

The true cost of shale gas production

By John Dizard

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I try not to get into arguments over other people's religious convictions. Even if you win your point, you make an enemy. That's been a conventional understanding since the Thirty Years War. Sometimes, though, you have to clear your throat and carefully offer a heretical thought, if lives or large amounts of property are at risk.

For example, I think it might not be a bad idea to examine the faith-based assumption that the US has a virtually unlimited supply of [natural gas from shale formations](#) that can be extracted at a low price for the indefinite future. Perhaps the few people who think shale gas will be produced at a higher cost, and more slowly, than generally believed should be heard out, rather than be executed or sentenced to work in the salt mines. If you disagree, I will quickly withdraw that comment.

The shale gas religion crosses the usual political boundaries. The environmentalist wing believes that shale gas can displace dirty coal-fired generation. Liberals believe it will help power the clean energy policy. National security conservatives believe shale gas can end dependence on Middle Eastern or Venezuelan oil. Economic conservatives believe it can close the current account deficit and drive an economic recovery, at least until even more nuclear power can come on line.

There are environmentalists, rural landowners, and health advocates who worry that shale drilling could contaminate water supplies. Most of them, though, want to have more careful regulation, rather than prohibition, of shale gas exploitation.

I was prompted to comment on shale gas again after watching a well known, highly emotional American television stock market commentator suggest that shale gas will be so abundant that facilities for importing natural gas could be converted to export the stuff. This when the present low US price for natural gas is about 10 times the economic value of gas stranded in huge Middle Eastern deposits. Never mind that you can't push a button and make those facilities run backward.

If it was just one lunatic with some airtime, that would just be amusing. However, the climate-energy bill is being assembled in Congress. Policy should be based on material reality, which is that maintaining, let alone increasing, US use of natural gas will require a very substantial increase in prices over the present spot and futures levels. On that point, the shale gas industry people and I are in agreement. One set of data points might turn out to be revealing. Look up the "balancing item" in the "natural gas navigator" on the US Energy Information Administration's website. This is how the difference between reported gas storage, and the net of production and consumption, is explained. For the last report, in December, the "item", or unexplained error, is about 100bn cu ft. That is a whole bunch of gas, as they say out there.

The “item” has been increasing steadily from the middle of last year. So production is likely lower, or consumption much higher, than the EIA has been able to count. Given that production is calculated from a sample of producers that is probably overweighted to large companies with access to capital markets, it is probably the case that production is lower than Washington, or most of Wall Street, thinks. Smaller gas producers, which are probably under-sampled, will have had their access to debt or equity proportionately much more restricted than was the case in the boom years.

If that analysis is correct, the US will run short of low priced gas sooner rather than later.

To their credit, gas prophets such as Aubrey McClendon, chief executive of Chesapeake Energy Corp, have been saying that gas at \$5 per thousand cubic foot is not sustainable. In their laudable enthusiasm for their business, though, they may have understated just how unsustainable the price is.

Ben Dell, of Bernstein Research in New York, who has, so to speak, done some of the deepest drilling into the shale gas industry numbers, believes that the [full cost of finding, developing, and operating shale gas wells](#), and paying an average return on capital to investors, requires a spot gas price of \$7.50 to \$8 a thousand cubic foot.

As Mr Dell points out, the horizontal drilling rigs that are needed to drill shale gas wells are in relatively short supply. “We think there will be a 15 per cent to 20 per cent increase in costs from last year to this year. That includes the costs of drilling and fracking [hydraulic fracturing of rock layers holding gas].”

Furthermore, the producers partially insulated themselves from gas price weakness over the past year with hedges that are gradually running off. New hedges have to be put on at lower prices. So revenues will be declining while costs are increasing.

Shale gas is not magic. Production costs are high, and probably underestimated. An even more gas-dependent policy will accelerate the coming price rise. For the producers’ sake, it better.

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