

Hydraulic fracturing in the usa

[Science](#), [Geography](#)



Advantages and disadvantages of hydraulic fracturing affiliation Advantages and disadvantages of hydraulic fracturing There are massive reservoirs, in shale formations, of crude oil together with natural gas in the US for decades. With the aid of geologists, the United States energy and mining departments have been trapping these natural gas and oil and other minerals using both horizontal drilling and hydraulic fracturing technologies. In spite of the environmental safety and health concerns, hydraulic fracturing of wells make up of 67% of natural gas and 43% of oil productions in United States. About 95% of oil and gas wells were hydraulic fractured in 2013. Hydraulic fracturing facilitates the extraction of the natural gas and oil located more than ten thousand feet deep under the sedimentary rocks. Fracking open up fractures in the rocks allowing oil and gas to flow. Drilling alone cannot be used to extract trapped shale gas in thin layers between the rocks. Therefore, gas and oil producers in the United States have deployed hydraulic fracturing to facilitate the mining into large shale natural gas and oil deposits.

The use of the hydraulic fracturing to extract natural gas and oil has ensured a long-term energy security outlook in the United States. This is due to the ability to exploit the shale. In this regard, the crude oil reserves have been bolstered by 11% and led to 47% surge in gas reserves across the United States.

Fracking has reduced dependence on foreign energy sources, and as results the cost of energy has reduced helping to revive the economy. Therefore, there is a direct reduction of importation of natural gas. With hydraulic fracturing, there has been an expansion in the employment sector especially

in the United States. The industry engaging on natural gas and oil production has employed more than 1.2 million people in the United States.

Extracting underground minerals using hydraulic fracturing has some negative effect on water. The mining process requires millions of gallons of water. Therefore, water gets trucked around the shale and directed into the well; thus there is a diversion of water from other uses by the neighboring communities (Schultz, 2012). Moreover, some hazardous chemicals mixed with water may find the way into the fresh water aquifers especially if there exist poorly constructed wells. This endangers the health of organisms using such water.

Hydraulic fracturing process together with the injection of wastewater into deep wells practice, cause minor earthquakes to shale exploitation areas. The survey of geologists of the United States has revealed that some tremors from hydraulic fracturing can cause damage to property and land. This safety concern has been experienced in some countries such as Ohio where an injection of wastewater into a well caused small earthquakes in Youngstown the year 2011.

A lot of people have lost their lives while executing hydraulic fracturing processes. Some have inflicted injuries and permanent deformation. The hydraulic fracturing process has also raised concern about the greenhouse gas methane and liquids leakages. By statistics, the shale gas production emits more than million tons of methane gas annually. This got affirmed by the estimates of the federal government. The leakages contribute to environmental pollution (Holloway & Holloway, 2013).

Reference

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Schultz, A. (2012). Hydraulic fracturing and natural gas drilling: questions and concerns. New York: Nova Science Publishers.