

# Coal has long been U.S. king of energy, but its reign is coming to an end

By Washington Post, adapted by Newsela staff on 03.30.16

Word Count **722**



Rig workers change out a drill pipe that will be used for fracking in Anthony, Kansas, in February 2012. Photo: Bo Rader Wichita Eagle/MCT

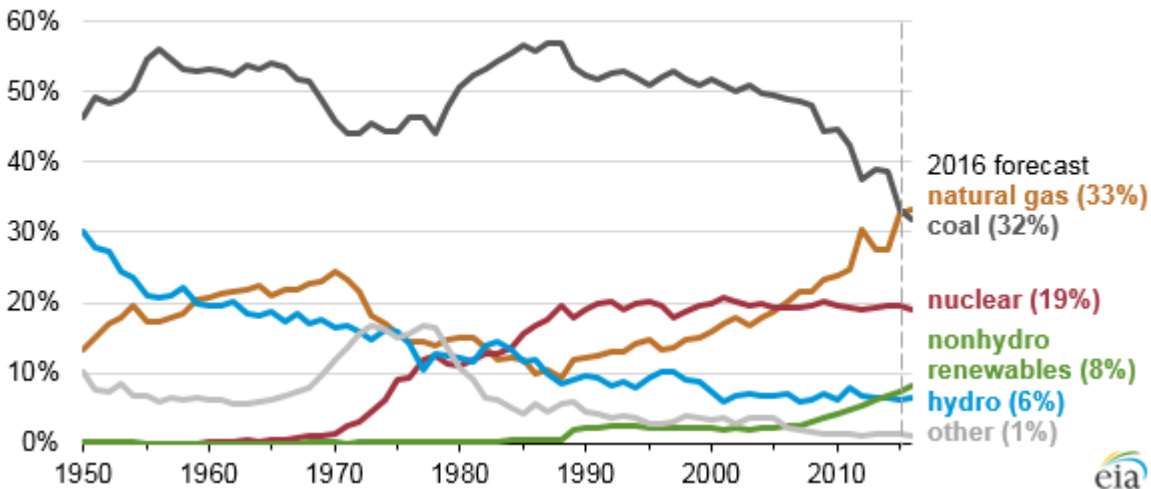
The U.S. Energy Information Administration has released a stunning estimate: Natural gas is expected to pass coal as the number 1 source of electricity in the United States this year. Gas will supply 33.4 percent of power, just more than the 32 percent contributed by coal. The EIA made this estimate in the March edition of its monthly report on energy prices, the Short-Term Energy Outlook.

“This would be the first time that natural gas has generated more power than coal on an annual basis,” the EIA says. Natural gas topped coal for several months in 2015. However, topping it for the year is a far more significant feat.

## **Coal Takes A Dramatic Tumble**

The EIA is the government agency that tracks how we use energy and electricity. The agency released a chart showing just how dramatically coal has dropped off as a source of electricity. The chart shows how our electricity sources have changed over the past 60 years.

**Annual share of total U.S. electricity generation by source (1950-2016)**  
percent of total



This change has taken everyone by surprise.

Last year the Environmental Protection Agency released a new plan to help protect the environment around us. Called the Clean Power Plan, it was designed to reduce the level of pollution created by America's power plants. Part of the Clean Power Plan was for the United States to get 33 percent of its electricity from natural gas by the year 2030. That has more or less already happened.

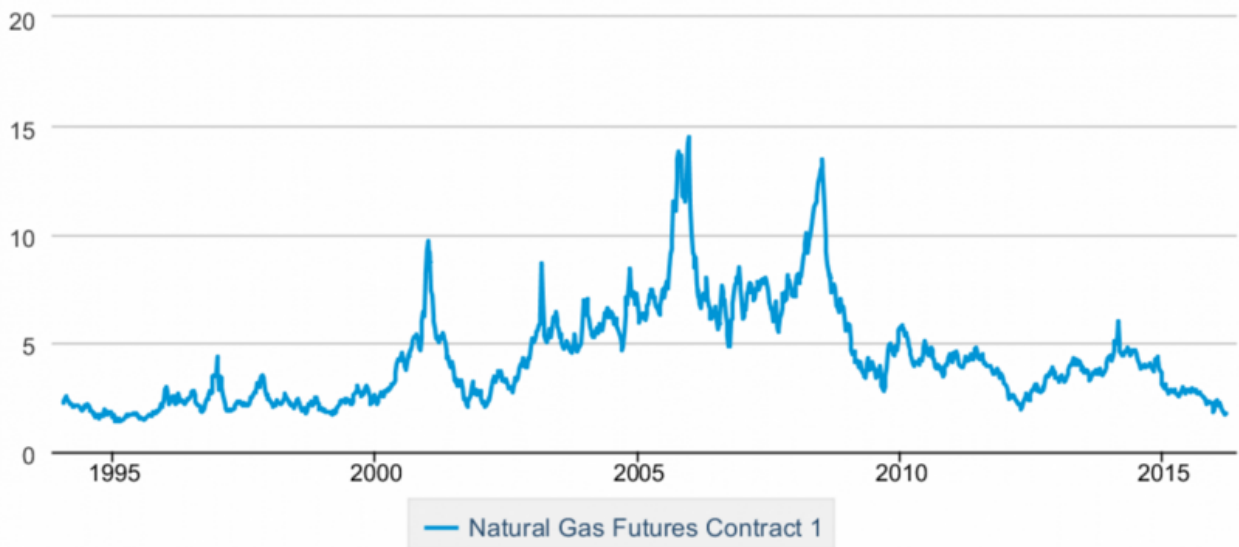
The Clean Power Plan has not even been implemented yet.

## **NatGas Is In Its Boom Time**

The reason for the dramatic rise in electricity from natural gas is the shale gas boom of recent years. So much natural gas has been removed from shale rock that natural gas prices have gone down dramatically. Here is a chart from the EIA, showing the price of natural gas in recent years:

## Natural Gas Futures Contract 1

Dollars per Million Btu



Source: U.S. Energy Information Administration

The price of natural gas is shown in dollars per BTU, or million British thermal unit. BTUs are how the cost of energy is measured. The cost of 1 million units of natural gas has been less than \$2 for much of this year.

“The energy system tends to move really slow, with a lot of inertia, except when it doesn’t,” said Richard Newell, a former administrator of the EIA. When it comes to the natural-gas boom unleashed by fracking, Newell said “that was a case when it really didn’t” move slowly at all.

### Fracking Seems Simple Enough

Fracking is a way to remove natural gas from shale rocks below the Earth's surface. It involves drilling into the earth and pumping high quantities of water and sand into the ground. The water and sand then force the natural gas to the surface. Once on the surface, the natural gas is captured and eventually used to generate electricity.

The EIA says the amount of coal-generated electricity will drop 3 percent this year. That is partly due to coal plants being retired. At the same time, electricity from renewable sources such as solar energy will increase.

All these changes are predicted to slightly lower the United States’ greenhouse-gas emissions from the use of energy. Greenhouse-gas emissions are a cause of the climate change that is making the planet warmer. These emissions declined 2.4 percent in 2015. They should be down another 0.3 percent this year.

## **Cleaner Than Coal**

As an energy source, natural gas burns cleaner than coal. Burning natural gas releases less carbon dioxide, a greenhouse gas, than burning coal. However the two are not so easy to compare. There is a very serious debate about how much gas leaks into the atmosphere due to fracking. These leaks reduce the benefit of burning natural gas instead of coal.

Natural gas is largely made of methane. When methane leaks into the air it is much more dangerous than carbon dioxide. It also makes the planet warmer.

This debate is serious enough that it has become part of this year's presidential election. The two Democratic presidential candidates, Bernie Sanders and Hillary Clinton, are split on the subject of natural gas. Clinton has defended natural gas. She says it is a good "bridge fuel." She wants to use it for a short time until better energy sources can be used. Sanders, however, has called for a stop on all fracking. He is concerned about how much it harms the environment.

## Quiz

- 1 Which of the following BEST explains the debate about natural gas between Hillary Clinton and Bernie Sanders?
- (A) Clinton thinks natural gas is the perfect clean energy source, and Sanders does not agree.
  - (B) Sanders thinks that the United States should use coal instead of natural gas, and Clinton does not agree.
  - (C) Clinton thinks it is OK to use natural gas for a little while, and Sanders wants to stop fracking for natural gas entirely.
  - (D) Sanders thinks that burning natural gas releases more carbon dioxide than coal, and Clinton thinks his information is incorrect.
- 2 How does the author develop the idea that fracking is important?
- (A) by describing how the process of fracking works
  - (B) by telling a story about a specific fracking company
  - (C) by explaining how many people's lives have been improved because of fracking
  - (D) by giving information about the connection between fracking and natural gas
- 3 Look at the first graph. Which excerpt from the article is seen more clearly because of this graph?
- (A) Gas will supply 33.4 percent of power, just more than the 32 percent contributed by coal.
  - (B) So much natural gas has been removed from shale rock that natural gas prices have gone down dramatically.
  - (C) BTUs are how the cost of energy is measured. The cost of 1 million units of natural gas has been less than \$2 for much of this year.
  - (D) Greenhouse-gas emissions are a cause of the climate change that is making the planet warmer. These emissions declined 2.4 percent in 2015.

4 Look at the first graph. Which of the following comparisons can be made about energy use between 2000 and 2016?

- (A) The use of hydro power has gone up, while the use of coal has gone down.
- (B) The use of nuclear power has gone down, and the use of coal has gone down, too.
- (C) The use of coal has gone up, while the use of nuclear power has stayed about the same.
- (D) The use of nonhydro renewables has gone up, while the use of nuclear has stayed about the same.

## Answer Key

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