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UT study forecasts reliable supply from Barnett shale through 2030

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A new study of the Barnett shale foresees reliable supply with slowly declining production through the year 2030, said the **Bureau of Economic Geology** (BEG) at the University of Texas at Austin and financed by the Alfred P. Sloan Foundation, a New York philanthropic grant-making institution.

Using a model that allowed for scenario testing, the study outlined a base case for a cumulative 44 tcf of recoverable reserves from the Barnett, with annual production declining in a predictable curve from the current peak of 2 tcf/year to about 900 bcf/year by 2030.

This forecast falls in between some of the more optimistic and pessimistic predictions of production from the Barnett and suggests that the formation will continue to be a major contributor to US natural gas production through 2030.

By the end of 2013, BEG expects to complete assessments, following the same methodology, of the Marcellus, Haynesville, and Fayetteville.

The Barnett shale study examined actual production data from more than 16,000 wells drilled in the play through mid-2011.

Scott Tinker, BEG director and co-principal investigator for the study, said the study started with the production history of every well and then determined what areas remain to be drilled. The study's model centers around a base case assuming average prices of \$4/Mcf but allowed for variations in price, volume drained by each well, economic limit of a well, advances in technology, gas plant processing incentives, and other factors to determine how much gas can be extracted economically.

While thickness and porosity affect reserves greatly, price is a dominant factor affecting production, the study concluded. Some background details from the study are outlined in a document posted on the UT web site.

While the BEG model shows the correlation between price and production, it suggests that price sensitivity is not overly dramatic, at least in the early phase of a formation's development.

This is because still many prime drilling locations exist, Tinker said, which is cost effective even at lower prices.

"Drilling in the better rock won't last forever, but there are still a few more years of development remaining in the better rock quality areas," he said.

The data in the model stop at the end of 2010, after 15,000 wells were drilled in the field. IHS and Drillinginfo.com provided datasets on production.

In the base case, the assessment forecasts another 13,000 wells would be drilled through 2030. In 2011-12, more than 2900 wells actually were drilled, in line with the forecast, leaving just over 10,000 wells remaining to be drilled through 2030 in the base case.

Wells range widely in their ultimate recovery of natural gas, a factor the study takes into account.

The papers already received professional peer review built into the BEG research process. Before submitting the papers to

journals, the BEG team invited an independent review panel with members from government, industry, and academia.

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