

A boom without a bust?

Written by Bill Toland



The problem with a boom, at least historically, is that a bust often follows. But advocates of the natural gas industry say the Marcellus Shale gas field could create a boom without a bust -- a long-term operation providing jobs for decades to come.

The ancillary benefits will remain intact as well -- royalties to landowners, cheap and plentiful fuel for the region, and jobs in related industries, much as the automakers in Detroit sustain a spiderweb of interconnected glass, paint and steel companies. And even though the gas industry is more fragmented than King Coal, there is enough stability among top producers that the natural gas rush won't devolve into a free-for-all that depresses prices below what is profitable.

And right now, it's still a profitable enterprise, even with a glut of natural gas and low prices. Earlier this month, natural gas futures declined on milder weather forecasts in the eastern United States, and wellhead prices have been hovering around \$4 per mcf (thousand cubic feet), which is up from last year but below the \$11 mcf that was being paid three years ago.

Between \$2 and \$3 per mcf, drillers were cutting production, but at \$4 mcf, the Marcellus Shale play is profitable for the industry for a variety of reasons: among them, no severance taxes on the gas extracted from underground, and the lower cost of transporting the gas to the cold Northeastern and Midwestern states where natural gas heats homes. [Chesapeake Energy](#), which hopes to have 34 rigs in Marcellus play by the end of 2011, says it makes a 40 percent pre-tax profit on Marcellus Shale wells when prices are at \$4 mcf. [Range Resources](#), in its third-quarter analysts' call, said its cost per well is about \$4 million, with a 60 percent rate of return. And when prices go up, so, too, does the rate of return.

[Deutsche Bank](#), which has an environmental unit that monitors gas prices, says the internal rate of return could easily hit 100 percent, before tax deductions, if prices go up.

At \$4 per mcf, natural gas also remains cheap enough to be an attractive option to coal. Natural gas is cleaner burning than coal, too, one of the reasons that more than two full years have passed since ground was broken on a new coal-fired power plant in the United States. And if the Obama administration is to succeed in its plan to limit carbon emissions nationally, "a coal-to-gas switch will need to be a component of any climate stability target," according to a recent Deutsche Bank report.

"It's probably the biggest story in energy in the last several years," said Nils Mellquist, an analyst with Deutsche Bank Climate Change Advisors.

By most accounts, the Marcellus Shale formation has the potential to be a significant economic generator, especially in southwestern Pennsylvania, the formation's unofficial headquarters.

"It will create jobs, output, income, tax base and just about every other measure of activity in a significant way," said Ray Perryman of the [Perryman Group](#), a consultancy that has studied the economic impact of natural gas drilling in the Barnett Shale in north Texas.

Because exploration, and windfalls, will be cyclical, municipalities should be cautious about building gas revenues into their annual budgets, Mr. Perryman says. "It is wise for public entities to use the funds in ways that they do not become institutionalized," he said.

As with all forms of commerce and industry, a bust is possible: It happened when farmers swarmed like locusts to the Great Plains and caused grain prices to tumble; it happened when oil prospectors flooded west Texas and northwestern Pennsylvania, then flooded the young markets with so much cheap crude that the upstart towns and oil companies couldn't survive.

Could that happen with the Marcellus Shale? Possibly. Future discoveries, and technology improvements, could render the Marcellus field less important than it now appears to be. As big as the Marcellus Shale is, scientists from the U.S. Geological Survey say lots of other natural gas deposits remain to be found. The Arctic, for example, is thought to hold nearly a third of the planet's natural gas reserves, and, as the polar ice caps melt, those reserves will be easier to tap. Israel recently discovered natural gas reservoirs in the Mediterranean Sea. And if U.S. companies get better at shipping liquefied natural gas, the Marcellus Shale's geographic advantages might not matter as much.

"Very large natural gas resources are to be found in several areas outside the U.S., and the role of U.S. gas will be influenced by the evolution of this market -- particularly the growth and efficiency of trade in [liquefied natural gas]," according to "[The Future of Natural Gas](#)," a study by the Massachusetts Institute of Technology.

Politics also can make short-term profitability forecasting difficult. On the one hand, with Republicans controlling the U.S. House, experts expect more resistance to President Barack Obama's clean-air and renewable-energy initiatives. On the other hand, Mr. Obama, hoping to cut debt and pay for his own clean-energy policies, wants to eliminate \$3.6 billion in annual tax breaks for big oil and gas producers. Requirements for deep emissions cuts, domestically or overseas, could affect total natural gas consumption.

Shareholders, too, can get cranky. So far in 2011, investors have filed dozens of climate and energy-related shareholder resolutions with energy companies, many dealing directly with some of the public safety questions about gas drilling and hydraulic fracturing. Major investment holders, such as state pension funds, have been particularly active in asking for more disclosure from gas and energy companies.

"Oil and gas firms are being too vague about how they will manage the environmental challenges resulting from fracking," said New York State Comptroller Thomas DiNapoli, in a statement. His office, which has joined an informal coalition with other blue-state treasurers and pension managers, filed a resolution with [Cabot Oil & Gas](#) asking for a specific plan to reduce drilling hazards.

Still, natural gas seems to be a sure bet after the next decade or so. Energy needs are increasing worldwide and no energy source, with the possible exception of nuclear power, seems immediately poised to overtake the gas, coal and oil triumvirate. As energy demand increases in China and the Middle East, new gas-fired power plants will be built, and global gas demand could increase by almost 50 percent by 2035, according to [a report issued late in 2010 by the International Energy Agency](#).

"China could lead us into a golden age for gas," the IEA report said. "Demand in the Middle East increases almost as much."

Who will benefit the most? The people who already have a lot of money, initially. Leon Cooperman (hedge fund billionaire), Mukesh Ambani (one of India's richest people), Terrence Pegula (newly a billionaire after [Royal Dutch Shell bought his Marshall-based East Resources](#)) and Philip Anschutz (who sold his Marcellus stake last autumn) all became much richer, thanks to the Marcellus land frenzy.

But there still will be plenty of cash to spread around southwestern Pennsylvania. Gas royalties and surface-lease payments will make millionaires out of some; if gas prices spike again, the price paid per acre could probably spike, too, as will production royalties.

By the time the region fully comprehends the economic implications of the Marcellus Shale, the industry may well be looking ahead to its next big play. As drilling technology improves over the next decade, new wells will be drilled into the Utica Shale formation, which is 2,000 feet or more beneath the Marcellus. Because the formation is at a greater depth, it will be expensive to reach, but site costs will be minimized because drill pads, pipelines and other accoutrements will already be in place from previous Marcellus wells.

[Consol Energy](#) is already shifting some of its 2011 investment dollars to explore the potential of the Utica Shale. Range Resources also has been granted permission to drill a 9,700-foot test well into the Utica Shale below Beaver County, and Chesapeake has been active in leasing drilling plots in Ohio.

The most accessible portion of the Utica lies below Ohio, but it also stretches into Western Pennsylvania and New York, said Chris Perry, energy resources expert from the [Ohio Geological Survey](#).

"It's much deeper, and thicker, in Pennsylvania than in Ohio," he said, meaning that while the Utica will be harder to reach in Western Pennsylvania, the seam itself potentially contains more gas -- and even some oil.

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