

After 'Peak Oil', 'Peak Gas' Too

*A.M. Samsam Bakhtiari**
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The concept of 'Peak Oil' has finally found its way to the receptive minds of educated public opinion. On the March 18/19 weekend, it even did erupt on TV screens worldwide as CNN aired its documentary "We Were Warned: Tomorrow's Oil Crisis".

However, some energy analysts have found a way to belittle 'Peak Oil' by advancing that in case of an oil production peak, natural gas would simply take over—in other words, gas would timely fill the energy gap between an oil-driven world and the forever supply of bountiful hydrogen.

Both the gas take-over and the hydrogen utopia are fallacies brought forward to try cushion the inevitable 'Peak Oil' shock. Not only are massive hydrogen supplies decades away (if ever!), but worldwide natural gas supplies are about to peak too !!

According to my model simulations 'Peak Oil' should now be occurring (within the 2006-2007 time frame [1]) and 'Peak Gas' will promptly follow suit in either 2008 or 2009 [2].

If signs of 'Peak Oil' are now abounding (as we are now in 'Transition One'), the first precursor hints of 'Peak Gas' can now be caught in the wind. Over the past four months I have noted quite a few of these in routine daily news. Here, I will focus on three major ones and their implications:

1. Firstly, in the United States of America .

The outrageous gas price hike of Q4/2005 in the US market (with 'Henry Hub' culminating at 15.40 \$/MMBtu on December 13) were '*jamaïs vu*' and presaging record prices in case of a harsh winter.

Fortunately for American families, however, the 2005-06 winter was extra-mild so that gas prices plummeted and by March 10 there were still some 1,832 billion cubic feet available in US storage. But all winters will not be so favorable and analysts at 'Raymond James' correctly predicted that in America :

"lack of rigs, higher decline rates
and a slowing in efficiency was
likely to constrain the gas supply
picture for years to come" [3]

2. Secondly, a focus on energy behemoth Russia .

On New Year day, Russia 's Gazprom fired a bombshell by cutting gas exports to Ukraine . This was not a one-off shot, but rather the first of an inevitable series of 'export corrections' (the second one was Georgia).

Put in a nutshell, Gazprom's present predicament is untenable. With a dwindling production based on declining major gas fields (and no fresh giant field on tap), the Russian gas monopolist will inevitably have to curtail its exports as it cannot (or rather dares not) cut domestic supplies (delivered at extreme-low prices which many indigenous consumers fail to pay). Thus, it will have to boost export prices in order to compensate for internal '*manque a gagner*' and also hope to somehow lower external demand.

Gazprom has two main export market: (a) the CIS countries, and (b) Western Europe . It chose to put pressure first on its '*Orange*' CIS members. But it will eventually have to push all of them to pay higher prices before turning the screws on its 'bread-and-butter' Western EU clients. It is not with political appointees that a major gas and oil company like Gazprom can hope join the ranks of the supermajors, or still hope to develop efficiently and on time its major green gas fields in West Siberia and the supergiant Shtockman [4], or lay all these gigantic pipelines required to link supply to markets. Moreover, its present pipe network spanning over some 150,000 kilometers is in daily danger and will require in the future ever-increasing maintenance linked to spiraling costs.

Gazprom with its 330,000 employees and dozens of interest outside oil and gas (e.g., the TV channel 'NTV' and the daily 'Izvestia') is a management's nightmare with no easy fix that would require a good dozen of professional managers (*a la* Khodorkovsky) to live up to Europe 's expectations. Furthermore, I believe Russia 's proven gas reserves of around 1,700 trillion cubic feet [tcf] (and also global reserves estimate of 6,350 tcf) to be grossly overestimated. I also think that the generally-accepted 1,400-1,500 tcf estimate for the world's largest gas field of North Field/South Pars is about double any realistic assay.

3. Thirdly, a glimpse at natural gas in the United Kingdom .

On March 13, 2006, the price of natural gas at Bacton (England) skyrocketed to the mind-boggling level of 255 pence per therm: thereby setting a new world record — which I computed to be 44.62 \$/MMBtu and an energy-equivalent oil price of 259 \$/barrel (higher even than the maximum price predicted by Mr. Matthew Simmons in his latest 200-250 \$/b range for 2010 which I personally consider to be the best present available prediction range worldwide).

Circumstances such as the February fire at England's biggest gas-storage unit at 'Rough' (shut down for a month) and an "unexpected spring chill" certainly played

their role and pulled their full weight; but, on March 17, the price was still at 150 pence per therm (26.25 \$/MMBtu). And it all looks to me like being a benign prelude to a dire supply-demand imbalance in the British Isles for the near future.

The Confederation of British Industry [CBI] had always been skeptical of adequate gas supplies for the 2005-06 winter and has now been vindicated in the teeth of the Government's reassurances that Great Britain was "awash with gas" (as late as November 2005 [5]). The CBI is bound to be the major loser in this game...

And British energy planners would be well advised not to rely too much on gas supplies from the 'North European Gas Pipeline' —Gazprom's present pet project !

All in all, these small hints flowing in the wind add together to paint a bleak global gas picture for the near future. 'Peak Gas' is not that far off and it will prove to be far more devastating and shocking than 'Peak Oil' because natural gas is far less 'fluid' and 'fungible' than crude oil —as it requires dedicated pipelines and LNG facilities (plus carriers) for any eventual export.

References

[1] A.M. Samsam Bakhtiari, 'World oil production capacity model suggests output peak by 2006-07', in '*Oil & Gas Journal*', April 26, 2004, pp.18-20.

[2] I am indebted for much of my raw data on natural gas to the pioneering studies made by the great French expert [Mr. Jean Laherrère](#).

[3] Natural Gas Intelligence's Daily Gas Price Index, March 21, 2006.

[4] A.M. Samsam Bakhtiari, 'Russia 's gas production, exports future hinges on dramatic changes needed at Gazprom', in '*Oil & Gas Journal*', March 10, 2003, pp.20-31.

[5] Terry Macalister & David Gow, 'Fourfold gas price rise is forcing production cuts, industry warns', in '*The Guardian*', March 15, 2006.

Dr. Bakhtiari is Senior Expert at the National Iranian Oil Company with 33 years experience in the international oil and gas industry. He is a Lecturer at Tehran University .

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