

FILE

PUCO EXHIBIT FILING

Date of Hearing: 1/20/2016

Case No. 14-1297-EL-SSO

PUCO Case Caption: In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan .  
Volume XXXIX

List of exhibits being filed:

Company 173, 174

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Reporter's Signature: Karen Sue Gibson  
Date Submitted: 1/25/2016

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

In the Matter of the :  
Application of Ohio Edison:  
Company, The Cleveland :  
Electric Illuminating :  
Company, and The Toledo :  
Edison Company for : Case No. 14-1297-EL-SSO  
Authority to Provide for :  
a Standard Service Offer :  
Pursuant to R.C. 4928.143 :  
in the Form of an Electric:  
Security Plan. :

- - -

PROCEEDINGS

before Mr. Gregory Price, Ms. Mandy Chiles, and  
Ms. Megan Addison, Attorney Examiners, and  
Commissioner Asim Z. Haque at the Public Utilities  
Commission of Ohio, 180 East Broad Street, Room 11-A,  
Columbus, Ohio, called at 9:00 a.m. on Wednesday,  
January 20, 2016.

- - -

VOLUME XXXIX

- - -

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U.S. Energy Information  
Administration



## Natural Gas

### Natural Gas Weekly Update

for week ending December 18, 2015 | Release Date: December 17, 2015 | Next Release: January 7, 2016

#### In the News:

##### Natural Gas Prices at 16-Year Low

Natural gas spot prices hit a 16-year low this week, with the Henry Hub spot price settling at \$1.65 per million British thermal units (MMBtu) on Tuesday, December 15. Futures prices also settled at their lowest level since March 1999, with the near-month contract settling at \$1.790/MMBtu on Wednesday.

Although the January contract only fell below \$2/MMBtu this week, prices have been relatively low for several months. Strong production growth and ample storage inventories have contributed to the recent low-price environment; production hit three consecutive records in July, August, and September of this year. Storage inventories topped out at 4,009 billion cubic feet (Bcf) the week ending November 20, 2015.

Warmer-than-normal temperatures since the beginning of November, the start of the heating season, have contributed to lower inventory withdrawals. From October 30 through December 11, storage inventories fell by 85 Bcf. This drop compares to the five-year average decline over this period of 258 Bcf, and to a decline of 253 Bcf last year over this period. In addition to strong production growth and robust inventories, forecasts for a continued warmer-than-normal winter also have contributed to the relatively low futures prices.

The last time the Henry Hub spot price remained below \$2/MMBtu for a sustained period of time was in April 2012. After a warm winter, inventories were at their highest level headed into the injection season. High inventories, combined with production growth at the time, resulted in an average price of \$1.95/MMBtu for the month of April 2012. Much of the surplus of natural gas at the end of the winter heating season was used by the electric power sector during the summer.

#### Overview:

##### (For the Week Ending Wednesday, December 16, 2015)

- Natural gas prices are down again at most trading locations for the report week (Wednesday, December 9, through Wednesday, December 16). The Henry Hub spot price began the week at \$2.00/MMBtu last Wednesday and ended at \$1.68/MMBtu yesterday. Prices have not been this low since March 1999.
- At the New York Mercantile Exchange (Nymex), the January Nymex price began at \$2.062/MMBtu last Wednesday and settled at \$1.790/MMBtu yesterday.
- Working natural gas in storage decreased by 34 Bcf, declining to 3,846 Bcf as of Friday, December 11. The net withdrawal from storage resulted in storage levels 16% above a year ago and 9% above the five-year (2010–14) average for this week.
- The total oil and natural gas rig count fell by 28 units this week, with 709 units in service for the week ending Friday, December 11, according to data from Baker Hughes Incorporated. This is the lowest combined oil and natural rig count since September 1999. The oil rig count drove the decline, decreasing by 21 units to 524, and the natural gas rig count decreased by 7 units to 185 units.
- The natural gas plant liquids composite price at Mont Belvieu, Texas, decreased by 6.2% to \$4.56/MMBtu for the week ending Friday, December 11. Natural gas liquids spot prices fell across the board; ethane fell by 7.4%, propane fell by

5.2%, butane fell by 8.9%, isobutane fell by 9.8%, and natural gasoline fell by 3.3%.

## Prices/Demand/Supply:

**Henry Hub price hits 16-year low.** As described in last week's Natural Gas Weekly Update, the Henry Hub price has recently dipped below \$2.00/MMBtu on warm weather, growing supply, and high levels of underground stocks. This week, the price descent continued as the Henry Hub price reached a 16-year low of \$1.65/MMBtu on Tuesday, and closed at \$1.68/MMBtu yesterday. In much of the eastern half of the country, weather for the report period was very mild, exceeding the week's normal average temperatures by 16° or more.

**Spot prices down at most trading locations on mild weather.** Prices at the Chicago Citygate began the report week at \$2.04/MMBtu and closed the week down at \$1.85/MMBtu. The PG&E Citygate price in Northern California fell from \$2.57/MMBtu last Wednesday to \$2.44/MMBtu yesterday.

**Prices remain low in Northeastern locations.** New England prices decreased with warmer weather in the region, particularly late last week and over the weekend. Transco Zone 6 NY, serving New York City, fell from \$1.77/MMBtu last Wednesday to \$1.48/MMBtu yesterday, and hit an intra-week low of 90¢/MMBtu on Friday. Tennessee's Zone 4 Marcellus trading point followed a similar pattern; prices began at \$1.07/MMBtu last Wednesday and fell to \$1.04/MMBtu yesterday, hitting an intra-week low of 65¢/MMBtu on Friday. The Algonquin Citygate price, in Boston, increased slightly for the week, beginning at \$1.82/MMBtu last Wednesday and closing at \$1.88/MMBtu yesterday. As with other regional prices, the Algonquin price dipped on Friday, closing at \$1.07/MMBtu. This is the second-lowest the Algonquin price has ever reached; the all-time low was \$0.82/MMBtu on July 2, 2015.

**Weather in the Rockies, by contrast, was notably colder for the report period.** Prices in the Rockies and the Pacific Northwest generally trended flat or up. The Malin price in southern Oregon increased from \$2.11/MMBtu last Wednesday to \$2.20/MMBtu yesterday. The Opal price in southwest Wyoming increased from \$1.96/MMBtu to \$2.13/MMBtu.

**Nymex prices down.** At the Nymex, the January contract began at \$2.062/MMBtu last Wednesday and ended the report week down over 27¢, closing at \$1.790/MMBtu yesterday. The 12-month strip, which averages the January 2015 through December 2016 Nymex prices, closed at \$2.184/MMBtu yesterday, 16¢ lower than last week.

**Leak at Southern California Gas Co's Aliso Canyon field ongoing.** A leak at Southern California Gas Company's Aliso Canyon field is releasing large volumes of natural gas. The company is drilling a relief well and is taking measures to mitigate the leak, but it is expected to take several months for the relief well to be completed.

**Supply decreases slightly.** According to data from Bentek Energy, natural gas supply this week decreased, driven by a small decline in dry production, and a more substantial decline in U.S. imports of natural gas from Canada. Dry natural gas production fell by 0.3%, or 0.2 Bcf/d, and imports from Canada fell by 13.4%, or 0.7 Bcf/d. The decline in imports was the strongest in the Northeast, which experienced unseasonably warm weather for the report period. Liquefied natural gas sendout remained at minimal levels.

**Consumption decreases substantially.** U.S. consumption of natural gas decreased by 8.0% compared to the previous report week, led by a decrease in the residential/commercial sector. Residential/commercial consumption fell by 16.4% this week, or 5.4 Bcf/d, as a result of warmer weather, particularly late last week and over the weekend. Consumption in other sectors declined as well; consumption for power generation decreased by 1.6%, and industrial consumption decreased by 3.6%. Exports to Mexico were essentially flat, but are 92% higher than last year at this time. Mexico has been working on pipeline projects to support natural gas-fired generation in the region as part of the country's longer-term energy reform program.

more price data

## Storage

**Net storage withdrawals are smaller than the five-year average and last year's withdrawals.** The net withdrawal for the

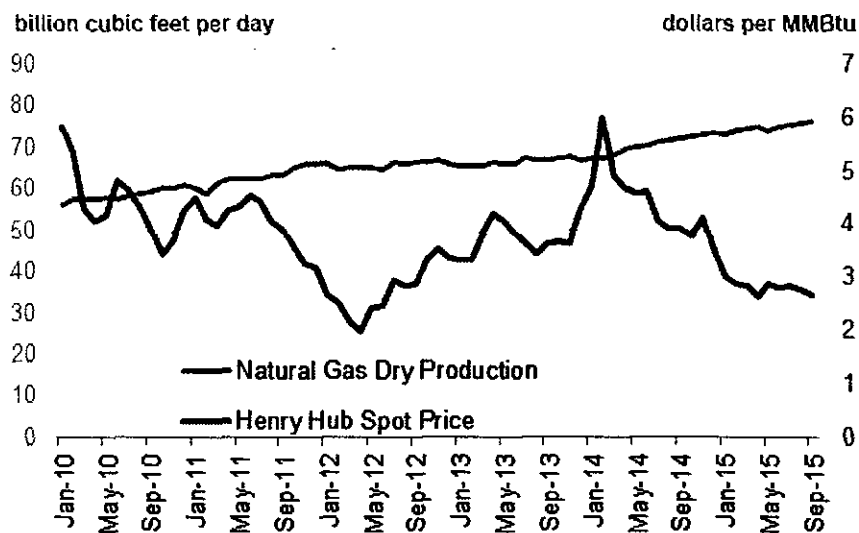
storage week was 34 Bcf compared with the 76 Bcf net storage withdrawal reported the previous week. This withdrawal compares with the five-year (2010–14) average net withdrawal of 120 Bcf for the week and last year's withdrawal of 61 Bcf for the same week. The working natural gas inventory for the storage week ending December 11 totaled 3,846 Bcf, which was 541 Bcf (16%) higher than last year at this time and 322 Bcf (9%) higher than the five-year average for this week.

**Storage withdrawals are smaller than market expectations.** Market expectations, on average, called for a withdrawal of 41 Bcf for this week. When the EIA storage report was released at 10:30 a.m. on December 17, the January Nymex price fell about 3¢/MMBtu, to about \$1.81/MMBtu and oscillated between \$1.77/MMBtu and \$1.83/MMBtu in the following hour.

**Working gas withdrawals are the lowest on record thus far in the 2015-2016 heating season.** This week's 34-Bcf withdrawal marked the third smallest net withdrawal reported in December in the history of the WNGSR. The smallest December net withdrawal on record since 2010 totaled 20 Bcf in December 2011. The smallest net withdrawal ever reported in December totaled 11 Bcf in 2006. Since working gas stocks peaked at 4,009 Bcf on November 20, 2015, working gas stocks have declined 163 Bcf, or 54 Bcf/week, which is significantly below the five-year average of about 88 Bcf/week over the same period.

**Temperatures during the storage report week are warmer than normal.** Temperatures in the Lower 48 states averaged 45° for the storage report week, 7° warmer than the 30-year normal temperature and 3° warmer than the average temperature during the same week last year. There were 139 population-weighted heating degree days (HDD) during this report week, 26 HDD fewer than the five-year average and 23 HDD fewer than during the same period last year.

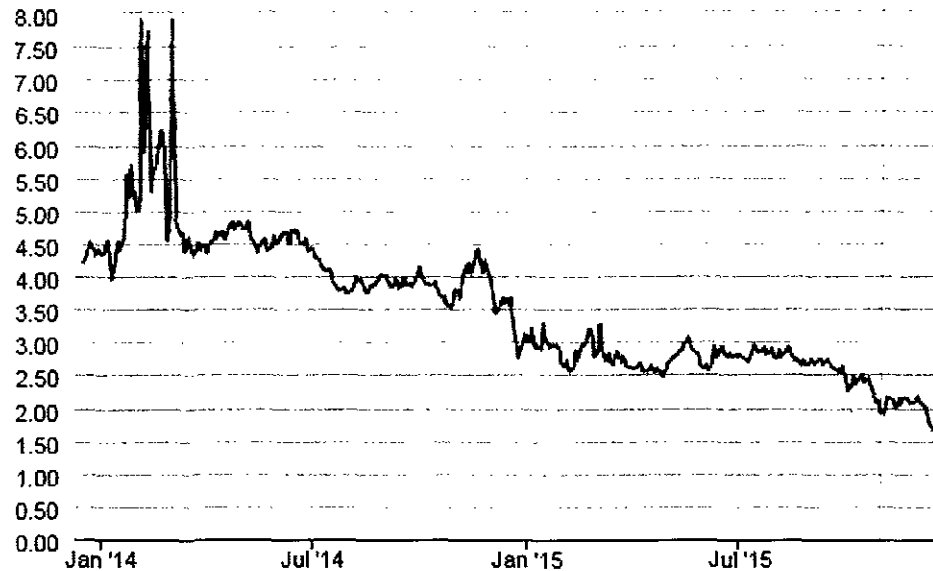
### Natural Gas Dry Production and Henry Hub Spot Prices, January 2010 - September 2015



Source: Natural Gas Intelligence, Natural Gas Monthly

## Natural gas spot prices (Henry Hub)

\$/MMBtu



Source: Natural Gas Intelligence

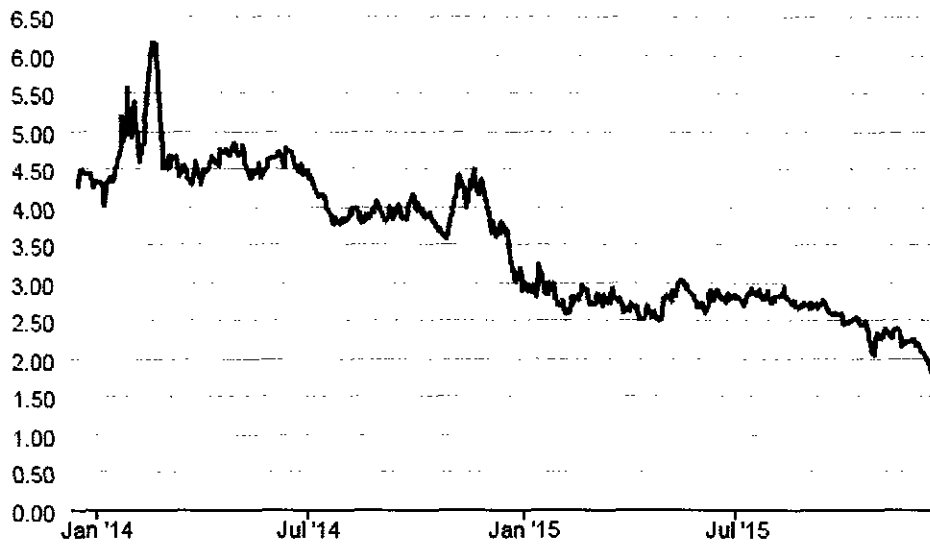
Spot Prices (\$/MMBtu)	Thu, 10-Dec	Fri, 11-Dec	Mon, 14-Dec	Tue, 15-Dec	Wed, 16-Dec
Henry Hub	1.91	1.77	1.69	1.65	1.68
New York	1.33	0.90	1.40	1.71	1.48
Chicago	1.96	1.75	1.83	1.75	1.85
Cal. Comp. Avg.*	2.24	2.09	2.19	2.28	2.31
<b>Futures (\$/MMBtu)</b>					
January contract	2.015	1.990	1.894	1.822	1.790
February contract	2.075	2.050	1.959	1.886	1.866

\*Avg. of NGI's reported prices for: Malin, PG&E citygate, and Southern California Border Avg.

Source: NGI's Daily Gas Price Index

## Near-month natural gas futures prices (Nymex)

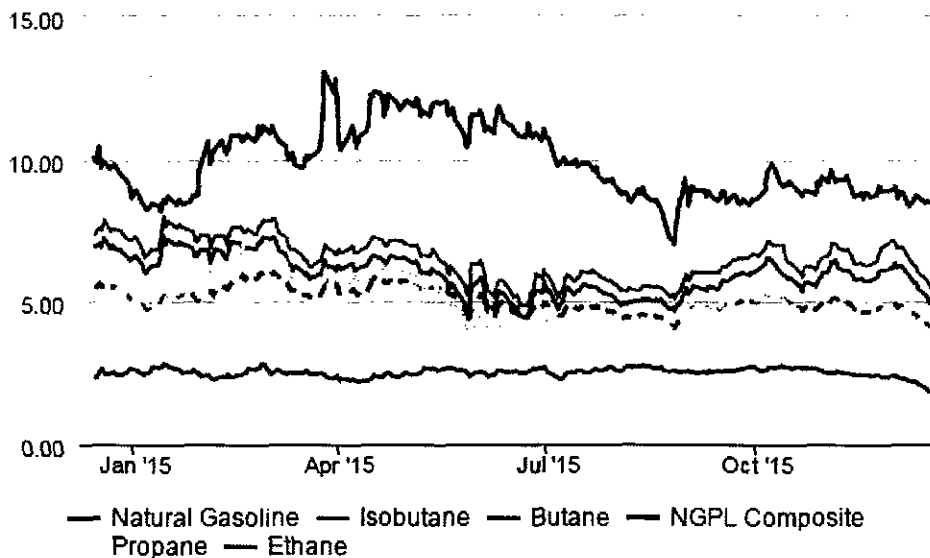
\$/MMBtu



Source: Natural Gas Intelligence

## Natural gas liquids spot prices

\$/MMBtu



Source: NGL spot prices from Bloomberg, L.P., and weights for NGPL composite price from EIA-816, Monthly Natural Gas Liquids Report.

Note: NGL spot prices at Mont Belvieu, Texas. Monthly volumes from EIA-816 used to calculate weights for the NGPL composite price. EIA-816 volume weights are constant throughout a given month, and the latest available weights are applied to the three most recent months. Natural gasoline is the term used in the spot and futures markets to describe pentanes and hexanes, the primary components of pentanes plus.

**U.S. natural gas supply - Gas Week: (12/9/15 - 12/16/15)**

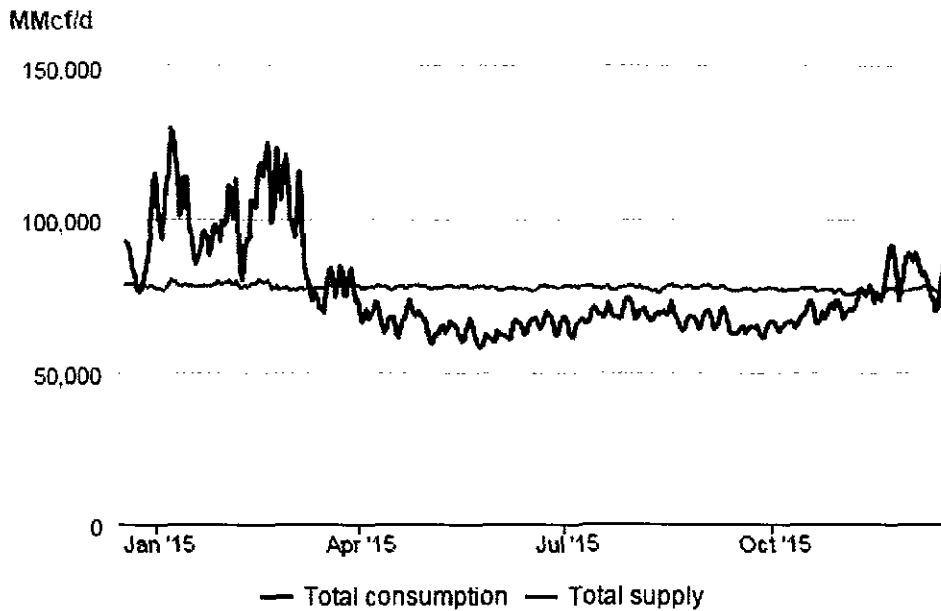
	Percent change for week compared with:	
	<b>last year</b>	<b>last week</b>
Gross production	-0.90%	-0.29%
Dry production	-0.90%	-0.29%
Canadian imports	-18.41%	-13.37%
West (net)	-3.48%	-2.66%
Midwest (net)	30.18%	-0.31%
Northeast (net)	-135.79%	-243.86%
LNG imports	308.01%	4.00%
Total supply	-2.03%	-1.20%
Source: BENTEK Energy LLC		

**U.S. consumption - Gas Week: (12/9/15 - 12/16/15)**

	Percent change for week compared with:	
	<b>last year</b>	<b>last week</b>
U.S. consumption	-11.3%	-8.4%
Power	10.1%	-1.6%
Industrial	-5.1%	-3.6%
Residential/commercial	-26.9%	-16.4%
Total demand	-9.1%	-8.0%
Source: BENTEK Energy LLC		

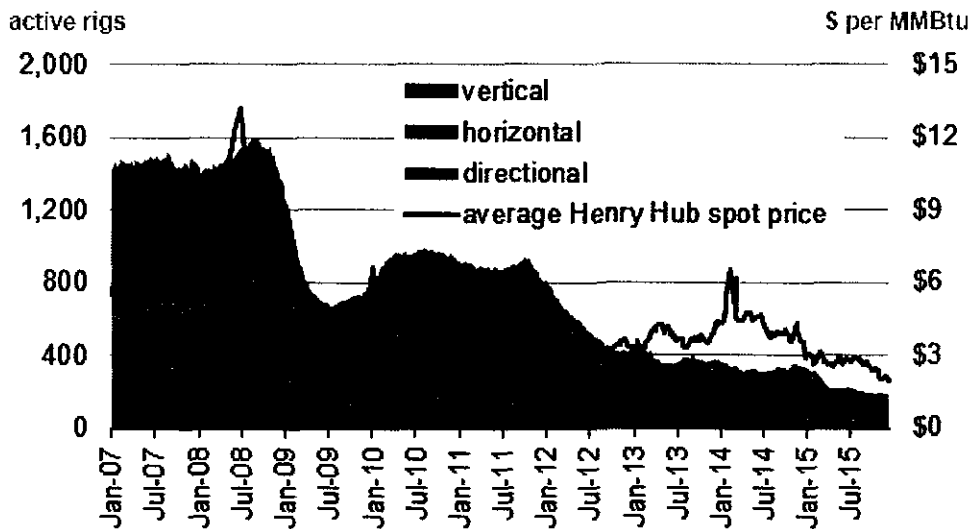


## Total supply/demand balance (last 365 days)



Source: BENTEK Energy LLC

## Weekly natural gas rig count and average spot Henry Hub



Source: Baker Hughes

### Rigs

	Fri, December 11, 2015	Change from last week	Change from last year
Oil rigs	524	-3.85%	-66.11%
Natural gas rigs	185	-3.65%	-46.53%

Miscellaneous	0	0.00%	-100.00%
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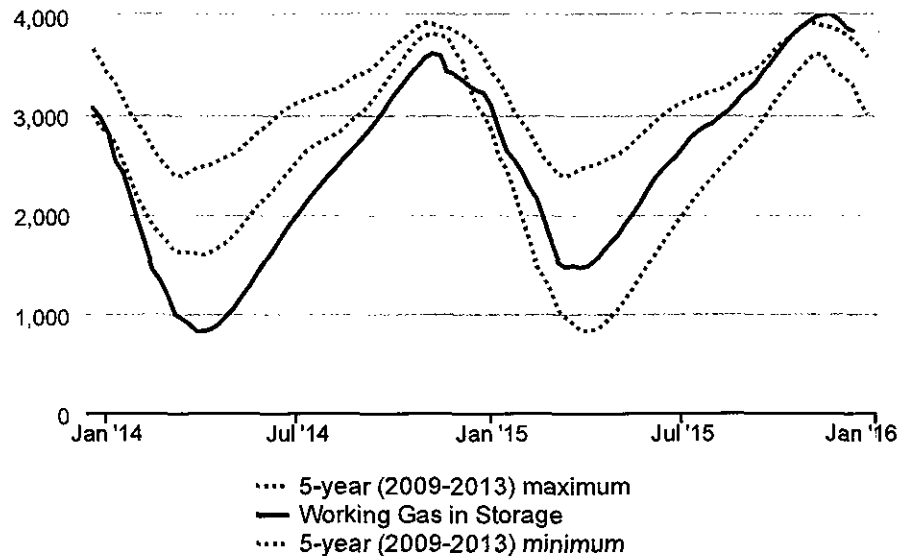
**Rig numbers by type**

	Fri, December 11, 2015	Change from last week	Change from last year
Vertical	91	-12.50%	-72.42%
Horizontal	554	-2.64%	-59.47%
Directional	64	0.00%	-67.35%

Source: Baker Hughes Inc.

**Working natural gas in underground storage**

billion cubic feet



Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report"

**Working gas in underground storage**

Region	Stocks billion cubic feet (bcf)		
	2015-12-11	2015-12-04	change
East	894	910	-16
Midwest	1,066	1,083	-17
Mountain	203	203	0
Pacific	381	382	-1
South Central	1,347	1,340	7
Total	3,846	3,880	-34

Source: U.S. Energy Information Administration

## Working gas in underground storage

Region	Historical comparisons			
	Year ago (12/11/14)		5-year average (2010-2014)	
	Stocks (Bcf)	% change	Stocks (Bcf)	% change
East	796	12.3	855	4.6
West	927	15.0	987	8.0
Producing	170	19.4	199	2.0
Total	3,305	16.4	3,524	9.1

Source: U.S. Energy Information Administration

## Temperature -- heating & cooling degree days (week ending Dec 10)

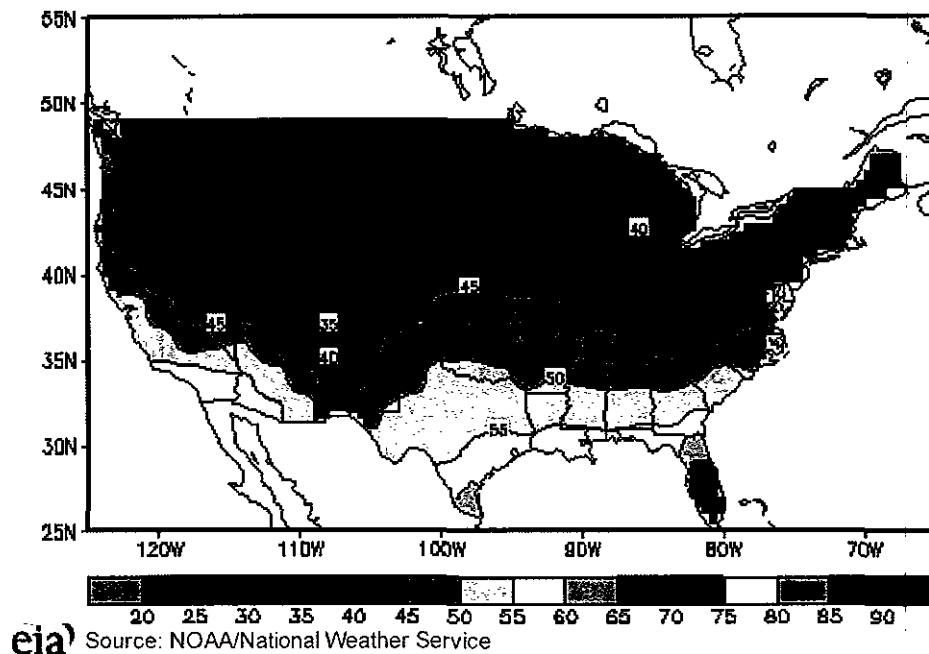
Region	HDD Current	HDD deviation from:		CDD Current	CDD deviation from:	
		normal	last year		normal	last year
New England	167	-49	-52	0	0	0
Middle Atlantic	165	-41	-51	0	0	0
E N Central	180	-55	-47	0	0	0
W N Central	171	-91	-65	0	0	0
South Atlantic	125	-19	-11	11	2	3
E S Central	125	-23	6	0	-1	0
W S Central	80	-29	5	2	-1	-4
Mountain	159	-58	9	0	0	0
Pacific	75	-39	14	0	-1	0
United States	139	-46	-23	2	0	0

Note: HDD = heating degree-day; CDD = cooling degree-day

Source: National Oceanic and Atmospheric Administration

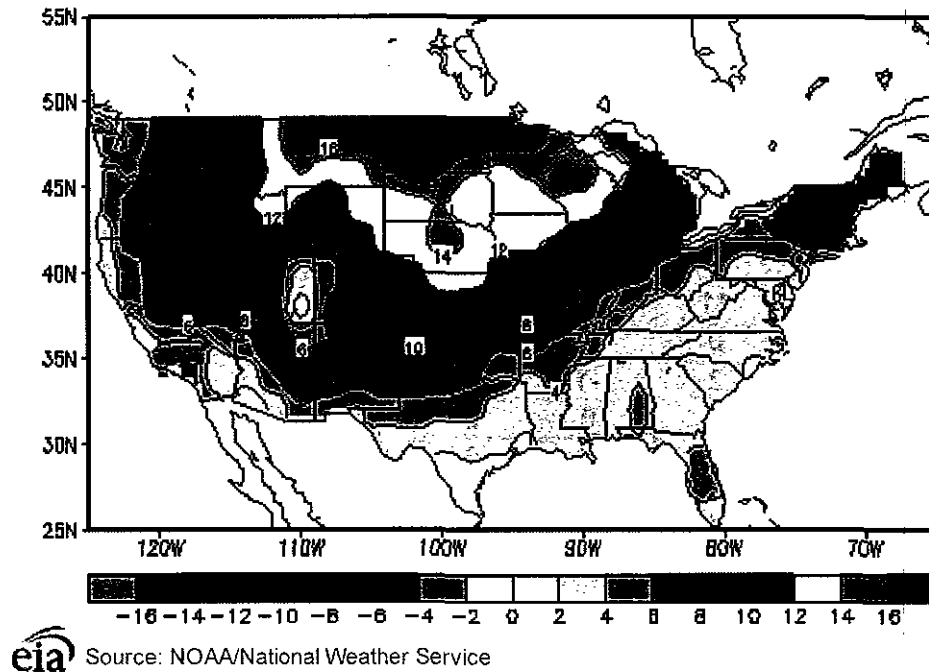
## Average temperature (°F)

7-Day Mean ending Dec 10, 2015



### Deviation between average and normal (°F)

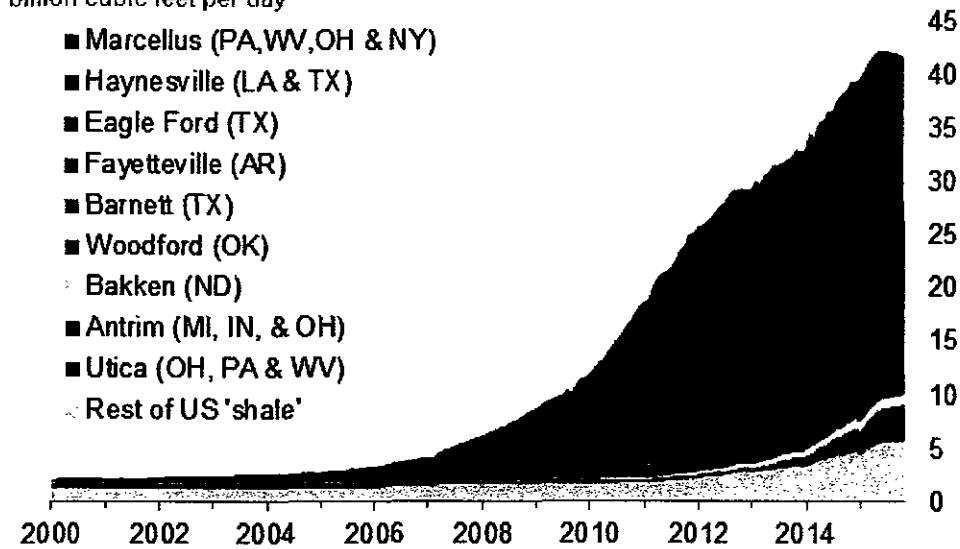
7-Day Mean ending Dec 10, 2015



[Download figure data](#)

# Monthly dry shale gas production

billion cubic feet per day



Sources: EIA derived from state administrative data collected by DrillingInfo Inc. Data are through November 2015 and represent EIA's official shale gas estimates, but are not survey data. State abbreviations indicate primary state(s).







U.S. Energy Information  
Administration



## Natural Gas

### Natural Gas Weekly Update

for week ending January 6, 2016 | Release Date: January 7, 2016 | Next Release: January 14, 2016

#### In the News:

##### Basis differential narrows in Marcellus

At the Marcellus-shale area trading points, natural gas prices normally trade well below the Henry Hub national benchmark price because of the area's high gas production and limited pipeline takeaway capacity. The difference between the Marcellus pricing points and the Henry Hub, commonly referred to as the basis differential, has narrowed somewhat in recent months as new pipeline projects have come online and consumption of natural gas for heating has ramped up. While prices in the region are still very low, trading under \$1.50 per million British thermal units (MMBtu), since November they have moved somewhat closer to the Henry Hub price. The price at Transco's Leidy Hub, for example, has averaged 89¢ below the Henry Hub since December 1. In July of 2015, on the other hand, the differential was much larger, averaging \$1.65/MMBtu for the month.

In recent months, several new pipeline infrastructure projects and expansions have begun operation. For example, Texas Eastern Transmission Company's (Tetco) OPEN project added 550 million cubic feet (MMcf/d) of pipeline takeaway capacity out of Ohio and began full service in early November 2015. Other recent pipeline additions include Columbia Gas Pipeline's East Side Expansion, a 310-MMcf/d project that flows natural gas produced in Pennsylvania to Middle Atlantic markets; and Tennessee Gas Pipeline's Broad Run Flexibility Project, a 590-MMcf/d project originating in West Virginia that moves natural gas to the Gulf Coast states. Transco's Leidy Line project also began service in December, and flows gas from the Marcellus to Transco's main pipeline extending from Texas to New York. Bentek Energy noted that the effect of these new projects was somewhat limited in November, but as heating consumption increased later in 2015, Northeast production (which includes Marcellus) increased as well, setting records in December. Bentek estimated production from the Northeast came close to 22 Bcf/d in December.

#### Overview:

##### (For the Week Ending Wednesday, January 6, 2016)

- Natural gas price movements were mixed across the country for the report week (Wednesday, December 30, through Wednesday, January 6), with warmer temperatures in the West and seasonably cold temperatures in the East. The Henry Hub spot price began the week at \$2.27/MMBtu last Wednesday and ended at \$2.35/MMBtu yesterday.
- At the New York Mercantile Exchange (Nymex), the February Nymex price began at \$2.214/MMBtu last Wednesday and settled at \$2.267/MMBtu yesterday.
- Market demand for natural gas from storage for the week ending January 1 totaled 117 Bcf. This contributed to a decline in the storage level to 3,643 Bcf, which was 17% above a year ago and 15% greater than the five-year (2011–15) average for this week. However, because of a storage operator's reclassification of 4 Bcf from base gas to working gas, the actual inventory decline was 113 Bcf.
- The total oil and natural gas rig count fell by 2 units this week, with 698 units in service for the week ending Thursday, December 31, according to data from Baker Hughes Incorporated. The oil rig count accounted for the entire decline, decreasing by 2 units to 536, and the natural gas rig count maintained 162 active units. The oil and natural gas rig count has not been this low since September 1999.
- The natural gas plant liquids composite price at Mont Belvieu, Texas, increased by 6% to \$4.21/MMBtu for the week ending Friday, January 1. Natural gas liquids spot prices increased across the board: ethane increased by 14%, propane

rose by 7.0%, butane and isobutane each increased by 5%, and natural gasoline rose by 2%.

## Prices/Demand/Supply:

**Henry Hub increases with more seasonal temperatures.** After closing at its lowest level since December 1998 at \$1.54/MMBtu on December 24, heading into a holiday weekend, Henry Hub prices generally increased over the past two weeks. The Henry Hub price started the report week last Wednesday at \$2.27/MMBtu and closed at \$2.35/MMBtu yesterday. Despite this increase, Henry Hub prices remain relatively low. The average Henry Hub price in 2015 was \$2.61/MMBtu, the lowest annual average level since 1999.

**Spot prices reflect regional temperature differences.** Over the report week, the eastern half of the country largely experienced its first taste of colder-than-average temperatures this winter, while temperatures warmed in the West. After starting the report week with temperatures below freezing across much of the region, prices at trading locations in the Rocky Mountains fell as temperatures neared 50° F in the last half of the report week. The Opal price in southwest Wyoming decreased from \$2.57/MMBtu to \$2.43/MMBtu. West of the Rocky Mountains, the California regional average price fell from \$2.69/MMBtu last Wednesday to \$2.62/MMBtu yesterday. This price change was driven by a 15¢/MMBtu decrease over the report week at the Malin trading location, at the border of California and Oregon.

**Prices increase at northeastern locations with the arrival of colder-than-normal temperatures.** New England prices increased as temperatures stayed below freezing across most of the region on January 5. The Algonquin Citygate price, in Boston, settled at \$4.65/MMBtu last Wednesday and closed at \$7.92/MMBtu on Monday, the highest price since March 2015. As temperatures rebounded slightly in the last couple days of the report week, prices decreased, and Algonquin closed at \$4.76/MMBtu yesterday. Similarly, at Transco Zone 6 NY, serving New York City, prices increased from \$2.05/MMBtu last Wednesday to \$3.01/MMBtu yesterday, and hit an intra-week high of \$7.21/MMBtu on Tuesday.

**Marcellus prices remain low.** Marcellus prices generally had similar movements to those in the Northeast. At Tennessee's Zone 4 Marcellus trading point, prices began at \$1.09/MMBtu last Wednesday, and increased during the last half of the report week, to close at \$1.31/MMBtu yesterday. Similarly, on Transco's Leidy Line, prices increased from \$1.19/MMBtu to \$1.34/MMBtu Wednesday-to-Wednesday, after peaking at \$1.44/MMBtu on Monday.

**Nymex prices increase.** At the Nymex, the February contract began at \$2.214/MMBtu last Wednesday and ended the report week up slightly more than 5¢, closing at \$2.267/MMBtu yesterday. Similarly, the 12-month strip, which averages the February 2016 through January 2017 Nymex prices, closed at \$2.502/MMBtu yesterday, about 6¢ higher than last week.

**Supply increase.** According to data from Bentek Energy, natural gas supply this week increased week-over-week, with increases from all sources of supply. Dry natural gas production increased by 2%, with Northeast production growing over the report week. Imports of natural gas from Canada increased by 17%. The increase in imports was driven by the Northeast region. Last week, in the Northeast, the United States exported more gas to Canada than it imported. This report week, the United States imported more gas than it exported to Canada, with U.S. net imports of gas from Canada in that region averaging 0.9 billion cubic feet per day (Bcf/d) over the report week. Liquefied natural gas sendout remained at minimal levels.

**Consumption tops 105 Bcf on Tuesday.** U.S. consumption of natural gas increased by 17% compared to the previous report week, led by an increase in the residential/commercial sector. Residential/commercial consumption increased by 33%, as colder temperatures increased the heating load. Consumption in other sectors increased as well; consumption for power generation increased by 3%, and industrial consumption increased by 5%. Exports to Mexico grew by 8%, exceeding 3 Bcf/d during most of the report week.

more price data

## Storage

**Net storage withdrawals are smaller than the five-year average.** The net withdrawal for the storage week was 117 Bcf compared with the 58 Bcf net storage withdrawal reported the previous week. This withdrawal compares with the five-year

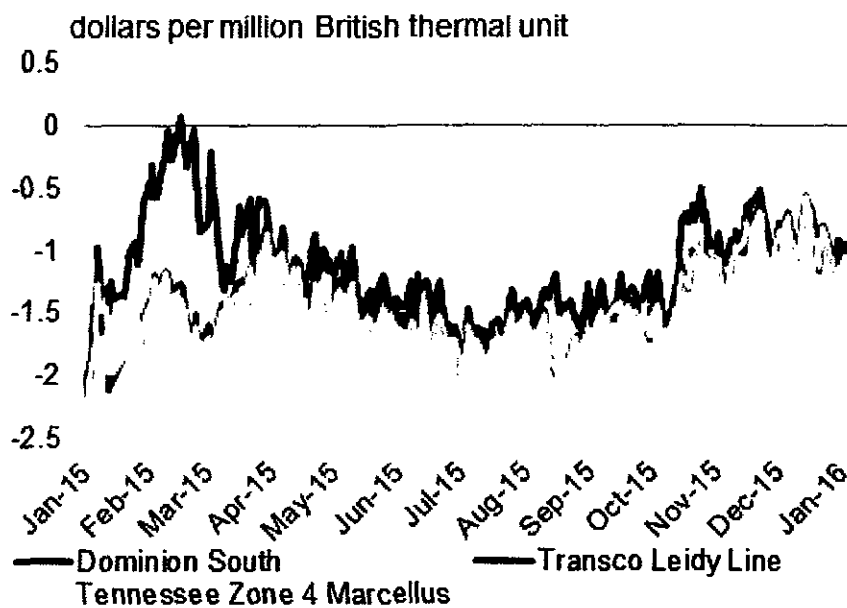


(2011–15) average net withdrawal of 129 Bcf for the week and last year's withdrawal of 116 Bcf for the same week. A 4 Bcf reclassification from base gas to working gas in the South Central Nonsalt resulted in an overall inventory level change of 113 Bcf. The working natural gas inventory for the storage week ending January 1 totaled 3,643 Bcf, which was 535 Bcf (17%) higher than last year at this time and 464 Bcf (15%) higher than the five-year average for this week.

**Storage withdrawals are larger than market expectations.** Market expectations, on average, called for a withdrawal of 97 Bcf for this week. When the EIA storage report was released at 10:30 a.m. on January 7, the February Nymex price rose about 5¢/MMBtu, to about \$2.37/MMBtu and remained close to that level in the following hour.

**Temperatures during the storage report week are warmer than normal.** Temperatures in the Lower 48 states averaged 42° for the storage report week, 8° warmer than the 30-year normal temperature and 6° warmer than the average temperature during the same week last year. There were 167 population-weighted heating degree days (HDD) during this report week, 22 HDD fewer than the five-year average and 33 HDD fewer than during the same period last year.

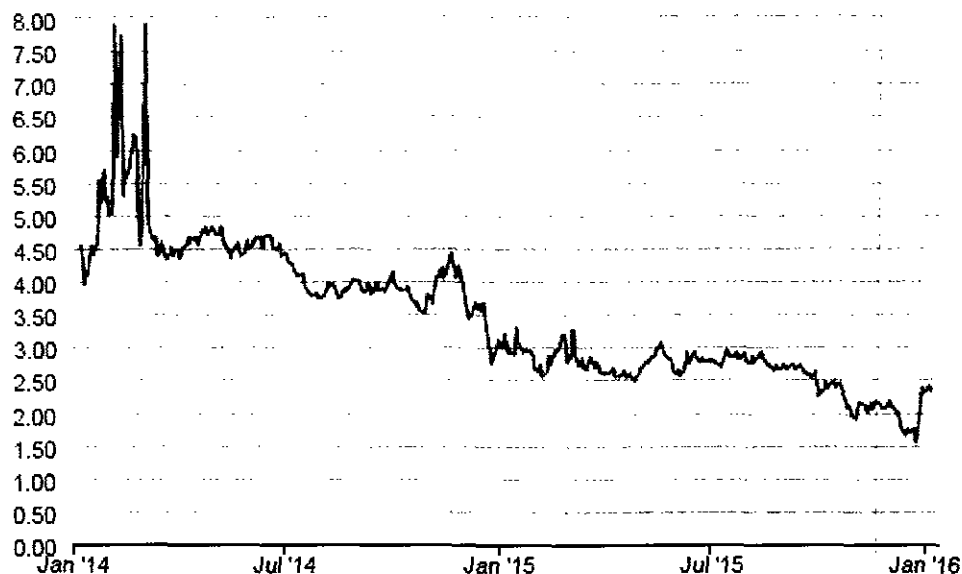
### Basis differential of Marcellus-area trading points, January 2015 - January 2016



Source: *Natural Gas Intelligence*

## Natural gas spot prices (Henry Hub)

\$/MMBtu



Source: Natural Gas Intelligence

Spot Prices (\$/MMBtu)	Thu, 17-Dec	Fri, 18-Dec	Mon, 21-Dec	Tue, 22-Dec	Wed, 23-Dec
Henry Hub	1.75	1.70	1.70	1.75	1.62
New York	1.74	1.80	1.53	1.02	0.96
Chicago	1.89	1.79	1.86	1.79	1.72
Cal. Comp. Avg,*	2.25	2.13	2.26	2.19	2.22
<b>Futures (\$/MMBtu)</b>					
January Contract	1.755	1.767	1.911	1.888	1.983
February Contract	1.873	1.869	1.987	1.955	2.036

\*Avg. of NGI's reported prices for: Malin, PG&E citygate, and Southern California Border Avg.

Source: NGI's Daily Gas Price Index

Spot Prices (\$/MMBtu)	Thu, 24-Dec	Fri, 25-Dec	Mon, 28-Dec	Tue, 29-Dec	Wed, 30-Dec
Henry Hub	1.54	Holiday	2.08	2.37	2.27
New York	0.90	Holiday	1.97	2.04	2.05
Chicago	1.69	Holiday	2.27	2.51	2.37
Cal. Comp. Avg,*	2.37	Holiday	2.81	2.95	2.69
<b>Futures (\$/MMBtu)</b>					
January Contract	2.029	Holiday	2.228	2.372	Expired
February Contract	2.079	Holiday	2.256	2.370	2.214

\*Avg. of NGI's reported prices for: Malin, PG&E citygate, and Southern California Border Avg.

Source: NGL's Daily Gas Price Index

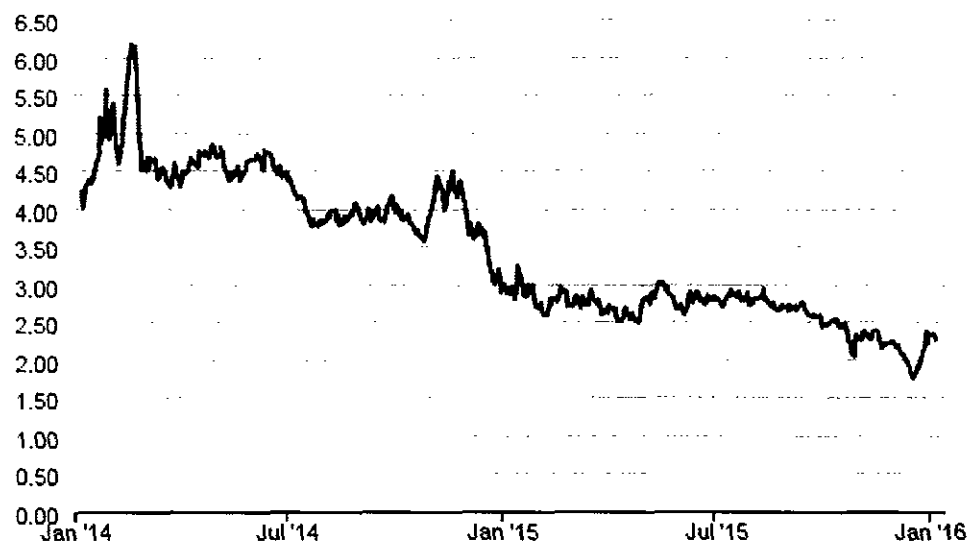
Spot Prices (\$/MMBtu)	Thu, 31-Dec	Fri, 1-Jan	Mon, 4-Jan	Tue, 5-Jan	Wed, 6-Jan
Henry Hub	2.31	Holiday	2.39	2.32	2.35
New York	2.96	Holiday	7.21	3.61	3.01
Chicago	2.45	Holiday	2.48	2.36	2.42
Cal. Comp. Avg.*	2.66	Holiday	2.67	2.58	2.62
<b>Futures (\$/MMBtu)</b>					
February Contract	2.337	Holiday	2.334	2.325	2.267
March Contract	2.363	Holiday	2.350	2.346	2.289

\*Avg. of NGL's reported prices for: Malin, PG&E citygate, and Southern California Border Avg.

Source: NGL's Daily Gas Price Index

### Near-month natural gas futures prices (Nymex)

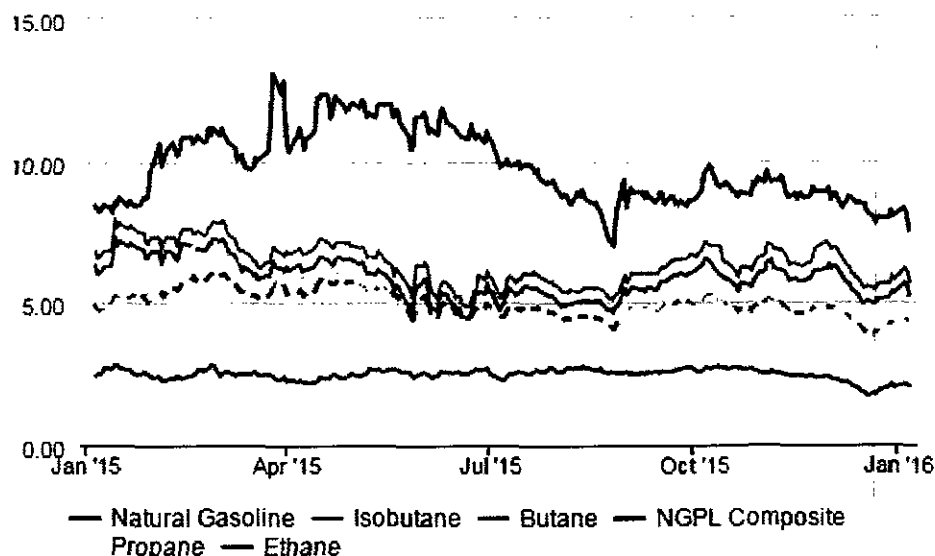
\$/MMBtu



Source: Natural Gas Intelligence

## Natural gas liquids spot prices

\$/MMBtu



Source: NGL spot prices from Bloomberg, L.P., and weights for NGPL composite price from EIA-816, Monthly Natural Gas Liquids Report.

Note: NGL spot prices at Mont Belvieu, Texas. Monthly volumes from EIA-816 used to calculate weights for the NGPL composite price. EIA-816 volume weights are constant throughout a given month, and the latest available weights are applied to the three most recent months. Natural gasoline is the term used in the spot and futures markets to describe pentanes and hexanes, the primary components of pentanes plus.

### U.S. natural gas supply - Gas Week: (12/30/15 - 1/6/16)

	Percent change for week compared with:	
	last year	last week
Gross production	0.57%	2.37%
Dry production	0.56%	2.35%
Canadian imports	-12.34%	17.17%
West (net)	-1.37%	-2.71%
Midwest (net)	-22.04%	-3.15%
Northeast (net)	N/A	N/A
LNG imports	8.12%	33.67%
Total supply	-0.50%	3.39%

Source: BENTEK Energy LLC

### U.S. consumption - Gas Week: (12/30/15 - 1/6/16)

Percent change for week compared with:

last year	last week
-----------	-----------

1/8/2016

U.S. Energy Information Administration (EIA)

U.S. consumption	-5.6%	16.6%
Power	7.0%	3.2%
Industrial	-3.4%	5.0%
Residential/commercial	-12.2%	33.1%
Total demand	-4.4%	16.4%

Source: BENTEK Energy LLC

### Total supply/demand balance (last 365 days)

MMcf/d

150,000

100,000

50,000

0

Apr '15

Jul '15

Oct '15

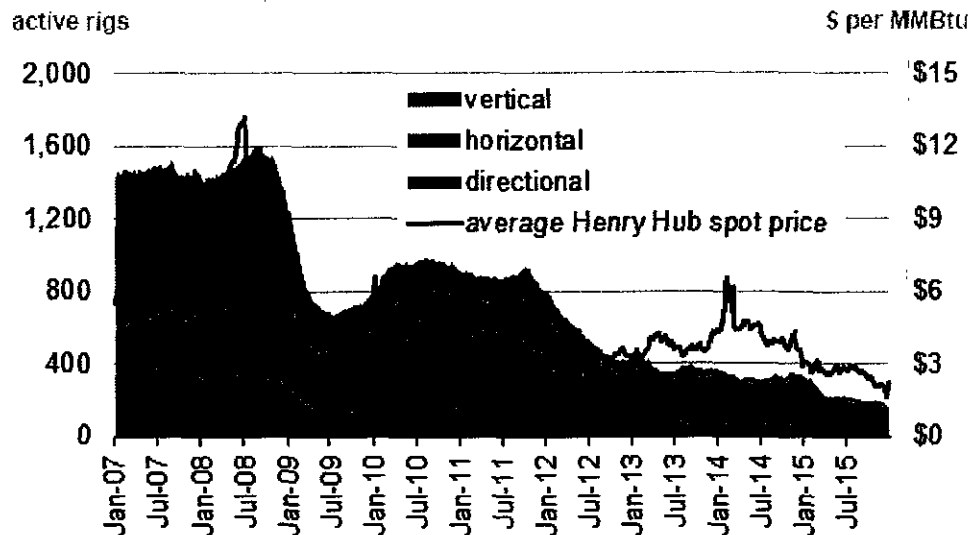
Jan '16

— Total consumption — Total supply



Source: BENTEK Energy LLC

## Weekly natural gas rig count and average spot Henry Hub



Source: Baker Hughes

## Rigs

	Fri, January 01, 2016	Change from	
		last week	last year
Oil rigs	536	-0.37%	-63.83%
Natural gas rigs	162	0.00%	-50.61%
Miscellaneous	0	0.00%	-100.00%

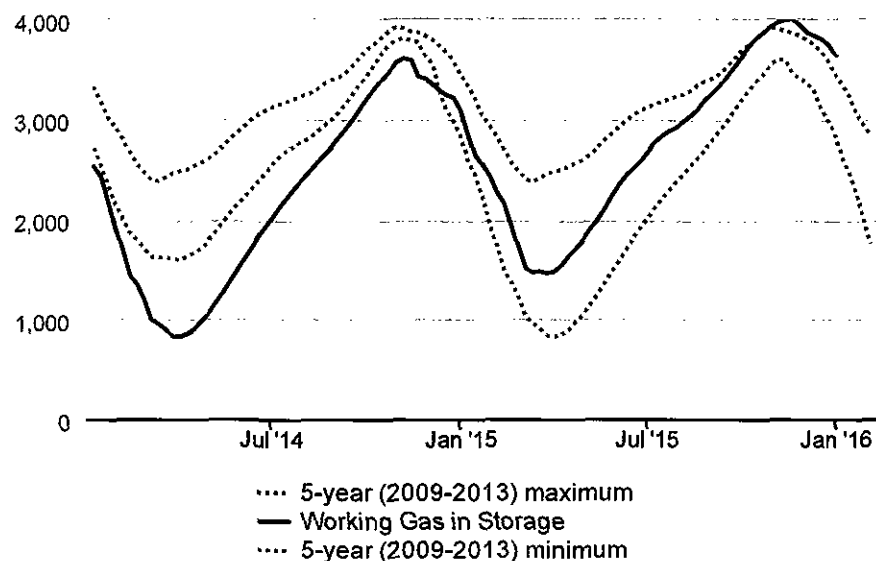
## Rig numbers by type

	Fri, January 01, 2016	Change from	
		last week	last year
Vertical	89	3.49%	-70.33%
Horizontal	549	-0.90%	-58.91%
Directional	60	0.00%	-65.71%

Source: Baker Hughes Inc.

## Working natural gas in underground storage

billion cubic feet



Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report"

## Working gas in underground storage

Region	Stocks billion cubic feet (bcf)		
	2016-01-01	2015-12-25	change
East	857	876	-19
Midwest	983	1,025	-42
Mountain	185	195	-10
Pacific	381	382	-1
South Central	1,347	1,340	7
Total	3,643	3,756	-113

Source: U.S. Energy Information Administration

## Working gas in underground storage

Region	Historical comparisons			
	Year ago (1/1/15)		5-year average (2011-2015)	
	Stocks (Bcf)	% change	Stocks (Bcf)	% change
East	741	15.7	756	13.4
West	854	15.1	866	13.5
Producing	154	20.1	180	2.8
Total	3,108	17.2	3,179	14.6

Source: U.S. Energy Information Administration

### Temperature -- heating & cooling degree days (week ending Dec 31)

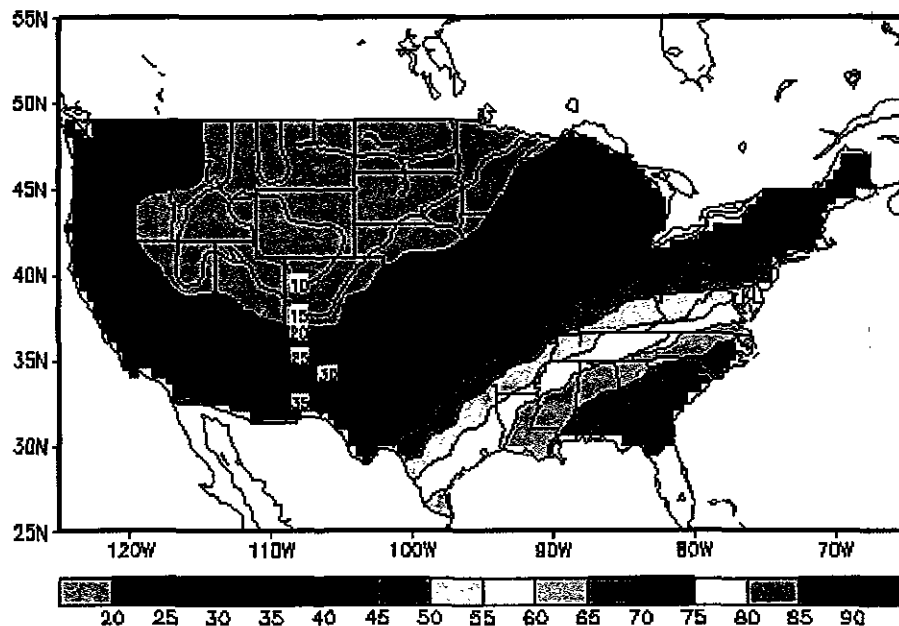
Region	HDD Current	HDD deviation from:		CDD Current	CDD deviation from:	
		normal	last year		normal	last year
New England	174	-86	-26	0	0	0
Middle Atlantic	143	-105	-51	0	0	0
E N Central	197	-85	-44	0	0	0
W N Central	277	-29	-20	0	0	0
South Atlantic	44	-131	-87	31	25	21
E S Central	62	-119	-95	11	10	11
W S Central	106	-29	-35	10	8	9
Mountain	293	58	13	0	0	0
Pacific	169	43	21	0	0	0
United States	167	-51	-33	8	7	6

Note: HDD = heating degree-day; CDD = cooling degree-day

Source: National Oceanic and Atmospheric Administration

### Average temperature (°F)

7-Day Mean ending Dec 31, 2015

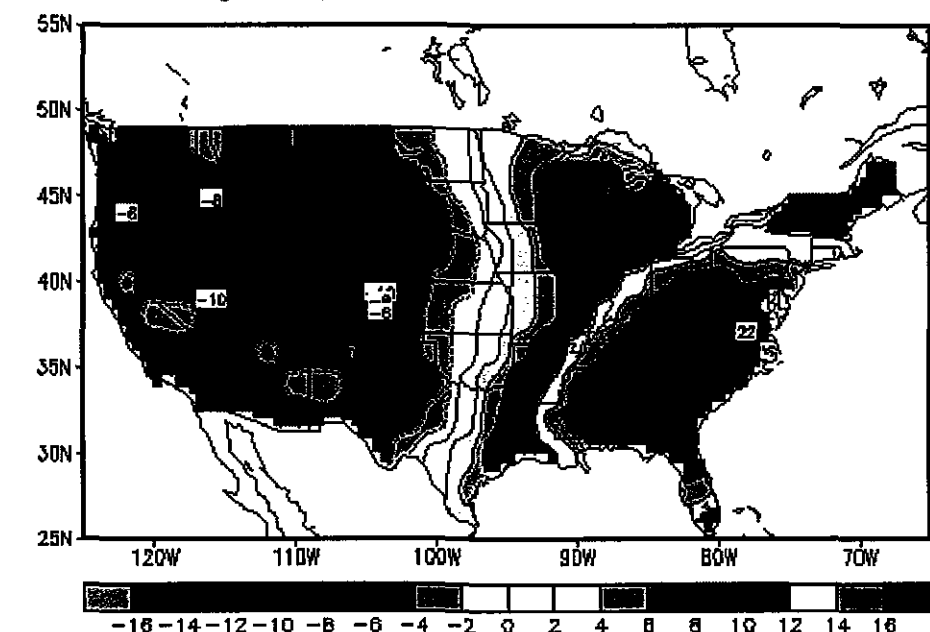


Source: NOAA/National Weather Service



## Deviation between average and normal (°F)

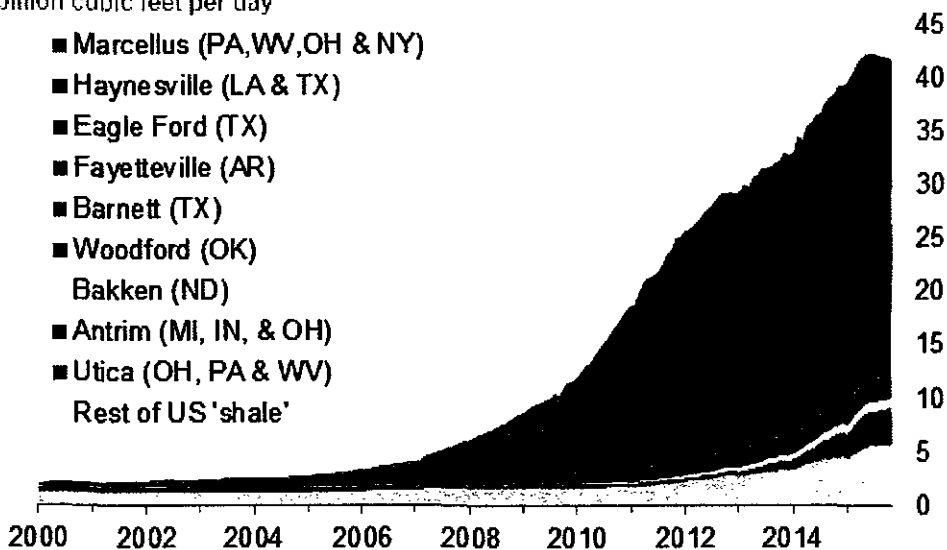
7-Day Mean ending Dec 31, 2015



Source: NOAA/National Weather Service

## Monthly dry shale gas production

billion cubic feet per day



Sources: EIA derived from state administrative data collected by DrillingInfo Inc. Data are through November 2015 and represent EIA's official shale gas estimates, but are not survey data. State abbreviations indicate primary state(s).

cia

Download figure data