

Houston firm studies nation's shale potential

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Development of natural gas and oil shales throughout the nation has reversed the decline in domestic production and raised hopes the nation could become energy independent.

But a comprehensive study of the nation's shale potential says shale gas production can reduce the negative economic impact of imported oil but oil shales, while helping maintain and modestly increasing domestic production, will not be enough to provide independence.

Dick Bishop, executive director and chief geologist at RSK (UK) Ltd. of Houston, said the U.S. consumes around 6 to 7 billion barrels a year and shale oil reserves are estimated at less than 30 billion barrels. His company, which conducted the study as part of a three-year review of global oil supplies, also looked at how much domestic production would be needed to eliminate oil imports of 7 to 9 million barrels a day. It would require shale reserves in excess of 100 billion barrels, he said, just to replace imports.

The company modeled the timing, duration and rates for potential supply additions and the effort - number of wells and rigs necessary, assuming representative well production profiles, drilling effort - the number of rigs and wells drilled per rig per month - and sum individual well production per month, limiting the production by total resource, area of the resource or years to drill the resource in reaching its conclusions.

"We are reducing imports," said Bishop, who was in Midland recently to give a presentation on the study. If the new shale production could reduce oil imports by a million barrels a day, he said, that would amount to \$30 to \$35 billion staying in the United States. That \$30 to \$35 billion is enough to fund 600,000 jobs at an annual salary of \$50,000, he said, and keeping those jobs in the U.S. would have a multiplier effect, bringing to more than a million jobs.

The study determined there will be upward pressure on prices, Bishop explained, because the shale plays, specifically the oil shales, will be produced faster than they are found over the next 20 years. The 300 or so super giant oil fields globally comprise only 1 percent of the world's fields, he pointed out, but provide 60 percent of the world's crude. Essentially, he summed up, the low-cost oil has been found and produced.

Not only are firm oil prices good for his clients, he said, but it is good news for natural gas producers because "it says there should be a market for natural gas, not just for power generation but in transportation." It may take a decade or two, but Bishop predicted that in 20 years natural gas will have a greater presence as a transportation fuel. The nation, he said, lags Canada and Europe in utilizing natural gas-powered vehicles. As they grow in popularity, he predicted consumers could add fuel stations in their

homes as "just another appliance, like an air conditioner. It's half the cost of gasoline and would eventually pay for itself. It just takes time and investment."

As global consumption increases and puts upward pressure on oil prices, Bishop said the U.S. economy will be increasingly vulnerable because it imports more oil than any other nation. That is a great incentive, he said, to reduce imports, and developing the new, unconventional oil and gas shales is the key to reducing those imports.

"We're not likely to be independent but we want to reduce our vulnerability to price increases," he said. "They're very damaging to our economy, even more so now."

The nation could tolerate \$100 oil, he said, but \$200 oil "does a lot of damage."

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