Natural Gas concerns continued

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This past week has been one where, despite the torpor that starts to fill the summer press, the progress of reality across the energy supply situation is beginning to make its uncomfortable presence known in the MSM. We have, it appears, reached that time where demand destruction, a phrase I heard for the first time not that much more than a year ago, is now beginning more evidently to impact the demand side of the oil and gas balance between supply and demand.

As I noted the other day, when talking about the oil sands, cornucopian thinking still seems to control the attitude of government. The comment by the Canadian National Energy Board that Dave cited includes the comment on gas needs

> It takes about 34 cubic metres (1 200 cubic feet) of natural gas to produce one barrel of bitumen from in situ projects and about 20 cubic metres (700 cubic feet) for integrated projects. Currently, the oil sands industry uses about 21 million cubic metres (0.7 billion cubic feet) per day of purchased gas, or about five percent of the Western Canada Sedimentary Basin production. By 2015, this increases to about 60 million cubic metres (2.1 billion cubic feet) per day, or nearly 12 percent, assuming gas production remains at 482 million cubic metres (17 billion cubic feet) per day.

This seems to imply that the demand increase is not that significant relative to supply. But to continue Dave's thread onto a slightly larger scale, the failure to put the demand into a global picture can lead to considerable, and unfounded, complacency.

In the NEB publications on Natural Gas, the short-term answer is to look to coal-bed methane from the Western Canada Sedimentary Basin (WCSB)

> While production of conventional gas in the WCSB is expected to decline slightly, natural gas from coal (NGC)1 in the WCSB is now an important and rapidly growing source of gas production. Deliverability of NGC is expected to grow rapidly from 8 million m3/d (0.3 Bcf/d) in 2005 to 25 million m3/d (0.9 Bcf/d) in 2007. Thus, the increase in production of NGC is expected to offset the declines in conventional gas production and enable a small overall increase in gas deliverability.

However, when one looks at the other demands on natural gas in North America, most particularly for power the problem may be more evident. Because here, the entirety of both US and Canadian demand starts to be integrated. And it is here, despite the headlines in the WP about a natural gas glut, that concerns become justified.

> One of the biggest challenges is the adequacy of natural gas supplies at competitive prices. Rising prices have spurred on additional drilling, however even this growth in production has not been enough to keep pace with demand. North American gas producers are drilling more wells every year just to keep production constant. Therefore, if more gas is to be allocated for electricity generation, there will be less available for other consumers.

Over a quarter of natural gas production in North America now goes to power generation. The recent expansion has added 1,600 MW of gas-powered generation to the electicity grid. (The scale is shown in a graph in my comment to Dave's post). However, the report notes that this has led, in the immediate short-term to overcapacity, and there has not yet been a full demand for power, and the underlying gas supply that would be needed. But as that overcapacity as absorbed by the growing market it will soon bump up against the production limit.

> However, increases in gas production that have resulted from the high levels of drilling have not kept pace with growth in demand. Rather, high levels of drilling activity have managed mostly to offset the higher decline rates and lower productivity of new wells. In other words, the producing sector needs to drill more wells each year just to keep production flat. Overall, the outlook for natural gas supply in Canada and the U.S. is that production will grow marginally by 2006 to approximately 1 936.5 million m3/d (68.4 Bcf/d). This level of production has been relatively flat over the past six years (Figure 2.7). The Board expects that average annual U.S. gas production will rise slightly over the projection period to approximately 1 458.9 million m3/d(51.5 Bcf/d), with growth coming mainly from the U.S. Rockies.

So, where can we look for help?

> A key supply source for North America is expected to be the rapidly developing global liquefied natural gas (LNG) market. Proven reserves of natural gas worldwide are about 20 times larger than the proven natural gas reserves of North America. Furthermore, advances in liquefaction and transportation technologies have lowered the unit cost of LNG by 30 percent over the past decade, enabling the use of LNG as a cost competitive source of gas supply in North America.

They note (as has been commented here by Dave and I earlier) that current North American capacity is about 5 bcf/d. So let us now step back one stage further and look at where we might get that LNG.

The largest suppliers are potentially Russia, Qatar, Nigeria, Algeria and Egypt. Four of whom got together recently with US Industry The subject was long-term LNG contracts, given that US LNG demand is anticipated to grow from 2% to 10% of supply by 2010.

> Both producers and consumers stressed that long-term contracts were key to securing future U.S. supplies of super-cooled LNG, Abraham told Reuters in an interview.
>
> Just as U.S. industry wants secure supplies, big LNG exporters like Nigeria and Qatar want assurances that markets for their product won't fizzle out after they invest the billions of dollars needed to carry LNG across oceans on special tankers, Abraham said.

> U.S. utilities need to convince sometimes reluctant state regulators to approve the recovery of expenses incurred in signing multimillion-dollar, multi-year contracts, he said.
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> State regulators "might not fully appreciate that ... you may not have a choice" but to sign these contracts, he said.
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> . . . . . NG producers must build 15 more giant "trains" to process the gas into liquid form and an equivalent number of U.S. import terminals must be built, Abraham said in the event program. Each of those projects will cost upwards of $1 billion, he said.

The EIA see the growth being even larger, with 17 countries becoming exporters including Norway, Russia, Equatorial Guinea and Peru. While

> In the US, LNG will become more important than piped gas from Canada, the US's top foreign supplier, the EIA said.

The MSNBC article notes also that the LNG market will be of benefit to the energy companies

> ExxonMobil, for example, last year managed to replace its used reserves only because it was able to book with the US Securities and Exchange Commission large gas reserves in Qatar, analysts said.
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> By 2020, the energy majors' share of gas versus oil will rise from 37 per cent to 43 per cent, Bernstein estimates.
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> However, LNG has been prone to massive cost overruns, delays and challenges over environmental concerns.
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> Chevron, the US's second-largest energy group, on Tuesday warned it faced growing costs at its massive Gorgon project in western Australia.

Much of the current market for LNG is to Asia, though 10% of the US supply last year was diverted, instead to Spain, as they had problems with hydro-electric power generation in a drought. Trains 3 and 4 from Qatargas (a total of 2.8 bcf/day) are however, scheduled largely for the US. But I did see one article last week (which I failed to tag) that noted that most if not all of Qatar's LNG is now under contract. We go to Iran, and find that maybe, after all they do need the nuclear power. Given that (as Leanan drew attention to) they are now imposing rationing as they stop importing gasoline, although that, perhaps is intended as a way of removing a weapon that might otherwise be used against them.

Which sort of brings us around to the supply of LNG from Russia. Now if we were to believe ex-Chancellor Schröder there is no choice. But then he is being paid a fair amount of money by Gazprom to say that. Gazprom is continuing it's purchase of gas companies, buying one in the UK this week. However, while most of the world is more interested in Ukrainian soccer players at the moment, the end of the agreement between Russia, Ukraine and Turkmenistan on gas prices may bring more attention in the next weeks. Started by the Turkmen wish to be paid at world market prices for their gas, at the same time as the government in Ukraine re-emerged, it begins to look

as though we are returning to the days at the start of the year when prices and availability will again be in the headlines.

It is, however, Ukraine aside, a little of concern that Gazprom seems more intent on using its reserves to take over distribution networks, and control supply so that only it's gas is available, rather than spending money to accelerate production from its fields, such as Shtokman, planned development of which continues to be postponed.
I seem to have meandered a bit more than usual today, but to summarize the points, to get more oil from the oil sands we need more gas; but in a North American context that can only come from LNG; but LNG production is going to come from only a few places, and of the biggest potential players one is apparently already sold out, and the other is more interested in power of the political kind.

Which might be a good reason to post about THAI before too long.