

Selling Hydraulic Fracking: The Myth Of Energy Independence Used To Hoodwink The American People

By [Dylan Murphy](#) and [Jo Murphy](#)

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"Cheap energy [from oil and gas fracking] is making sure that America now has a manufacturing renaissance," Rahm Emanuel, Chicago Mayor and President Obama's former chief of staff told CNBC. Emanuel added. "The biggest revolution equal to the Internet is the energy independence in the United States."

In the last year the corporate media has been full of triumphant articles declaring that America is on the way to becoming energy independent thanks to oil and gas fracking. The hyperbole goes further declaring that fracking will lead to America overtaking Saudia Arabia as the world's biggest oil producer and so become an oil and gas superpower. This will spur an economic renaissance that will create large numbers of jobs while driving down electricity prices for consumers and industry. It gets even better. The crisis in Ukraine means that America can step in to save Europe from energy dependence on big bad Russia by exporting "clean" natural gas to Europe.

The objective behind these extravagant claims is to help sell the poisonous oil and gas fracking industry to an increasingly sceptical population that is pushing back against fracking in many areas.

In a recent address to people in Europe Dr. Sandra Steingraber, Distinguished Scholar in Residence at Ithaca College and science advisor to Americans Against Fracking, observed that America's population have been hoodwinked into believing the fracking industry's extravagant claims.

This hoodwinking has been achieved by an unholy alliance between the oil and gas industry and their puppets in Congress and a pliant mass media, which is an uncritical cheer leader for the industry.

Energy independence claims are also behind the push to sell U.S. fracking oil and gas abroad which would give a huge boost to the profits of the rapacious oil and gas companies.

Now let's pull back the curtain and look at the reality behind the extravagant claims made for hydraulic fracking.

The myth of unbounded energy independence exposed

The hype over the "shale revolution" which will allegedly produce a hundred years of cheap "clean " natural gas has gone into overdrive as the industry seeks to sell its product to the American people. Chesapeake Energy CEO Aubrey McClendon has claimed that oil and gas

fracking resources to be greater than "two Saudia Arabias". Such statements are to expected from the industry. However, these extravagant claims are repeated over and over again by the presstitute mass media and by the corrupt political class whose devotion to big oil and gas knows no bounds.

Energy anaylst Chris Nelder, has observed that:

"A fever has swept over American energy observers in recent weeks as they compete to write the most optimistic story of impending energy independence. ...Or if not a fever, then perhaps a mental illness, or heavy doses of good acid. Because as far as the data shows, none of these projections have any basis in reality."

Two major reports have exposed these massively over hyped claims as not corresponding with reality. J. David Hughes, a geoscientist who worked for 32 years with the Geological Survey of Canada, has produced a very detailed report called "Drill, Baby, Drill: Can Unconventional Fuels Usher In A New Era of Energy Abundance?" for the Post Carbon Institute. The other report that undermines the "shale revolution" myth is "SHALE AND WALL STREET: WAS THE DECLINE IN NATURAL GAS PRICES ORCHESTRATED?" by Deborah Rogers, a financial consultant who has worked for several major Wall Street firms.

The exuberant claims for America's energy bonanza are based upon vast increases in unconventional oil and gas production from hydraulic fracking. As J. David Hughes points out the United States is highly unlikely to become energy independent unless it drastically reduces its energy consumption.

Hydraulic fracking over the last 8-9 years has led to an explosion of natural gas production. Shale gas now accounts for 40% of U.S. natural gas production. However, shale gas production plateaued in late 2011. There are no media stories about this inconvenient fact that totally undermines the lies about one hundred years of natural gas production.

There are thirty shale plays yet only six of them account for 88% of shale gas production. Two thirds of fracking gas comes from three major plays: Barnett in Texas, Haynesville in Eastern Texas and Western Louisiana and the Marcellus play of Pennsylvania and West Virginia. However, production appears to have peaked in both the Barnett and Haynesville plays despite the growth in the number of operating wells.

The most productive wells, the "sweet spots", are drilled first. Then drilling moves on to the less productive wells. Due to the rapid decline in wells which ranges from 80-95% after 36 months there is a need to constantly drill new wells which is very capital intensive. Across America overall shale gas fields deplete at such a rapid pace that they require 30-50% of production to be replaced annually by more drilling.

It is estimated that 7,200 wells a year are needed just to maintain current levels of production. This translates to \$42 billion of annual capital investment just to maintain current production, this does not include leasing costs or the costs of other infrastructure such as pipelines and roads, etc. However, this investment was not covered by shale gas sales in 2012 which only amounted to \$32 billion. No wonder the oil and gas industry are screaming for the U.S. Congress to authorize export abroad where prices are much higher.

The problem facing the industry is that as production moves from the highest producing wells to lower quality areas then even more capital will be required for a lower rate of

return. This is sharply illustrated by looking at the Haynesville play.

In his report, "Drill, baby, Drill" J. David Hughes has observed that:

"Average well quality (as measured by initial productivity) has fallen nearly 20 percent in the Haynesville, which is the most productive shale gas play in the U.S., and is falling or flat in eight of the top ten plays. Overall well quality is declining for 36 percent of U.S. shale gas production and is flat for 34 percent."

Hughes predicts that once the six major shale plays go past their peak, which for Barnett and Haynesville appears to already have happened, then investment will decline as will production of gas which will, "facilitate considerably higher gas prices going forward."

To compound matters the EIA (Energy Information Administration of the U.S. Department of Energy) has drastically revised downwards its estimates of recoverable shale gas resources by a whopping 42% to 482 trillion cubic feet. This amounts to 24 years of supply at current production rates. Yet this underpins the century of gas claims made by the industry and trumpeted by the corporate press/media.

Hughes has commented that the EIA estimates of recoverable gas are overly optimistic bordering on the fanciful.

"This is an extremely aggressive forecast, considering that most of this production is from unproved resources, and would entail a drilling boom that would make the environmental concerns with hydraulic-fracturing experienced to date pale by comparison."

The prognosis for future production in the top 9 shale gas plays does not bode well for a century of gas. In 5 of the top 9 plays production is forecast to decline. Hughes observes that for the Haynesville, Barnett, Fayetteville, and Woodford plays, which collectively produce 68 percent of United States shale gas, terminal decline awaits them unless there is a dramatic increase in price and a massive increase in drilling.

Meanwhile, the huge Marcellus shale play which is touted as one that will help give America its energy independence will not be as productive as the industry had hoped. In 2011 the EIA claimed that the Marcellus shale play had an "estimated technically recoverable resource base of about 400 trillion cubic feet." However, in August 2011 the U.S. Geological Survey slashed the estimate of technically recoverable resources by 80% down to 43 trillion cubic feet.

Energy analyst Chris Nelder has observed:

"Assuming that the United States continues to use about 24 tcf [trillion cubic feet] per annum, then, only an 11-year supply of natural gas is certain. The other 89 years' worth has not yet been shown to exist or to be recoverable."

Industry insiders, more well versed in resource potential, support such assessments. John Hofmeister, the former chief of U.S. operations for Shell, stated in September 2012, "Unless something seriously changes in the next five years, we'll be standing in gas lines because there won't be enough oil to go around."

Hofmeister has admitted that to sustain growth the industry will need to drill wells at a rate “beyond the capacity of the industry as currently defined ...”

More worrying still is the fact the EIA estimates that an eye watering 410,722 wells will be required to recover the estimated 482 tcf reserves of shale gas! This would mean a huge increase in air pollution. Millions of truck journeys would be required (up to 1,975 heavy truck and 1,420 light truck round trips per well) never mind a massive increase in air pollution of methane and VOC's from drilling, fracking, cleaning of equipment and storage of gas. On top of this you have to factor in the hundreds of millions of gallons of toxic waste water to be disposed of and the billions of gallons of water required (between two and eight million gallons per well) to frack these wells. Many of which are in areas experiencing water shortages. To top it all off, you would probably see a large increase in the number of earthquakes which would be triggered by this vast increase in fracking across the country.

Arthur Berman, a Houston-based petroleum geologist, and petroleum engineer Lynn Pittinger have been sceptical for many years about the claims for shale gas. They have produced a detailed analysis of the inflated claims made for shale gas. They note that national policy decisions are being made on overly optimistic projections and wells that are significantly under performing original projections. Their analysis:

“... indicates that industry reserves are over-stated by at least 100 percent based on detailed review of both individual well and group decline profiles for the Barnett, Fayetteville and Haynesville shale plays.”

Along with shale gas there are over inflated expectations for shale oil. Chris Nedler has pointed out that shale oil also does not live up to the over hyped expectations:

“Alternatively, if we take the “energy independence” path and turn all of America into a pincushion, open all the wilderness, accept all the risks of freshwater contamination from fracking and salt-water contamination from offshore spills, and improbably raise oil production to meet ...all of our needs domestically, ... then we could drain the dregs in just 22 years.”

The business model of the fracking industry is simply unsustainable. The steep declines in production rates that happen once the more productive sweet spots have been drilled force them to keep up a frantic drilling programme that moves into less productive areas which have higher extraction costs. As production plateaus many companies find it more profitable to sell their leases and move on to more lucrative areas.

In August 2011 it was reported that Encana was selling all of its assets in the Barnett shale of North Texas. In a press release Encana stated:

“We’re going to focus our energies on our higher growth properties that are at earlier stages of development and have more opportunity for growth...The Barnett is not the best place for Encana to put its money.. It’s a mature area and the sweet spots have been drilled out.”

Some companies have found drilling to be increasingly uneconomic and resorted to making money from bundling up leases on land and selling them to foreign investors. Gas operators would drill a few wells and claim that the field was “proved up” with little evidence to support their claims of high production potential.

Aubrey McClendon, CEO of Chesapeake Energy, which is one of the biggest players in the gas shale industry, stated as early as 2008 that: "I can assure you that buying leases for x and selling them for 5x or 10x is a lot more profitable than trying to produce gas at \$5 or \$6 mcf."

Massive over drilling has resulted in falling domestic gas prices. Combined with significant reserve downgrades and under performance this has led to "massive write-downs of shale assets". Deborah Rogers has detailed the billions of losses recorded by many of major oil and gas producers.

Her report "Shale and Wall Street" notes how many companies are selling assets and starting to pull out of an industry still touted as one that will give the US energy independence and a massive boost to job creation.

"Industry is demonstrating reticence to engage in further shale investment, abandoning pipeline projects, IPOs and joint venture projects in spite of public rhetoric proclaiming shales to be a panacea for U.S. energy policy."

The Bakken oil play which is the most productive tight oil play in the U.S. provides a good example of this failing investor confidence. In November 2012 plans to build a \$1.8 billion pipeline to carry oil to a storage facility in Cushing, Oklahoma were abandoned due to lack of investor interest.

Rogers has noted the significance of this blow to the industry:

"This is of particular interest. Pipeline projects are expensive and require that a steady and consistent stream of gas or oil can be counted on for a long period of time in order to recoup initial capital outlay. Once initial capital is recouped, however, they tend to be cash cows. Given the steep decline curves for shale oil that are now readily apparent, it appears that operators recognize that the Bakken will not be a long-term play. As such, they are not prepared to invest the needed capital up front for a pipeline: again, a distinct lack of confidence in the long term viability of shales."

The big oil and gas companies together with their corporate mouthpieces in Congress and the press/media are trying to hoodwink the American people into accepting hydraulic fracking as being in the national interest. They dishonestly claim that fracking will deliver energy independence for America and thereby reduce its oil imports that will reduce America's trade deficit and deliver the added benefits of cheap electricity and large numbers of new jobs.

Across America local communities are facing an onslaught of increased drilling from the rapacious oil and gas industry with their inflated promises of multiple benefits. The goal of making these promises about energy independence, job growth and extra tax revenue for local authorities is to facilitate their primary goal of extracting oil and gas as cheaply as possible.

Deborah Rogers in her report, "Shale and Wall Street", exposes the true motives of the oil and gas companies:

"Platform rhetoric about energy independence is nonsense as most within the industry realize. Further, oil and gas companies are not in business to steward the environment, save the family farm or pull depressed areas out of economic decline. If these things

should by chance happen, they are merely peripheral to the primary mission of the companies Oil and gas companies are in the business to extract hydrocarbons as cheaply and efficiently as possible and get them to the customer that will pay the highest price. If they can shave dollars off already thin margins by refusing to use pollution control devices then that is precisely what they will do if it is not mandated, regardless of whether this will increase costs for a region due to pollution or negatively impact other industries.”

The ordinary people of the United States have a very simple choice to make. They can take the snake oil salesman claims of the fracking industry at face value and accept the poisonous consequences of a massive expansion of oil and gas drilling as America powers its way to an illusory energy independence. Or they can simply say no to more fracking and fight for an end to this toxic industry.

As Dr.Sandra Steingraber has pointed out, ” no evidence exists to show that it can be made safe through regulation” the only safe alternative is to ban fracking outright.

Failure to stop the frackers will have dire long term consequences. All of the talk about energy independence is merely a distraction from the need to deal with the day when all of the oil and gas has gone. It will take many decades to transition the infrastructure and economy to fossil free energy sources yet the political class dominated as it by big oil and gas seems intent upon using fossil fuels until they run out. Capitalism offers ordinary people a bleak future unless they take their destiny into their own hands and abolish an economic system with suicidal tendencies.

Raymond T.Pierrehumbert, Professor of Geophysical Sciences at Chicago University and a lead author of the third IPCC Third Assessment Report has noted the dire consequences of failing to move away from fossil fuel energy sources:

”Whales were driven to the brink of extinction before petroleum replaced whale oil, and we may well fry our planet—and bankrupt ourselves while doing so—before we’re finally forced to kick the fossil fuel habit. It will be hard to muster the resources to develop replacements for fossil fuel energy if we wait until both the economy and climate are in ruins.”

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[Jo Murphy](#)

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