

August 1, 2007

HEARD IN ASIA

Asian Coal-Bed Methane Brews As a Potential Hot Energy Play

By JANE SPENCER

August 1, 2007

HONG KONG -- Massive stores of methane gas buried deep inside Asia's coal beds could be shaping up as the next hot energy play.

Trillions of cubic meters of clean-burning methane are trapped in Asia's coal deposits. The gas -- which produces lower levels of air pollution and carbon emissions than oil or coal -- could be used to meet some of the region's huge power needs. Merrill Lynch says China alone holds nearly 30 trillion cubic meters of methane gas, about three times the U.S. amount.

Coal-bed methane, already widely used in North America, accounts for about 10% of U.S. natural-gas production. But Asia's methane stores have been largely untapped because of logistics and extraction costs.


Now, high energy prices are making Asia's methane more attractive. New technology and government incentives in China and India aimed at reducing carbon emissions are also bringing down costs. And concerns about falling supplies of traditional energy sources continue to boost the search for other ones: Last week, both **Exxon Mobil** and Royal Dutch Shell reported declining oil production.

"The basic fact is we're running out of conventional sources of oil and natural gas," says Eric Nuttall, an analyst at Sprott Asset Management of Toronto. "As companies seek out unconventional sources of natural gas, coal-bed methane is the most viable."

The hedge-fund and mutual-fund manager holds more than \$5 billion in assets and owns shares of a Canadian-based methane company, Pacific Asia China Energy. The Toronto-traded company has signed two production-sharing contracts with the Chinese government and is negotiating others.

Major oil companies including **Chevron** and ConocoPhillips have already locked in exploration rights to methane projects in China. Numerous smaller companies specializing in coal-bed-methane extraction have been forming partnerships in China and India. Since many of these companies don't yet have commercial gas sales, their share prices haven't run up the way those of many companies producing other forms of alternative energy have.

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Investing in methane carries plenty of risk. Some of the companies are small, with thinly traded and volatile stocks. Also, China's highly regulated, fragmented energy industry can create uncertainties. To participate in it, foreign companies must partner with state-owned China United Coal Bed Methane.

It is unclear if plans to tap Asia's methane-gas stores will pan out. Companies face fewer exploration risks than those looking for oil, as methane usually is found where it is expected to be. But extracting the gas means overcoming technical challenges that can raise costs and reduce the recoverable volume.

"It's an educated gamble," says Sprott's Mr. Nuttall about companies' efforts. "The question is, will they be able to extract methane at an economical rate?"

Some coal-bed-methane projects will have another revenue stream as the global carbon market matures. Energy produced from methane gas generates lower carbon emissions than coal. Analysts say that means companies may be able to sell carbon credits, boosting revenue by up to 20%. Many European nations place caps on the greenhouse gases companies can produce. Companies can offset their emissions by buying carbon credits from developing-world projects that reduce greenhouse-gas emissions.

"The carbon credits provide that extra incentive and can make these projects commercially viable," says Shane Spurway, director of Asian carbon markets for Fortis bank in Hong Kong.

Pacific Asia China Energy, or PACE, is still in the pilot phase of its first project in Guizhou. Their geological and petroleum engineering consultant, Sproule International of Calgary, has estimated that the company's first block contains a "most likely case" methane-gas resource of 5.2 trillion cubic feet

"We know the gas is there," says Craig Christy, PACE spokesman. "Now we've got to determine whether we can produce it commercially."

Mr. Nuttall estimates PACE could potentially produce about 1.8 trillion cubic feet of methane from its first project. At today's prices, he says, that is a value of close to \$1 billion for a company whose market capitalization is about \$47 million. He is bullish on the prospects PACE, whose shares trade at about 47 U.S. cents.

PACE also hopes to develop a business to extract methane from coal mines before miners go in. Methane -- the gas which famously kills canaries -- is the source of dozens of fatal explosions in Chinese coal mines every year.

Hong Kong-based Green Dragon Gas, which listed on London's AIM stock exchange a year ago, is one of the companies closest to commercial production. Merrill Lynch says among foreign companies in China, Green Dragon has the largest coal-bed-methane deposit and it has five production-sharing contracts providing access to 18 trillion cubic feet of gas.

Energy-research firm Netherland, Sewell & Associates estimates the value of Green Dragon's initial recoverable methane deposits at about \$4.7 billion. The company's market capitalization is about \$600 million.

So far in 2007, Green Dragon's shares have been roughly flat, though they have risen about 17% since the

end of April. Some analysts think there is room for growth. In London trading yesterday, its stock traded at \$6.34. Shares of Green Dragon are "relatively undervalued, because the market hasn't factored what will happen when they start production," says David Yip, a utilities analyst at Merrill Lynch in Hong Kong. "It represents the purest clean-energy play in China."

Last week, London-listed Great Eastern Energy became the first company to extract and sell coal-bed methane commercially in India. It is investing \$150 million to drill a total of 103 wells in the state of Bengal. By some estimates, India has the world's fourth-largest coal reserves. Analysts say the Gurgaon, India-based firm has already moved beyond the riskiest phase of exploration and pilot drilling and is moving into production.

Arden Partners, a London securities firm, has a "buy" on the stock. James Elston, a director of the energy-research firm Palladian Energy -- who has analyzed Great Eastern Energy on behalf of Arden -- estimates that the company's net asset value is about 218 pence (\$4.41) a share, based on analysis of their recoverable methane reserves. The shares traded yesterday around 150 pence.

Write to Jane Spencer at jane.spencer@wsj.com¹

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