

## **Hydrofracking: Energy vs. the Environment in NJ**

*Developed in the 1990's, a new "hydrofracking" process allows the extraction of hard to reach gas trapped deep in shale rock formations. This new technology allows for horizontal drilling, through a formation, for 1 ½ to 2 miles -- even under towns, cities, aquifers, and lakes. Up to 22 wells can be drilled from one site or well-pad.*

### **The Process:**

Releasing gas from the shale involves injecting and blasting it with millions of gallons of water, sand, and a cocktail of chemicals, including highly toxic ones (like toluene, benzene, and lubricants). The gas released is collected through holes drilled along the shaft and joins with the 15%– 25% of the injected water which flows back to the surface. Most of the water remains in the earth, no longer available for drinking or future use. The highly toxic waste water is loaded with salts, radon and other toxic deep earth elements including heavy metals (arsenic, barium, chromium, lead and others) and it includes chemicals that can cause cancer and are endocrine disruptors. The industry has yet to develop a process to safely treat fracking waste water and has tried to rely on deep well injection to dispose of it.

This process has spread to 34 states. After the Bush Cheney Energy Act of 2005 excluded 'hydro-fracking' from having to comply with the Clean Water Act, Clean Air Act, Safe Drinking Water Act, and Superfund Act, a virtual "Gas Rush" ensued. Companies are aggressively pushing to obtain mineral rights and drilling permits to extract gas in the northeast in the Marcellus, Utica, and other shale -- and, increasingly, foreign countries like Russia & China are major investors. The National Park Service estimates the watershed of the Delaware River in PA and NY could see up to 54,000 wells built.\* Pipelines are being expanded in NJ, including under a reservoir and through the "protected" Highlands. Industry plans to export it off NJ as Liquefied Natural Gas (LNG) to raise its domestic price significantly and increase profit margins. Even densely populated NJ sits upon deposits of gas bearing shale that are sought after in PA and drillers already want NJ to treat the toxic waste.

### **Environmental Impact:**

The construction of well pads, access roads, pipelines and compressor stations in areas we rely upon to protect drinking water means forested areas are clear-cut, stormwater runoff increases, and the recharge of aquifers is reduced. The landscape is industrialized with a grid of well pads to provide optimum access to the gas deposits. Gas companies so far have been reluctant to accept the responsibility for road repairs or contamination of air, water, soil, people and animals. The Clean Air Council estimates that, over a period of 20 years, methane emissions will have [72 times](#) more climate warming potential than carbon dioxide. \*\*

### **Impact on Our Water Supply & Air:**

In their 2010 Report, "American Rivers" listed the Delaware River as the most endangered river in the U.S. due to the threat of impacts from natural gas extraction on it, and thus on the drinking water of more than 15 million residents in NY, PA, and NJ (where one-third of our residents depend on this source for drinking water).

Horizontal hydrofracking uses an average of 5 million gallons of water per well. This water must come from somewhere. The impact of such huge withdrawals on rivers and aquifers can be severe. Much of the fracking wastewater remains in the earth and can migrate through fractures, causing other problems. Studies have shown that fracking is linked to aquifer pollution and earthquakes. Protecting the public

\*National Park Service projection

\*\*Intergovernmental Panel on Climate Change

from air pollution, well casing failures, accidental spills and leaks of toxic wastes into soils and surface water will be almost impossible. People, livestock and food crops close to drilling sites and compression stations are affected when toxins evaporate into the air and settle on the soil. Furthermore, budget cuts in New York and Pennsylvania have left government monitors short-staffed and unable to cover the situation adequately, if at all.

### **Moratorium:**

Though it could be lifted at any time, the Delaware River Basin Commission (DRBC) has a moratorium on hydrofracking in place to protect the quality and quantity of the water and the Scenic Upper Delaware. The Rules they would adopt are opposed by LWVNJ for not waiting for the EPA study on impacts on water supply to be completed. The NJ Water Supply Master Plan has no provision for supplying water to the one-third of NJ residents relying on the Delaware if it is compromised. The Fracturing Responsibility and Awareness of Chemicals (FRAC) Act has been re-introduced in Congress and it would bring the hydrofracking industry back under the purview of the EPA. Passage is in doubt, however, since the industry has contributed support to many legislators. It is clear that there is a need for more study and regulation of this industry before this can be considered a "safe" way to obtain natural gas.

### **For Further Information:**

[http://www.nytimes.com/interactive/us/DRILLING\\_DOWN\\_SERIES.html?\\_r=0](http://www.nytimes.com/interactive/us/DRILLING_DOWN_SERIES.html?_r=0) - New York Times.

[www.ProPublica.org](http://www.ProPublica.org) - Investigative reporting on drilling and deep well disposal issues.

[www.endocrinedisruption.org/chemicals.videoplayer.php](http://www.endocrinedisruption.org/chemicals.videoplayer.php). Video by scientist Theo Coburn.

Google "Gasland" for information on the documentary. Google "Jonah Field" to see drilling pad grids.

[www.thetimes-tribune.com/news/gas-drilling](http://www.thetimes-tribune.com/news/gas-drilling) -- a series of articles on drilling in Pennsylvania.

<http://desmogblog.com/fracking-the-future/> - Executive Summary –

<http://desmogblog.com/fracking-the-future/desmog-fracking-the-future.pdf> - Full PDF Version (5MB).

<http://enviropoliticsblog.blogspot.com/2011/03/pennsylvania-farmers-terry-greenwood.html> Video includes some farmers discussing their experiences.

To learn more and take action view <http://www.delawareriverkeeper.org/act-now/index.asp>



*The Allegheny Defense Project (PA)—The U.S. Forest Service predicts that over two-thirds of the Allegheny National Forest in Pennsylvania is threatened with full "mine-out" conditions by the oil and gas industry. Full "mine-out" is defined as oil and gas wells spaced every 500 feet across the landscape with associated roads, tank batteries, generators, waste water impoundments/pits etc.*

*Photo by Allegheny Defense Project*