Guest comment

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When the shale boom began in the US a few years ago, both the mainstream media and social media were rife with horror stories about the dangers of fracking. Most of the stories were just not realistic, but more designed to (at least in the case of mainstream media) attract viewers and sell more papers. And of course, social media will pick up on anything, true or not, and pass it along faster than you can say 'Facebook'.

As a result, many people in the US became fearful about unconventional production; and understandably so – if that was the only information you based your opinion upon.

Now, I'm fully aware that the demographics of *Oilfield Technology* are primarily made up of colleagues in the oil and gas industry, but I'd like to dispel some of the fears that many people seem to still carry with them regarding fracking, specifically for the UK, where the industry is basically still in its infancy.

Regarding the possibility of groundwater contamination, it's important to note that drinking water generally comes from less than 50 m underground. Shale rock and fracking usually occurs at 2000 m or more. In between all that are numerous layers of steel and concrete encasement.

The abundant safety measures taken by the drillers and service and production companies, as well as the governmental regulations have proven to be very effective in the US. Many studies, both government-sponsored and independent, have been completed, virtually all with the same results – no evidence that hydraulic fractures can grow from miles below the surface to the fresh water aquifers. There's always a risk when drilling wells, but it's important to remember that the UK's regulations are even more stringent than those in the US.

Now, what about fracking-induced 'earthquakes'? Earthquakes are shifts in the tectonic plates of the earth. If you live along a fault line, there is always a chance that the shifting of the plates may cause an earthquake. But fracking does not cause shifts in the tectonic plates. Fracking has been known to cause 'tremors', small underground shifts which generally measure less than 3.0 on the Richter scale. While these tremors can be disconcerting, there is no substantiated evidence that fracking has caused what would be classified by geologists as an earthquake.

Another fear making the rounds in the UK is that fracking takes so much oil out of the ground, that there is a possibility buildings could fall into a sinkhole. Not likely. The UK has seen an increase in the number of sinkholes in recent years, but, as *The Guardian* pointed out in a recent article, most of those were due to the rock located beneath the surface in most areas of the UK. It's primarily a gypsum-based layer under the surface, which with over-irrigation (very prevalent on the UK), causes the gypsum to erode away and cause isolated sinkholes. None of this has anything to do with fracking, since fracking is done thousands of meters below the surface, and the empty areas are quickly replaced with water and spent fluids, leaving no room for any type of sinkhole or collapse.

Now let's talk a little about noise pollution (and no, I'm not talking about rap music). The truth is, when a well is initially being drilled and during the time that fracking fluids are being injected into a well, the diesel-powered pumps and engines being used can get pretty loud, as can the vehicle movements that need to bring in the water. But both the UK and the US have restrictions on 'noise pollution' and the times when this can be done. Also, rarely are wells drilled and fracked in residential neighbourhoods.

Another common objection frequently used by anti-fracking groups is that phenomenon known as 'flaming water', made popular by a recent anti-fracking film, and viewed ad infinitum on YouTube. Indeed, there have been a handful of occurrences in the US where the water from a residence actually flared when matches were held to a running stream of water from a tap. But in virtually every instance, fracking was not being done anywhere near the affected homes. Naturally occurring gases, including methane, will oft times leech through the soil and into a drinking water well. These are very isolated occurrences, and have nothing to do with fracking.

OK, so we've covered the mis-information and the negatives regarding fracking. Now let's look at a couple of the positives.

For the UK and the EU not having to rely on Russia as a main source, the dawn of the new oil and gas boom could allow for greater energy independence, and in the long run, greater security.

Most of the estimates of gas in shale in the US were inaccurate; they all underestimated what was there, with totals being upgraded as surveys were completed and initial drilling started. And they still are to this day. The same is happening in the UK with the British Geological Survey increasing fivefold the estimates of how much gas could be extracted in the UK alone. David Cameron recently commented that this could represent over 50 years' gas supply for the UK. And that's probably an underestimate too.

Following the growth in shale gas, US consumer prices fell from over US$ 4.80 per BTU in 2000 to only US$ 2.30 per BTU in 2012 – more than half the price. The UK is different in terms of market structure and geology, but even considering the potentially higher cost of extraction, the fact that shale could introduce huge volumes of gas in the UK and similarly in other countries in the EU, the additional supply could undoubtedly lead to price falls, as it did in the US.

There will always be naysayers and protest groups who are against any new technologies, and that's not a bad thing. The important thing to remember is that an educated public should be armed with the truth, especially when trying to understand and become familiar with what is actually happening in the energy industry. We all want to leave our children a better planet to inherit, and with the facts in hand, we can be well on our way.

Read Chris Faulkner's extended comment
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