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Not everyone agrees

What is the Cost of Shale Gas Play?

By DAVID BROWN, EXPLORER Correspondent

Shale gas: Huge bonanza for the industry?

Or over-hyped money loser?

You'll probably hear both views during the forum and panel discussion "Shale Plays: Technical Examination of Today's Reality and Tomorrow's Future," at the AAPG Annual Convention and Exhibition in Houston.

You'll also hear other opinions between those extremes, and a look at where shale gas and shale oil may be headed in the coming years.

While shale gas producers continue to tout their production prowess, a few voices are starting to question the underlying economics of shale gas development.

He may or may not be alone in Houston; One of those belongs to AAPG member Art Berman, a geological consultant and director of Labyrinth Consulting in Houston, who will be a member of the panel.

Others on the forum panel were contacted for comments, but did not respond.

"When somebody tells me they can make a good profit at $3.50, the question I always ask is, 'What costs are you excluding?'" Berman said.

He criticized what he called "foggy economics" put out by shale gas producers. Some operators claim a profit at $4/Mcf gas when required financial filings can reveal their costs are closer to $7/Mcf, he said.

Those companies sometimes exclude the cost of leasing or other expenditures directly related to their shale gas operations, according to Berman.

"People will say, and they are sincere about it, 'Those are fixed costs or sunk costs, and we don't include those in our economics,'" he observed.

Bottom Line Factors

Scrutiny of shale gas economics increased as NYMEX gas futures began to drop below $4/Mcf.

The price makes a substantial difference for gas producers – and not just in calculated profit.

Chesapeake Energy Corp. of Oklahoma City, which once trumpeted itself as the world's best shale gas investment, now says it will reduce drilling of gas wells in 2011 except for those paid for by drilling carries or needed for held-by-production leasehold.

According to a Chesapeake Energy analysis at the end of 2010, the difference between NYMEX $7/Mcf gas and $4/Mcf gas is a $57.2 billion drop in Chesapeake's theoretical shareholder value.

Under-reporting of costs by shale gas producers makes the situation even worse, Berman said.

"The truth is, the shareholders are the losers in all of this," he noted.

Berman wants full-cycle accounting for shale plays and foresees a possible return to pay-as-you-go shale drilling.

"Where the capital markets are going is, they want people to start drilling on cash flow," he said.

Producers that boast of high initial production and return rates should disclose all of their related expenses, Berman said. When operators are talking about all-out production revenues, they also need to talk about all-in costs.

"Why do we get a pass on shale plays? Why don't we have to do full-cycle economics? The reason is, because then shale plays wouldn't make any sense," he said.

In a related argument, Berman doubted long-term estimates of U.S. gas supplies, some of them foreseeing 100 years of secure production.

"A lot of people outside our business don't understand there is a difference between a resource and a reserve," he said.

"At most we have 20 years of natural gas, if you believe the Potential Gas Committee. And 20 years is a far cry from 100 years," he added.

Price also is a factor in reserve estimates, Berman noted.

"A lot of companies are booking undeveloped reserves that may never be developed, unless gas moves to a much higher price level," he said.

Industry reports provide some figures that back Berman's views.

Canadian explorer Talisman Energy Inc. of Calgary is active in the Marcellus and Eagle Ford shales in the United States and the Utica and Montney shales in Canada.

The company's recent economic analysis shows a steady decline in its shale gas development breakeven price over recent years, from $8.50/Mcf in 2008, to $6.50 in 2009, to $4.50 in 2010, to a projected $3-$4 in 2011.

At $3-$4/Mcf gas, that would be just breaking even.

Needed: An 'Old School' Approach

With tight economics, shale gas plays can come down to a desirable core area, Berman observed. He believes the industry has been inefficient in identifying the lucrative areas, the sweet spots for production and economics.

"I think it's really wasteful to find the core area by the Braille method," he said. "You drill 12,000 wells and then say, 'Oh, there it is.'"

In his view, the solution depends largely on old-school geology work. No one has exempted shale gas plays from the requirements of good geoscience.

"The very first thing that has to happen is, you need to make a really good structure map," he said.

Then shale plays should be evaluated using the same, traditional methods employed everywhere else.

"The tools are well logs and geophysics, seismic mostly. You have to think about what makes a shale well a good well as opposed to a poor well," Berman noted.

Shale gas opportunities are being looked at around the world, but plenty of barriers exist to spreading shale development to other countries, he said.

"The shale phenomenon is not going to be universal because of both geology and land use," Berman predicted.

"You're dealing with population densities in Europe where you are looking at limits to what represents viable land use," he said.

Some countries have much stricter environmental and industrial regulation than the United States, Berman noted.

"Another big issue is cost. If you want to drill a well in Poland, it's a really expensive proposition," he said.

Shale gas players in the United States face a growing environmental backlash, mostly over hydraulic fracturing, water use and water disposal.

"The environmental concerns, real or imagined, have to be addressed," Berman said.

It's another case of the industry not being able to avoid stepping all over itself.

"Look at how long it's taken for companies to disclose what's in these fracture treatments. The industry needs a better approach to communication with the public that doesn't upset environmentalists," Berman observed.

"If you let people organize against you because you won't disclose what's going into the ground, they will never go away," he said.

Back to Reality

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Some.

“One thing we’re seeing is the majors are getting more involved in these plays. They are going to do a different level of science than the independents involved,” he said.

“I’m not saying nobody is doing any science,” he added, but the majors can bring a full set of tools to shale play evaluation and development.

Also, he sees the industry improving in its efforts, although “the future is, we need to do this a little bit better,” he noted.

“Industry has already made many of its mistakes. In the Haynesville area, I think the core is being determined more quickly and efficiently. And that’s what we want,” he said.

And at some point in the future, real-world economics might actually come back into shale gas development.

“When all of this silliness of over-drilling is over, we’ve got to go back to the actual costs of gas production,” Berman said.