

New Floor Set For North American Gas Prices

By Jim Bentein

Natural gas prices in the United States will increasingly track liquefied natural gas (LNG) prices although North America will be unable to compete for LNG supplies with other countries with fast-growing economies, leaving no alternative but to tap the continent's unconventional natural gas supplies, says a new report.

The Anchorage, Alaska-based **Emerging Trends Report** (ETR), a predictive service that tracks emerging long-term economic trends, concludes that "a new floor" for natural gas prices of \$7-\$8 (U.S.) per mcf has been set, but prices will likely go much higher.

"The good news: there are considerable unconventional reserves remaining to be exploited (in the U.S.) if we are willing to pay the higher price to recover it, and this is money that largely stays and circulates within our borders," the report, entitled Gas Panic, says.

The bad news: consumers will have to pay for these higher cost domestic supplies because the U.S. will now rely ever more on these unconventional sources not only to offset declining production from conventional sources but to meet accelerating new demand growth as well.

The author of the report, ETR president **Richard Karn**, citing numerous sources, including the U.S. **Energy Information Administration** (IEA), says this trend is apparent in that over the last decade in the U.S. more than 100,000 unconventional wells have been drilled, with 20,000 drilled during both 2005 and 2006.

"As marvellous and reassuring as all this sounds ... unconventional sources are not without significant drawbacks, not least being this means the boom underway is driven by the urgency of having to drill more wells costing more money each to produce less natural gas per well," he wrote in a 15-page summary of the 60-page report.

Karn says the continent's extensive natural gas resource potential give the U.S. economy a competitive advantage over other nations reliant on LNG imports.

"North American natural gas is actually extraordinarily cheap," he writes. "This discrepancy will afford American industry a competitive advantage that appears to be signalling a resurgence in (U.S.) manufacturing."

However, despite the prospect of domestic natural gas supplies being abundant and less costly than LNG, Karn says natural gas prices in the U.S. will inevitably rise significantly going forward, forecasting close to parity with LNG prices.

He says several other factors will also inevitably drive up natural gas prices, including:

- * Inflation-driven cost overruns, project delays and shortages of material as well as skilled personnel;
- * The shift to more reliance on costly unconventional reserves;
- * The need to upgrade infrastructure, including North America's aging natural gas pipeline network;
- * The shift to more natural gas use for power plants because of its environmental benefits, since gas produces 50% fewer greenhouse gas (GHG) emissions than other fossil fuels;

* Restrictions on global gas supplies because of "sovereign risk", as gas-producing countries limit supplies to drive up prices.

Karn says the combination of the credit crisis and the commodity boom has left "out of whack" the traditional relationship between oil and natural gas prices. For instance, the report says spikes in demand for LNG earlier this year in Japan and Spain caused prices to exceed \$20 per mmBtu "which at the traditional ratio (with crude priced at 5.8 times natural gas) made crude oil seem a bargain at \$90 per barrel."

However, crude at today's prices "makes \$12.75 U.S. natural gas seem a bargain".

He suggests that means either crude prices will come down, natural gas prices will rise or the prices of both will converge.

The ETR paper says that, despite the rapid expansion of global LNG capacity, LNG imports by the U.S. have "collapsed" this year.

Because North American gas pipelines are so numerous - despite their age - LNG is unlikely to be able to compete with domestically produced gas, Karn says. The LNG expansion outside of North America is occurring because few large natural gas consuming nations are significant producers.

Meanwhile, gas demand within Europe and other developed nations is growing by 2.6% a year, while it's growing by three times that level in China and other rapidly developing nations.

"In the face of this increased demand, sovereign as well as political issues and LNG gasification plant cost overruns and delays have been squeezing supply, driving the price of LNG substantially higher than the U.S. market is willing to pay for natural gas simply because it can be produced cheaper domestically," Karn writes.

For example, last winter Japan and South Korea paid twice the U.S. price for LNG.

He argues that gas prices will increasingly reflect the cost of replacing conventional with unconventional supply, augmented by some LNG supplies. But he says this shift towards capital-intensive and labour-intensive unconventional gas development faces a number of obstacles, one of the most serious of which will be labor shortages.

"The formula extant today that has more wells being drilled at a higher cost each but producing less natural gas per day but with a longer well lifespan indicates that it is and will remain very labor intensive, and many industry experts do not believe we have the rigs and people to meet the challenge," he writes.

Also driving costs will be the need to replace infrastructure, with the average U.S. oil and gas pipeline being at least 50 years old.

But Karn says, despite these negatives, natural gas has "green credentials", since it releases about 50% less carbon dioxide (CO₂) than coal, and demand for gas-fired power generation will continue to trend higher.

For instance, while electrical demand growth in the U.S. is running at about two per cent a year, gas-fired generation grew by 10% in 2007. That demand will only grow, since wind, solar and other intermittent power sources create a need for more reliable back-up power.

However, Karn also points out that although natural gas-fired plants are cheaper and faster to construct than other base load alternatives, it is also the most expensive fuel for such applications. He warns that

this means that inevitably electricity prices will rise significantly in North America because "electricity prices are tied to the most expensive molecule, not the cheapest".

He points out that electricity costs in most other parts of the world will remain much higher, giving North American industry potentially a significant cost advantage.

Interviewed by Nickle's Energy Group, Karn said the "religion" of climate change has caused most of Western Europe to turn to unreliable and potentially costly natural gas from Russia as a key source of energy.

"Meanwhile, Eastern Europe, which was long under Russian domination, is turning to nuclear, coal-fired plants and other options to avoid being reliant on the Russians," he said.