies & Company analyst Bijou Perincheril wrote in a note to clients. "Back in 2007, the US was very dependent on LNG, importing around 3 Bcf/d. Currently, we bring in less than 1 Bcf/d."

**Gas from new shale plays has increased production in the Lower-48 states by 7 Bcf/d during the same time frame, Perincheril said, creating a situation where a complete halt to LNG imports would have little to no effect on US gas prices in the short run.**

Japan has lost about 10 GW of nuclear power generation capacity since the magnitude-9 earthquake struck Friday, shutting 11 atomic reactors operated by utilities Tepco, Tohoku and Japco, as tsunami flood waters engulfed some nuclear facilities and led to two partial meltdowns over the weekend.

Spot LNG prices in Asia surged more than \$1/MMBtu Monday as buyers there adjusted bids to the prospect of greater demand for the fuel. On Monday, Platts assessed the price of spot LNG in Asia at \$11.00/MMBtu.

Demand for LNG in Asia has rebounded sharply, reversing a period of price softening in the run-up to last week's earthquake, which has since given Asia a 70-cent premium over markets in Europe.

**The most bullish estimates of demand suggest that Japan would need at least 10 additional spot cargoes a month through May to bridge the loss of 20% of its nuclear capacity.**

UK gas prices gained 7% Monday as traders bet that Japan would increase imports of LNG to bridge energy shortfalls from nuclear plants, and drain the UK and Europe of much-needed supplies. UK pipeline traders expect to see fewer deliveries from Qatar — the country's main supplier of LNG — as diversions toward Asia start.

Some European LNG traders were more cautious of the potential impact, and some have even suggested that gains on the UK hub may be short-lived.

They argue that Asia's Japan-led demand won't swallow all of Europe's gas supplies. Some have even scolded investment banks and analyst houses for jumping to conclusions about the extent of demand resulting from the crisis.

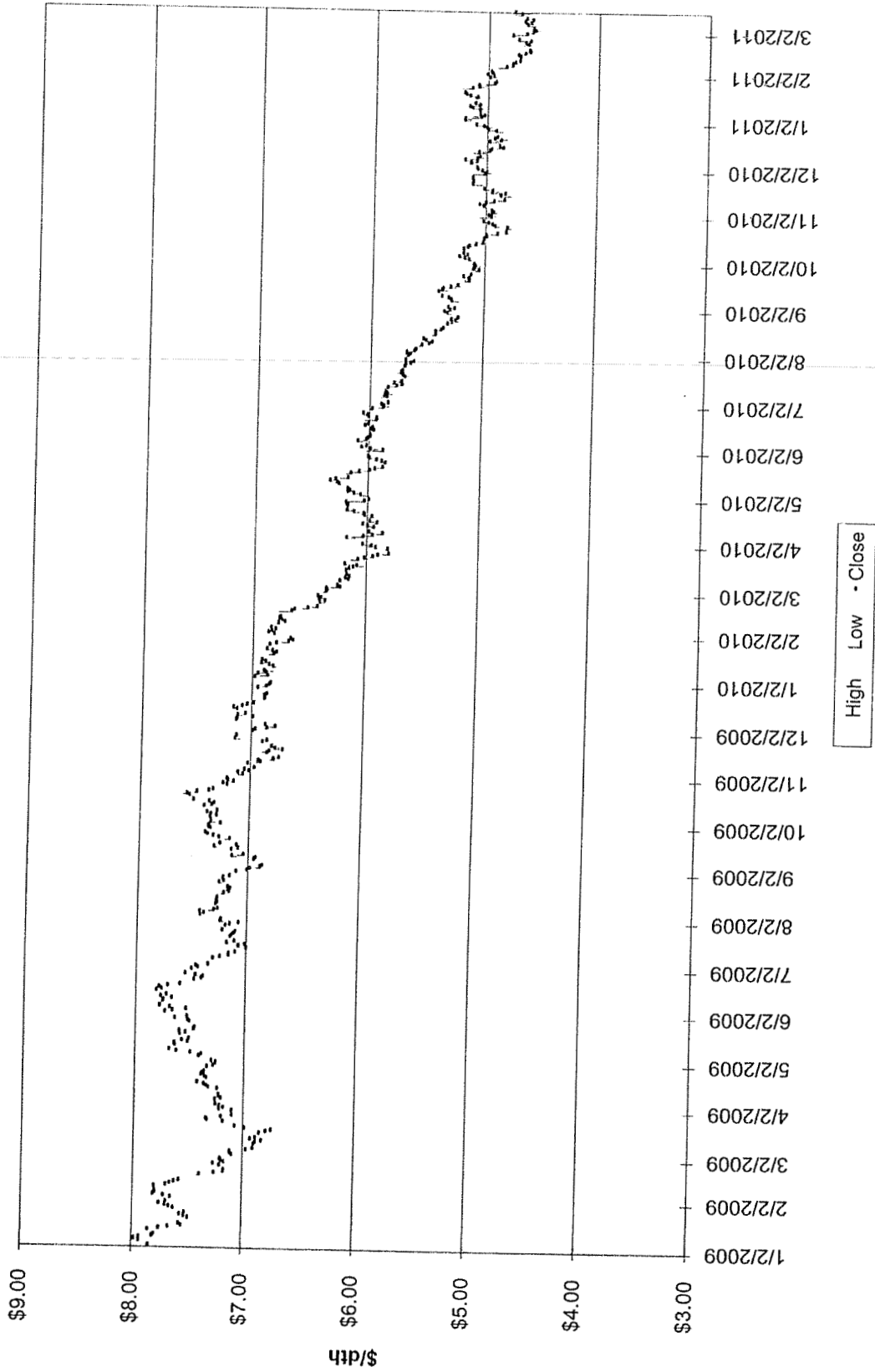
**"People are getting very excited about this," a source said. "But in the west and south of Japan, there is no issue regarding nuclear plants. It really is far too early to say what effect this will have on prices and demand." — Oleg Vukmanovic, Bill Holland**

**Energy Information Administration**  
**Henry Hub Pricing**  
**Per MMBtu**  
**March 8, 2011 Release**

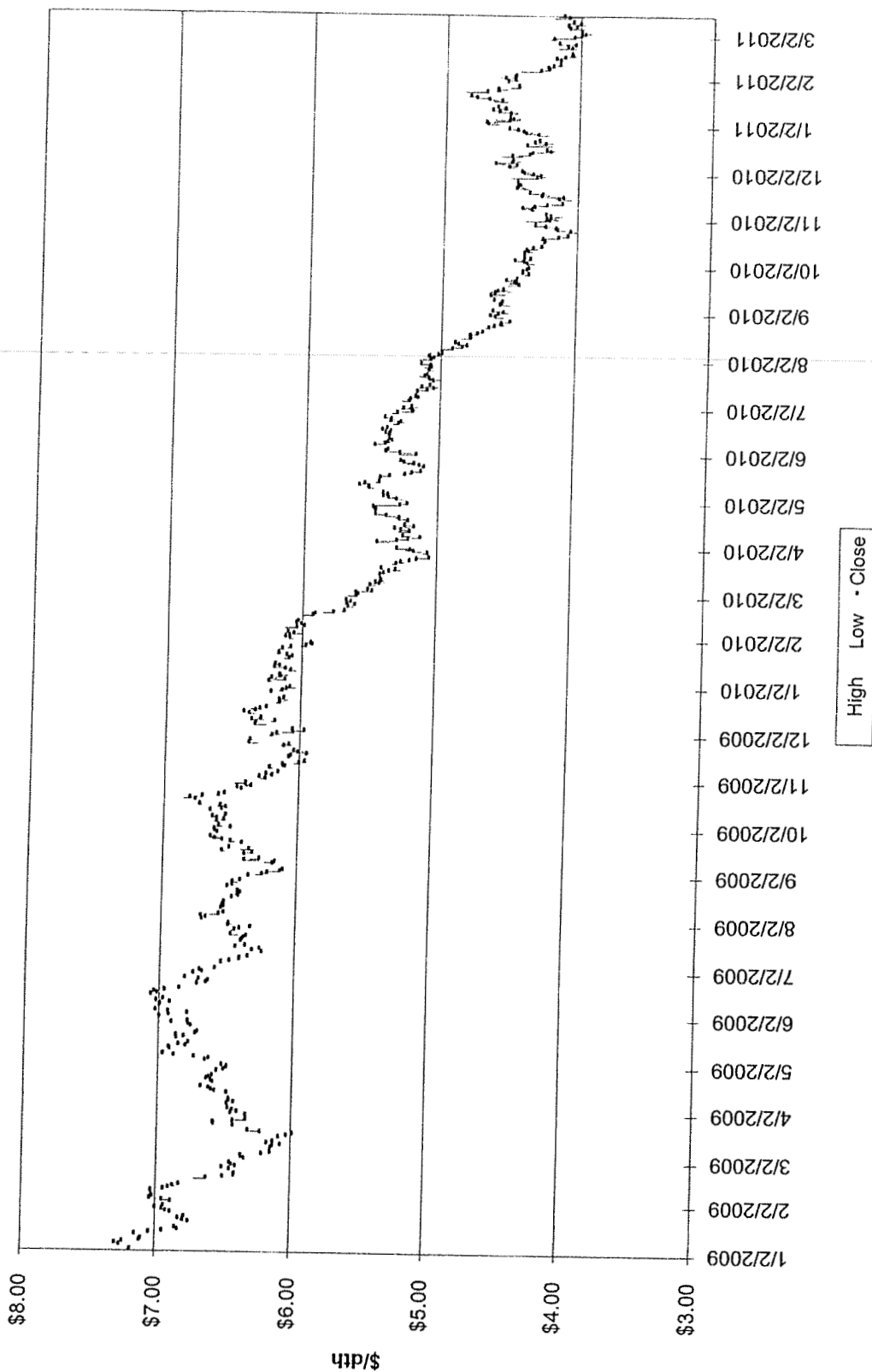
Jan-09	5.24	Jan-10	5.83	Jan-11	4.49	Jan-12	4.71
Feb-09	4.51	Feb-10	5.32	Feb-11	4.09	Feb-12	4.69
Mar-09	3.96	Mar-10	4.29	Mar-11	3.91	Mar-12	4.47
Apr-09	3.49	Apr-10	4.03	Apr-11	3.91	Apr-12	4.36
May-09	3.83	May-10	4.14	May-11	3.94	May-12	4.26
Jun-09	3.80	Jun-10	4.80	Jun-11	3.87	Jun-12	4.13
Jul-09	3.38	Jul-10	4.63	Jul-11	3.83	Jul-12	4.34
Aug-09	3.14	Aug-10	4.32	Aug-11	3.89	Aug-12	4.53
Sep-09	2.97	Sep-10	3.89	Sep-11	4.05	Sep-12	4.59
Oct-09	4.00	Oct-10	3.43	Oct-11	4.21	Oct-12	4.81
Nov-09	3.66	Nov-10	3.71	Nov-11	4.37	Nov-12	4.92
Dec-09	5.34	Dec-10	4.25	Dec-11	4.64	Dec-12	5.14
Average 2009	\$ 3.943	Average 2010	\$ 4.387	Average 2011	\$ 4.100	Average 2012	\$ 4.579
Summer 2009	\$ 3.516	Summer 2010	\$ 4.177	Summer 2011	\$ 3.957	Summer 2012	\$ 4.431
Winter 2009- 2010	\$ 4.888	Winter 2010- 2011	\$ 4.090	Winter 2011- 2012	\$ 4.576		

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Winter Strip Nov11 - Mar12



Summer Strip 2011





# Gas Daily

Wednesday, March 9, 2011

## Citing flat demand, EIA cuts 2011 price forecast

The Energy Information Administration on Tuesday made across the board cuts to its near-term gas price forecasts.

In its March short-term energy outlook, the agency reduced its first-quarter forecast by 19 cents, or about 4% from a month ago, to \$4.16/MMBtu. Its second-quarter forecast dropped 7 cents, or nearly 2%, to \$3.90/MMBtu and its full-year estimate fell 6 cents, or less than 2%, to \$4.10/MMBtu.

EIA lowered by 102 Bcf last month's prediction for how much gas will remain in storage at the end of the winter heating season. EIA said it now expects storage facilities to hold 1,549 Bcf of working gas by late March.

"Cold temperatures and production freeze-offs in February contributed to a larger-than-expected draw on inventories," the report said. "EIA expects that inventories, though somewhat below their 2010 levels for the first half of the year, still will remain relatively robust."

EIA said gas consumption would stay flat in 2011 as lower residential and commercial usage offset increased use by the industrial sector. The agency attributed an expected 1.2% drop in residential consumption and 2.7% drop in commercial consumption to changes in the way it collects data. Industrial demand, meanwhile, is expected to rise 4% to 18.8 Bcf/d this year, up from 18.1 Bcf/d in 2010.

In 2012, EIA sees gas consumption growing 1% to 67.2 Bcf/d, from 66.6 Bcf/d in 2011, on gains by the power-generation and industrial sectors.

EIA said production growth would slow considerably this year, from a 4.4% year-over-year increase in 2010 to just 0.8% this year. It sees onshore drilling in the Lower-48 states creeping up 1 Bcf/d while Gulf of Mexico production falls 500,000 Mcf/d.

The outlook could improve for drillers in 2012, the agency said, when production increases by 0.9%. It said Lower-48 output would rise to 57.4 Bcf/d in December 2012 from 55 Bcf/d in January 2012.

"Increasing consumption in 2012, led by strong growth in the electric power sector, contributes to higher prices and to an economic incentive for producers to resume drilling," the report said.

Pipeline imports continue to fall in EIA's outlook. It predicts that 8.4 Bcf/d of gas will flow from Canada or Mexico this year and 8.2 Bcf/d in 2012, representing year-over-year decreases of 5.6% and 2.3%, respectively.

Likewise, LNG imports are expected to fall 3% to 1.2 Bcf/d this year, compared with 2010, then remain relatively flat in 2012. — *Meghan Gordon*

# Short-Term Energy Outlook

March 8, 2011 Release  
(Next update April 12, 2011)

## **Global Crude Oil and Liquid Fuels**

**Crude Oil and Liquid Fuels Overview.** EIA expects continued tightening of world oil markets over the next two years, particularly in light of the recent events in North Africa and the Middle East, the world's largest oil producing region. The current situation in Libya increases oil market uncertainty because, according to various reports, much of the country's 1.8-million bb/d total liquids production has been shut in and it is unclear how long this situation will continue. The market remains concerned that the unrest in the region could continue to spread.

West Texas Intermediate (WTI) and other crude oil spot prices have risen about \$15 per barrel since mid-February partly in response to the disruption of crude oil exports from Libya. Continuing unrest in Libya as well as other North African and Middle Eastern countries has led to the highest crude oil prices since 2008. As a result, EIA has raised its forecast for the average cost of crude oil to refiners to \$105 per barrel in 2011, \$14 higher than in the previous *Outlook*. However, EIA has raised its 2011 forecast for WTI by only \$9 per barrel to \$102 per barrel because of the projected continued price discount for this type of crude compared with other crudes. EIA projects a further small increase in crude oil prices in 2012, with the refiner acquisition cost for crude oil averaging \$106 per barrel and WTI averaging \$105 per barrel. EIA's forecast assumes U.S. real gross domestic product (GDP) grows 3.3 percent in 2011 and 2.8 percent in 2012, while world real GDP (weighted by oil consumption) grows by 3.8 percent and 3.7 percent in 2011 and 2012, respectively.