

In The News

Fayetteville output to decline through 2030: Study

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Gas production from the Fayetteville Shale in north-central Arkansas has reached its peak and will decline from 2.6 Bcf/d today to around 1.1 Bcf/d by 2030, according to a new University of Texas study.

The study also estimates that the play holds a cumulative 18 Tcf of economically recoverable reserves that could be produced by 2050, according to a summary published this week.

Mark Blount, a spokesman for the **Bureau of Economic Geology** at the University of Texas at Austin, said the complete Fayetteville study will be released in several scientific journals via articles currently undergoing peer review.

Like an earlier study UT researchers did on the Barnett Shale, the Fayetteville study takes a "bottom-up" approach, examining the production history of almost 3,700 wells drilled from 2005 through 2011.

The UT researchers assessed productivity of each well in the Fayetteville and used that data to forecast future production. The scientists examined a 2,737-square-mile play, although only about 1,250 square miles had been tested by drilling through the end of 2011.

Among other results, the researchers found that the study area held about 80 Tcf of original free gas in place, with technically recoverable gas resources of about 38 Tcf.

In the base case, the researchers estimate a total field ultimate recovery of 18.2 Tcf, which includes 6.1 Tcf of EUR from wells drilled through 2011. The study forecasts that more than 6,400 new wells will be drilled through 2030, for a total of more than 10,000 through that year.

Although each well drilled is expected to have a 20-year life, total field-wide production is expected to slowly decline after most of the better locations are drilled.

The researchers base their estimations on a \$4/Mcf gas price in the base case. However, gas price was only one of several variables considered.

"The production outlook and resulting EUR are only moderately sensitive to natural gas price," the summary states. "We developed low and high cases around the base to capture the impact of other key variables."

John Browning, senior research fellow at UT and one of the leaders of the study, said a significant increase in gas price could forestall the time in which the Fayetteville would reach peak production. "In our modeling it is peaking now and will go on a slow decline as it moves forward, but that's a little dependent on price," he said.

"If we could get an increase in price, then we could push the peak out a few years further. Otherwise, it's flattening right now and beginning to roll over."

Other factors that could affect production rates from the play include technological improvements in drilling and a more efficient use of the acreage available for drilling. But Browning said gas price remains the most significant factor in predicting future production trends.

"If you would raise the price a couple of dollar per MMBtu, the pace will be boosted in the portions of the field that are uneconomic now," he said.

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