The False Promises of Shale Gas

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I don't think there can be many things as heartbreaking as seeing pristine countryside ruined. By outsiders. Especially when that countryside is where you were raised. Companies drilling for shale gas in the now famous Marcellus shale deposits that stretch from New York through Pennsylvania are exploiting landowners, contaminating groundwater and littering the land with drilling rigs lit up so they taunt you even at night.

Growing up in Wyoming County in the 1970's and 80's, I remember spending summers canoeing the upper reaches of the Susquehanna River, and swimming in Bowman's Creek or any number of lakes. My parents moved to Tunkhannock in 1965 to raise a family in a quiet, bucolic town far away from the coal towns that stretch from Scranton to Wilkes-Barre where they grew up.

Tunkhannock is a place of meadows, fields, forests and the Endless Mountains. It is a place of incredible beauty, and Boy Scouts allowed me to explore the countryside and taught me to leave the place better than I found it. The companies descending upon northeastern Pennsylvania come from places like Texas; they aren't interested in preservation – only profits. There are no numbers of Scouts that can fix the damage that these companies are exacting on and under the countryside.

More than a decade ago, somewhere around the time that Tunkhannock added a second traffic light, my parents moved to a very rural spot about ten miles north of town to be closer to the land that they loved. My mother passed away 2 years ago; it would have broken her heart to see what is happening in her backyard. My father's heart is twice broken.

Proponents of shale gas claim that it will deliver energy independence. This does not stand up to the scrutiny of history. In the early 1800's 90% of America's energy was supplied by wood, and 10% by coal; by 1910 those numbers were roughly reversed with petroleum and natural gas entering the mix. By 1970, roughly half our energy was supplied by petroleum, and the U.S. produced about 10 million barrels per day; current production is half that. Petroleum still supplies about 40% of our energy supplies, and consumption has risen dramatically to 20 million barrels per day, requiring us to import most of the petroleum that we use in a vast number of products, including gasoline, kerosene, industrial feedstocks, lubricants and chemicals. No amount of natural gas will provide independence from our reliance on petroleum.

In fact, shale gas helps lock us into a viscous cycle of fossil energy dependence. A century ago, oil gushed from wells with little effort. Now, companies expend inordinate amounts of money on complicated and risky technologies to extract a diminishing resource. And when these systems fail, the consequences are severe:

witness the tragedy of the Deepwater Horizon failure where 11 men lost their lives while attempting to extract oil from miles beneath the surface of the sea. Mountaintop coal mining in West Virginia and petroleum extraction of tar sands in Canada are two of the most egregious examples of environmentally damaging methods to extract fossil energy from the earth. Add to that list shale gas mining. Since the gas resides in dense shale with low permeability, a hydraulic fluid is pumped down the borehole at high pressure to artificially fracture the shale and release the gas. It is no surprise that the industry claims that contaminated drinking water and exploding water wells are caused by their "frac'ing" methods – apparently they claim it is coincidence that wells that have supplied clean drinking water for generations are suddenly polluted with natural gas.

It is only possible to speculate on the full extent of the effects the hydraulic fluid may have on the environment, since some of the companies claim that the composition is proprietary and refuse to release information about the chemical make-up.

Perhaps the greatest irony might be the federal government's expectation that shale gas would provide an energy supply that could help reduce greenhouse gas (GHG) emissions since the combustion of natural gas has lower GHG emissions than coal or petroleum. In fact, a recent study[1] shows that shale gas likely has greater GHG emissions than coal and oil when methane leaks are included.

Energy independence is a false promise. And energy security is possible only when we transition to sustainable supplies that don't take such a huge toll on the environment. So many generations have provided good stewardship of the land that giving up on that now must have past landowner turning over in their graves. Or, maybe that's just a result of the frac'ing.

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[1] Robert W. Howarth, Cornell University, "Preliminary Assessment of the Greenhouse Gas Emissions from Natural Gas Obtained by Hydraulic Fracturing", 17 April, 2010.