

HYDRAULIC FRACTURING

MYTH vs FACT

Source unless otherwise cited: American Petroleum Institute

MYTH

All chemicals used in hydraulic fracturing will be kept secret.



FACT

The chemicals used in hydraulic fracturing in North Carolina will be disclosed in **ALL** cases to the State Geologist and to first responders and medical personnel in the event of an emergency.

The Energy Modernization Act of 2014 requires all information regarding hydraulic fracturing fluid be disclosed to the State Geologist and to first responders and medical personnel in the event of an emergency.¹

The Energy Modernization Act of 2014 also requires that all operators working in NC must disclose the chemicals they use through the FracFocus website, with the exception of any chemical or recipe that has been deemed as a trade secret by the Mining and Energy Commission.¹

MYTH

Hydraulic fracturing causes earthquakes.

North Carolina General Statute 143-214.2 prohibits underground injection of waste fluid.³

Section 15 of the recently enacted Energy Modernization Act of 2014 reinforces that ban.¹

FACT

The process of hydraulic fracturing itself does not pose a high risk for causing earthquakes or other seismic events. There is correlation between wastewater disposal through EPA-regulated injection wells and seismic activity.² That concern is not valid in North Carolina because underground injection does not occur in this state. In states where underground injection does occur, potential induced seismic activity has only been observed at low levels that do not impact property or safety.

MYTH

Hydraulic fracturing will pollute our water.



FACT

Recent studies by the EPA and the Ground Water Protection Council, an association of state regulators and stakeholders, found no instances of ground water contamination.

"Hydraulic fracturing ... has proven to be a safe and effective stimulation technique. Ground water is protected during the shale gas fracturing process by a combination of the casing and cement that is installed when the well is drilled and the thousands of feet of rock between the fracture zone and any fresh or treatable aquifers."—Department of Energy, 2009⁴

There is no "proven case where the fracking process itself has affected water."—Lisa Jackson, Former Environmental Protection Agency (EPA) Administrator⁵

There are about 10 inches of steel and concrete separating underground aquifers from the hydraulic fracturing process, which is designed to protect the groundwater from contamination.

MYTH

Hydraulic fracturing will pollute our air.

FACT

Hydraulic fracturing and natural gas development has led to lower Greenhouse Gas Emissions and cleaner air.

"According to the U.S. EPA, methane emissions from natural gas systems have actually decreased by nearly 17 percent since 1990. These reductions were due in large part to voluntary actions by the industry, including the use of better technology."²

Emissions from natural gas and oil activity must remain within prescribed limits, outlined by the Clean Air Act or state regulatory programs, to ensure the health and safety of local communities.

EPA administrator Gina McCarthy has said, "Natural gas has been a game changer with our ability to really move forward with pollution reductions that have been very hard to get our arms around for many decades."²

MYTH

Hydraulic fracturing will set your faucet on fire.

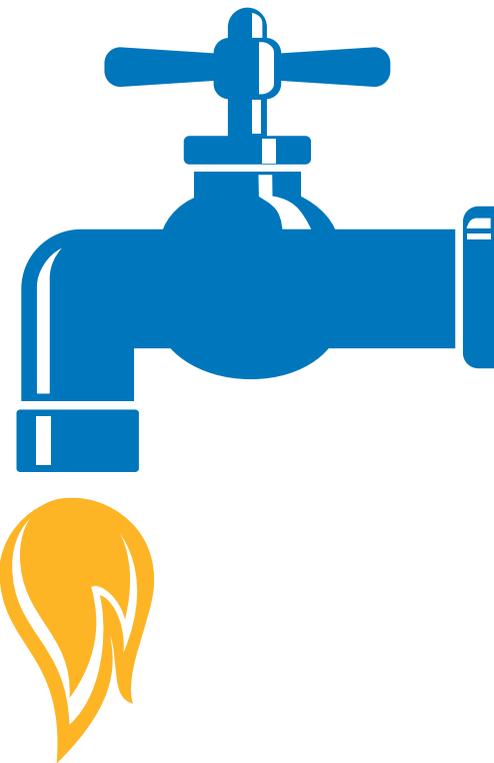
FACT

Methane in the water supply can be flammable and explosive in certain concentrations. It is produced either by bacteria (biogenic methane) or by geologic processes involving heat and pressure (thermogenic methane).⁶ The assumption can not be made that if methane is found in a water supply, it is caused by hydraulic fracturing.

Biogenic methane is created by the decomposition of organic material. "It is found in some shallow, water-bearing geologic formations, into which water wells are sometimes completed."⁶

"Thermogenic methane is created by the thermal decomposition of buried organic material."⁶ It is usually found in rocks buried deeper within the earth and is often, but not always, associated with oil and gas development.⁷

In December 2013, the U.S. Geological Survey released a report from New York showing high levels of methane in water wells in areas where no natural gas development is occurring.⁸



MYTH

Economic impact and employment impact will be negligible.

FACT

North Carolina will benefit significantly from shale development.

Employment and economic impact of seven-year infrastructure development period = \$80 million in spending each year for seven years; 496 jobs created over seven years; and \$4.9 million in state and local public revenues every year for seven years.⁹

Employment and economic impact of a 20-year production period = \$158 million in spending every year for 20 years; 1406 jobs created over 20 years; and \$9.6 million in state and local public revenues every year for 20 years.⁹

Sources:

1. North Carolina Energy Modernization Act, 2014 – Section 8.
2. Energy In Depth Michigan, *Debunking Common Myths About Shale Development in Michigan*, April 21, 2014.
3. North Carolina General Statute 143-214.2.
4. Energy In Depth, *Shale Development and Groundwater Protection* handout.
5. Pain at the Pump: Policies that Suppress Domestic Production of

Oil and Gas: Hearing Before the H. Comm. on Oversight & Gov't Reform, 112th Cong. (May 24, 2011). Former Administrator Jackson reiterated this belief in an April 30, 2012, interview, stating "In no case have we made a definitive determination that the fracking process has caused chemicals to enter groundwater."

6. State of Colorado Oil and Gas Conservation Commission, report on errors made in the 2010 documentary *Gasland's*

portrayal of methane found in Colorado's water supply, 2010.

7. Nicole Jacobs, Energy In Depth, *Duke Rebuke: Study Finds Methane in Pa. Water Wells Prior to Drilling*, March 5, 2014.
8. Nicole Jacobs, Energy In Depth, *Science Doesn't Back the Methane Blame Game*, December 18, 2013.
9. Dr. Michael Walden, NCSU, *The Economic Potential From Developing North Carolina's On-Shore and Off-Shore Energy Resources*, April 2013.