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WORLD

Saudi Desert's Gas Mirage?

Boast of Vast Reserves Faces Growing Skepticism as Firms Go Dry in the Empty Quarter

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Saudi Arabia's boast that its southern desert region contains vast reserves of natural gas is facing growing skepticism, amid a string of exploration setbacks by international oil companies operating there.

The kingdom had hoped that gas in the Rub al Khali, a vast desert that translates into English as the Empty Quarter, would be a key source of fuel for its booming economy. If the region turns out to be as empty as its name implies, Saudi Arabia runs the risk of a gas-supply crunch within the next decade at today's rate of demand.

Shell

South Rub al Khali Co. so far has failed to hit large pockets of natural gas.

If that happens, and the kingdom has less gas than expected, it will be forced to divert more of the oil it produces for its own use, leaving less to fuel the rest of the world's cars, airliners and factories.

Pessimism about the Empty Quarter was fueled by French oil company Total SA's decision in January to quit a consortium exploring for gas in the region after it drilled its third dry well. "We don't see any way forward after [these] results," said Christophe de Margerie, Total's chief executive, in a recent interview.

Saudi Arabia has proven gas reserves of around 250 trillion cubic feet, according to British oil giant BP PLC, the world's fourth largest after Russia, Iran and Qatar. But most of that is caught up in producing oil fields, and not available for use. New discoveries have fallen far short of expectations. Meanwhile, the kingdom is seeing a huge increase in domestic demand for the fuel as a feedstock for everything from desalination plants to heavy industry and power generation.

Saudi Arabian Oil Co., the state-controlled oil giant known as Saudi Aramco, forecasts domestic gas demand will nearly triple by 2030 and is on a drive to boost the kingdom's reserves of nonassociated gas -- that is, gas from wells that don't contain any crude oil -- by 100 trillion cubic feet over the next ten years.

One of the world's largest deserts, the Rub al Khali is one of the most-inhospitable environments on earth: temperatures can reach 131 Fahrenheit. Former U.S. Secretary of Defense Caspar Weinberger once wrote that Rub al Khali "makes Death Valley look like a summer resort." But it has long been seen as the key to Saudi Arabia's gas-supply

problems. The hope is that the region will add a significant fresh stream of natural gas by 2011.

Saudi Arabia has been off limits to foreigners for exploration, but five years ago it invited foreign investors to help it develop gas deposits in the Empty Quarter. That marked an evolutionary leap for Aramco, which has barred the big international operators from exploration work in the kingdom since the company was fully nationalized in 1980. The unraveling of these partnerships, should they fail to hit large pockets of gas, would be an embarrassment for a country that prides itself on being awash in hydrocarbons.

Saudi officials are confident there will be big finds. "There is still reason for optimism," said one. "We don't know what the success will be but the geologists are still hopeful."

One former senior Aramco official, however, remains skeptical. "If there was a lot of gas there, we would have been exploring it ourselves," said Sadad al-Husseini, former head of exploration and production, who retired in 2004. He spent several years overseeing gas exploration in the Empty Quarter in the early 1970s. "It is just unfortunate that so much money has been spent to confirm what we knew already," he said. The companies declined to divulge costs.

Mr. Husseini is among a growing contingent within Saudi Arabia that believes that the kingdom's whole gas strategy is misguided. With signs mounting that the kingdom overestimated its available gas supplies, Mr. Husseini said, "the consequence is that we need to go back to the strategy we had before, which is to make better use of oil, to be more efficient, and to be more gradual in our industrialization."

Total was a partner in one of four international consortia created to drill in the Empty Quarter. The company it formed along with Aramco and Royal Dutch Shell PLC -- the South Rub al Khali Co., or SRAK -- was awarded the largest concession, an area the size of Kansas. But the results have been disappointing. "We see the ingredients of a hydrocarbon system," says Malcolm Brinded, Shell's head of exploration and production. "We just haven't found them all together in the same place."

With Total gone, Shell will now have to shoulder more of SRAK's exploration costs. But it says it will stay the course. Shell Chief Executive Jeroen van der Veer recalls an incident in the 1930s when the company was asked to take part in an international consortium exploring for oil in Saudi Arabia. A famous telex, still in Shell's archives, declined the offer, saying there was no oil in the kingdom. "I don't like to make the same mistake based on three wells in an area fives times as big as the Netherlands," Mr. van der Veer says. None of the other foreign companies working in the Empty Quarter have found gas in commercial quantities either.

There has been some good news. Luksar, a joint venture of Aramco and Russian producer OAO Lukoil, last year reported discovering some hydrocarbons at one of its wells. Sino Saudi Gas, which brings together Aramco and Sinopec International Petroleum Exploration & Production Corp., also announced initial gas flow from one of its wells, though it's too early to say how much gas is there. EniRepsa, a consortium of Italy's Eni SpA, Spain's Repsol-YPF and Aramco, has found nothing substantial.

"They've only scratched the surface in terms of the search for gas," says Iain Brown, a Middle East expert at oil-and-gas consultancy Wood Mackenzie. "There's a long way to go before the potential for gas has been fully evaluated."

But as the failures build up, so are the costs of drilling each well, which has shot up to around $70 million, up from the $30-$50 million projected in initial budgets, according to industry observers. Rigs also are scarce, and wells on some blocks are taking longer than expected to drill.

From the start, the ventures had relatively low rates of return; the companies have to sell any gas they find to Aramco at 75 cents a million British thermal units, minus a fee for transportation of around 15 cents a MMBtu.

Conditions on the ground are tough, too. South Rub al Khali had to build its own airstrip so workers could be evacuated in an emergency. Drinking water must be brought in from the nearest town 190 miles away. Sandstorms mean workers have to wear respirators.

Analysts say the Rub al Khali might not even be the best place to be looking for gas in Saudi Arabia, and that the Saudi Aramco Reserve Area in the east of the kingdom -- a province off limits to foreign companies -- has by far the most-promising acreage that covers an area that is a little larger than North Dakota.

Yet companies still leapt at the chance of working in the Empty Quarter, hoping for a rare foot in the door in Saudi Arabia's oil-and-gas exploration sector and an in with Aramco. But Total's Mr. de Margerie says there was no point in staying in SRAK just to keep on the right side of Aramco. "You have to be pragmatic," he says. "If you start to do things to please, your company will be dead."

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