Strike Three for Fracking?

By JOHN C.K. DALY, *Oilprice.com*

The last decade has seen a sustained campaign by the hydraulic fracturing (“fracking”) industry against its critics, as the fracking industry in the U.S. alone was worth an estimated $76 billion in 2010 and is projected to grow to $231 billion in 2036, if only those pesky environmentalists can be sidelined. According to Washington's energy Information Administration, production of shale gas in the United States in 2010 totaled 4.87 trillion cubic feet (tcf) compared with 0.39 tcf only a decade earlier.

The combination of horizontal drilling and hydraulic fracturing has already transformed North America's natural gas market in less than half a decade. In 2000 shale gas was 1 percent of America's gas supplies; today it is 25 percent. While U.S. energy companies began fracking for gas in the late 1990s, there was a dramatic increase in 2005 after the administration of President George W. Bush exempted fracking from regulations under the U.S. Clean Water Act. According to Washington's energy Information Agency, shale gas production has grown 48 percent annually.

But there still some snakes to be chased from the industry's campaign to convince the electorate that natgas produced by fracking is safe, as on December 8, the Environmental Protection Agency said for the first time it found chemicals used in fracking in a drinking-water aquifer in west-central Wyoming.

Soothing the electorate, the industry group Energy in Depth reported, "The history of fracturing technology's safe use in America extends all the way back to the Truman administration, with more than 1.2 million wells completed via the process since 1947."

And the feds are backing fracking as well, as a new estimate from the U.S. Department of Energy, estimates that the national gas resource can be sustained

for 110 years at current consumption rates.

Numbers?

In 2009 an industry-financed study reported that 622,000 people are directly involved in the discovery, extraction and distribution of U.S. natural gas.

As for "insider" influence, in 2005 former Vice President Dick Cheney, in partnership with the energy industry and drilling companies such as his former employer, Halliburton Corp., successfully pressured Congress to exempt fracking from the Safe Drinking Water Act, the Clean Air Act and other environmental laws.

Even worse, a report released the following month by the U.S. National Center for Atmospheric Research noted that switching from coal to natural gas as an energy source could result in increased global warming, mainly due to the methane leakage problem, which is common but unregulated.

In a further potential federal sandbagging of the natgas industry, the federal Environmental Protection Agency, which studied fracking and deemed it safe in 2004, is taking another, broader look at the practice and may end up taking a more active role, with a broader study expected to be finished next year.

Maalox moments all — but now fracking is being charged with contributing to global warming by releasing substantial amounts of methane, a greenhouse gas 20 to 100 times more potent than carbon dioxide. According to Igor Semiletov of the International Arctic Research Centre at the University of Alaska Fairbanks, “Each methane molecule is about 70 times more potent in terms of trapping heat than a molecule of carbon dioxide.”

Professor Robert Howarth, Professor of Ecology and Environmental Biology and director of Cornell's agriculture, energy and environment program has noted that his research shows that one well-pad fracking shale gas would emit more greenhouse gases than a community of 100,000 people in a year. Methane already accounts for a sixth of U.S. greenhouse gas emissions (GGEs). In addressing earlier concerns about the pollution impact of fracking Dr. Howarth wrote in Boston University's Comment 14 September article, “Should Fracking Stop?,” “Many fracking additives are toxic, carcinogenic or mutagenic. Many are kept secret.”

In the United States, such secrecy has been abetted by the 2005 “Halliburton loophole,” which exempts fracking from many of the nation's major federal environmental-protection laws, including the Safe Drinking Water Act ... Fracking extracts natural salts, heavy metals, hydrocarbons and radioactive materials from the shale, posing risks to ecosystems and public health when these return to the surface ...

Because shale-gas development is so new, scientific information on the environmental costs is scarce. Only this year have studies begun to appear in peer-reviewed journals, and these give reason for pause.”

Even worse, during the UN climate change conference in Durban last week, Dominic Frongillo, a town councillor from Caroline, New York, which is atop the Marcellus Shale seam, estimated to contain 489 trillion cubic feet of extractable natural gas noted that “Before I left for Durban, Professor Howarth told me that ‘preventing unconventional gas extraction could be the number one thing we could do in the short term to control growth of U.S. greenhouse gas emissions.’”

According to Professor Howarth, “Methane is an incredibly potent greenhouse gas ... Our research indicates that methane makes up more than 40 percent of the entire greenhouse gas inventory for the U.S. ... We really need to get this methane leakage under control, if we are to seriously address global warming.” His paper, “Methane and the greenhouse gas footprint of natural gas from shale formations,” written with Renee Santoro and Anthony Ingraffea of Cornell concluded that shale gas is more polluting than oil and conventional natural gas, noting, “The footprint for shale gas is greater than that for conventional gas or oil when viewed on any time horizon, but particularly so over 20 years. Compared to coal, the footprint of shale gas is at least 20 percent greater and perhaps more than twice as great on the 20-year horizon.”

The pushback has already started, with a number of his Cornell colleagues questioning Dr. Howarth's research methodology. See Lawrence M Cathles III, Larry Brown, Milton Taam and Andrew Hunter, “A Commentary on ‘The Greenhouse gas footprint of natural gas in shale formations’ by R.W. Howarth, R. Santoro, and Anthony Ingraffea” @ http://cce.cornell.edu/ [1].

What is clear is that while Cornell's faculty is divided over the consequences of fracking, the industry has impacted the university's Board of Trustees, which among other things oversees the university's $5.28 billion endowment fund. According to the 16 February 2010 edition of the “Cornell Sun,” “Chairman of the Board of Trustees Peter Meinig '61 is one of the most powerful decision-makers at Cornell. But as the University begins a long process to consider whether it should lease its land in the Marcellus Shale to gas drilling companies, Meinig's former ties to the natural gas industry has raised some eyebrows in the Cornell community and beyond. From 1993 to 2001, Meinig served on the board of directors of Williams Companies, Inc, one of the nation's largest natural gas companies. A Fortune 200 company that generated $1.42 billion in profits in 2009, Williams transports about 12 percent of the natural gas consumed in America everyday and has interests in the Marcellus Shale basin, according to the company's website.”

What is clear is that the impact of natural gas hydraulic fracturing at Cornell has turned into a mounting academic storm with passionate advocates on both sides of the fence. It is notable that Cathles', Brown's, Taam's and Hunter's critique features prominently on the website of America's Natural Gas Alliance,” (ANGA) a pro-industry advocacy group.

Let the games begin!

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