



The problems of natural gas supply

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This site generally focuses on the world situation in regard to oil production. However, given the concerns that are beginning to arise about the supplies of natural gas this winter, it is important to also keep an eye on the situation there. The [NYT](#) has just drawn a worrying, but sadly not unexpected, picture of the growing problems that industry and the country will face as natural gas supply and demand entangle. The tenor of the article relates to the costs pointing out that the United States now has the highest prices of any industrialized country. More than half the homes in the country are heated by natural gas, and because of potential shortages, industry may face shut-down since dwellings have priority in times of shortage. This is not new, the impact of higher prices has already driven some industries abroad.

We need to declare a national crisis," Andrew N. Liveris, the chief executive of the Dow Chemical Company, said in recent testimony before the Senate. Dow, the nation's largest chemical maker, has shut 23 plants in the United States in the last three years in places like Somerset, N.J.; South Charleston, W.Va.; and Elizabethtown, Ky., as it shifted production to Kuwait, Argentina, Malaysia and Germany, where natural gas is cheaper.

"Call it demand destruction," Mr. Liveris said. "Dozens of plants around the country have closed their doors and gone away, and are never coming back."

And while the article suggests that some of the problem arises from the loss of production in the Gulf, there are other causes.

But it has also revealed two disturbing trends: disappointing production elsewhere in the United States and an inadequate imports via pipeline from Canada.

Wildcatters are frenetically trying to drill as much as possible in parts of the Rocky Mountain West, but these efforts have produced severe bottlenecks as companies have flooded the Bureau of Land Management with a 30 percent increase in drilling applications over last year.

That does not tell the entire story, since even with permits, there are no drilling rigs or crews to be had. Remember that it was not so long ago that companies were bringing in rigs from [China](#). The first arrived in August and is scheduled to drill four wells this year. A second rig arrived in September and a third is due this month. Up to ten may be currently under negotiation.

Any prudent company will look at all the options," Croyle said. "There's still a shortage of drilling rigs. We skipped a generation-and-a-half of rigs in the United States."

Daily rig rates in the area range from \$12,000 to \$16,000 a day, he said. A year ago the rate started at \$8,500 a day.

"A lot will be flowing into the Colorado and Wyoming region. We've used up whatever slack there is and refurbished equipment, but trained folks are really hard to come by," he said.

Croyle noted some trade schools are gearing up to train drilling rig workers, and Canadian rigs and crews have already arrived to work in the area.

There are 80 rigs reported as working in Colorado, but the article points out that there is a shortage of around 200. And at present about 83% of the activity in the state is in gas, rather than oil.

It was Peter Dea who covered this at the ASPO Conference ([pdf file](#)), pointing out that we are in an era where there is no excess capacity, and where price increases will drive demand destruction to meet supply. He pointed out that even though rig count increased 63%, production has dropped 2% since January 2003. Because natural gas is also produced and then depletes faster, perhaps the greater concern was his point that in order to meet projected demand for the year 2012, more than half that gas will have to be discovered by then, 'cos so far it hasn't been. In his slide 5 note that only about 3 trillion cubic feet will come from current wells, and about 7 tcf from existing fields. If US demand is 25 tcf that demands not only that we find 10 tcf from domestic resources, but also that we import 5 tcf. (Against demands for the same product from elsewhere).

One of the illustrative numbers that Peter gave is also a warning shot to those following the oil situation in the Middle East. As the number of rigs drilling per year rises, so the production drops by 325% in terms of production added per well. (This is in part due to the number of dry holes drilled, but between 2000 and 2004 the average for the first 450 rigs dropped from 22 mmcf/d/rig to 17 mmcf/d/rig). With this declining production we would need to drill an additional 380,000 wells through 2020 to meet anticipated needs, providing we find the resource in the first place. And the Rocky Mountain region is currently the major hope for finding those.

In my chat with Chris Skrebowski I asked him about the problems that the UK will face this winter from a shortage of gas, if the winter were at all harsh. His answer was "Pray that it isn't !"

I think we are going to have the same situation here, ere long.



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