



President Obama:

“The development of natural gas will create jobs and power trucks and factories that are cleaner and cheaper, proving that we don’t have to choose between our environment and our economy.” (*State of the Union*, [1/24/12](#))

“We should strengthen our position as the top natural gas producer...It not only can provide safe, cheap power, but it can also help reduce our carbon emissions.” (*McClatchy*, [8/23/13](#))

“We produce more natural gas than ever before – and nearly everyone’s energy bill is lower because of it. The natural gas boom has led to cleaner power and greater energy independence. We need to encourage that.” (*State of the Union*, [2/12/13](#))



Ernest Moniz, Secretary of the Department of Energy:

“Fracking for natural gas is climate-friendly, environmentally safe and economically stimulating.” (*Daily News*, [9/3/13](#))

“I still have not seen any evidence of fracking per se contaminating groundwater.” (*Washington Examiner*, [8/2/13](#))

“I think the issues in terms environmental footprint of hydraulic fracturing are manageable.” (*Platts*, [6/7/13](#))



Radisav Vidic, Professor of Environmental Engineering:

“(Sometimes landowners) completely ignore the fact they may be drinking bad water all along.”

In five years of research, he said he has not seen evidence of sustained groundwater contamination or widespread groundwater contamination. (*The Allegheny Front*, [6/13/13](#))



U.S. Geological Survey:

“This new study is important in terms of finding no significant effects on groundwater quality from shale gas development within the area of sampling.” (*Press Release: No Contamination from Fayetteville Shale Exploration Found in Sampled Wells*, [1/9/13](#))

International Energy Agency (IEA)



“Natural gas prices have fallen sharply in the United States, largely because of the recent shale gas boom.”

“Electricity price differentials are also large, with industrial consumers in Japan and Europe paying on average more than twice as much for electricity as their counterparts in the United States; even Chinese industrial consumers pay almost double the US level.”

“The contrast between the United States and other large importers is striking: annual energy import bills in the United States have fallen by 40% since 2008, while they have increased slightly in the European Union and continued to climb in many other regions.” (*World Energy Outlook 2013*, [10/12/13](#))



Steve Heare, director of EPA's Drinking Water Protection Division:

"State regulators are doing a good job overseeing a key natural gas production technique called hydrofracking and there's no evidence the process causes water contamination." (*Dow Jones*, [2/15/10](#))



Steven Chu, Former Secretary of Energy:

"I think it's a fool's choice to say either you develop natural gas and oil in the United States with hydraulic fracturing and horizontal drilling and live with the environmental consequences or stop because of the environmental consequences. You can develop it in an environmentally safe way." (*Pittsburgh Post-Gazette* [10/5/13](#))

"This [hydraulic fracturing] is something you can do in a safe way." (*Washington Examiner*, [9/24/13](#))



Ken Salazar, Former Secretary of the Interior:

"The average American citizen needs to be well informed about what hydraulic fracturing is, and the fact that it can be done safely." (*Houston Chronicle*, [2/4/14](#))

"I would say to everybody that hydraulic fracturing is safe." (*Washington Examiner*, [9/24/13](#))

"My point of view, based on my own study of hydraulic fracturing, is that it can be done safely and has been done safely hundreds of thousands of times." ([2/15/12](#))



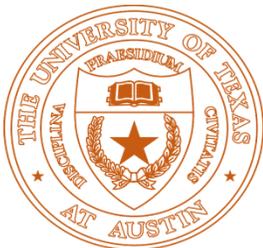
Craig Alexander, chief economist from TD Bank Financial Group:

"There's no question we are seeing a renaissance in manufacturing because the cost advantage has shifted to the United States." (*New York Sun*, [7/7/13](#))



New York Department of Environmental Conservation:

"No known instances of groundwater contamination have occurred from previous horizontal drilling or hydraulic fracturing projects in New York State." (*NY DEC*, [9/7/11](#))



Chip Groat, Director, University of Texas at Austin:

"We didn't find (anything) happening related to shale gas that called for draconian measures in terms of regulations or prohibitions." (*CNN*, [May 2012](#))



Institute for Energy Research:

“Recent attempts to portray hydraulic fracturing as a dangerous, unregulated practice are misleading at best. When done within the set parameters of the numerous state and federal regulations that govern safe drilling practices, hydraulic fracturing has the potential to provide the United States with an abundant supply of clean-burning natural gas for years to come.” (*Institute for Energy Research*, [5/3/11](#))



Lisa Jackson, former EPA Administrator:

“In no case have we made a definitive determination that [hydraulic fracturing] has caused chemicals to enter groundwater.” (*Fox Business [Video]*, [4/30/12](#))

“I’m not aware of any proven case where the fracking process itself has affected water.” (*U.S. Senate Committee on Environment and Public Works*, [5/24/11](#))



Colorado Oil and Gas Conservation Commission:

“Hydraulic fracturing has been used by the natural gas and oil industry since the 1940s. In Colorado by the 1970’s fracking became a routine completion technique for most wells. When properly conducted, modern fracking is a safe, sophisticated, highly engineered and controlled procedure.” (COGCC, [Home Page](#))



Dr. Stephen Holditch, Texas A&M University:

“I have been working in hydraulic fracturing for 40 plus years and there is absolutely no evidence hydraulic fractures can grow from miles below the surface to the fresh water aquifers.” (*Big Sky Business Journal*, [3/6/13](#))



U.S. Government Accountability Office:

“[R]egulatory officials we met with from eight states – Arkansas, Colorado, Louisiana, North Dakota, Ohio, Oklahoma, Pennsylvania, and Texas – told us that, based on state investigations, the hydraulic fracturing process has not been identified as a cause of groundwater contamination within their states.” (*Report: Information on Shale Resources, Development, and Environmental and Public Health Risks*, [9/12](#))



U.S. Chamber of Commerce:

Unconventional oil and gas alone are expected to generate hundreds of billions of dollars in local, state and federal revenues, and create or support millions of American jobs. Continuing to optimize these valuable resources to help grow the U.S. economy will depend on smart energy policies that do not limit or restrict development. (*U.S. Chamber of Commerce Website*, [4/22/14](#))



21 Scientists’ Letter to Calif. Gov. Jerry Brown:

“In our research, we have found nothing to suggest that shale development poses risks that are unknown or cannot be managed and mitigated with available technologies, best practices and smart regulation.” (*Letter to Calif. Gov. Jerry Brown*, [12/18/13](#))



George Pataki, Former Governor of New York:

"The benefits of these natural gas reserves for our economy would be enormous, even transformational. Domestic natural gas waiting to be unlocked will give us the opportunity to reduce our dependence on foreign oil while making our air cleaner through the use of more natural gas in electric power generation and transportation." (*New York Daily News*, [12/1/11](#))



Carol Browner, Former Clinton EPA administrator

"There is no evidence that the hydraulic fracturing at issue has resulted in any contamination or endangerment of underground sources of drinking water (USDW). ... Moreover, given the horizontal and vertical distance between the drinking water well and the closest methane production wells, the possibility of contamination or endangerment of USDWs in the area is extremely remote." (*Letter to State Oil and Gas Board of Alabama*, [5/30/95](#))



Tom Corbett, Pennsylvania Governor:

"The exploration and production of natural gas from unconventional shale formations, such as the Marcellus and Utica, is nothing short of a game-changer. Advances in horizontal drilling and hydraulic fracturing techniques have enabled the safe extraction of natural gas from shale reserves once thought untouchable." (*State Energy Plan*, [1/21/14](#))



Jim Richenderfer, Director of Technical Programs for the Susquehanna River Basin Commission:

"The amount of water being reported to be used by this industry is out of whack...The amount of water being consumed by the gas industry is really not that much [when compared to other consumption sources]." (*Platts*, [6/28/11](#))



Daniel Yergin, IHS Vice Chairman:

"The unconventional oil and gas revolution is not only an energy story, it is also a very big economic story that flows throughout the U.S. economy in a way that is only now becoming apparent." (*Fox Business*, [9/4/13](#))



John Hickenlooper, Governor of Colorado and former petroleum geologist:

"Everybody in this room understands that hydraulic fracturing doesn't connect to the groundwater...It's almost inconceivable that we would ever contaminate, through the fracking process, the groundwater." (*Durango Herald*, [9/2/11](#))



Pennsylvania Department of Environmental Protection:

“Results of the limited ambient air sampling initiative conducted in the southwest region did not identify concentrations of any compound that would likely trigger air-related health issues associated with Marcellus Shale drilling activities.” (*Statement*, [11/1/10](#))



Hal Fitch, Michigan Department of Environmental Quality:

“As far as migration of gas or fracture fluids, we have never seen an instance where a fracture communicates directly with the fresh water zone.” (*Video*, [3/13/13](#))



Business Council for Sustainable Energy’s 2013 Factbook:

“Gas generators, which are inherently flexible technologies that can be easily ramped up and down to meet demand, are natural counterparts for variable resources such as wind and solar.” ([January 2013](#))



Center for Rural Pennsylvania:

“[S]tatistical analyses of post-drilling versus pre-drilling water chemistry did not suggest major influences from gas well drilling or hydrofracturing (fracking) on nearby water wells...” (*November/December Newsletter*, [12/11](#))



Mark Nechodom, California Department of Conservation:

“In California it has been used for 60 years, and actively used for 40 years, and in California there has been not one record of reported damage directly to the use of hydraulic fracturing.” (*National Journal*, [10/16/13](#))



Interstate Oil and Gas Compact Commission:

“IOGCC member states have all stated that there have been no cases where hydraulic fracturing has been verified to have contaminated drinking water.” (*IOGCC*, [Home Page](#))



Gina McCarthy, Environmental Protection Agency Administrator:

“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.” (C-SPAN, [12/2/13](#))

“There’s nothing inherently dangerous in fracking that sound engineer practices can’t accomplish.”



University of Southern California, Price School of Public Policy and Viterbi School of Engineering:

“As the experience in other states demonstrates, development of shale-oil reserves has resulted in significant increases in employment, incomes, and government tax revenues.” (Study: *The Monterey Shale & California’s Economic Future*, [3/13](#))”



Sally Jewell, Secretary of the Interior:

“Fracking has been an important tool in the toolbox for oil and gas for over 50 years”; “Some of the new techniques being used actually reduce the amount of footprint on the surface acreage”; and “By using directional drilling and fracking, we have an opportunity to have a softer footprint on the land.” (National Press Club, [10/31/13](#))

“I know there are those who say fracking is dangerous and should be curtailed, full stop. That ignores the reality that it has been done for decades and has the potential for developing significant domestic resources and strengthening our economy and will be done for decades to come.” (Real Clear Energy, [5/20/13](#))



Scott Perry, Director of PA DEP’s Bureau of Oil and Gas Management:

“After a million times across the country, no one’s ever documented drinking water wells that have actually been shown to be impacted by fracking.” (Forum at Misericordia University, [5/27/10](#))



Dr. Donald Siegel, Syracuse University:

“[T]here has been hardly any evidence, if at all, for groundwater contamination from fracking or gas wells.” (Michigan Capitol Confidential, [8/22/13](#))



Max Luke and Alex Trembath, The Breakthrough Institute:

“While natural gas production does pose serious environmental challenges, we believe that denouncing the shale gas revolution on environmental grounds is misguided.” (The Energy Collective, [7/18/13](#))



U.S. Department of Energy and Ground Water Protection Council:

"In fact, based on over sixty years of practical application and a lack of evidence to the contrary, there is nothing to indicate that when coupled with appropriate well construction; the practice of hydraulic fracturing in deep formations endangers ground water." (Report: State Oil and Natural Gas Regulations Designed to Protect Water Resources, [5/09](#))

"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." (Modern Shale Gas Development in the United States: A Primer, [4/09](#))



Scott Anderson, Environmental Defense Fund:

"I think in the vast majority of cases, if wells are constructed right and operated right, that hydraulic fracturing will not cause a problem. We think that states have every reason to be able to tackle this issue and do it well." (E&E New PM, [10/10](#))



John Hanger, former PA Department of Environmental Protection (DEP) Secretary:

"It's our experience in Pennsylvania that we have not had one case in which the fluids used to break off the gas from 5,000 to 8,000 feet underground have returned to contaminate ground water." (Reuters, [10/4/10](#))



PricewaterhouseCoopers LLP:

"The report's findings show that the oil and natural gas industry has a widespread economic impact throughout all sectors of the economy and across all 50 states and the District of Columbia. (Report: Economic Impacts of the Oil and Natural Gas Industry on the US Economy in 2011, [7/13](#))



Rhone Resch, CEO of the Solar Energy Industries Association:

"Natural gas and renewables complement each other very nicely." ([1/13](#))



National Energy Technology Library:

"Drilling fluids tagged with unique markers were injected more than 8,000 feet below the surface, but were not detected in a monitoring zone 3,000 feet higher. That means the potentially dangerous substances stayed about a mile away from drinking water supplies." (Associated Press, [7/13](#))



President Obama:

"Businesses plan to invest almost a hundred billion dollars in new factories that use natural gas." (*State of the Union*, [1/28/14](#))



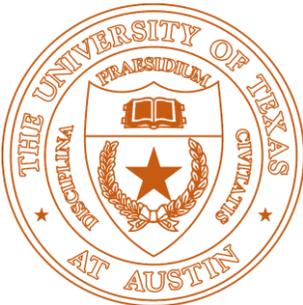
Adam Wygant, section chief with Michigan's DEQ Office of Oil, Gas and Minerals:

"While the magnitude of these projects are larger, the same basic process applies and we've seen that it has a good safety record." (*Associated Press*, [9/11/13](#))



Daniel Poneman, U.S. Deputy Energy Secretary:

"The natural gas boom in the United States offers a tremendous opportunity to strengthen American energy security by drastically reducing our dependence on imported oil, while at the same time creating new U.S. jobs and industries." (*Houston Chronicle*, [7/17/12](#))



Dr. Charles Groat:

"Drilling for natural gas in itself doesn't pose a threat to air and water quality, if it's done properly." (*Video*, [6/10](#))



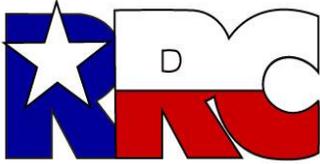
Dr. Richard Muller, University of California - Berkeley:

"Environmentalists who oppose the development of shale gas and fracking are making a tragic mistake." (*Report: Why Every Serious Environmentalist Should Favour Fracking*, [12/13](#))



Timothy Considine, University of Wyoming

"This study presents a compelling case that state oversight of oil and gas regulation has been effective." (*Forbes*, [5/15/12](#))



Elizabeth Ames Jones, Texas Railroad Commission:

“We have never had any instance of groundwater contamination from hydraulic fracturing — ever. For any fluid, frac fluid, to migrate up a mile, two miles to the water table is impossible. You are more likely to hit the moon with a Roman candle.” (*Houston Chronicle*, [6/3/11](#))



Jennifer Miskimins, Ph.D., Colorado School of Mines

“The goal is to minimize water usage, and to recycle the water that is used,” Miskimins said. “Ninety to 95 percent of the water used is recycled and is used to refracture. And we’re looking at other sources such as liquid nitrogen besides water to be used during the process.”

“The industry is not perfect,” Miskimins said. “We need energy and [fracking] is what we’ve developed on a worldwide scale. I’m a petroleum engineer. I’m not a sociologist. What I can tell you that we have 60 years of engineering in hydraulic fracturing research. We’re focused on monitoring this process at the university level. And I and my colleagues are looking at minimizing footprints.” (*Glenwood Business Journal*, [8/19/12](#))



Frank Blake, Home Depot CEO

“If you had said to me seven years ago, you’ll be opening a store in Minot, North Dakota, I would have asked, ‘Why?’ One of the great stories of the U.S. is the shale oil development, and it’s happening in areas where we don’t have a lot of stores now.” (*Wall Street Journal*, [4/16/14](#))



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mike Krancer, former PA Department of Environmental Protection (DEP) Secretary:

“The facts are that a diverse range of state and federal experts have stated, and are in agreement, that hydraulic fracturing has not contaminated groundwater.” (*The Intelligencer*, [6/17/11](#))



University of Michigan:

“Data gathered from hydraulically stimulated wells in other states does not show evidence of hydraulically-induced fractures extending into overlying fresh water aquifers.” (*Environment and Ecology Technical Report: Hydraulic Fracturing in the State of Michigan* [9/3/13](#))



Bob Anthony, Oklahoma Corporation Commission:

“No verified or documented instances of harm to groundwater from HF [hydraulic fracturing].” (*Woodford Shale Summit*, [3/30/11](#))

“We’ve used hydraulic fracturing for some 60 years in Oklahoma, and we have no confirmed cases where it is responsible for drinking water contamination — nor do any of the other natural gas-producing states.” (*News Oklahoma*, [8/6/10](#))



Adnan Amin, director-general, the International Renewable Energy Agency (IRENA):

“Shale gas at low cost can help to create a hybrid system,’ whereby more gas-fired power is fed to the grid, supplanting coal, and augmented by wind and solar.” (*Bloomberg*, [1/13](#))



Texas Commission on Environmental Quality:

“Overall, the monitoring data provide evidence that shale play activity does not significantly impact air quality or pose a threat to human health.” ([9/13](#))



Citigroup – Equity Research:

“Instead, our view is that natural gas and renewable energy investment are naturally complementary in the electricity-generation sector. Indeed, we believe that an increase in gas-fired power might ultimately assist renewable energy in gaining penetration in electricity markets, through its ability to provide peaking power to offset the intermittency of renewable sources like wind and solar.” ([9/12](#))



John Conrad, Senior Hydrogeologist for Conrad Geoscience Corporation:

“As a New Yorker and hydrogeologist whose business is focused on protecting the environment, I am confident that Marcellus shale development in New York will not come at the expense of our water resources.” ([10/11](#))



Gradient:

“It is not physically plausible for induced fractures to create a hydraulic connection between deep black shale and other tight formations to overlying potable aquifers, based on the limited amount of height growth at depth and the rotation of the least principal stress to the vertical direction at shallow depths. Therefore, direct hydraulic communication between tight formations and shallow groundwater via induced fractures and faults is not a realistic expectation based on the limitations on fracture height growth and potential fault slip.” ([7/13](#))



**Public Health
England**

Public Health England (PHE):

“The currently available evidence indicates that the potential risks to public health from exposure to the emissions associated with shale gas extraction are low if the operations are properly run and regulated.” (*Public Health England*, [10/13](#))



Dr. Richard Davies, Durham Univ. (U.K.):

"We have concluded that hydraulic fracturing is not a significant mechanism for inducing felt earthquakes. It is extremely unlikely that any of us will ever be able to feel an earthquake caused by fracking." (*New Civil Engineer*, [4/10/13](#))



Brad Wurfel, Michigan Department of Environmental Quality:

"New fracking technology is a potential game changer for this country. Michigan has a 50-year track record with this process and fracking has an amazingly clean record here." (*Detroit News*, [9/13/13](#))



Tim Kustic, California Division of Oil, Gas and Geothermal Resources:

"There is no evidence of harm from fracking in groundwater in California at this point in time. And it has been going on for many years." (*San Jose Mercury News*, [12/18/12](#)).



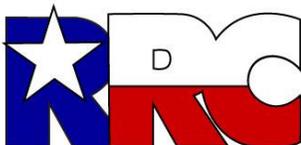
Heather Zichal, former Climate Advisor to President Obama:

"We know that natural gas can safely be developed, and to the credit of the industry there are many companies that are leaning into this challenge and promoting best practices for safer and more efficient production." (*Energy Tomorrow*, [5/15/12](#))



Wally Tyner, Professor of Agricultural Economics:

"The economic impact of shale oil and gas is clear: It is a game changer for the U.S. economy." (*Purdue Agriculture News*, [10/8/13](#))



Barry Smitherman, Texas Railroad Commission:

"We have no reported cases" of fracking contaminating groundwater. (*The Hill*, [5/23/13](#))



Mark Zoback, Stanford University:

“Fracturing fluids have not contaminated any water supply and with that much distance to an aquifer, it is very unlikely they could.” (*Stanford News*, [8/30/11](#))



President Obama:

“America is closer to energy independence than we’ve been in decades. One of the reasons why is natural gas.” (*State of the Union*, [1/28/14](#))



Kelvin Gregory, Assistant Professor of Civil and Environmental Engineering:

“There’s nothing in flowback water that’s particularly difficult for an environmental engineer to manage.” (*Philadelphia Inquirer*, [3/23/11](#))



THE BOSTON CONSULTING GROUP

Boston Consulting Group:

“Our research shows that cheap natural gas is already having a bigger impact on family budgets than many Americans think. Those benefits should grow in the years ahead as more of the cost savings from low gas prices are passed along to the end consumer.” (*Cheap Natural Gas Could Save U.S. Households as Much as \$1,200 a Year by 2020*, [12/18/13](#))



The Wall Street Journal, Editorial Board:

“But one of the biggest benefits from fracking and other new drilling technologies is often overlooked: the windfall to American consumers, especially the poor.” (*Wall Street Journal*, [9/6/13](#))



David Yoxtheimer, Hydrologist, Marcellus Center for Outreach and Research:

Concerns about chemicals used in the fracking process have been “overblown.” (*Washington Times*, [5/22/11](#))