

## Ferguson: Energy Matters

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### Scraping the Bottom of the Oil Barrel

Official projections are that global crude oil consumption will increase markedly in the coming years. That's impossible unless oil supplies also increase. Where does officialdom think the additional oil will come from?

Mostly from Saudi Arabia.

Saudi plans for oil production from the Khurais project were the subject of an in-depth article in the *Wall Street Journal* this week. The good news for consumers is that this project will provide some additional oil. The bad news is that we don't know how much or even whether total Saudi production will increase.

But the really bad news is that this geologically challenging resource is the best remaining prospect the Saudis have. Even the Saudis appear to be scraping the bottom of the oil barrel.

Khurais is a complex of four interconnected oilfields discovered half a century ago. Oil production from the complex has been inconsistent in the past, reaching a maximum of 150,000 barrels a day in 1981.

The Saudis now are spending \$15 billion hoping to extract 1.2 million barrels of oil per day from Khurais. Reservoir pressures are low, so every day 2.4 million barrels of highly filtered seawater will be piped across the desert and pumped underground to push oil into production wells. Even with the pressure provided by the seawater, electric submersible pumps will be required to move oil to the surface, an unusual requirement for new projects.

Aramco officials admit that Khurais is "a very problematic, very challenging field." The \$15 billion project is "one of the largest industrial projects being executed in the world today." That this field represents the world's best hope for more oil is profoundly disturbing.

In the first place, some experts believe the field will not yield the expected 1.2 million barrels per day or not for very long. Matthew Simmons describes why in his 2005 book *Twilight in the Desert*.

In the second place, even if successful, production would amount to only 1.6 percent of the current world total. And, some will be required to offset declines in production from older fields elsewhere—including Saudi fields.

In the third place, if Khurais is the best resource the Saudis have left, long-term prospects for global oil supplies look grim. The usually optimistic *Journal* admits, "Even in Saudi Arabia, home to more than a

quarter of the world's reported recoverable reserves, the age of cheap and easily pumped oil is over."

While the \$15 billion investment seems large, in these days of \$100 oil it's a pittance. If it provides a million barrels a day development costs would be recovered in a year or so. The issue isn't the investment required, it's whether significant increases in global production are possible at any cost.

Crude oil prices continue to hit new record highs nearly every day, it seems. The NYMEX May contract traded within a dime of \$120 a barrel this week, nearly twice the price only one year ago.

Evil 'speculators' are being blamed for current prices by some observers, but I have my doubts. Let's face it—the days of cheap oil are over, whether officialdom wants to admit it or not. I don't blame people who speculate that oil prices will continue to go up, I'm sorely tempted to make the same bet myself.

When resources like Khurais are the world's best hope for more oil, the likelihood that a glut of oil will suddenly appear to lower prices is nil. In my opinion, the oil market is behaving quite rationally.

Less clear to me is why the price of natural gas has jumped 50 percent in the last year. Now that the heating season is over, gas prices might be expected to soften as consumption declines. But gas has been trading over \$10.50 per million BTU this week, higher than any time since the 2005 hurricanes disrupted production in the Gulf of Mexico.

It appears that rising oil prices are taking gas along for the ride. This is puzzling since there is little competition between gas and oil. Anybody who could switch from oil to gas has long since done so.

The world's increasing dependence on imported liquefied natural gas (LNG) may be responsible for today's gas prices. Touted as a source of cheap gas a few years ago, LNG has become the marginal source of gas for many countries, including the U.S. Even though imported LNG provides only a small fraction of US gas supplies, U.S. gas prices reflect global prices to some extent.

International competition for cargoes of LNG has driven up gas prices around the world. Britain is scrambling to replace the gas it used to obtain from the now-depleted North Sea fields, for example. Even with U.S. prices above \$10/MMBTU, LNG shipments are being diverted from the U.S. to Europe and Asia where prices are even higher.

The notion that fuels made from oil can be replaced with cheap natural gas is folly. Trying to do so would simply ensure that gas would become as expensive as oil and global gas resources would be depleted more quickly.

So far none of the U.S. presidential candidates has seriously addressed the global energy problem. Either they don't understand the magnitude or they have no idea of what to say about it. Or both.

Seems to me that when we're scraping the bottom of the oil barrel, we should start working on Plan B.

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*Opinions expressed by DrF are not necessarily those of any organization with which he is affiliated.*