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U.S. Energy Information
Administration

U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2015

December 2016



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Contents

U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2015	1
Oil highlights	1
Natural gas highlights	1
National summary	2
Background	6
Crude oil and lease condensate proved reserves.....	8
Natural gas proved reserves	12
Nonassociated natural gas	16
Associated-dissolved natural gas	16
Coalbed natural gas.....	16
Natural gas from shale	17
Dry natural gas	19
Lease condensate and natural gas plant liquids.....	19
Lease condensate	19
Natural gas plant liquids.....	19
Reserves in nonproducing reservoirs	20
Maps and additional data tables	21
Maps.....	22
Oil tables.....	26
Natural gas tables.....	33
Miscellaneous/other tables	45

Tables

Table 1. U.S. proved reserves, and reserves changes, 2014-15.....	2
Table 2. Crude oil production and proved reserves from selected U.S. tight plays, 2014-15	11
Table 3. Changes to proved reserves of U.S. natural gas by source, 2014-15.....	13
Table 4. U.S. shale plays: natural gas production and proved reserves, 2014-15	18
Table 5. U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2005-15	26
Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2015.....	27
Table 7. Crude oil proved reserves, reserves changes, and production, 2015.....	29
Table 8. Lease condensate proved reserves, reserves changes, and production, 2015.....	31
Table 9. U.S. proved reserves of total natural gas, wet after lease separation, 2001-15	33
Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015	35
Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015	37
Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015	39
Table 13. Shale natural gas proved reserves and production, 2012-15	41
Table 14. Shale natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015	42
Table 15. Coalbed methane proved reserves and production, 2011-15	43
Table 16. Coalbed methane proved reserves, reserves changes, and production, 2015.....	44
Table 17. Estimated natural gas plant liquids and dry natural gas content of total natural gas proved reserves, 2015.....	45
Table 18. Reported proved nonproducing reserves of crude oil, lease condensate, nonassociated gas, associated-dissolved gas, and total gas (wet after lease separation), 2015.....	46

Figures

Figure 1. U.S. oil and natural gas proved reserves, 1965-2015	2
Figure 2. Proved reserves of the top five U.S. oil reserves states, 2011-15	3
Figure 3. Proved reserves of the top five U.S. natural gas reserves states, 2011-15	4
Figure 4. U.S. crude oil and lease condensate proved reserves, production, and imports, 1983-2015.....	5
Figure 5. U.S. total natural gas proved reserves, production, and imports, 1983-2015	5
Figure 6. WTI crude oil spot prices, first-day-of-the-month, 2010-16.....	7
Figure 7. Henry Hub natural gas spot prices, 2010-16.....	7
Figure 8. U.S. crude oil and lease condensate proved reserves, 1985-2015.....	9
Figure 9a. U.S. crude oil and lease condensate proved reserves changes, 2014-15	9
Figure 9b. Components of U.S. crude oil and lease condensate reserves changes, 2005-15	10
Figure 10. U.S. total natural gas proved reserves, 1985-2015.....	13
Figure 11a. U.S. total natural gas proved reserves changes, 2014-15.....	14
Figure 11b. Components of U.S. natural gas proved reserves changes, 2005-15	15
Figure 12. U.S. total natural gas proved reserves (shale and other sources), 2008-15.....	17
Figure 13. Proved shale gas reserves of the top seven U.S. shale gas reserves states, 2010-15	18
Figure 14. Crude oil and lease condensate proved reserves by state/area, 2015.....	22
Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2014 to 2015	23
Figure 16. Natural gas proved reserves by state/area, 2015.....	24
Figure 17. Changes in natural gas proved reserves by state/area, 2014 to 2015	25

U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2015

Between year-end 2014 and year-end 2015, U.S. crude oil and lease condensate proved reserves decreased from 39.9 billion barrels to 35.2 billion barrels—a decrease of 4.7 billion barrels (11.8%). Over the same period, proved reserves of U.S. total natural gas¹ decreased by 64.5 trillion cubic feet (Tcf) (16.6%), declining from 388.8 Tcf in 2014 to 324.3 Tcf. The average West Texas Intermediate (WTI) crude oil spot prices declined almost 50% (from \$95 per barrel in 2014 to \$50 per barrel in 2015), and the average spot price of natural gas at the Louisiana Henry Hub declined more than 40% from \$4.55 per million Btu in 2014 to \$2.62 per million Btu in 2015. The significant reduction in prices, which resulted in a more challenging characterization of existing economic and operating conditions that are considered in the definition of proved reserves, led to downward revisions across a broad range of U.S. producers.

Oil highlights

- The average price of oil in 2015 dropped 47% compared to 2014, causing operators to postpone or cancel development plans and revise their proved reserves of crude oil and lease condensate downward. As a result, U.S. proved reserves declined by 11.8% (4.7 billion barrels) in 2015.
- U.S. production of crude oil and lease condensate increased in 2015 for the seventh consecutive year, increasing by 7% from 2014.
- Crude oil and lease condensate extensions were highest in Texas and North Dakota in 2015. However, as a result of downward revisions, both states experienced a net reduction in proved reserves.
- New Mexico experienced the largest net increase in proved reserves of crude oil and lease condensate of all states in 2015, mostly from development of the Wolfcamp shale and Bone Spring plays in southeastern New Mexico's portion of the Delaware Basin.

Natural gas highlights

- The average price of natural gas in 2015 dropped 42% compared to 2014, causing operators to revise their reserves downward, just as they did with oil reserves. U.S. proved natural gas reserves declined 16.6% (64.5 Tcf) in 2015.
- In 2015, Ohio added more than 5 Tcf of natural gas proved reserves (in the Utica Shale play), and surpassed Arkansas and the Gulf of Mexico to become the ninth-largest natural gas reserves state.
- U.S. production of total natural gas increased for the tenth consecutive year, increasing by 4% from 2014.

How can production go up when proved reserves are going down?

Generally, when oil or natural gas prices fall or operating costs rise, the life of a producing well may be shortened by reducing the remaining proved reserves that are economically recoverable, and may cancel or postpone planned offset wells. This may reduce the estimate of proved reserves, even if production is increasing (usually because of a large number of new wells drilled and completed prior to the price drop/cost increase). Changes in annual production can therefore lag behind the year in which changes in proved reserves are reported. A drilled and completed well is usually required to have proved reserves. However, proved reserves can be assigned to a planned well, based on surrounding wells and the geological and engineering data of these wells (if the planned well will be drilled within five years). It's important to remember that production cannot increase or maintain a certain level for very long without continued development or enhanced oil recovery methods. Production will inevitably decline in their absence.

Proved reserves are estimated volumes of hydrocarbon resources that analysis of geologic and engineering data demonstrates with reasonable certainty² are recoverable under existing economic and operating conditions.

¹ Total natural gas (also known as natural gas, wet after lease separation) includes natural gas liquids that have yet to be extracted downstream at a processing plant, but it does not include lease condensate.

² *Reasonable certainty* assumes a probability of recovery of 90% or greater.

Reserves estimates change from year to year as new discoveries are made, as existing fields are more thoroughly appraised, as existing reserves are produced, and as prices and technologies evolve.

Sustained low prices for oil and natural gas continued through most of 2016, and downward reserves revisions are likely in EIA's next report for year-end 2016, but probably not to the same degree as in 2015. Lower prices have curtailed drilling and made the economics more challenging in 2016. Although technically recoverable resource estimates are not necessarily reduced by lower prices, the calculation of proved reserves is sensitive to price changes.

National summary

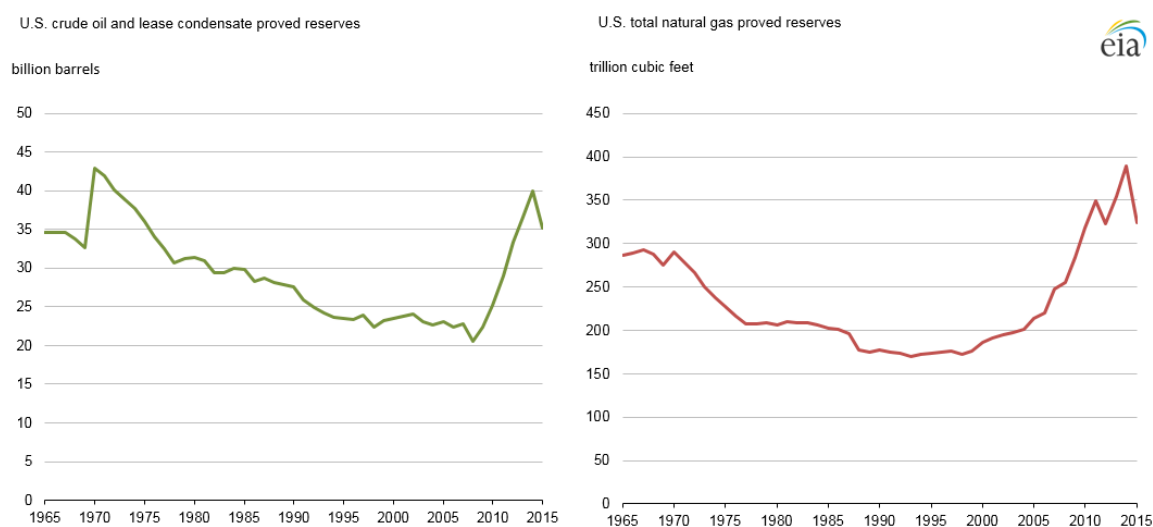
In 2015, U.S. crude oil and lease condensate proved reserves decreased 4.7 billion barrels (11.8%) to 35.2 billion barrels (Table 1). Crude oil and lease condensate reserves last declined in 2008 (Figure 1). Proved reserves of U.S. total natural gas decreased 64.5 trillion cubic feet (Tcf) to 324.3 Tcf in 2015 (Table 1). For both fuels, the net downward revisions to reserves exceeded both the total discoveries and the estimated production for 2015.

Table 1. U.S. proved reserves, and reserves changes, 2014-15

	Crude Oil and Lease Condensate billion barrels	Total Natural Gas trillion cubic feet
U.S. proved reserves at December 31, 2014	39.9	388.8
Total discoveries	3.2	34.7
Net revisions	-5.6	-80.8
Net adjustments, sales, acquisitions	1.1	10.8
Estimated Production	-3.4	-29.3
Net additions to U.S. proved reserves	-4.7	-64.5
U.S. proved reserves at December 31, 2015	35.2	324.3
Percent change in U.S. proved reserves	-11.8%	-16.6%

Notes: Total natural gas includes natural gas plant liquids. Columns may not add to total because of independent rounding. Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

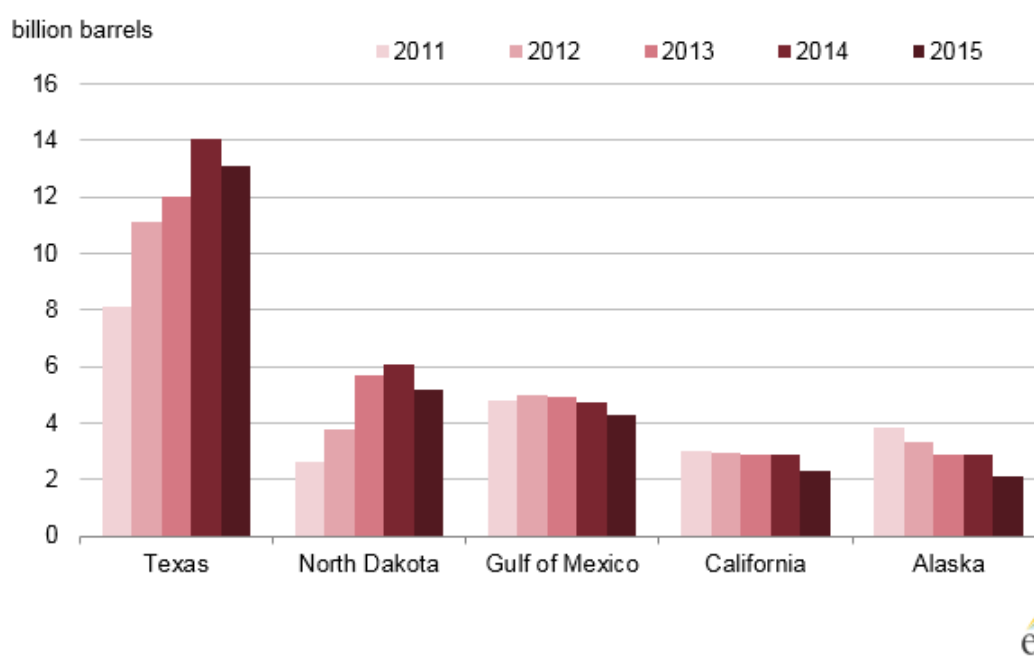
Figure 1. U.S. oil and natural gas proved reserves, 1965-2015



Sources: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 1977-2015, American Petroleum Institute, 1965-76

Proved reserves of crude oil and lease condensate decreased in each of the top five U.S. oil reserves states in 2015 (Figure 2). In 2015, Texas had the largest proved reserves of any state but also the largest decline—a net decrease of 1 billion barrels of crude oil and lease condensate proved reserves from 2014 to 2015. Although significant reserves additions (in the form of field extensions) were made in the Wolfcamp and Eagle Ford shale plays, these additions were countered by net downward revisions within the Lone Star State. North Dakota, dominated by the Bakken shale play within the Williston Basin, had the second-largest proved reserves, and similarly, the second largest decline in 2015, a net decrease of 838 million barrels of crude oil and lease condensate proved reserves.

Figure 2. Proved reserves of the top five U.S. oil reserves states, 2011-15

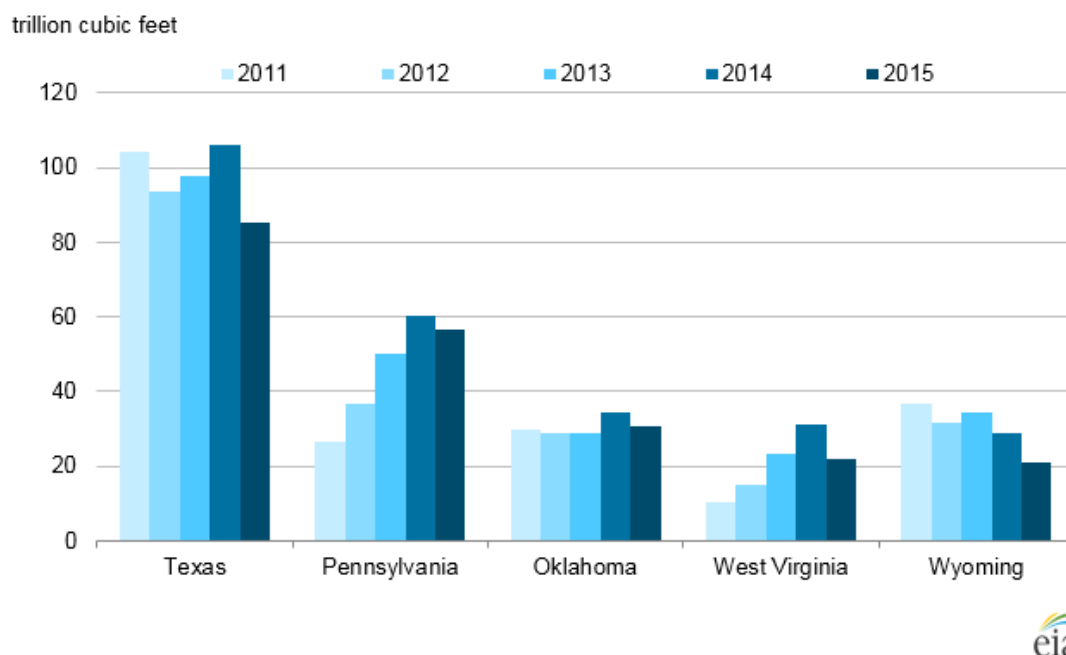


Notes: Oil reserves include crude oil and lease condensate. "Gulf of Mexico" represents the federally owned offshore portion of the Gulf of Mexico (not a state, but an important U.S. oil and natural gas production area).

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2011-15

Proved natural gas reserves decreased in each of the top five U.S. gas reserves states in 2015 (Figure 3). Texas was the largest natural gas reserves state, and it had the largest net decrease (-20.6 Tcf) in 2015. Pennsylvania and Oklahoma (the second and third largest natural gas proved reserves states, respectively) had large net downward revisions, but the declines were partially offset by developments in the Marcellus and Woodford shale plays. These offsets reduced the decline in these states to just 3.9 and 3.6 Tcf in 2015.

Figure 3. Proved reserves of the top five U.S. natural gas reserves states, 2011-15



Note: Total natural gas includes natural gas plant liquids that have yet to be extracted downstream and does not include lease condensate.

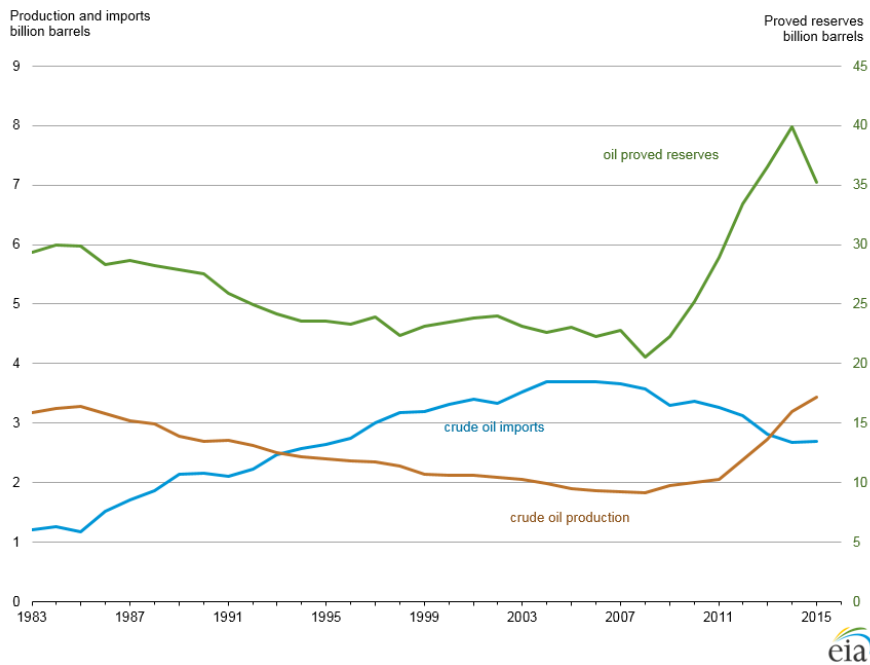
Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2011-15

Official EIA oil and gas production data

The production numbers in the tables and figures of this report are offered only as an indicator of production trends and may differ from EIA's official production numbers based on state-reported data, which are provided on the EIA website for [oil](#) and [natural gas](#). Specifically, the production estimates in this report are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ from estimates published by EIA in the *Petroleum Supply Annual 2015*, DOE/EIA-0340(15) and the *Natural Gas Annual 2015*, DOE/EIA-0131(15).

U.S. oil production increased 7% in 2015, and imports of crude oil increased slightly (less than 1%) from the 2014 level (Figure 4).

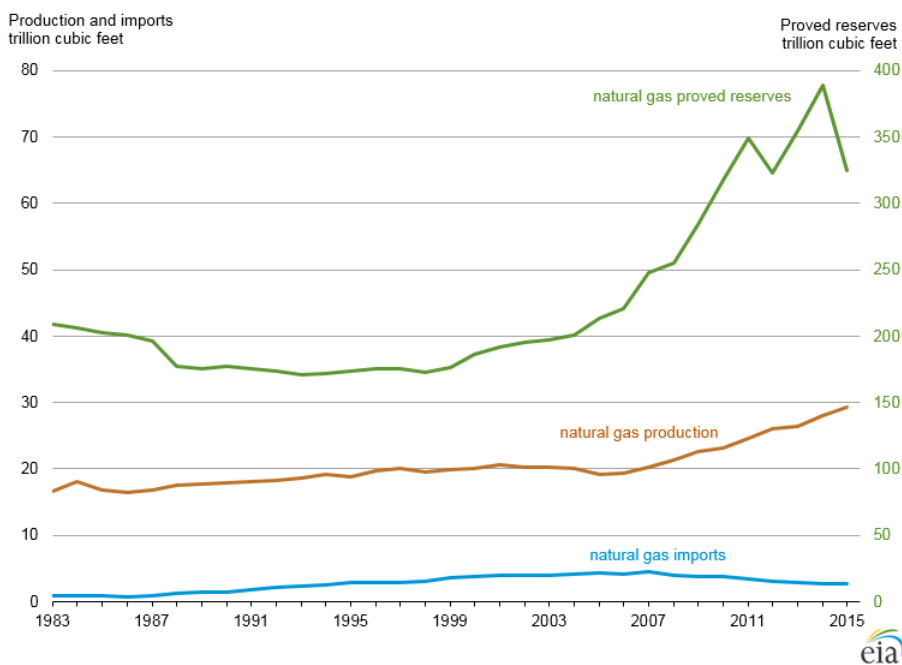
Figure 4. U.S. crude oil and lease condensate proved reserves, production, and imports, 1983-2015



Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves; Form EIA-814, Monthly Imports Report

U.S. natural gas production increased 4% in 2015, and natural gas imports remained level (Figure 5).

Figure 5. U.S. total natural gas proved reserves, production, and imports, 1983-2015



Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves; U.S. Department of Energy, Office of Fossil Energy, Natural Gas Imports and Exports

Background

This report provides estimates of U.S. proved reserves of crude oil and lease condensate and proved reserves of natural gas at year-end 2015. The U.S. Energy Information Administration (EIA) starts with the data filed on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, which was submitted by 450 of 467 sampled operators of U.S. oil and natural gas fields. EIA then estimates proved reserves for the U.S., states, and state subdivisions.

Proved reserves are estimated volumes of hydrocarbon resources that analysis of geologic and engineering data demonstrates with reasonable certainty are recoverable under existing economic and operating conditions. Reserves estimates change from year to year as new discoveries are made, as existing fields are more thoroughly appraised, as existing reserves are produced, and as prices and technologies change.

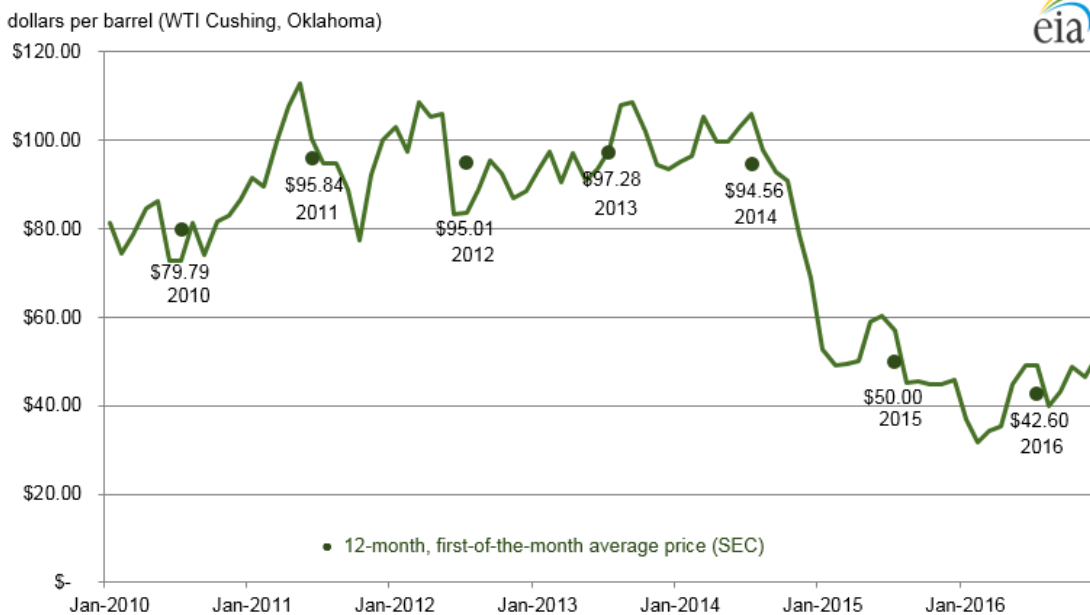
Discoveries include new fields, identification of new reservoirs in previously discovered fields, and extensions, which are additions to reserves that result from additional drilling and exploration in previously discovered reservoirs. In a given year, extensions are typically the largest percentage of total discoveries. Although discoveries of new fields and reservoirs are important indicators of new resources, they generally account for a small percentage of overall annual reserve additions.

Revisions primarily occur when operators change their estimates of what they will be able to produce from the properties they operate in response to changing prices or improvements in technology. Higher fuel prices typically increase estimates (positive revisions) as operators consider a broader portion of the resource base economically producible, or proved. Lower prices, on the other hand, generally reduce estimates (negative revisions) as the economically producible base diminishes.

The 2015 reporting period represents the seventh year companies reporting to the U.S. Securities and Exchange Commission (SEC) followed revised rules for determining the prices underpinning their proved reserves estimates. Designed to make estimates less sensitive to price fluctuations during the year, the SEC rules require companies to use an average of the 12 first-day-of-the-month prices.

Because actual prices received by operators depend on their contractual arrangements, location, hydrocarbon quality, and other factors, spot market prices are not necessarily the prices used by operators in their reserve estimates for EIA. However, they do provide a benchmark or trend indicator. The 12-month, first-day-of-the-month, average WTI crude oil spot price for 2015 was \$50 per barrel, a 47% decrease from 2014 (Figure 6).

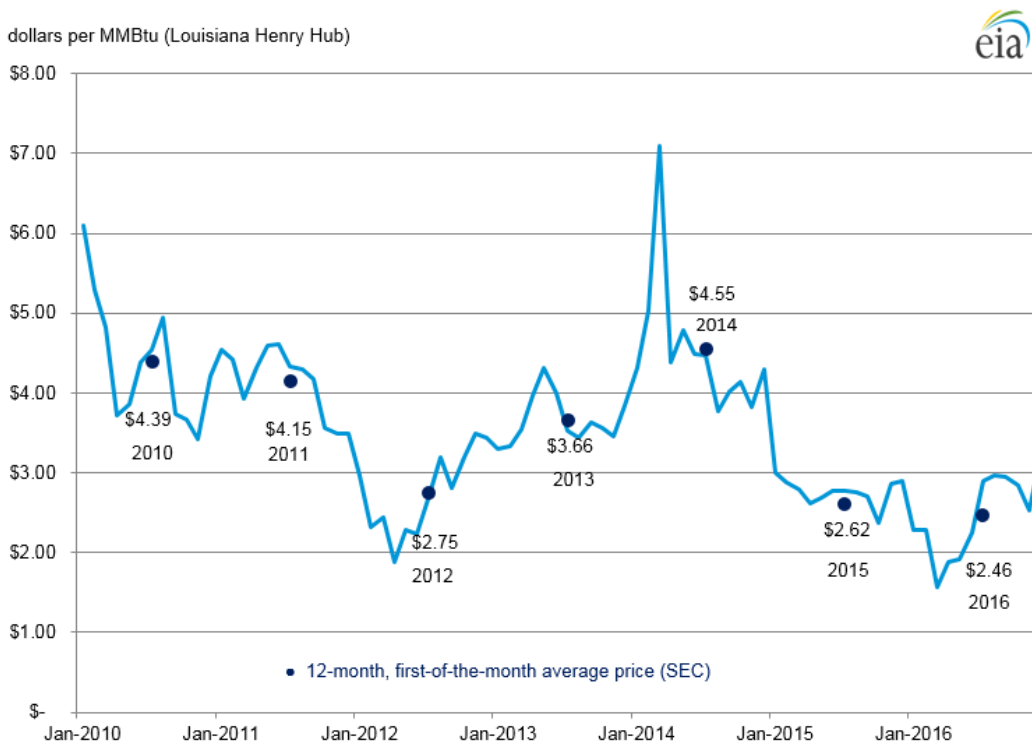
Figure 6. WTI crude oil spot prices, first-day-of-the-month, 2010-16



Source: Thomson Reuters, U.S. Energy Information Administration

The 12-month, first-day-of-the-month average natural gas spot price at the Louisiana Henry Hub for 2015 was \$2.62 per million British thermal units (MMBtu), a 42% decrease from the previous year's average spot price of \$4.55 per MMBtu (Figure 7).

Figure 7. Henry Hub natural gas spot prices, first-day-of-the-month, 2010-16



Source: Thomson Reuters, U.S. Energy Information Administration

Prices in 2016. At the start of 2016, the [spot price of WTI crude oil](#) was at or near the lowest of the year.³ Throughout the rest of 2016, the price increased incrementally but did not exceed \$50 per barrel until June 7. The price declined back below \$40 per barrel on August 2, but increased back above \$50 per barrel in October.

Compared with the 12-month, first-of-the-month 2015 average of \$50 per barrel, the 12-month, first-of-the-month 2016 average WTI spot oil price decreased 15% to \$42.60 per barrel. More net downward revisions in U.S. crude oil proved reserves in 2016 may be possible, but probably not to the same extent as was observed in this report for 2015.

The 12-month, first-of-the-month average natural gas spot price at the Henry Hub in Louisiana in 2015 was \$2.62 per MMBtu. In 2016, [natural gas spot prices](#) remained below \$3.00 per MMBtu until September—often well below. The average 12-month, first-of-the-month spot natural gas price at the Henry Hub decreased 6% in 2016, to \$2.46 per MMBtu. As with oil, some net downward revisions in U.S. natural gas proved reserves may be possible in the 2016 reserves report.

Throughout 2015 and continuing into 2016, the [number of U.S. rotary rigs in operation](#) declined. Fewer new discoveries and extensions of existing fields are anticipated for 2016, combined with possible net downward revisions. These factors could negatively affect both crude oil and natural gas reserves in 2016. U.S. production of crude oil and natural gas, which rose in 2015, may be negatively affected by reduced drilling in 2016.

Crude oil and lease condensate proved reserves

U.S. crude oil and lease condensate proved reserves decreased for the first time in seven years in 2015 (Figure 8). The average price of oil in 2015 dropped 47% compared to 2014, causing operators to postpone or cancel development plans and revise their proved reserves of crude oil and lease condensate downward. In the past 20 years, declines in reserves were observed in 1995, 1996, 1998, 2003, 2004, 2006, and 2008.

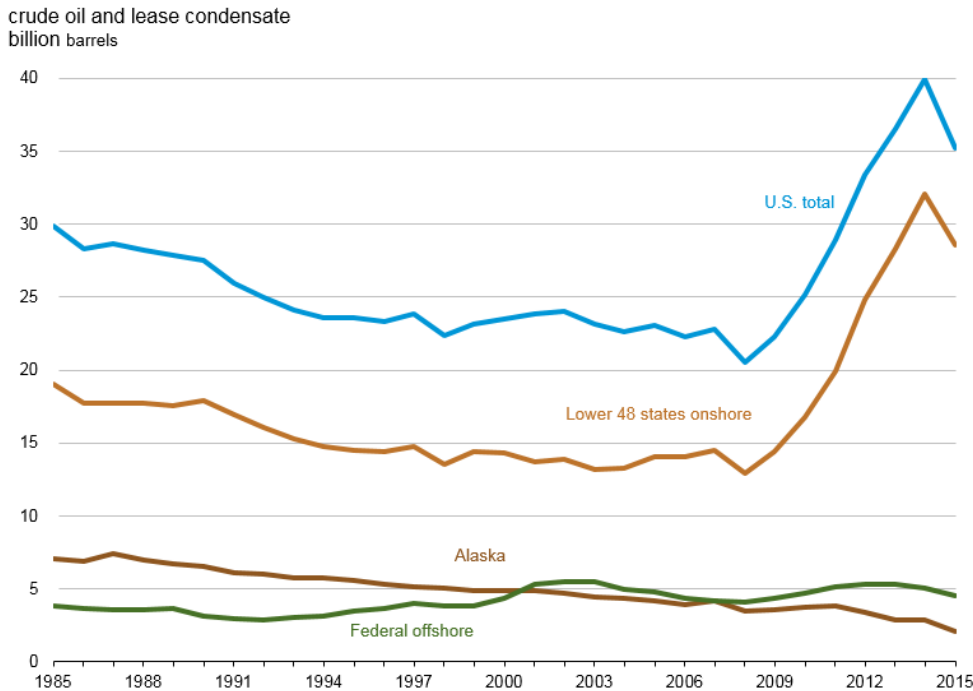
U.S. crude oil and lease condensate proved reserves decreased by 11.8% (4.7 billion barrels) in 2015, mostly attributable to negative net revisions to the proved reserves of existing fields (Figure 9a).

Proved reserves of crude oil and lease condensate declined the most in Texas in 2015. Although Texas had the most total discoveries of crude oil and lease condensate proved reserves in 2015 (almost 1.4 billion barrels), this volume was canceled by over 1.7 billion barrels of net downward revisions. After the net of acquisitions, sales and adjustments were added in, and the state's annual production (over 1.2 billion barrels) was taken out, Texas crude oil and lease condensate proved reserves declined by 7% (1,001 million barrels) in 2015.

North Dakota had the second-largest net decrease in crude oil and lease condensate proved reserves in 2015. Total discoveries added 0.6 billion barrels of crude oil and lease condensate proved reserves, but net downward revisions reduced the state total by 1 billion barrels. At year-end 2015 (after state production of 0.4 billion barrels), North Dakota crude oil and lease condensate proved reserves decreased 14% (838 million barrels).

³ The lowest recorded daily spot price of WTI crude oil in 2016 was \$26.19 per barrel on February 11, 2016. (Thompson Reuters)

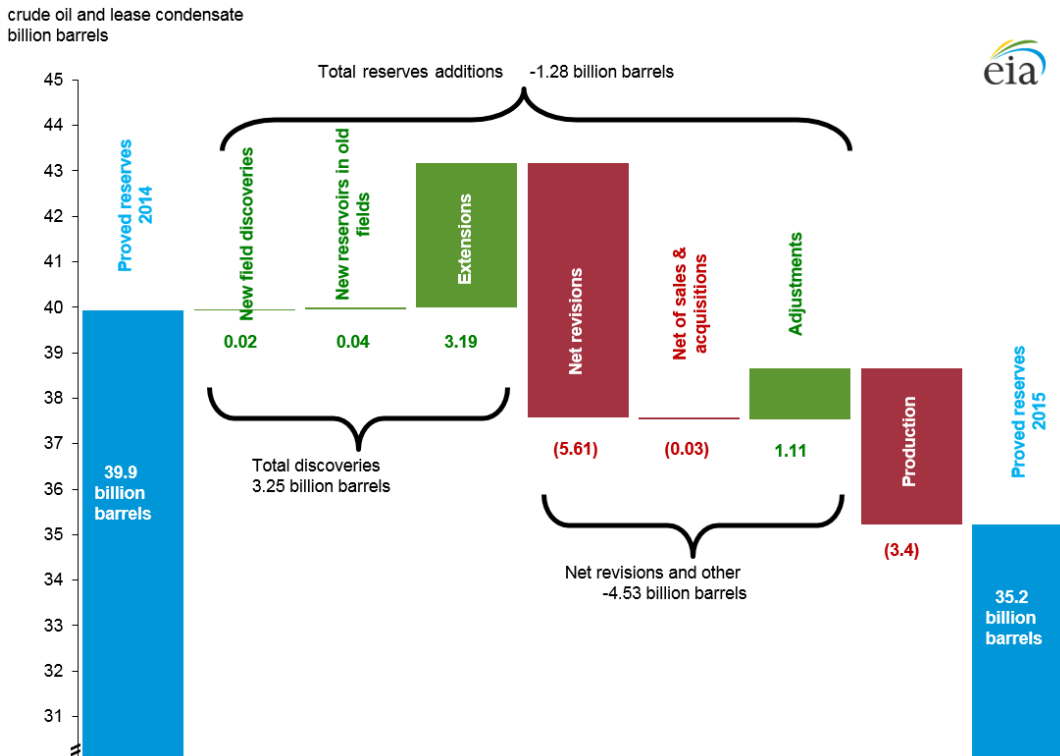
Figure 8. U.S. crude oil and lease condensate proved reserves, 1985-2015



Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 1985-2015



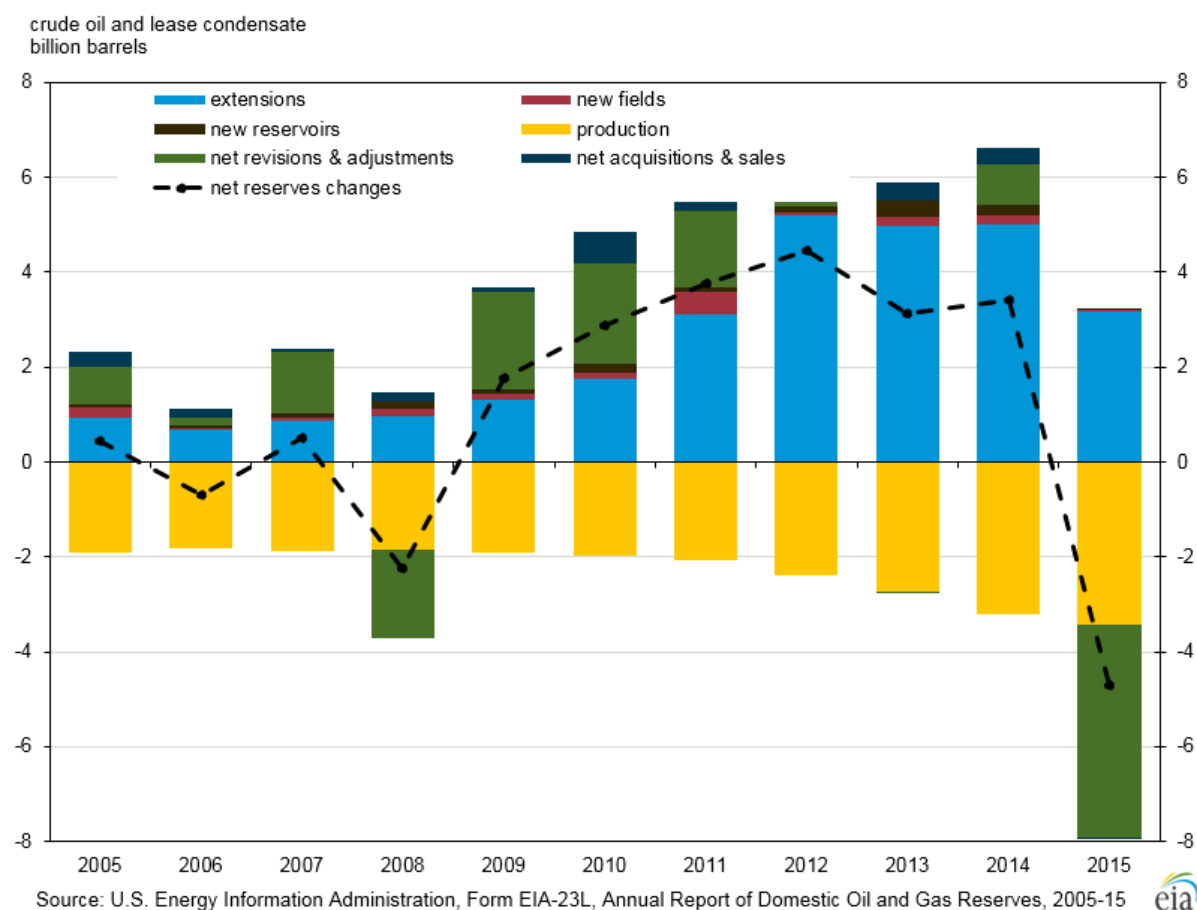
Figure 9a. U.S. crude oil and lease condensate proved reserves changes, 2014-15



Note: Component columns may not add to total because of independent rounding. Y-axis has a nonstandard scale.
Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

A sustained low price environment in 2015 caused the large volume of negative net revisions and also reduced the annual volume of extensions to existing fields (Figure 9b).

Figure 9b. Components of U.S. crude oil and lease condensate reserves changes, 2005-15



A producing area of the United States that actually added proved reserves in 2015 was the Permian Basin of west Texas and eastern New Mexico. Although the state total declined in Texas in 2015, one state subdivision—Texas Railroad Commission (RRC) District 8—added a net 681 million barrels of proved reserves of crude oil and lease condensate in 2015, mostly from extensions to existing Permian Basin fields. Across the border in eastern New Mexico, development of the Wolfcamp shale (and other stacked producing formations such as the Bone Spring carbonate, the Strawn sandstone, and the Avalon shale) added 31 million barrels of proved reserves.

As of December 31, 2015, *tight plays*⁴ accounted for 33% of all U.S. crude oil and lease condensate proved reserves. Most of these proved reserves (93%) came from six tight oil plays (Table 2). The Bakken/Three Forks play in the Williston Basin remained the largest oil-producing tight play in the United States in 2015. EIA has a [series of maps and animations](#) showing the nation's shale and other tight play (providing oil and natural gas) resources.

⁴ *Tight plays* (sometimes called *resource plays*) produce oil from petroleum-bearing formations with low permeability such as the Eagle Ford, the Bakken, and other formations that must be hydraulically fractured to produce oil at commercial rates. A kerogen-bearing, thermally mature shale is the source rock, and typically lends its name to the play.

Table 2. Crude oil production and proved reserves from selected U.S. tight plays, 2014-15

million barrels

Basin	Play	State(s)	2014	2014	2015	2015	Change
			Production	Reserves	Production	Reserves	2014-15 Reserves
Williston	Bakken/Three Forks	ND, MT, SD	387	5,972	421	5,030	-942
Western Gulf	Eagle Ford	TX	497	5,172	565	4,295	-877
Permian	Bone Spring, Wolfcamp	NM, TX	53	722	66	782	60
Denver	Niobrara*	CO, KS, NE, WY	42	512	58	460	-52
Appalachian	Marcellus*	PA, WV	13	232	16	143	-89
Fort Worth	Barnett	TX	9	47	5	33	-14
Sub-total			1,001	12,657	1,131	10,743	-1,914
Other tight			56	708	83	859	151
U.S. tight oil			1,057	13,365	1,214	11,602	-1,763

Notes: Includes lease condensate. Bakken/Three Forks oil includes proved reserves from shale or low-permeability formations reported on Form EIA-23L

Other tight includes proved reserves from shale formations reported on Form EIA-23L not assigned by EIA to the Bakken/Three Forks, Barnett, Bone Spring, Eagle Ford, Marcellus, Niobrara, or Wolfcamp tight plays.

* The Niobrara estimate may contain some reserves from the Codell sandstone. The Marcellus play in this table refers only to portions within Pennsylvania and West Virginia.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2014 and 2015

Total discoveries. Total discoveries added 3.2 billion barrels to U.S. crude oil and lease condensate reserves in 2015. Total discoveries consist of discoveries of new fields, identification of new reservoirs in fields discovered in prior years, and extensions (reserve additions that result from the additional drilling and exploration in previously discovered reservoirs).

Geographically, the largest total discoveries of crude oil and lease condensate proved reserves in 2015 were in Texas, North Dakota, and Oklahoma. Texas had total discoveries of 1.4 billion barrels, North Dakota had 0.6 billion barrels, and Oklahoma had 0.4 billion barrels in 2015. Total discoveries in the federal Gulf of Mexico were 108 million barrels, 20 million barrels of which came from new field discoveries. In 2015, all U.S. new field discoveries were in the federal Gulf of Mexico.

Net revisions and other changes. Revisions to reserves occur primarily when operators change their estimates of what they are able to economically produce from the properties they operate using existing technology and current economic conditions. Thus, current prices are critical in estimating economically producible reserves. Other changes occur when operators buy and sell properties (revaluing the proved reserves in the process), and as various adjustments are made to reconcile estimated volumes.

Net downward revisions decreased U.S. crude oil and lease condensate proved reserves by 5.6 billion barrels in 2015. Geographically, the largest net downward revisions of crude oil and lease condensate proved reserves were in Texas, North Dakota, and Alaska. Texas revised reserves downward by 1.7 billion barrels, North Dakota by 995 million barrels, and Alaska by 691 million barrels.

The net change to U.S. crude oil and lease condensate proved reserves associated with buying and selling properties was a drop of 30 million barrels in 2015. Adjustments (positive and negative reserves changes that EIA cannot attribute to any other category) increased U.S. proved oil reserves by 1.1 billion barrels.

Production. The United States produced an estimated 3.4 billion barrels⁵ of crude oil and lease condensate in 2015, an increase of 7% from 2014. This level represents the country's seventh consecutive annual production increase. Production from the Lower 48 states was 8% above the 2014 level. Alaska experienced a 4% production decline.

Natural gas proved reserves

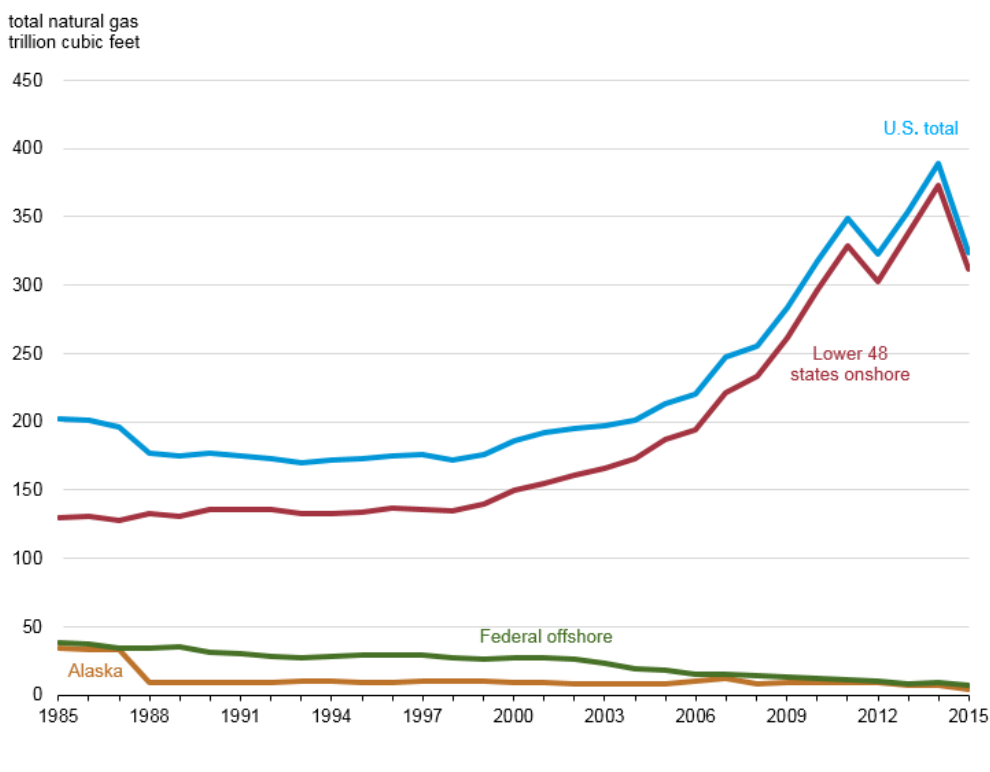
U.S. proved reserves of total natural gas (including natural gas plant liquids) decreased by 16.6% (64.5 Tcf) in 2015 (Figure 10). The average price of U.S. natural gas in 2015 dropped 42% compared to 2014, resulting in operators revising their 2015 natural gas proved reserves downward, just as they did with oil reserves (Figure 11a). At the state level, Texas and West Virginia reported the largest net decreases in natural gas proved reserves in 2015. Texas natural gas proved reserves declined by 20.6 Tcf, and West Virginia natural gas proved reserves declined by 9.3 Tcf. In contrast to these large decreases, Ohio added more than 5 Tcf of natural gas proved reserves in 2015, resulting from development of the Utica/Pt. Pleasant shale play in eastern Ohio. Ohio surpassed Arkansas and the federal Gulf of Mexico to become the state with the ninth-largest volume of natural gas proved reserves.

Total discoveries. The U.S. total of natural gas discoveries was 34.7 Tcf in 2015 (Table 3), of which 95% were extensions to existing natural gas fields (Figures 11a and 11b).

At the state level, total discoveries of natural gas reserves were highest in Pennsylvania and Texas, at 10.2 Tcf and 6.8 Tcf, respectively. However, both Pennsylvania and Texas reported overall net declines in their 2015 natural gas proved reserves, because discoveries were more than offset by negative net revisions. Ohio had the third-largest volume of total discoveries in 2015 (5.0 Tcf).

Total discoveries in Pennsylvania were from extensions in the Marcellus shale play, the largest natural gas shale play in the United States by reserves volume. Total discoveries in Texas were mostly from extensions to fields in the Permian Basin (TX RRC District 8), Eagle Ford shale play (TX RRC Districts 2 and 4), and the Barnett shale play (TX RRC District 5).

⁵ The oil production estimates in this report are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for crude oil and lease condensate for 2015 contained in the *Petroleum Supply Annual 2015*, DOE/EIA-0340(15).

Figure 10. U.S. total natural gas proved reserves, 1985-2015

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

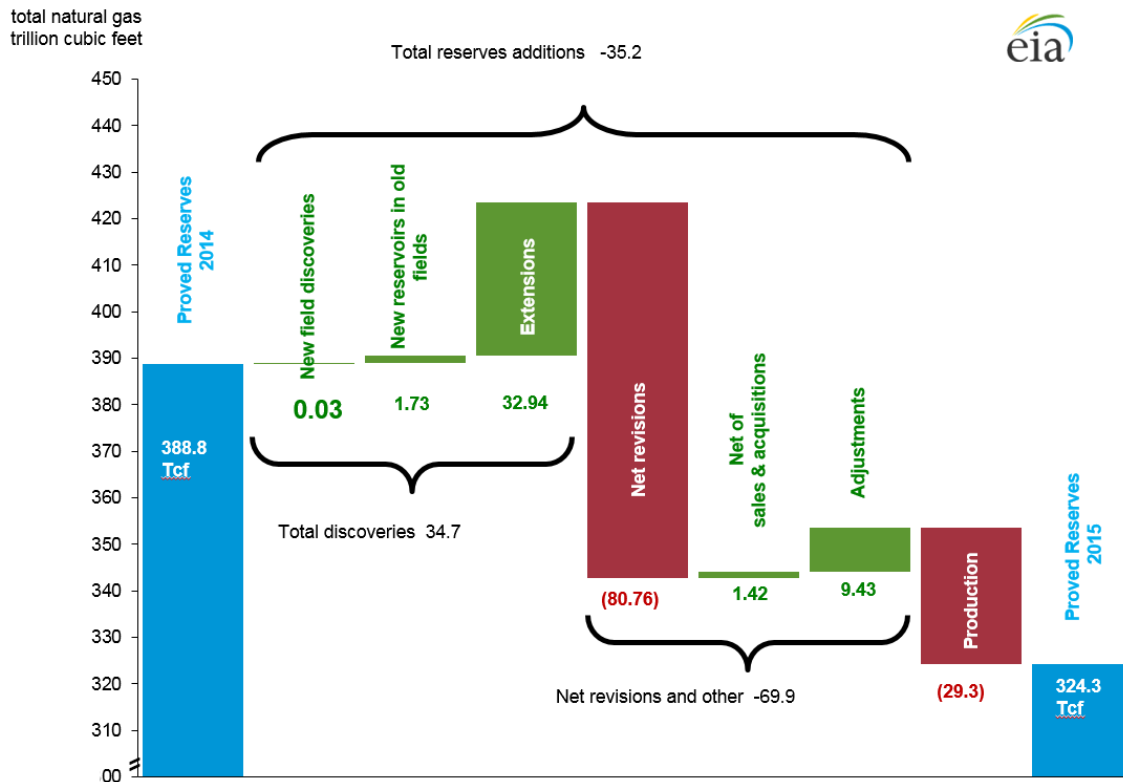
Table 3. Changes to proved reserves of U.S. natural gas by source, 2014-15

trillion cubic feet

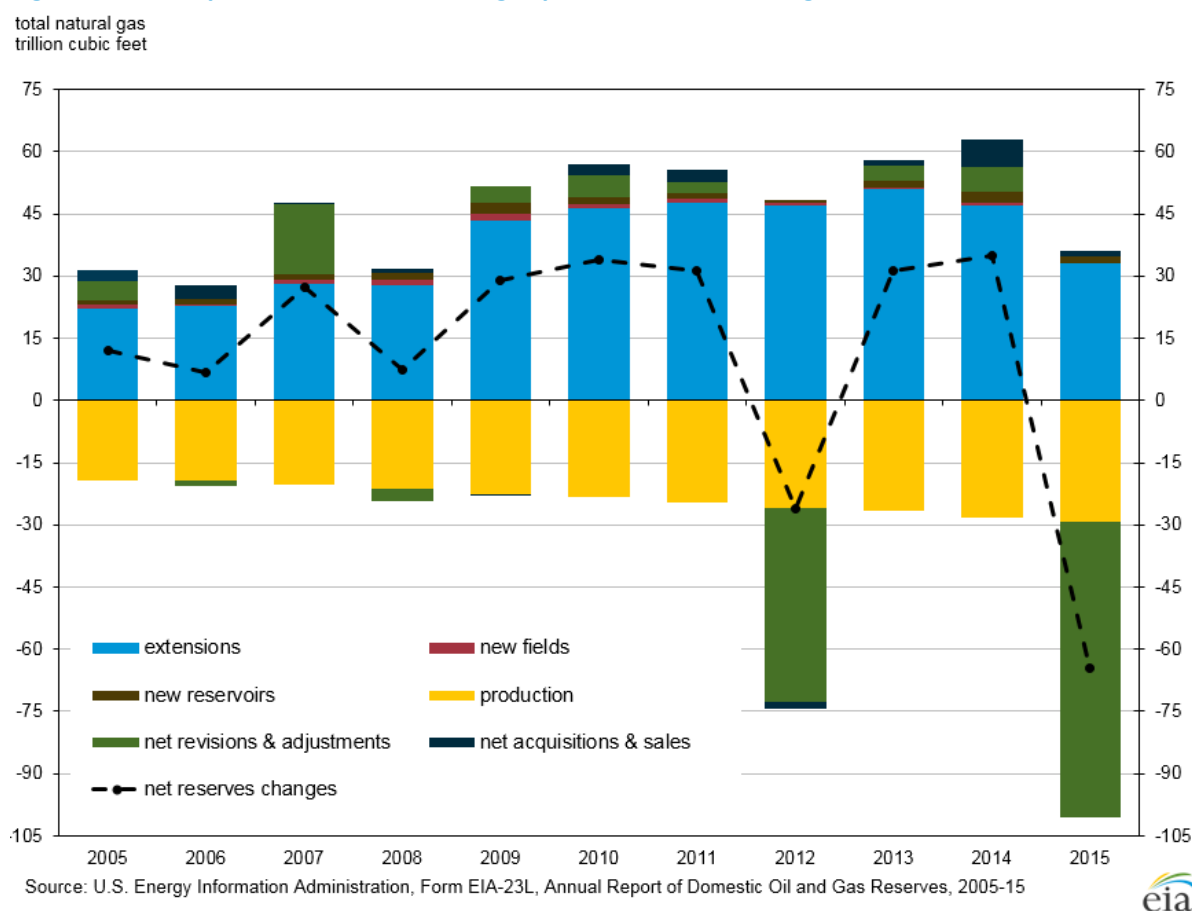
Source of natural gas	Year-end 2014		2015		Year-end 2015
	Proved Reserves	2015 Discoveries	Revisions and other changes	2015 Production	Proved Reserves
Coalbed methane	15.7	0.1	-2.0	-1.3	12.5
Shale	199.7	25.9	-34.8	-15.2	175.6
Other U.S. natural gas					
Lower 48 onshore	157.2	8.4	-30.8	-11.3	123.6
Lower 48 offshore	9.4	0.3	-0.4	-1.3	8.0
Alaska	6.8	0.0	-1.9	-0.3	4.6
U.S. TOTAL	388.8	34.7	-69.9	-29.3	324.3

Note: Lower 48 offshore includes state offshore and federal offshore. Components may not add to total because of independent rounding.
Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2014 and 2015

Figure 11a. U.S. total natural gas proved reserves changes, 2014-15



Note: Component columns may not add to total due to independent rounding. Y-axis has a nonstandard scale.
 Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Figure 11b. Components of U.S. natural gas proved reserves changes, 2005-15

Net revisions and other changes. Net revisions decreased U.S. total natural gas proved reserves by 80 Tcf in 2015. The following states had the largest changes (positive and negative) in 2015 because of net revisions:

- Texas had the largest negative net revision of natural gas proved reserves of all states in 2015, a decrease of 22 Tcf. Within Texas, RRC District 5 (Barnett shale play) had the largest negative net revisions of all Districts at 6.2 Tcf.
- West Virginia had the second-largest negative net revision of natural gas proved reserves at 13.5 Tcf.
- Pennsylvania had the third-largest negative net revision of natural gas proved reserves at 12.5 Tcf, but this was mostly offset by 10.2 Tcf of extensions in the Marcellus shale play.
- Ohio was one of the few states in 2015 that had a positive net revision to its natural gas proved reserves. Ohio's reserves were revised upward by 0.8 Tcf in addition to 5.0 Tcf of total discoveries in 2015.

The net change to natural gas proved reserves from the purchase and sale of properties resulted in an additional U.S. gain of 1.4 Tcf in 2015. The largest net acquisition of natural gas proved reserves in 2015 was in western New Mexico—where an operator that acquired properties in the San Juan Basin expects better results than the previous owner. Adjustments (annual reserves changes that EIA cannot attribute to any other category) to U.S. total natural gas proved reserves totaled 9.4 Tcf.

Production. This report's estimate of U.S. production of total natural gas in 2015 was 29.3 Tcf, an increase of 4% from 2014.⁶ EIA's official published estimate of [marketed natural gas production](#) was 28.8 Tcf in 2015, an increase of 4.5% from 2014. Both of these estimates are record-high levels for the United States, and this is the tenth consecutive year that U.S. natural gas production (the estimate published in this report) has increased.

On a geographic basis, Pennsylvania had the largest increase in natural gas production by volume, a gain of 0.6 Tcf (13%). Ohio had the second-largest increase, 0.5 Tcf, which almost doubled that state's production compared to 2014. The state with the largest estimated decline in natural gas production in 2015 was Louisiana (a drop of 0.15 Tcf, or 8%).

Nonassociated natural gas

Nonassociated natural gas, also called gas well gas, is defined as natural gas not in contact with significant quantities of crude oil in a reservoir. EIA considers most shale natural gas and all coalbed natural gas to be nonassociated natural gas proved reserves. Proved reserves of U.S. nonassociated natural gas decreased by 60.9 Tcf in 2015, a 19% decrease from 2014 (Table 11). Estimated production of U.S. nonassociated natural gas increased 1%—from 22.8 Tcf in 2014 to 23.1 Tcf in 2015. The largest increase in nonassociated natural gas production was in Pennsylvania (Marcellus Shale)—where annual nonassociated natural gas production increased from 4.2 Tcf in 2014 to 4.8 Tcf in 2015.

Associated-dissolved natural gas

Associated-dissolved natural gas, also called casinghead gas, is defined as the combined volume of natural gas that occurs in crude oil reservoirs either as free gas (associated) or as gas in solution with crude oil (dissolved). Proved reserves of associated-dissolved natural gas decreased from 69.1 Tcf in 2014 to 65.5 Tcf in 2015—a decrease of 5% (3.6 Tcf) (Table 12). Estimated production of associated-dissolved natural gas increased 17%—from 5.3 Tcf in 2014 to 6.2 Tcf in 2015. The largest increase in associated-dissolved natural gas production in 2015 was in Texas, specifically in Texas RRC Districts 1, 2, and 8, coinciding with the gains in oil production from the Eagle Ford Shale play and from the Permian Basin.

Coalbed natural gas

Coalbed natural gas, also called coalbed methane, is a type of natural gas contained in and removed from coal seams. Extraction requires drilling wells into the coal seams and removing water contained in the seams to reduce hydrostatic pressure and to release adsorbed (and free) natural gas from the coal. Proved reserves of U.S. coalbed natural gas decreased from 15.7 Tcf in 2014 to 12.5 Tcf in 2015, a 20% drop (Tables 15 and 16). Estimated production of coalbed natural gas decreased 10%—from 1.40 Tcf in 2014 to 1.27 Tcf in 2015. Among individual states, New Mexico experienced the largest decrease (0.9 Tcf) in proved reserves of coalbed methane, followed by Wyoming and Colorado (declining by 0.8 Tcf and 0.7 Tcf, respectively). No states reported an increase in coalbed methane proved reserves in 2015.

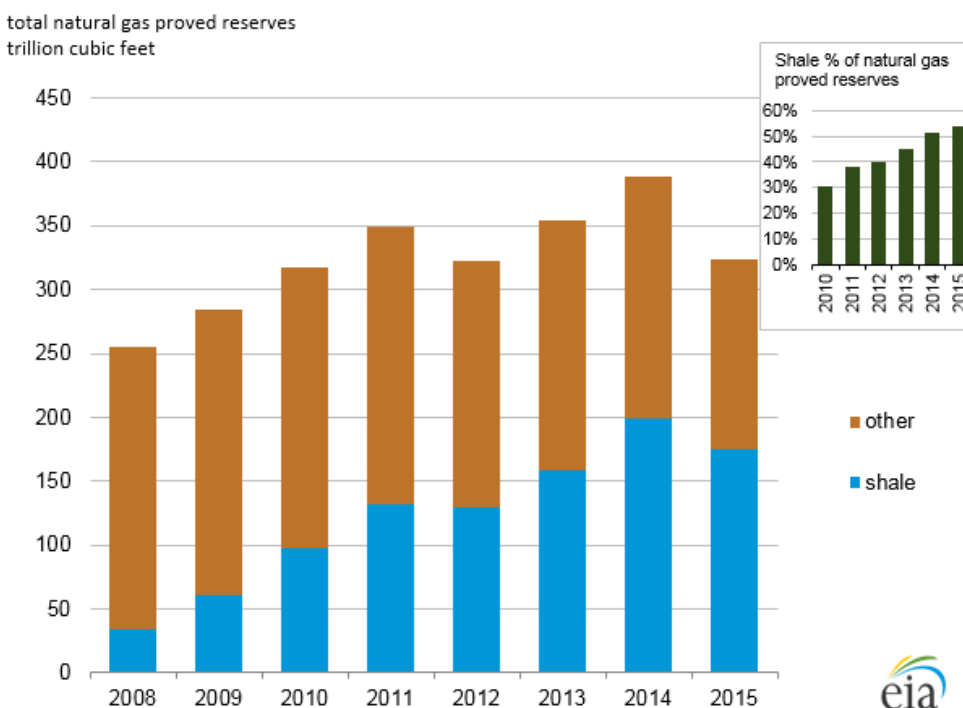
⁶ The natural gas production estimates in this report are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. Estimates differ from the official U.S. EIA production data for natural gas published in the *Natural Gas Annual 2015*, DOE/EIA-0131(15).

Natural gas from shale

Shale formations can be both the source rock and the production zone. Tight shale formations must typically be hydraulically fractured to produce natural gas at economic rates. Horizontally-drilled wells perform substantially better than conventional vertical wells (but are more expensive to drill and complete at the same depth). Proved reserves of U.S. natural gas from shale decreased from 199.7 Tcf in 2014 to 175.6 Tcf in 2015.

The share of natural gas from shale compared with total U.S. natural gas proved reserves increased from 51% in 2014 to 54% in 2015 (Figure 12). Estimated production of natural gas from shale increased 13%—from 13.4 Tcf in 2014 to 15.2 Tcf in 2015.

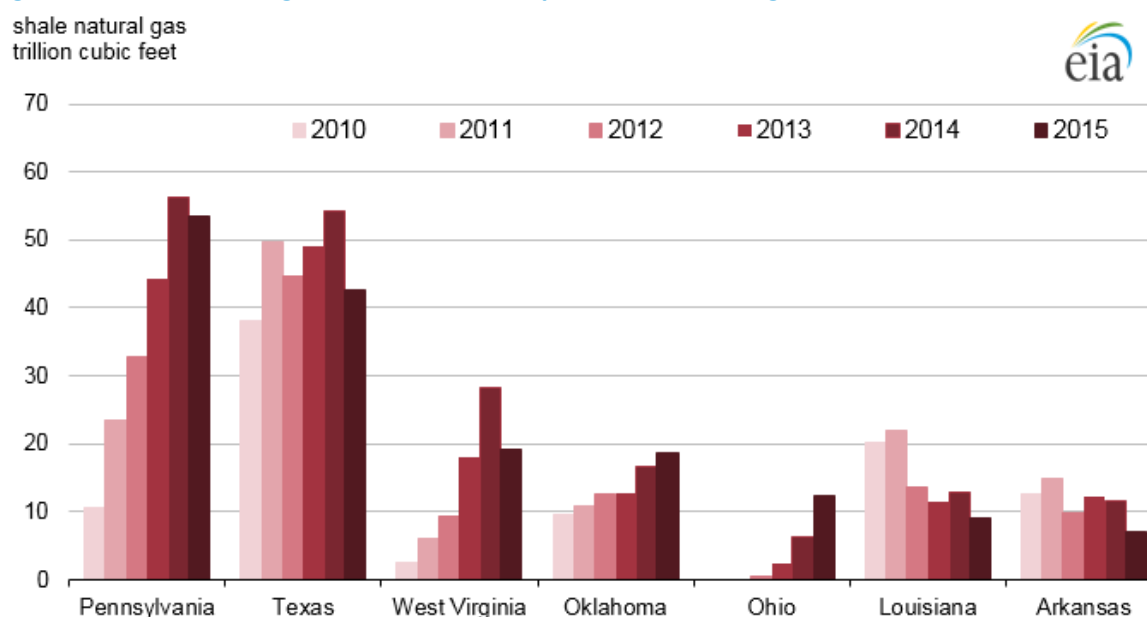
Figure 12. U.S. total natural gas proved reserves (shale and other sources), 2008-15



Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2008-15

Pennsylvania had the highest level of natural gas proved reserves from shale in 2015 (53.5 Tcf), and Texas had the second highest level (42.6 Tcf) (Figure 13). West Virginia (19.2 Tcf) remained the third largest.

Oklahoma (18.6 Tcf) was the fourth-largest shale gas proved reserves state. Ohio became the fifth-largest shale gas proved reserves state in 2015 (Utica/Pt. Pleasant Shale proved reserves rose to 12.4 Tcf), and Louisiana and Arkansas were the sixth- and seventh-largest, respectively.

Figure 13. Proved shale gas reserves of the top seven U.S. shale gas reserves states, 2010-15

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2010-15

Seven shale plays contained 91% of U.S. shale gas proved reserves at the end of 2015 (Table 4). The Marcellus Shale play remained the play with the largest amount of natural gas proved reserves from shale, even though its total declined the most (11.8 Tcf, a 14% decline in proved reserves) in 2015. The second-largest shale gas play was the Eagle Ford, where proved reserves declined 17% in 2015.

Table 4. U.S. shale plays: natural gas production and proved reserves, 2014-15

trillion cubic feet			2014		2015		Change 2015-2014	
Basin	Shale play	State(s)	Production	Reserves	Production	Reserves	Production	Reserves
Appalachian	Marcellus*	PA,WV	4.9	84.5	5.8	72.7	0.9	-11.8
Western Gulf	Eagle Ford	TX	1.9	23.7	2.2	19.6	0.3	-4.0
Arkoma, Anadarko, S.OK	Woodford	OK	0.8	16.6	1.0	18.6	0.1	2.0
Fort Worth	Barnett	TX	1.8	24.3	1.6	17.0	-0.2	-7.3
TX-LA Salt	Haynesville/Bossier	LA, TX	1.4	16.6	1.4	12.8	0.0	-3.8
Appalachian	Utica/Pt. Pleasant	OH	0.4	6.4	1.0	12.4	0.5	6.0
Arkoma	Fayetteville	AR	1.0	11.7	0.9	7.1	-0.1	-4.5
Sub-total			12.3	183.7	13.8	160.3	1.5	-23.4
Other shale			1.1	15.9	1.4	15.3	0.3	-0.7
All U.S. shale			13.4	199.7	15.2	175.6	1.8	-24.1

Note: Table values are based on natural gas proved reserves and production volumes from shale reported and imputed from data on Form EIA-23L. For certain reasons (e.g., incorrect or incomplete submissions, misidentification of shale versus nonshale reservoirs), the actual proved reserves and production of natural gas from shale plays may be higher or lower. * In this table, the Marcellus Shale play refers only to portions within Pennsylvania and West Virginia. *Other shale* includes fields reported as shale on Form EIA-23L not assigned by EIA to the Marcellus, Barnett, Haynesville/Bossier, Eagle Ford, Woodford, Utica/Pt. Pleasant, or Fayetteville shale plays. Columns may not add to subtotals due to independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2014 and 2015

The proved reserves of shale gas in the Barnett Shale play decreased by 7.3 Tcf in 2015; it remains the oldest and fourth-largest shale gas play in the United States. EIA has a [series of maps](#) showing the nation's shale gas resources for both shale plays and geologic basins.

Dry natural gas

Dry natural gas is the volume of natural gas (primarily methane) that remains after natural gas liquids and non-hydrocarbon impurities are removed from the natural gas stream, usually downstream at a natural gas processing plant. Not all produced gas has to be processed at a natural gas processing plant. Some produced gas is dry without processing.

In 2015, the estimated dry natural gas content of U.S. total natural gas proved reserves decreased from 368.7 Tcf in 2014 to 307.7 Tcf, a 16% drop (Table 17).

Lease condensate and natural gas plant liquids

Operators of natural gas fields report lease condensate reserves and production estimates to EIA on Form EIA-23L, *Annual Report of Domestic Oil and Gas Reserves*. EIA calculates the expected yield of natural gas plant liquids using estimates of total natural gas reserves and a recovery factor determined for each area of origin. Data from Form EIA-64A, *Annual Report of the Origin of Natural Gas Liquids Production*, are the basis of EIA's recovery factors.

Lease condensate

Lease condensate is a mixture consisting primarily of hydrocarbons heavier than pentanes that is recovered as a liquid from natural gas in lease separation facilities. This category excludes natural gas plant liquids, such as butane and propane, which are recovered at downstream natural gas processing plants or facilities. Lease condensate usually enters the crude oil stream.

U.S. lease condensate proved reserves had increased for six consecutive years, but the downward revision of proved natural gas reserves in 2015 resulted in an equivalent downward revision in lease condensate proved reserves. U.S. proved reserves of lease condensate declined from 3,548 million barrels in 2014 to 2,912 million barrels in 2015, a drop of 18%. U.S. lease condensate production decreased 1%, from 326 million barrels in 2014 to 323 million barrels in 2015.

Natural gas plant liquids

Natural gas plant liquids (unlike lease condensate) remain within the natural gas after passing through lease separation equipment. These liquids are normally separated from the natural gas at processing plants, fractionators, and cycling plants. Natural gas plant liquids extracted include ethane, propane, butane, isobutane, and natural gasoline. Components may be further fractionated or mixed. Lease condensate is not a natural gas plant liquid and is not a component of the natural gas plant liquids total.

As with dry natural gas, the potential U.S. supply of natural gas plant liquids is not categorized as proved reserves, because these liquids are extracted downstream of the producing wells at a natural gas processing plant. An estimated volume of these liquids that might be extracted from total natural gas reserves is shown in Table 17. The estimated volume of natural gas plant liquids contained in proved reserves of total natural gas decreased from 15.0 billion barrels in 2014 to 12.7 billion barrels in 2015 (a 15% decline).

Reserves in nonproducing reservoirs

Not all proved reserves are contained in actively producing reservoirs. Examples of proved reserves in nonproducing reservoirs include existing producing wells that are shut in awaiting well workovers; drilled wells that await completion by hydraulic fracturing; sites that require installation of production equipment or pipeline facilities; or behind-the-pipe reserves that require the depletion of other zones or reservoirs before they can be placed on production (by recompleting the well).

Table 18 shows the estimated volumes of nonproducing proved reserves of crude oil, lease condensate, nonassociated natural gas, associated-dissolved natural gas, and total natural gas for 2015.

Maps and additional data tables

Maps

Figure 14. Crude oil and lease condensate proved reserves by state/area, 2015

Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2014 to 2015

Figure 16. Natural gas proved reserves by state/area, 2015

Figure 17. Changes in natural gas proved reserves by state/area, 2014 to 2015

Oil tables

Table 5. U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2005-15

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2015

Table 7. Crude oil proved reserves, reserves changes, and production, 2015

Table 8. Lease condensate proved reserves, reserves changes, and production, 2015

Natural gas tables

Table 9. U.S. proved reserves of total natural gas, wet after lease separation, 2001-15

Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

Table 13. Shale natural gas proved reserves and production, 2012-15

Table 14. Shale natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

Table 15. Coalbed methane proved reserves and production, 2011-15

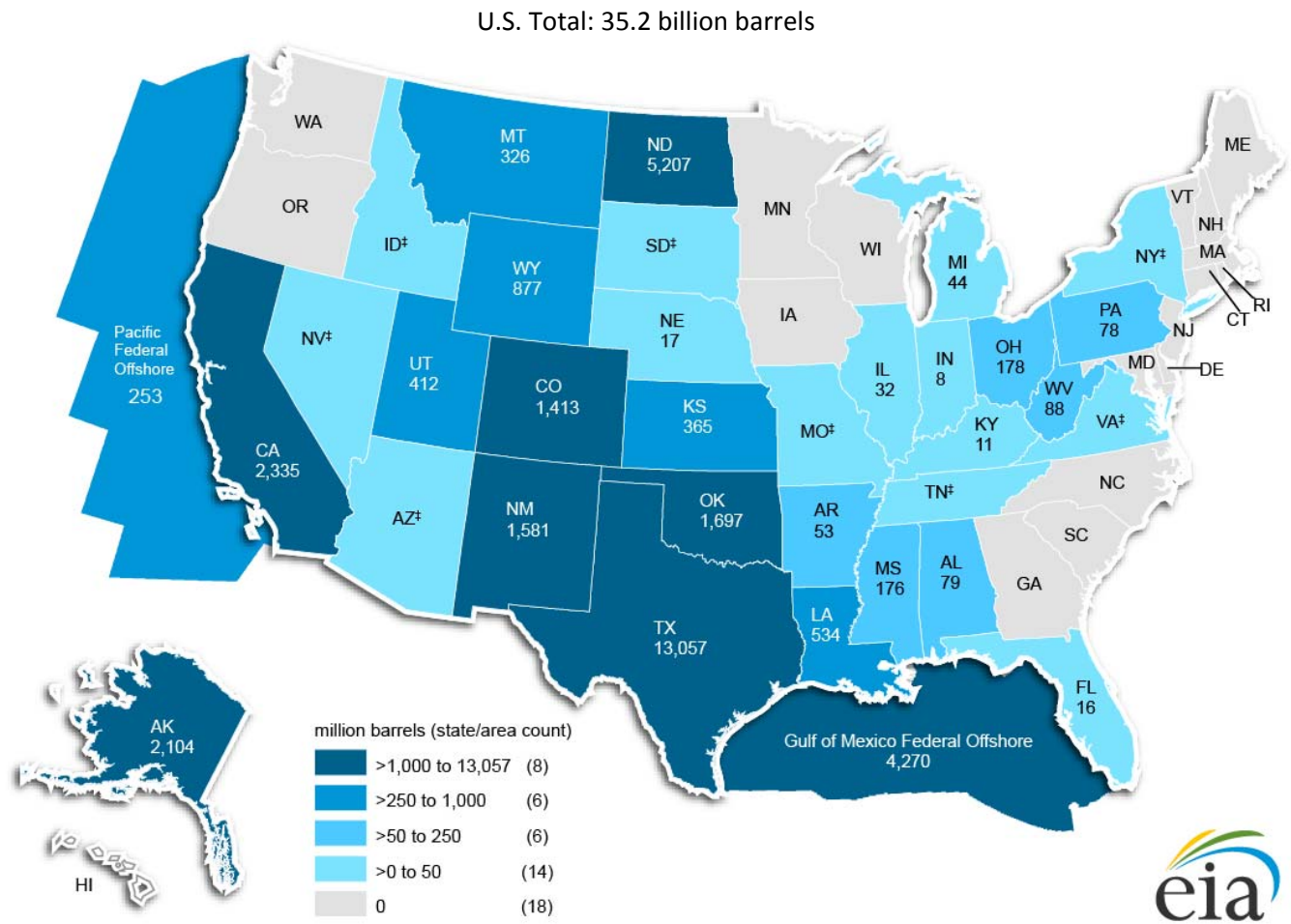
Table 16. Coalbed methane proved reserves, reserves changes, and production, 2015

Table 17. Estimated natural gas plant liquids and dry natural gas content of total natural gas proved reserves, 2015

Miscellaneous/other tables

Table 18. Reported proved nonproducing reserves of crude oil, lease condensate, nonassociated gas, associated-dissolved gas, and total gas (wet after lease separation), 2015

Figure 14. Crude oil and lease condensate proved reserves by state/area, 2015

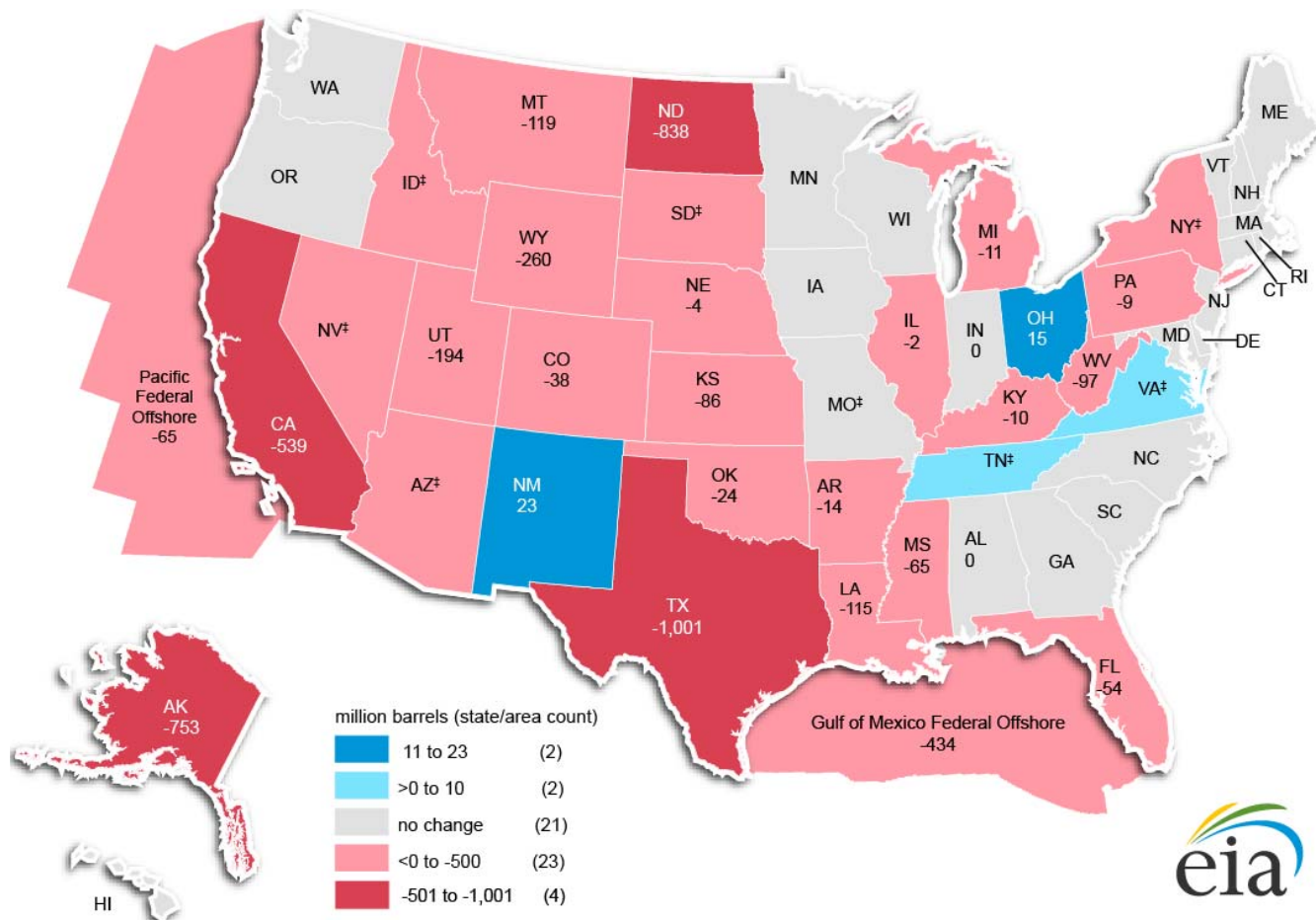


*Data withheld to avoid disclosure of individual company data.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2014 to 2015

Total U.S. decrease: 4.7 billion barrels

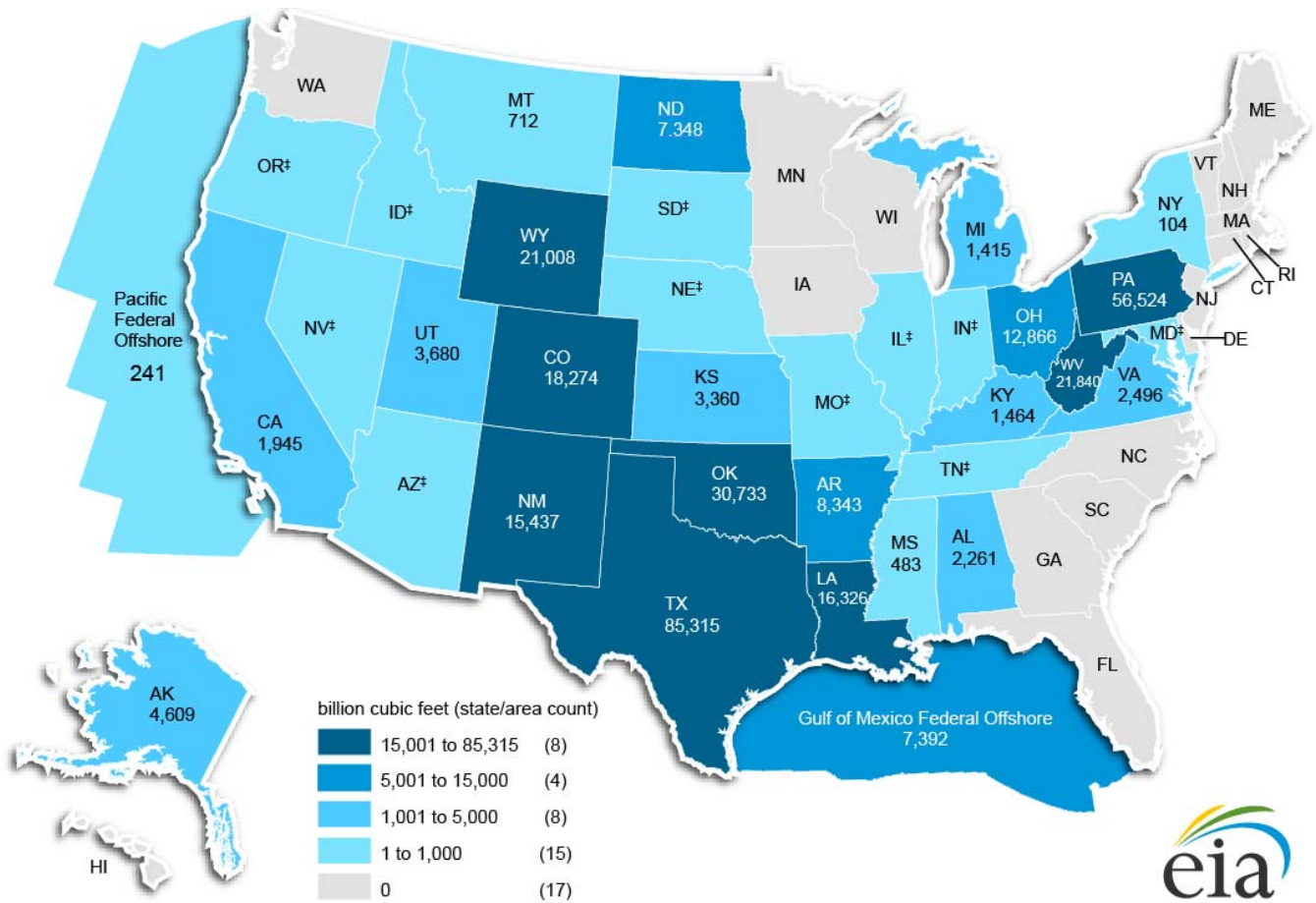


† Data withheld to avoid disclosure of individual company data.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Figure 16. Natural gas proved reserves by state/area, 2015

U.S. Total: 324.3 trillion cubic feet



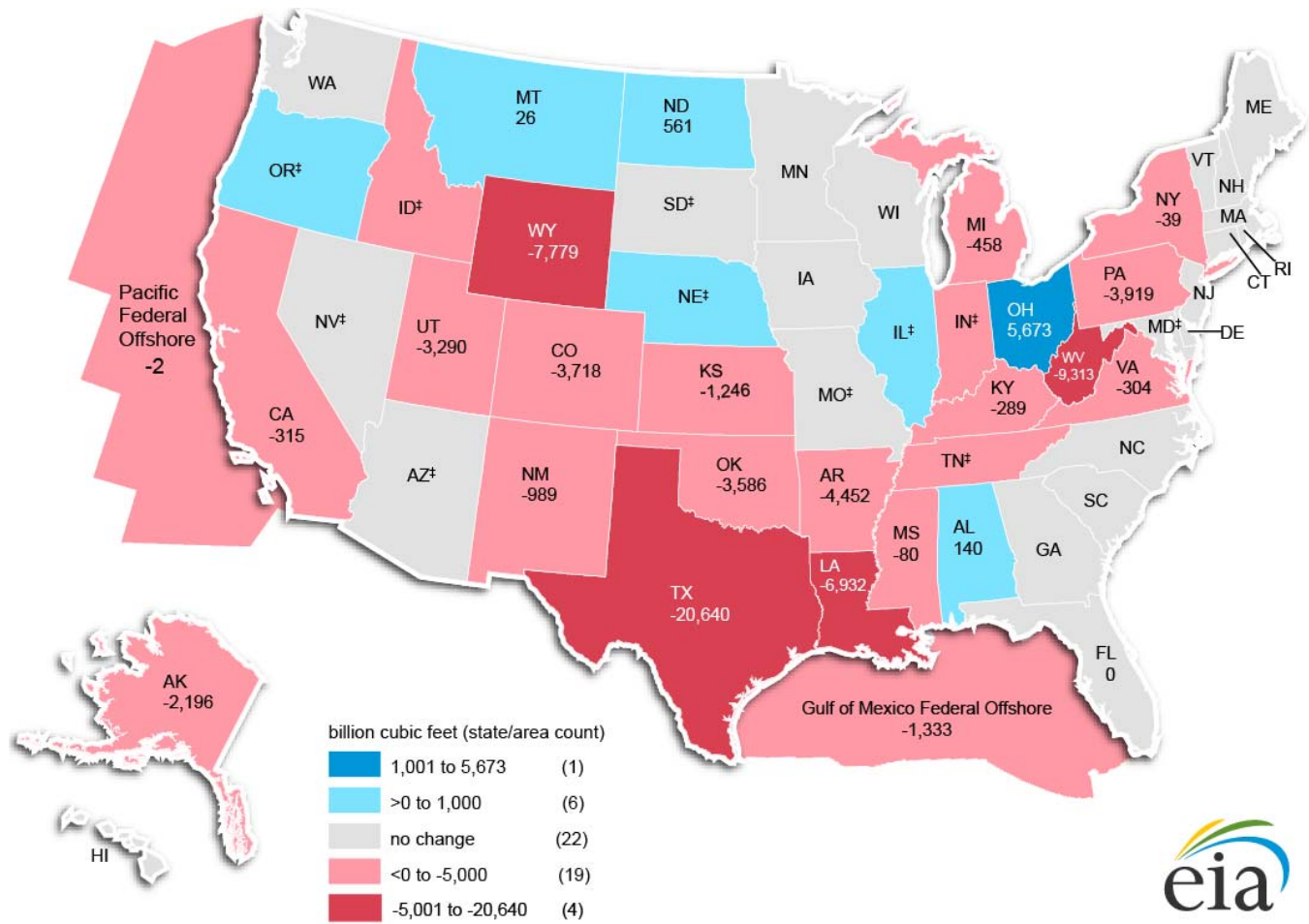
*Data withheld to avoid disclosure of individual company data.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves



Figure 17. Changes in natural gas proved reserves by state/area, 2014 to 2015

Total U.S. decrease: 64.5 trillion cubic feet



‡ Data withheld to avoid disclosure of individual company data.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 5. U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2005-15

million barrels

Year	Adjustments (1)	Net revisions (2)	Revisions ^a and adjustments (3)	Net of sales ^b and acquisitions (4)	Extensions (5)	New field discoveries (6)	New reservoir discoveries in old fields (7)	Total ^c discoveries (8)	Estimated production (9)	Proved ^d reserves 12/31 (10)	Change from prior year (11)
Crude oil and lease condensate (million barrels)											
2005	237	558	795	327	946	209	57	1,212	1,907	23,019	427
2006	109	43	152	189	685	38	62	785	1,834	22,311	-708
2007	21	1,275	1,296	44	865	81	87	1,033	1,872	22,812	501
2008	318	-2,189	-1,871	187	968	166	137	1,271	1,845	20,554	-2,258
2009	46	2,008	2,054	95	1,305	141	95	1,541	1,929	22,315	1,761
2010	188	1,943	2,131	667	1,766	124	169	2,059	1,991	25,181	2,866
2011	207	1,414	1,621	537	3,107	481	88	3,676	2,065	28,950	3,769
2012	137	912	1,049	415	5,191	55	129	5,375	2,386	33,403	4,453
2013	-595	545	-50	389	4,973	191	343	5,507	2,729	36,520	3,117
2014	440	416	856	353	5,021	164	219	5,404	3,200	39,933	3,413
2015	1,115	-5,608	-4,493	-30	3,186	20	41	3,247	3,427	35,230	-4,703
Crude oil (million barrels)											
2005	221	569	790	278	805	205	41	1,051	1,733	21,757	386
2006	94	2	96	194	504	30	43	577	1,652	20,972	-785
2007	65	1,200	1,265	-19	651	66	73	790	1,691	21,317	345
2008	278	-2,039	-1,761	166	805	142	124	1,071	1,672	19,121	-2,196
2009	-4	1,863	1,859	95	1,155	122	81	1,358	1,751	20,682	1,561
2010	144	1,859	2,003	605	1,495	88	161	1,744	1,767	23,267	2,585
2011	199	1,325	1,524	480	2,571	477	59	3,107	1,834	26,544	3,277
2012	109	935	1,044	416	4,462	53	122	4,637	2,112	30,529	3,985
2013	-620	518	-102	460	4,395	188	319	4,902	2,418	33,371	2,842
2014	516	321	837	263	4,430	151	207	4,788	2,874	36,385	3,014
2015	1,115	-4,900	-3,745	-87	2,811	20	38	2,869	3,104	32,318	-4,067
Lease condensate (million barrels)											
2005	16	-11	5	49	141	4	16	161	174	1,262	41
2006	15	41	56	-5	181	8	19	208	182	1,339	77
2007	-44	75	31	63	214	15	14	243	181	1,495	156
2008	40	-150	-110	21	163	24	13	200	173	1,433	-62
2009	50	145	195	0	150	19	14	183	178	1,633	200
2010	44	84	128	62	271	36	8	315	224	1,914	281
2011	8	89	97	57	536	4	29	569	231	2,406	492
2012	28	-23	5	-1	729	2	7	738	274	2,874	468
2013	25	27	52	-71	578	3	24	605	311	3,149	275
2014	-76	95	19	90	591	13	12	616	326	3,548	399
2015	-40	-708	-748	57	375	0	3	378	323	2,912	-636

^a Revisions and adjustments = Col. 1 + Col. 2.^b Net of sales and acquisitions = acquisitions - sales^c Total discoveries = Col. 5 + Col. 6 + Col. 7.^d Proved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 - Col. 9

Notes: Old means discovered in a prior year. New means discovered during the report year. One barrel = 42 U.S. gallons.

The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for crude oil and lease condensate for 2015 contained in the *Petroleum Supply Annual 2015*, DOE/EIA-0340(15).See EIA Petroleum and Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2005-15

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2015

million barrels

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015									Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New field discoveries (+)	New reservoir discoveries in old fields (+)			
Alaska	2,857	65	119	810	12	5	54	0	0	174	2,104	
Lower 48 States	37,076	1,050	4,618	9,535	1,007	984	3,132	20	41	3,253	33,126	
Alabama	79	10	12	12	9	9	0	0	0	10	79	
Arkansas	67	13	24	45	0	0	0	0	0	6	53	
California	2,874	20	217	619	4	5	43	0	0	201	2,335	
Coastal Region												
Onshore	587	-19	17	87	0	0	9	0	0	22	485	
Los Angeles Basin												
Onshore	233	-20	23	74	0	0	4	0	0	14	152	
San Joaquin Basin												
Onshore	1,838	59	137	357	4	5	18	0	0	152	1,544	
State Offshore	216	0	40	101	0	0	12	0	0	13	154	
Colorado	1,451	86	95	262	12	58	125	0	0	128	1,413	
Florida	70	0	0	52	0	0	0	0	0	2	16	
Illinois	34	10	1	10	0	0	0	0	0	3	32	
Indiana	8	2	0	1	0	0	0	0	0	1	8	
Kansas	451	26	89	169	2	0	14	0	0	44	365	
Kentucky	21	-4	1	6	0	0	0	0	0	1	11	
Louisiana	649	-13	76	132	21	20	16	0	1	62	534	
North	166	-15	21	25	4	3	1	0	0	12	135	
South Onshore	405	0	43	94	9	15	15	0	1	41	335	
State Offshore	78	2	12	13	8	2	0	0	0	9	64	
Michigan	55	-8	7	5	1	0	0	0	0	4	44	
Mississippi	241	11	20	72	2	1	2	0	0	25	176	
Montana	445	8	13	114	2	0	4	0	0	28	326	
Nebraska	21	-2	4	3	0	0	0	0	0	3	17	
New Mexico	1,558	33	199	378	46	62	306	0	0	153	1,581	
East	1,466	41	172	342	46	62	287	0	0	143	1,497	
West	92	-8	27	36	0	0	19	0	0	10	84	
North Dakota	6,045	218	386	1,381	306	62	606	0	6	429	5,207	
Ohio	163	32	70	101	48	48	39	0	1	26	178	
Oklahoma	1,721	81	198	579	34	50	408	0	0	148	1,697	
Pennsylvania	87	6	11	26	0	0	6	0	0	6	78	
Texas	14,058	341	2,355	4,070	259	525	1,363	0	14	1,270	13,057	
RRC District 1	2,887	26	186	544	76	61	234	0	0	270	2,504	
RRC District 2												
Onshore	2,110	18	272	703	2	1	254	0	0	282	1,668	
RRC District 3												
Onshore	613	19	65	171	9	13	23	0	0	59	494	
RRC District 4												
Onshore	257	-6	13	71	46	47	18	0	0	28	184	
RRC District 5	62	2	20	34	0	1	4	0	0	5	50	
RRC District 6	299	1	15	98	3	4	2	0	0	20	200	
RRC District 7B	148	13	8	27	14	1	3	0	0	11	121	
RRC District 7C	1,298	-4	138	473	2	5	233	0	0	92	1,103	
RRC District 8	4,142	212	1,210	1,235	99	356	569	0	14	346	4,823	
RRC District 8A	1,668	52	365	524	5	31	2	0	0	107	1,482	
RRC District 9	209	18	7	70	2	3	6	0	0	17	154	
RRC District 10	363	-11	56	119	1	2	15	0	0	33	272	
State Offshore	2	1	0	1	0	0	0	0	0	0	2	

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2015 (cont.)

million barrels

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Utah	606	21	17	233	11	0	48	0	0	36	412	
West Virginia	185	34	10	142	4	4	12	0	0	11	88	
Wyoming	1,137	135	84	353	191	80	71	0	0	86	877	
Federal Offshore^a	5,022	-20	725	749	55	60	69	20	19	568	4,523	
Pacific (California)	318	32	9	95	0	0	0	0	0	11	253	
Gulf of Mexico (Louisiana) ^a	4,352	-47	627	604	55	56	62	20	18	482	3,947	
Gulf of Mexico (Texas)	352	-5	89	50	0	4	7	0	1	75	323	
Miscellaneous ^b	28	10	4	21	0	0	0	0	0	2	19	
U.S. Total	39,933	1,115	4,737	10,345	1,019	989	3,186	20	41	3,427	35,230	

^a Includes federal offshore Alabama.^b Includes Arizona, Idaho, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for crude oil and lease condensate for 2015 contained in the *Petroleum Supply Annual 2015*, DOE/EIA-0340(15). One barrel = 42 U.S. gallons.

See EIA Petroleum and Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 7. Crude oil proved reserves, reserves changes, and production, 2015

million barrels

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Alaska	2,855	2	119	810	12	0	54	0	0	174	2,034	
Lower 48 States	33,530	1,153	4,073	8,282	873	798	2,757	20	38	2,930	30,284	
Alabama	66	6	12	11	0	0	0	0	0	9	64	
Arkansas	65	15	9	32	0	0	0	0	0	6	51	
California	2,854	35	217	616	4	5	43	0	0	201	2,333	
Coastal Region Onshore	584	-16	17	87	0	0	9	0	0	22	485	
Los Angeles Basin Onshore	232	-19	23	74	0	0	4	0	0	14	152	
San Joaquin Basin Onshore	1,824	70	137	355	4	5	18	0	0	152	1,543	
State Offshore	214	0	40	100	0	0	12	0	0	13	153	
Colorado	1,200	104	69	211	12	54	121	0	0	113	1,212	
Florida	70	0	0	52	0	0	0	0	0	2	16	
Illinois	34	10	0	10	0	0	0	0	0	3	31	
Indiana	8	2	0	1	0	0	0	0	0	1	8	
Kansas	414	25	79	148	2	0	11	0	0	42	337	
Kentucky	16	-3	1	3	0	0	0	0	0	1	10	
Louisiana	534	-9	53	109	16	12	9	0	0	50	424	
North	118	-13	11	18	1	0	0	0	0	8	89	
South Onshore	349	0	31	82	7	10	9	0	0	34	276	
State Offshore	67	4	11	9	8	2	0	0	0	8	59	
Michigan	53	-6	6	5	1	0	0	0	0	4	43	
Mississippi	230	14	8	72	1	0	2	0	0	23	158	
Montana	444	9	13	114	2	0	4	0	0	28	326	
Nebraska	15	4	4	3	0	0	0	0	0	3	17	
New Mexico	1,476	36	163	353	44	57	294	0	0	143	1,486	
East	1,412	41	148	326	44	57	281	0	0	136	1,433	
West	64	-5	15	27	0	0	13	0	0	7	53	
North Dakota	6,043	218	374	1,381	306	62	605	0	6	428	5,193	
Ohio	78	15	34	60	24	24	0	0	0	5	62	
Oklahoma	1,241	66	133	429	32	43	353	0	0	113	1,262	
Pennsylvania	22	5	2	16	0	0	1	0	0	1	13	
Texas	12,272	462	2,126	3,406	175	419	1,151	0	14	1,104	11,759	
RRC District 1	2,495	164	164	472	50	44	216	0	0	237	2,324	
RRC District 2 Onshore	1,404	11	174	338	1	0	110	0	0	215	1,145	
RRC District 3 Onshore	546	19	54	159	8	13	20	0	0	49	436	
RRC District 4 Onshore	34	3	5	6	0	0	0	0	0	6	30	
RRC District 5	57	2	20	32	0	0	4	0	0	5	46	
RRC District 6	179	-11	10	45	0	2	1	0	0	13	123	
RRC District 7B	144	12	7	25	13	0	3	0	0	10	118	
RRC District 7C	1,276	-9	138	459	2	5	233	0	0	91	1,091	
RRC District 8	4,083	206	1,167	1,218	94	321	547	0	14	334	4,692	
RRC District 8A	1,663	51	365	524	5	31	2	0	0	107	1,476	
RRC District 9	194	15	6	67	1	2	6	0	0	15	140	
RRC District 10	196	-2	16	60	1	1	9	0	0	22	137	
State Offshore	1	1	0	1	0	0	0	0	0	0	1	

Table 7. Crude oil proved reserves, reserves changes, and production, 2015 (cont.)

million barrels

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New field discoveries (+)			
Utah	555	14	15	197	11	0	47	0	0	34	389
West Virginia	11	-2	4	0	1	1	0	0	0	1	12
Wyoming	953	139	61	310	187	80	61	0	0	72	725
Federal Offshore^a	4,849	-16	687	723	55	41	55	20	18	541	4,335
Pacific (California)	318	32	9	95	0	0	0	0	0	11	253
Gulf of Mexico (Louisiana) ^a	4,244	-44	602	582	55	37	55	20	18	470	3,825
Gulf of Mexico (Texas)	287	-4	76	46	0	4	0	0	0	60	257
Miscellaneous ^b	27	10	3	20	0	0	0	0	0	2	18
U.S. Total	36,385	1,155	4,192	9,092	885	798	2,811	20	38	3,104	32,318

^a Includes federal offshore Alabama.^b Includes Arizona, Idaho, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for crude oil for 2015 contained in the *Petroleum Supply Annual 2015*, DOE/EIA-0340(15). One barrel = 42 U.S. gallons.

See EIA Petroleum and Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 8. Lease condensate proved reserves, reserves changes, and production, 2015

million barrels

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Alaska	2	63	0	0	0	5	0	0	0	0	70	
Lower 48 States	3,546	-103	545	1,253	134	186	375	0	3	323	2,842	
Alabama	13	4	0	1	9	9	0	0	0	1	15	
Arkansas	2	-2	15	13	0	0	0	0	0	0	2	
California	20	-15	0	3	0	0	0	0	0	0	2	
Coastal Region Onshore	3	-3	0	0	0	0	0	0	0	0	0	
Los Angeles Basin												
Onshore	1	-1	0	0	0	0	0	0	0	0	0	
San Joaquin Basin												
Onshore	14	-11	0	2	0	0	0	0	0	0	1	
State Offshore	2	0	0	1	0	0	0	0	0	0	1	
Colorado	251	-18	26	51	0	4	4	0	0	15	201	
Florida	0	0	0	0	0	0	0	0	0	0	0	
Kansas	37	1	10	21	0	0	3	0	0	2	28	
Kentucky	5	-1	0	3	0	0	0	0	0	0	1	
Louisiana	115	-4	23	23	5	8	7	0	1	12	110	
North	48	-2	10	7	3	3	1	0	0	4	46	
South Onshore	56	0	12	12	2	5	6	0	1	7	59	
State Offshore	11	-2	1	4	0	0	0	0	0	1	5	
Michigan	2	-2	1	0	0	0	0	0	0	0	1	
Mississippi	11	-3	12	0	1	1	0	0	0	2	18	
Montana	1	-1	0	0	0	0	0	0	0	0	0	
Nebraska	6	-6	0	0	0	0	0	0	0	0	0	
New Mexico	82	-3	36	25	2	5	12	0	0	10	95	
East	54	0	24	16	2	5	6	0	0	7	64	
West	28	-3	12	9	0	0	6	0	0	3	31	
North Dakota	2	0	12	0	0	0	1	0	0	1	14	
Oklahoma	480	15	65	150	2	7	55	0	0	35	435	
Texas	1,786	-121	229	664	84	106	212	0	0	166	1,298	
RRC District 1	392	-138	22	72	26	17	18	0	0	33	180	
RRC District 2 Onshore	706	7	98	365	1	1	144	0	0	67	523	
RRC District 3 Onshore	67	0	11	12	1	0	3	0	0	10	58	
RRC District 4 Onshore	223	-9	8	65	46	47	18	0	0	22	154	
RRC District 5	5	0	0	2	0	1	0	0	0	0	4	
RRC District 6	120	12	5	53	3	2	1	0	0	7	77	
RRC District 7B	4	1	1	2	1	1	0	0	0	1	3	
RRC District 7C	22	5	0	14	0	0	0	0	0	1	12	
RRC District 8	59	6	43	17	5	35	22	0	0	12	131	
RRC District 8A	5	1	0	0	0	0	0	0	0	0	6	
RRC District 9	15	3	1	3	1	1	0	0	0	2	14	
RRC District 10	167	-9	40	59	0	1	6	0	0	11	135	
State Offshore	1	0	0	0	0	0	0	0	0	0	1	

Table 8. Lease condensate proved reserves, reserves changes, and production, 2015 (cont.)

million barrels

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Utah	51	7	2	36	0	0	1	0	0	2	23	
West Virginia	174	36	6	142	3	3	12	0	0	10	76	
Wyoming	184	-4	23	43	4	0	10	0	0	14	152	
Federal Offshore^a	173	-4	38	26	0	19	14	0	1	27	188	
Pacific (California)	0	0	0	0	0	0	0	0	0	0	0	
Gulf of Mexico (Louisiana) ^a	108	-3	25	22	0	19	7	0	0	12	122	
Gulf of Mexico (Texas)	65	-1	13	4	0	0	7	0	1	15	66	
Miscellaneous ^b	151	18	47	52	24	24	44	0	1	26	183	
U.S. Total	3,548	-40	545	1,253	134	191	375	0	3	323	2,912	

^a Includes federal offshore Alabama^b Includes Arizona, Idaho, Illinois, New York, Ohio, Pennsylvania, South Dakota, Tennessee, and Virginia.

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for lease condensate for 2015 contained in the *Petroleum Supply Annual 2015*, DOE/EIA-0340(15). One barrel = 42 U.S. gallons.

See EIA Petroleum and Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 9. U.S. proved reserves of total natural gas, wet after lease separation, 2001-15

billion cubic feet

Year	Adjustments (1)	Net revisions (2)	Revisions ^a and adjustments (3)	Net of sales ^b and acquisitions (4)	Extensions (5)	New field discoveries (6)	New reservoir discoveries in old fields (7)	Total ^c discoveries (8)	Estimated production (9)	Proved ^d reserves 12/31 (10)	Change from prior year (11)
Total natural gas (billion cubic feet)											
2001	1,849	-2,438	-589	2,715	17,183	3,668	2,898	23,749	20,642	191,743	5,233
2002	4,006	1,038	5,044	428	15,468	1,374	1,752	18,594	20,248	195,561	3,818
2003	2,323	-1,715	608	1,107	17,195	1,252	1,653	20,100	20,231	197,145	1,584
2004	170	825	995	1,975	19,068	790	1,244	21,102	20,017	201,200	4,055
2005	1,693	2,715	4,408	2,674	22,069	973	1,243	24,285	19,259	213,308	12,108
2006	946	-2,099	-1,153	3,178	22,834	425	1,197	24,456	19,373	220,416	7,108
2007	990	15,936	16,926	452	28,255	814	1,244	30,313	20,318	247,789	27,373
2008	271	-3,254	-2,983	937	27,800	1,229	1,678	30,707	21,415	255,035	7,246
2009	5,923	-1,899	4,024	-222	43,500	1,423	2,656	47,579	22,537	283,879	28,844
2010	1,292	4,055	5,347	2,766	46,283	895	1,701	48,879	23,224	317,647	33,768
2011	2,715	-112	2,603	3,298	47,635	987	1,260	49,882	24,621	348,809	31,162
2012	-810	-45,614	-46,424	-1,859	47,053	780	408	48,241	26,097	322,670	-26,139
2013	693	2,794	3,487	1,287	51,074	263	1,680	53,017	26,467	353,994	31,324
2014	4,905	984	5,889	6,565	47,071	671	2,745	50,487	28,094	388,841	34,847
2015	9,430	-80,762	-71,332	1,417	32,940	31	1,735	34,706	29,329	324,303	-64,538

^a Revisions and adjustments = Col. 1 + Col. 2.^b Net of sales and acquisitions = acquisitions - sales^c Total discoveries = Col. 5 + Col. 6 + Col. 7.^d Proved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 - Col. 9.

Notes: Old field means discovered in a prior year. New field means discovered during the report year. The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for wet and dry natural gas for 2015 contained in the *Natural Gas Annual 2015*, DOE/EIA-0131(15). Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2001-15

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Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

billion cubic feet

State and subdivision	Changes in reserves during 2015									Estimated production (-)	Proved reserves 12/31/15
	Published proved reserves 12/31/14	Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extension (+)	New field discoveries (+)	New reservoir discoveries in old fields (+)		
Alaska	6,805	231	76	2,234	0	1	27	0	0	297	4,609
Lower 48 States	382,036	9,199	38,919	117,523	14,682	16,098	32,913	31	1,735	29,032	319,694
Alabama	2,121	304	207	203	181	181	0	0	0	168	2,261
Arkansas	12,795	287	232	4,281	188	269	242	0	2	1,015	8,343
California	2,260	341	87	632	1	13	89	0	0	212	1,945
Coastal Region											
Onshore	277	-14	10	34	0	0	11	0	0	13	237
Los Angeles Basin											
Onshore	84	6	10	28	0	0	1	0	0	7	66
San Joaquin Basin											
Onshore	1,823	350	58	544	1	13	73	0	0	187	1,585
State Offshore	76	-1	9	26	0	0	4	0	0	5	57
Colorado	21,992	-129	1,855	4,856	211	378	932	0	0	1,687	18,274
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	4,606	413	243	1,677	6	0	65	0	0	284	3,360
Kentucky	1,753	-50	16	208	0	40	0	0	0	87	1,464
Louisiana	23,258	-1,678	3,137	6,664	1,664	482	1,257	0	35	1,837	16,326
North	19,837	-1,156	2,643	6,081	1,604	420	1,083	0	0	1,447	13,695
South Onshore	3,080	-502	472	525	47	56	173	0	35	348	2,394
State Offshore	341	-20	22	58	13	6	1	0	0	42	237
Michigan	1,873	-281	152	225	15	0	0	0	0	89	1,415
Mississippi	563	49	48	130	95	104	3	0	0	59	483
Montana	686	141	34	90	132	131	3	0	0	61	712
New Mexico	16,426	-57	1,506	3,881	985	2,569	1,148	0	1	1,290	15,437
East	6,434	186	737	1,769	267	302	1,039	0	1	586	6,077
West	9,992	-243	769	2,112	718	2,267	109	0	0	704	9,360
New York	143	27	9	57	0	0	0	0	0	18	104
North Dakota	6,787	450	1,339	1,378	180	50	851	0	6	577	7,348
Ohio	7,193	889	2,513	1,655	1,495	1,409	3,435	0	1,582	1,005	12,866
Oklahoma	34,319	180	3,651	9,053	1,225	1,932	3,162	0	2	2,235	30,733
Pennsylvania	60,443	3,229	11,021	23,494	321	271	10,168	0	14	4,807	56,524
Texas	105,955	2,094	9,407	31,660	4,614	6,001	6,806	0	31	8,705	85,315
RRC District 1	12,431	172	1,231	2,336	456	373	446	0	0	954	10,907
RRC District 2											
Onshore	7,524	-58	862	3,053	61	91	838	0	0	894	5,249
RRC District 3											
Onshore	2,483	67	354	480	27	25	128	0	12	351	2,211
RRC District 4											
Onshore	12,482	270	780	4,922	1,349	1,589	1,141	0	0	1,054	8,937
RRC District 5	18,155	842	96	6,282	1,090	1,166	987	0	0	1,237	12,637
RRC District 6	12,023	566	1,009	3,732	569	980	573	0	0	1,004	9,846
RRC District 7B	2,695	22	56	872	412	406	29	0	0	189	1,735
RRC District 7C	7,103	-515	842	2,181	7	14	794	0	0	516	5,534
RRC District 8	11,575	478	2,656	3,171	383	905	1,703	0	19	1,108	12,674
RRC District 8A	1,328	13	436	513	5	13	0	0	0	107	1,165
RRC District 9	9,760	59	328	1,356	249	421	21	0	0	655	8,329
RRC District 10	8,354	174	749	2,756	3	15	146	0	0	628	6,051
State Offshore	42	4	8	6	3	3	0	0	0	8	40

Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015 (cont.)

billion cubic feet

State and subdivision	Changes in reserves during 2015										Proved reserves 12/31/15
	Published proved reserves 12/31/14	Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisition (+)	Extension (+)	New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	
Utah	6,970	149	101	3,242	44	0	166	0	0	420	3,680
Virginia	2,800	-24	1	183	1,036	1,036	32	0	0	130	2,496
West Virginia	31,153	1,726	891	14,362	849	740	3,854	0	2	1,315	21,840
Wyoming	28,787	1,580	910	7,842	1,185	26	514	0	0	1,782	21,008
Federal Offshore^a	8,968	-439	1,532	1,673	255	466	183	31	60	1,240	7,633
Pacific (California)	243	5	99	93	0	0	0	0	0	13	241
Gulf of Mexico (Louisiana) ^a	7,280	-410	1,113	1,154	246	383	146	31	30	967	6,206
Gulf of Mexico (Texas)	1,445	-34	320	426	9	83	37	0	30	260	1,186
Miscellaneous ^b	185	-2	27	77	0	0	3	0	0	9	127
U.S. Total	388,841	9,430	38,995	119,757	14,682	16,099	32,940	31	1,735	29,329	324,303

^a Includes federal offshore Alabama.^b Includes Arizona, Idaho, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for natural gas for 2015 contained in the *Natural Gas Annual 2015*, DOE/EIA-0131(15).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

billion cubic feet

State and subdivision	Changes in reserves during 2015										Proved reserves 12/31/15
	Published proved reserves 12/31/14	Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	
Alaska	954	229	56	499	0	1	27	0	0	94	674
Lower 48 States	318,770	7,207	28,974	100,773	13,405	12,932	25,780	8	1,682	23,042	258,133
Alabama	1,980	268	174	131	181	181	0	0	0	148	2,143
Arkansas	12,606	284	232	4,188	188	269	241	0	2	1,007	8,251
California	273	-42	30	76	1	0	28	0	0	28	184
Coastal Region Onshore	8	-8	0	0	0	0	0	0	0	0	0
Los Angeles Basin Onshore	0	0	1	0	0	0	0	0	0	0	1
San Joaquin Basin Onshore	265	-34	28	76	1	0	28	0	0	28	182
State Offshore	0	0	1	0	0	0	0	0	0	0	1
Colorado	16,510	-822	1,277	4,230	119	126	278	0	0	1,258	11,762
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	3,949	416	86	1,300	3	0	14	0	0	248	2,914
Kentucky	1,704	-51	16	193	0	40	0	0	0	86	1,430
Louisiana	22,350	-1,449	3,052	6,413	1,639	461	1,246	0	34	1,775	15,867
North	19,645	-1,080	2,616	6,027	1,597	420	1,083	0	0	1,440	13,620
South Onshore	2,432	-339	424	350	36	37	162	0	34	303	2,061
State Offshore	273	-30	12	36	6	4	1	0	0	32	186
Michigan	1,765	-283	129	219	11	0	0	0	0	79	1,302
Mississippi	505	53	35	119	95	104	0	0	0	51	432
Montana	361	58	4	7	131	131	0	0	0	25	391
New Mexico	11,743	-114	913	2,645	861	2,425	99	0	0	859	10,701
East	1,977	99	187	616	143	158	56	0	0	181	1,537
West	9,766	-213	726	2,029	718	2,267	43	0	0	678	9,164
New York	138	12	9	47	0	0	0	0	0	16	96
North Dakota	45	63	1	81	0	4	0	0	0	7	25
Ohio	6,985	860	2,302	1,616	1,315	1,229	3,425	0	1,582	978	12,474
Oklahoma	27,358	221	2,617	6,480	1,046	551	1,860	0	0	1,639	23,442
Pennsylvania	60,144	3,253	11,016	23,383	321	271	10,167	0	14	4,784	56,377
Texas	79,027	1,832	4,762	24,601	4,259	5,015	3,965	0	12	6,080	59,673
RRC District 1	7,733	-151	921	1,683	351	305	152	0	0	526	6,400
RRC District 2 Onshore	4,802	127	489	2,484	60	83	669	0	0	451	3,175
RRC District 3 Onshore	1,760	46	167	308	19	19	102	0	12	259	1,520
RRC District 4 Onshore	12,291	263	732	4,863	1,349	1,589	1,141	0	0	1,029	8,775
RRC District 5	17,970	833	75	6,200	1,090	1,166	986	0	0	1,222	12,518
RRC District 6	11,640	521	976	3,607	569	980	572	0	0	932	9,581
RRC District 7B	2,418	37	17	802	409	406	3	0	0	168	1,502
RRC District 7C	2,444	-202	62	730	4	0	0	0	0	179	1,391
RRC District 8	2,480	275	407	520	155	205	272	0	0	280	2,684
RRC District 8A	24	14	0	5	0	0	0	0	0	4	29
RRC District 9	8,283	-17	320	989	248	254	1	0	0	529	7,075
RRC District 10	7,140	82	588	2,404	2	5	67	0	0	493	4,983
State Offshore	42	4	8	6	3	3	0	0	0	8	40

Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015 (cont.)

billion cubic feet

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Utah	6,098	78	53	2,871	26	0	95	0	0	341	3,086	
Virginia	2,800	-24	1	183	1,036	1,036	32	0	0	130	2,496	
West Virginia	31,121	1,725	891	14,362	849	740	3,854	0	2	1,312	21,810	
Wyoming	27,507	1,259	787	6,980	1,132	6	374	0	0	1,680	20,141	
Federal Offshore^a	3,634	-389	567	571	192	343	99	8	36	503	3,032	
Pacific (California)	0	0	0	0	0	0	0	0	0	0	0	
Gulf of Mexico (Louisiana) ^a	3,027	-357	481	390	183	287	62	8	6	387	2,554	
Gulf of Mexico (Texas)	607	-32	86	181	9	56	37	0	30	116	478	
Miscellaneous ^b	167	-1	20	77	0	0	3	0	0	8	104	
U.S. Total	319,724	7,436	29,030	101,272	13,405	12,933	25,807	8	1,682	23,136	258,807	

^a Includes federal offshore Alabama.^b Includes Arizona, Idaho, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for nonassociated natural gas for 2015 contained in the *Natural Gas Annual 2015*, DOE/EIA-0131(15).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

billion cubic feet

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Alaska	5,851	2	20	1,735	0	0	0	0	0	203	3,935	
Lower 48 States	63,266	1,992	9,945	16,750	1,277	3,166	7,133	23	53	5,990	61,561	
Alabama	141	36	33	72	0	0	0	0	0	20	118	
Arkansas	189	3	0	93	0	0	1	0	0	8	92	
California	1,987	383	57	556	0	13	61	0	0	184	1,761	
Coastal Region Onshore	269	-6	10	34	0	0	11	0	0	13	237	
Los Angeles Basin Onshore	84	6	9	28	0	0	1	0	0	7	65	
San Joaquin Basin Onshore	1,558	384	30	468	0	13	45	0	0	159	1,403	
State Offshore	76	-1	8	26	0	0	4	0	0	5	56	
Colorado	5,482	693	578	626	92	252	654	0	0	429	6,512	
Florida	0	0	0	0	0	0	0	0	0	0	0	
Kansas	657	-3	157	377	3	0	51	0	0	36	446	
Kentucky	49	1	0	15	0	0	0	0	0	1	34	
Louisiana	908	-229	85	251	25	21	11	0	1	62	459	
North	192	-76	27	54	7	0	0	0	0	7	75	
South Onshore	648	-163	48	175	11	19	11	0	1	45	333	
State Offshore	68	10	10	22	7	2	0	0	0	10	51	
Michigan	108	2	23	6	4	0	0	0	0	10	113	
Mississippi	58	-4	13	11	0	0	3	0	0	8	51	
Montana	325	83	30	83	1	0	3	0	0	36	321	
New Mexico	4,683	57	593	1,236	124	144	1,049	0	1	431	4,736	
East	4,457	87	550	1,153	124	144	983	0	1	405	4,540	
West	226	-30	43	83	0	0	66	0	0	26	196	
New York	5	15	0	10	0	0	0	0	0	2	8	
North Dakota	6,742	387	1,338	1,297	180	46	851	0	6	570	7,323	
Ohio	208	29	211	39	180	180	10	0	0	27	392	
Oklahoma	6,961	-41	1,034	2,573	179	1,381	1,302	0	2	596	7,291	
Pennsylvania	299	-24	5	111	0	0	1	0	0	23	147	
Texas	26,928	262	4,645	7,059	355	986	2,841	0	19	2,625	25,642	
RRC District 1	4,698	323	310	653	105	68	294	0	0	428	4,507	
RRC District 2 Onshore	2,722	-185	373	569	1	8	169	0	0	443	2,074	
RRC District 3 Onshore	723	21	187	172	8	6	26	0	0	92	691	
RRC District 4 Onshore	191	7	48	59	0	0	0	0	0	25	162	
RRC District 5	185	9	21	82	0	0	1	0	0	15	119	
RRC District 6	383	45	33	125	0	0	1	0	0	72	265	
RRC District 7B	277	-15	39	70	3	0	26	0	0	21	233	
RRC District 7C	4,659	-313	780	1,451	3	14	794	0	0	337	4,143	
RRC District 8	9,095	203	2,249	2,651	228	700	1,431	0	19	828	9,990	
RRC District 8A	1,304	-1	436	508	5	13	0	0	0	103	1,136	
RRC District 9	1,477	76	8	367	1	167	20	0	0	126	1,254	
RRC District 10	1,214	92	161	352	1	10	79	0	0	135	1,068	
State Offshore	0	0	0	0	0	0	0	0	0	0	0	

Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015 (cont.)

billion cubic feet

State and subdivision	Published proved reserves 12/31/14	Changes in Reserves During 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Utah	872	71	48	371	18	0	71	0	0	79	594	
West Virginia	32	1	0	0	0	0	0	0	0	3	30	
Wyoming	1,280	321	123	862	53	20	140	0	0	102	867	
Federal Offshore^a	5,334	-50	965	1,102	63	123	84	23	24	737	4,601	
Pacific (California)	243	5	99	93	0	0	0	0	0	13	241	
Gulf of Mexico (Louisiana) ^a	4,253	-53	632	764	63	96	84	23	24	580	3,652	
Gulf of Mexico (Texas)	838	-2	234	245	0	27	0	0	0	144	708	
Miscellaneous ^b	18	-1	7	0	0	0	0	0	0	1	23	
U.S. Total	69,117	1,994	9,965	18,485	1,277	3,166	7,133	23	53	6,193	65,496	

^a Includes federal offshore Alabama.^b Includes Arizona, Idaho, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, Tennessee, and Virginia.

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for associated-dissolved natural gas for 2015 contained in the *Natural Gas Annual 2015*, DOE/EIA-0131(15).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 13. Shale natural gas proved reserves and production, 2012-15

billion cubic feet

State and subdivision	Reserves				Production			
	2012	2013	2014	2015	2012	2013	2014	2015
Alaska	0	0	0	0	0	0	0	0
Lower 48 States	129,369	159,115	199,684	175,601	10,371	11,415	13,447	15,213
Arkansas	9,779	12,231	11,695	7,164	1,027	1,026	1,038	923
California	777	756	44	31	90	89	3	2
Coastal Region Onshore	0	0	9	8	0	0	1	1
San Joaquin Basin Onshore	777	756	15	12	90	89	1	1
State Offshore	0	0	20	11	0	0	1	0
Colorado	53	136	3,775	3,115	9	18	236	325
Florida	0	0	0	0	0	0	0	0
Kansas	2	3	4	5	1	3	1	1
Kentucky	34	46	50	13	4	4	2	1
Louisiana	13,523	11,483	12,792	9,154	2,204	1,510	1,191	1,153
North	13,523	11,473	12,611	8,972	2,204	1,509	1,169	1,129
South	0	10	181	182	0	1	22	24
State Offshore	0	0	0	0	0	0	0	0
Michigan	1,345	1,418	1,432	1,006	108	101	96	65
Mississippi	19	37	19	11	2	5	2	3
Montana	216	229	482	360	16	19	42	39
New Mexico	176	258	646	1,044	13	16	28	46
East	93	178	604	938	10	13	25	44
West	83	80	42	106	3	3	3	2
New York	0	0	0	0	0	0	0	0
North Dakota	3,147	5,059	6,442	6,904	203	268	426	545
Ohio	483	2,319	6,384	12,430	14	101	441	959
Oklahoma	12,572	12,675	16,653	18,672	637	698	869	993
Pennsylvania	32,681	44,325	56,210	53,484	2,036	3,076	4,009	4,597
Texas	44,778	49,055	54,158	42,626	3,649	3,876	4,156	4,353
RRC District 1	8,340	7,357	11,729	10,503	362	630	822	892
RRC District 2 Onshore	4,743	5,595	6,648	4,445	327	474	649	793
RRC District 3 Onshore	6	24	106	125	0	2	10	17
RRC District 4 Onshore	3,091	4,377	4,991	4,558	305	316	381	500
RRC District 5	11,513	13,592	13,043	8,228	1,256	1,128	1,022	903
RRC District 6	4,172	4,633	3,979	3,474	486	409	270	238
RRC District 7B	2,952	2,802	2,204	1,329	258	218	165	143
RRC District 7C	81	409	1,183	1,350	2	13	111	140
RRC District 8	583	649	1,125	736	22	62	78	109
RRC District 8A	0	0	10	4	0	0	1	3
RRC District 9	9,260	9,580	9,074	7,824	626	619	639	608
RRC District 10	37	37	66	50	5	5	8	7
State Offshore	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Virginia	135	126	84	76	3	3	3	3
West Virginia	9,408	18,078	28,311	19,226	345	498	869	1,163
Wyoming	216	856	380	204	7	102	29	36
Federal Offshore	0	0	0	0	0	0	0	0
Miscellaneous ^a	52	25	123	76	3	2	6	6
U.S. Total	129,396	159,115	199,684	175,601	10,371	11,415	13,447	15,213

^aIncludes Indiana, Missouri, and Tennessee.

Notes: The above table is based on shale natural gas proved reserves and production volumes reported and imputed from data on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. For certain reasons (e.g. incorrect or incomplete respondent submissions, respondent mis-identification of shale vs. non-shale reservoirs) the actual proved reserves and production of natural gas from shales may be higher or lower. The production estimates are provided as an indicator of production trends and may differ slightly from official U.S. EIA production volumes listed elsewhere on the U.S. EIA web page.

Table 14. Shale natural gas proved reserves, reserves changes, and production, wet after lease separation, 2015

billion cubic feet

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Alaska	0	0	0	0	0	0	0	0	0	0	0	
Lower 48 States	199,684	12,222	22,271	68,460	7,250	6,461	24,309	0	1,577	15,213	175,601	
Arkansas	11,695	17	30	3,890	3	0	238	0	0	923	7,164	
California	44	-1	0	10	0	0	0	0	0	2	31	
Coastal Region												
Onshore	9	0	0	0	0	0	0	0	0	1	8	
San Joaquin Basin Onshore	15	0	0	2	0	0	0	0	0	1	12	
State Offshore	20	-1	0	8	0	0	0	0	0	0	11	
Colorado	3,775	288	71	732	0	0	38	0	0	325	3,115	
Kansas	4	1	2	1	0	0	0	0	0	1	5	
Kentucky	50	-35	0	1	0	0	0	0	0	1	13	
Louisiana	12,792	1,351	1,335	4,881	1,212	5	917	0	0	1,153	9,154	
North Onshore	12,611	1,339	1,307	4,865	1,206	5	910	0	0	1,129	8,972	
South Onshore	181	12	28	16	6	0	7	0	0	24	182	
Michigan	1,432	-283	120	198	0	0	0	0	0	65	1,006	
Mississippi	19	2	3	10	0	0	0	0	0	3	11	
Montana	482	-31	31	86	0	0	3	0	0	39	360	
New Mexico	646	259	54	487	0	35	582	0	1	46	1,044	
East	604	268	32	478	0	35	520	0	1	44	938	
West	42	-9	22	9	0	0	62	0	0	2	106	
North Dakota	6,442	393	1,258	1,267	171	12	776	0	6	545	6,904	
Ohio	6,384	1,324	2,412	1,560	1,495	1,409	3,361	0	1,554	959	12,430	
Oklahoma	16,653	2,455	2,041	4,527	702	1,332	2,413	0	0	993	18,672	
Pennsylvania	56,210	4,017	10,908	22,034	320	0	9,286	0	14	4,597	53,484	
Texas	54,158	920	3,431	15,084	2,428	2,868	3,114	0	0	4,353	42,626	
RRC District 1	11,729	150	1,195	2,057	423	372	429	0	0	892	10,503	
RRC District 2												
Onshore	6,648	-187	719	2,730	7	0	795	0	0	793	4,445	
RRC District 3												
Onshore	106	53	24	53	6	0	18	0	0	17	125	
RRC District 4												
Onshore	4,991	29	194	1,253	918	939	1,076	0	0	500	4,558	
RRC District 5	13,043	829	29	5,034	339	601	2	0	0	903	8,228	
RRC District 6	3,979	103	543	1,272	18	22	355	0	0	238	3,474	
RRC District 7B	2,204	9	11	753	407	406	2	0	0	143	1,329	
RRC District 7C	1,183	-43	300	217	2	8	261	0	0	140	1,350	
RRC District 8	1,125	-24	93	552	59	104	158	0	0	109	736	
RRC District 8A	10	-3	3	3	0	0	0	0	0	3	4	
RRC District 9	9,074	-6	317	1,138	249	416	18	0	0	608	7,824	
RRC District 10	66	10	3	22	0	0	0	0	0	7	50	
Virginia	84	-3	0	2	65	65	0	0	0	3	76	
West Virginia	28,311	1,447	454	13,213	834	735	3,487	0	2	1,163	19,226	
Wyoming	380	88	117	419	20	0	94	0	0	36	204	
Miscellaneous ^a	123	13	4	58	0	0	0	0	0	6	76	
U.S. Total	199,684	12,222	22,271	68,460	7,250	6,461	24,309	0	1,577	15,213	175,601	

^a Includes Indiana, Missouri, and Tennessee.

Notes: The above table is based on shale natural gas proved reserves and production volumes reported and imputed from data on Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves. For certain reasons (e.g. incorrect or incomplete respondent submissions, respondent mis-identification of shale vs. non-shale reservoirs) the actual proved reserves and production of natural gas from shales may be higher or lower. The production estimates are provided as an indicator of production trends and may differ slightly from official U.S. EIA production volumes listed elsewhere on the U.S. EIA web page.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 15. Coalbed methane proved reserves and production, 2011-15

billion cubic feet

State and subdivision	Reserves					Production				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Alaska	0	0	0	0	0	0	0	0	0	0
Lower 48 States	16,817	13,591	12,392	15,696	12,517	1,763	1,655	1,466	1,404	1,269
Alabama	1,210	1,006	413	978	975	98	91	62	78	72
Arkansas	21	10	13	15	5	4	2	2	2	1
California	0	0	0	0	0	0	0	0	0	0
Colorado	6,580	5,074	4,391	5,103	4,394	516	486	444	412	392
Florida	0	0	0	0	0	0	0	0	0	0
Kansas	228	183	189	211	170	37	34	30	27	25
Kentucky	0	0	0	7	6	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0	0	0
North	0	0	0	0	0	0	0	0	0	0
South Onshore	0	0	0	0	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0
Montana	25	11	16	11	3	6	3	1	0	0
New Mexico	3,358	2,772	2,856	4,120	3,189	374	355	356	373	344
East	507	362	5	273	194	27	28	26	24	23
West	2,851	2,410	2,851	3,847	2,995	347	327	330	349	321
New York	0	0	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0
Oklahoma	274	439	440	602	328	39	68	65	61	48
Pennsylvania	124	106	161	158	135	4	15	13	11	10
Texas	0	81	57	61	63	0	11	8	9	10
RRC District 1	0	0	0	0	0	0	0	0	0	0
RRC District 2										
Onshore	0	1	2	4	4	0	0	0	1	1
RRC District 3										
Onshore	0	71	47	49	53	0	10	7	7	8
RRC District 4										
Onshore	0	1	1	1	1	0	0	0	0	0
RRC District 5	0	0	0	0	0	0	0	0	0	0
RRC District 6	0	0	0	0	0	0	0	0	0	0
RRC District 7B	0	0	0	0	0	0	0	0	0	0
RRC District 7C	0	0	0	0	0	0	0	0	0	0
RRC District 8	0	0	0	0	0	0	0	0	0	0
RRC District 8A	0	0	0	0	0	0	0	0	0	0
RRC District 9	0	0	0	0	0	0	0	0	0	0
RRC District 10	0	8	7	7	5	0	1	1	1	1
State Offshore	0	0	0	0	0	0	0	0	0	0
Utah	679	518	523	538	352	60	55	50	47	42
Virginia	1,623	1,535	1,387	2,233	2,060	100	99	93	108	106
West Virginia	139	107	113	76	68	18	9	8	11	11
Wyoming	2,539	1,736	1,810	1,572	760	506	426	331	264	207
Federal Offshore	0	0	0	0	0	0	0	0	0	0
Miscellaneous ^a	17	13	23	11	9	1	1	3	1	1
U.S. Total	16,817	13,591	12,392	15,696	12,517	1,763	1,655	1,466	1,404	1,269

^a Includes Illinois, Indiana, and Ohio.

Notes: Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source:

Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 2011-15

Table 16. Coalbed methane proved reserves, reserves changes, and production, 2015

billion cubic feet

State and subdivision	Published proved reserves 12/31/14	Changes in reserves during 2015							New field discoveries (+)	New reservoir discoveries in old fields (+)	Estimated production (-)	Proved reserves 12/31/15
		Adjustments (+,-)	Revision increases (+)	Revision decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Alaska	0	0	0	0	0	0	0	0	0	0	0	
Lower 48 States	15,696	1,107	658	2,945	2,208	1,410	68	0	0	1,269	12,517	
Alabama	978	112	77	120	0	0	0	0	0	72	975	
Arkansas	15	0	0	9	0	0	0	0	0	1	5	
California	0	0	0	0	0	0	0	0	0	0	0	
Colorado	5,103	-194	206	345	104	117	3	0	0	392	4,394	
Florida	0	0	0	0	0	0	0	0	0	0	0	
Kansas	211	-21	12	7	0	0	0	0	0	25	170	
Kentucky	7	0	0	1	0	0	0	0	0	0	6	
Louisiana	0	0	0	0	0	0	0	0	0	0	0	
North Onshore	0	0	0	0	0	0	0	0	0	0	0	
South Onshore	0	0	0	0	0	0	0	0	0	0	0	
State Offshore	0	0	0	0	0	0	0	0	0	0	0	
Michigan	0	0	0	0	0	0	0	0	0	0	0	
Mississippi	0	0	0	0	0	0	0	0	0	0	0	
Montana	11	-1	0	7	0	0	0	0	0	0	3	
New Mexico	4,120	-130	173	739	525	624	10	0	0	344	3,189	
East	273	0	0	56	0	0	0	0	0	23	194	
West	3,847	-130	173	683	525	624	10	0	0	321	2,995	
New York	0	0	0	0	0	0	0	0	0	0	0	
North Dakota	0	0	0	0	0	0	0	0	0	0	0	
Oklahoma	602	-38	13	195	28	0	22	0	0	48	328	
Pennsylvania	158	-11	0	2	0	0	0	0	0	10	135	
Texas	61	7	12	7	0	0	0	0	0	10	63	
RRC District 1	0	0	0	0	0	0	0	0	0	0	0	
RRC District 2												
Onshore	4	1	0	0	0	0	0	0	0	1	4	
RRC District 3												
Onshore	49	5	12	5	0	0	0	0	0	8	53	
RRC District 4												
Onshore	1	0	0	0	0	0	0	0	0	0	1	
RRC District 5	0	0	0	0	0	0	0	0	0	0	0	
RRC District 6	0	0	0	0	0	0	0	0	0	0	0	
RRC District 7B	0	0	0	0	0	0	0	0	0	0	0	
RRC District 7C	0	0	0	0	0	0	0	0	0	0	0	
RRC District 8	0	0	0	0	0	0	0	0	0	0	0	
RRC District 8A	0	0	0	0	0	0	0	0	0	0	0	
RRC District 9	0	0	0	0	0	0	0	0	0	0	0	
RRC District 10	7	1	0	2	0	0	0	0	0	1	5	
State Offshore	0	0	0	0	0	0	0	0	0	0	0	
Utah	538	-13	4	135	0	0	0	0	0	42	352	
Virginia	2,233	29	1	129	669	669	32	0	0	106	2,060	
West Virginia	76	41	0	38	0	0	0	0	0	11	68	
Wyoming	1,572	1,327	160	1,211	882	0	1	0	0	207	760	
Federal Offshore	0	0	0	0	0	0	0	0	0	0	0	
Miscellaneous ^a	11	-1	0	0	0	0	0	0	0	1	9	
U.S. Total	15,696	1,107	658	2,945	2,208	1,410	68	0	0	1,269	12,517	

^a Includes Illinois, Indiana, and Ohio.

Notes: Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves

Table 17. Estimated natural gas plant liquids and dry natural gas content of total natural gas proved reserves, 2015

million barrels and billion cubic feet

State and subdivision	Total natural gas proved reserves		Estimated content of proved reserves	
	2015 billion cubic feet		Natural gas plant liquids million barrels	Dry natural gas billion cubic feet
Alaska	4,609		211	4,566
Lower 48 States	319,694		12,546	303,164
Alabama	2,261		58	2,182
Arkansas	8,343		4	8,339
California	1,945		82	1,832
Coastal Region Onshore	237		10	223
Los Angeles Basin Onshore	66		3	62
San Joaquin Basin Onshore	1,585		69	1,490
State Offshore	57		0	57
Colorado	18,274		801	17,139
Florida	0		0	0
Kansas	3,360		122	3,183
Kentucky	1,464		73	1,362
Louisiana	16,326		218	16,097
North	13,695		75	13,593
South Onshore	2,394		127	2,279
State Offshore	237		16	225
Michigan	1,415		25	1,386
Mississippi	483		2	480
Montana	712		15	692
New Mexico	15,437		740	14,364
East	6,077		422	5,468
West	9,360		318	8,896
New York	104		0	104
North Dakota	7,348		804	6,203
Ohio	12,866		588	12,104
Oklahoma	30,733		1,626	28,486
Pennsylvania	56,524		441	55,894
Texas	85,315		5,163	78,866
RRC District 1	10,907		233	10,573
RRC District 2 Onshore	5,249		940	4,536
RRC District 3 Onshore	2,211		192	1,937
RRC District 4 Onshore	8,937		257	8,570
RRC District 5	12,637		147	12,427
RRC District 6	9,846		327	9,447
RRC District 7B	1,735		208	1,487
RRC District 7C	5,534		401	4,959
RRC District 8	12,674		1,258	10,851
RRC District 8A	1,165		209	1,103
RRC District 9	8,329		545	7,536
RRC District 10	6,051		445	5,402
State Offshore	40		1	38
Utah	3,680		98	3,547
Virginia	2,496		0	2,496
West Virginia	21,840		941	20,553
Wyoming	21,008		418	20,436
Federal Offshore^a	7,633		322	7,296
Pacific (California)	241		2	239
Gulf of Mexico (Louisiana) ^b	6,206		292	5,909
Gulf of Mexico (Texas)	1,186		28	1,148
Miscellaneous ^b	127		5	123
U.S. Total	324,303		12,757	307,730

^a Includes federal offshore Alabama.^b Includes Arizona, Idaho, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, and Form EIA-64A, Annual Report of the Origin of Natural Gas Liquids Production

Table 18. Reported proved nonproducing reserves of crude oil, lease condensate, nonassociated gas, associated-dissolved gas, and total gas (wet after lease separation), 2015

State and subdivision	Crude oil (million barrels)	Lease condensate (million barrels)	Nonassociated gas (billion cubic feet)	Associated- dissolved gas (billion cubic feet)	Total gas (billion cubic feet)
Alaska	412	65	301	829	1,130
Lower 48 States	12,178	1,114	78,855	24,131	102,986
Alabama	0	0	28	0	28
Arkansas	7	0	590	45	635
California	560	1	40	435	475
Coastal Region Onshore	240	0	0	116	116
Los Angeles Basin Onshore	27	0	0	11	11
San Joaquin Basin Onshore	256	0	40	289	329
State Offshore	37	1	0	19	19
Colorado	624	109	2,525	3,085	5,610
Florida	2	0	0	0	0
Idaho	0	0	0	0	0
Kansas	29	3	85	90	175
Kentucky	0	0	18	0	18
Louisiana	160	45	8,390	185	8,575
North	18	22	7,298	41	7,339
South Onshore	131	22	1,049	132	1,181
State Offshore	11	1	43	12	55
Michigan	5	1	14	16	30
Mississippi	38	2	97	0	97
Montana	87	0	11	79	90
New Mexico	573	30	2,688	1,949	4,637
East	550	24	337	1,913	2,250
West	23	6	2351	36	2387
New York	0	0	3	0	3
North Dakota	2,693	4	0	3,970	3,970
Ohio	35	39	7,359	186	7,545
Oklahoma	469	175	9,142	2,955	12,097
Pennsylvania	0	25	17,143	2	17,145
Texas	4,752	534	18,106	9,258	27,364
RRC District 1	1,131	73	3,432	2,022	5,454
RRC District 2 Onshore	552	240	1,153	910	2,063
RRC District 3 Onshore	159	14	459	163	622
RRC District 4 Onshore	1	62	3,405	14	3,419
RRC District 5	20	0	2,658	22	2,680
RRC District 6	14	12	3,762	46	3,808
RRC District 7B	14	0	118	81	199
RRC District 7C	442	0	35	1,482	1,517
RRC District 8	2,079	76	595	3,856	4,451
RRC District 8A	305	2	1	213	214
RRC District 9	18	3	1,328	324	1,652
RRC District 10	17	52	1,155	125	1,280
State Offshore	0	0	5	0	5
Utah	134	7	608	213	821
Virginia	0	0	395	0	395
West Virginia	0	22	7,801	0	7,801
Wyoming	176	28	2,309	138	2,447
Federal Offshore^a	1,829	89	1,494	1,525	3,019
Pacific (California)	15	0	0	8	8
Gulf of Mexico (Louisiana) ^a	1,738	66	1,304	1,273	2,577
Gulf of Mexico (Texas)	76	23	190	244	434
Miscellaneous ^b	5	0	9	0	9
U.S. Total	12,590	1,179	79,156	24,960	104,116

^a Includes federal offshore Alabama.

^b Includes Arizona, Idaho, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Notes: One barrel = 42 U.S. gallons. Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves