

Paul Dolan
Chairman, Economic Forum Deutschland e.V.
Germany
Rebuttal to “fracking” and to
Mr. Walter Russell Mead’s article, “Energy Revolution will Change Everything,”
appearing in the magazine, The American Interest on July 17th, 2012.

The article authored by Mr. Mead, appearing in this week’s *The Atlantic Interest*, raises hopes for an energy revolution revolving around a controversial technology known as “hydraulic fracturing,” or “fracking.” While the technology has been enthusiastically embraced by big-oil and big-energy companies, and is, indeed, creating welcome jobs in remote areas of the USA and other places around the world, fracking is a dangerous and unacceptably risky approach to dealing with national energy requirements. A breakdown of the costs and benefits of the fracking technology will conclude this rebuttal to Mr. Mead’s theses.

Mr. Mead’s article detracts the reader from the harmful effects of fracking and focuses on the uncertain economic and political benefits of recovering methane gas trapped in sand and shale miles below the surface of the earth by boring thousands of close-interval wells across the country using the fracking technology.

The author’s enthusiasm for the bi-products of fracking, which include the renaissance of industry in so-called deserted plain-state regions, as well as the supposed growth of political conservatism in those areas, ignores both,

- a) the growing acceptance of renewable and alternative energies as safe sources of the same economic growth; and
- b) the dangerous consequences of fracking for human and animal life as well as the long-term pollution of air, water and the environment.

Mr. Mead’s closing paragraph admits that certain elements of fracking “require further investigation over time to mature”...a modest conciliation to a technology, which without any doubt, is one of the most daunting challenges to threaten life and the environment in our country since the onset of the industrial revolution!

Fracking proponents are suggesting that by boring 112,000 wells by the year 2015 (more than 22,000 wells each year) – **only** in the state of Pennsylvania - the national energy requirements for a 36-month period could be covered. But - what does green Pennsylvania look like after that? What state is next – North Carolina? Consider also, that one bore hole using fracking requires five million gallons of water loaded with a variety of poisonous chemicals comprising the fracking solution in order to release the gas from the shale rock deep below the Earth’s surface.

Assuming there were no alternatives to energy production, fracking would be at the bottom of the list of alternatives simply because of the ominous chain of unacceptable consequences that accompany fracking.

Fortunately, there are a number of attractive alternatives to fracking at the opposite end of the spectrum clustered under “Clean Technologies” – a term welcomed by most people but feared most by Big Oil and Atomic Energy producers.

The Swan Song for Big Energy?

For this reviewer, Mr. Mead's article reads like a swan song for big energy companies, as the emergence of distributed energy plants and home-energy centers continuously gain popularity. His attempt to glorify nineteenth-century America and mining camps, which grew into towns and the melodramatic perception that new towns will grow up on the forgotten plains of the Midwest, rising up around fields of gas wells, is grotesque. Imagine raising children in areas where the ground water and air are polluted, where faucet water may become flammable, and where drilling makes the land earthquake prone.

What about Clean Tech?

The author totally neglects the "**clean tech**" revolution in, for example, the fields of architecture and construction, wind, water and solar energies, eMobility, biofuels and biomass, deep geothermic, smart grids and the vast savings emerging with the innovative integration of the agrarian and the energy economies. Each one of these technologies will create new companies, jobs and vast new areas for education and training. While all of these technologies reduce CO² in the atmosphere and thus contribute to slowing global warming, the author makes no mention of how fracking and burning fossil fuels achieves the opposite. The *real energy revolution* is changing everything, as the author suggests in the title of his article, however, the revolution is in the area of clean technologies, not fracking.

Permit me to augment the author's final paragraph, which reflects his growing cognizance of the world around him and contains his cautious reservation regarding fracking. To illuminate his reservations, let us study for a moment the work of Professor Anthony R. Ingraffea of Cornell University in the state of New York. He is a popular speaker and an internationally recognized expert in the fields of civil engineering, aerospace and hydraulic fracturing. Among Dr. Ingraffea's many books and article, readers can find the article, he co-authored, "Structural Life Forecasting in Extreme Environments," published in 2009. He points out in his lectures, also viewable on YouTube, that:

- **Five million gallons of water** are required for each well bored.
- The cost of **attempting** to find gas with fracking methods runs from \$4-\$6 million per well – without any guarantee of success.
- Using Pennsylvania as an example, **eight well per square mile** is planned.
- With every borehole there is a risk of **deadly hydrogen sulfide gases** escaping from deep within the Earth killing both workmen and endangering surrounding life.
- **Dangers accompanying fracking** come from above the ground as well as from the borehole itself:

Above ground – spills of toxic fracking fluids, storage, transport and seepages.

Explosions far below the surface of the Earth can cause structural damage to homes and buildings. Methane gas seeping from water faucets in homes can catch fire.

Below ground - migration of drilling fluids, chemicals and gasses coming back up through the borehole; rupturing of pipes and casings under tremendous pressures from water and sands being pumped into the well; spectacular blow-outs, in which a new borehole connects with a one forgotten and spews out contaminated fracking fuel up through the old borehole over the countryside.

Concluding this rebuttal, it must be clear that the risks of fracking out-weigh the benefits. Moreover, fracking detracts from the more important and far more attractive and achievable goal of capitalizing on the renewable energies revolution and Clean Tech.

The proponents of fracking such as "Big Oil" will fight for fracking with great sums of money and arguments. However, let us be aware of what is at stake.