

Critical analysis of fracking

Business



Section I – Critical Analysis Problem The United States is facing an energy crisis.

Dependence on foreign oil has led to geopolitical conflict, and global fossil fuel consumption is damaging the environment at an alarming rate. Add to this an exploding world population, and it is clear that the US needs to find an alternative source of energy. Question Can the natural gas deposits in the Marcellus Formation, extracted through fracking, be the solution to the United States' energy problem? Purpose The purpose of this analysis is to examine the process of extracting natural gas in shale deposits—Horizontal High Volume Slickwater Hydraulic Fracturing, or “Fracking”—and determine the long-term viability of this process. Information •The Marcellus Formation is a region of marine sedimentary rock that stretches through Pennsylvania, New York, Ohio, Maryland, New Jersey, and into parts of Canada. •Fracking is a process by which millions of gallons of water, sand and chemicals are injected at high pressure down and across into horizontally drilled wells.

The pressurized mixture causes the shale to crack, releasing methane gas.

- Scientists believe that there is enough natural gas in the Marcellus Formation to meet the United States' energy needs for the next 14 years.
- Economic data from sites in Pennsylvania suggests that fracking effectively creates jobs and benefits local economies.
- Scientists at Cornell University published a study which concluded that fracking was roughly twice as damaging to the environment as coal.

Assumptions •The major assumption surrounding fracking is that a substantial amount of the gas in the Marcellus Formation can be extracted. The reality is, recovery rates vary widely by well.

- There is a great amount of academic research done on the subject of fracking. A major assumption to this research is that it is unbiased. Educational institutions are believed to be impartial, but that is not always the case. In particular, many believe that Penn State is biased toward fracking because much of their research and grant funding comes from the oil and gas industry. Implications If the US solves its energy crisis, the decrease in dependence on foreign oil could lead to greater geopolitical stability. • A viable energy discovery of this magnitude could be a strong catalyst to create jobs and kick start the US economy.

- If environmental concerns are not taken into consideration, this energy discovery could lead to increased environmental damage, and health problems for American citizens. Concepts Important concepts include:
 - Economic Realities versus Political Motivations
 - Genuine Environmental Concerns versus Political Activism
 - Conflicts of Interest Health and Safety
 - Global Warming
 - Balancing Economic Benefits with Environmental RealitiesPoint of View • I believe business's #1 concern is making money – that's what they want to do. • I believe business will try to get around environmental concerns by lining the pockets of regulators, researchers, or anyone else. • I believe fracking could be a useful tool to help solve America's energy woes. • I believe it is foolish to completely abandon fracking because of environmental concerns. But I also believe that environmental concerns need to be taken seriously.

Solution Support fracking, but strongly regulate it. Assign a task force to draft strict standards of practice for fracking, and hold companies accountable for the impact their operations have on the environment.

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Section 2 – Fracking Piece (596 Words) Fracking: The Silver Bullet to America's Energy Woes? Mount Pleasant is a modest borough 45 miles southeast of Pittsburgh, PA. Historically, this small town of just over 5000 was home to a glass- and coke-making industry. But more recently, Mount Pleasant has become the center of a national controversy surrounding a new technology: fracking.

Fracking—or Horizontal High Volume Slick Water Hydraulic Fracturing—is the process used to extract natural gas from shale. It involves pumping water, sand and chemicals at high pressure down and across into horizontally drilled wells. The pressurized mixture causes the shale to crack, releasing natural gas and allowing it to flow up the well. It just so happens that Mount Pleasant, PA sits right on top of one of the richest regions of natural gas shale in the world: The Marcellus Formation. Scientists have known about the Marcellus Formation for decades.

But it wasn't until 2008, that Terry Engelder—Penn State University Professor of Geology—discovered the Marcellus Formation contains enough natural gas to supply the US for the next 14 years! Upon learning of the discovery, government and industry officials alike praised fracking as a “ silver bullet” for America's energy woes. Less than a year later, Range Resources began their fracking operation in Mount Pleasant. Companies like Range Resources have set up hundreds of fracking wells in towns like Mount Pleasant, PA. And business is booming. A study released by Penn State showed that during 2010, Pennsylvania natural gas development generated \$11. 2 Billion in regional GDP, and supported nearly 140, 000 jobs.

The same study predicted that by 2020, those numbers would almost double. ⁵ But, many argue that fracking causes more harm than good. In March, 2011, three professors from Cornell University released a study examining the environmental impacts of fracking. Their analysis showed that natural gas extraction produces 1.5 to 2 times the amount of greenhouse gas as coal or diesel over a 20-year timeframe. Clearly, this is not acceptable.

Fracking, as with many issues pitting business against environmentalism, is fraught with controversy. Those on the side of business argue that fracking is completely safe, and should be unregulated and tax-free. But, those in the environmental community argue that economic benefits are grossly overblown, and that environmental costs far outweigh the benefits in the long term. Our opinion lies in the middle. We believe that the US should support fracking.

The economic potential of this new technology is undeniable. But, we also believe that fracking should be highly regulated, to help avoid environmental damage. Congress should draft new environmental and production standards specifically addressing fracking, to address the following:

- Well Construction
- Venting and Equipment Maintenance
- Minimizing Processing Losses
- Transport, Storage and Distribution
- Sealing and Maintenance of Sealed Wells
- Special Standards for Fracking Wastewater Treatment

In this way, towns like Mount Pleasant can continue to enjoy the economic benefits of natural gas extraction, and avoid the environmental pitfalls inherent in the process. Fracking is not a silver bullet, but properly regulated, it could be a useful tool to help solve America's energy woes.

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