

Global Unconventional Gas 2010 Conference

Embracing the Full Potential of Natural Gas

Jean-François Cirelli

Amsterdam - June 16, 2010

Ladies and gentlemen,

good evening,

I am very pleased to be with you tonight. I would first like to express my warm thanks to the organizers of this event.

I would like to give you an European view of natural gas as I was elected last week Chairman of EUROGAS. In particular, I wish tonight to share with you the EU natural gas industry's understandings and perspectives about gas potential given the current challenges.

1 a) Of course, I cannot talk about gas without addressing the current situation. As you already know and I don't want to take too long on that point, the industry is now facing an unprecedented situation, resulting from an exceptional conjunction of events.

- On the one hand, the most severe economic crisis since 1929 resulted on the first ever decline in global gas demand due to an economic downturn;
- While on the other hand, additional gas production capacity came on stream with both new LNG projects and the US unconventional gas revolution. That means a lot of gas is coming to Europe now.

In Europe, two questions are currently in the mind of everyone of us:

- How long would the gas glut last?
- and are we moving away temporarily or permanently from traditional oil indexed long term gas contract towards a more liquid market, not indexed on oil anymore?

In return, let me just say that :

- we do see little hope that from 2010 the current oversupply and low prices will lessen. Eurogas does believe that, even though it will take several years before gas demand reaches the high recorded levels, new imports will be necessary by 2015. This means that to manage the bubble without

damaging the future, all players will have to cooperate, keep investing and re-think the way they do business;

- about indexation, I personally do share the view today that Continental Europe will continue to rely on long term contracts based on oil indexed prices even though market indexation will probably play a higher part in contracts structures as it has already been put in place in some renegotiated contracts. In their conception, long term contracts are flexible enough to be adapted to an evolving situation.

1 b) However, rather than dwelling more on the short term context, I would like now to elaborate on the place that natural gas should and could have in the future energy mix.

Yes the World has never been so challenging and full of uncertainties but let's stop complaining about the economic crisis and its numerous uncertainties. The new World we are entering is also full of opportunities and let's start seeing all the gas potential and all the wide opened opportunities this new environment could bring us.

- **First of all I would like to underline that gas has a bright future ahead:**

Even though gas has recently suffered from its association with fossil fuel energies due to increasing environmental concerns and from recent energy supply disruptions during the Russia-Ukraine crisis, it is my deep belief that a great deal of our energy future lays in natural gas. Natural gas is an energy for the future, not for the past, and to make that clear, we, in the gas industry, should prevent us from using the “fossil fuel” concept which negates the specificities of natural gas.

First, natural gas is very abundant with conventional gas reserves alone already being expected to last longer than oil ones.

Secondly, natural gas is the energy of choice in a low-carbon economy:

- In order to reduce CO₂ emissions in an economical way, natural gas is the solution. For instance, regarding power generation, gas is by far the cleanest and immediately available option ; generating around 50% less carbon per kilowatt hour compared to coal.

- **Moreover, gas can also be stored (contrary to electricity).**
- **Besides, combined-cycle turbines, fuelled by natural gas, are quick and relatively cheap to build and as you know their efficiency in terms of power generated is good.**
- **Finally, gas is key to adjust supply for peak demand (that renewable cannot provide by themselves). Moreover, its flexibility makes it the ideal complement to renewable energies power generation.**

So, when looking at all its advantages, gas may be more than a bridge fuel toward a greener economy; it may be a destination fuel which will play a key role in the energy mix, as Tony Hayward said.

But we are still alone to think that. We have to convince.

Moreover Unconventional gas potential will improve even better gas reserves and its role in the energy mix

Until recently we were used to say that proven gas reserves represent 60 years of production. With the current revolution of unconventional gas already taking place in the US and important estimated unconventional gas volumes in place in other parts of the

world, previous figures are now outdated. You will probably agree with me to say that there still will be a lot of gas in 60 years. Moreover, there is a different resource distribution between conventional and unconventional gas which could lead to new dynamics.

Unconventional gas already represents around 50%, as you know, of US gas production and has allowed the US to become the 1st gas producer in 2009. Australia is studying 4 to 6 liquefaction projects from CBM which, if they materialized, will bring the country among the top producers.

In the World, huge gas in place volumes are talked about : 920 Tcm gas in place worldwide with 50% of shale gas, 30% of CBM and 20% of Tight gas; mainly localized in North America and Asia Pacific.

Clearly shale gas represents the potential fastest growing segment of unconventional gas.

But I encourage you to remain cautious as Unconventional gas is associated still with a lot uncertainties for now and will probably impact the various markets very differently

As far as US is concerned, we have to admit that, even though most of gas players have not seen it coming, it has been quite a revolution and that in less than 4 years, the US have turned into an almost self-sufficient gas producer, from a heavy importer. Net imports have declined by about 18 % between 2004 and 2009 to ~80 Bcm, and are projected by the US DOE to be at ~20 Bcm by 2030.

The only current big question now is the cost of production of non conventional gas. Cera, this spring in Houston, mentioned a range of 2 to 4 \$ Mbtu. Is it realistic or should we look at more higher price between 6 to 8 \$ Mbtu on the long run ?

As far as the other parts of the World are concerned, the real question is on whether or not the US model is reproducible and if yes by when?

In Europe, I personally believe that smaller scale in production will probably be seen in the medium term due to a smaller potential and many challenges (higher environmental and regulation concerns, higher urbanization and less developed support services network). However, it will most certainly turn to offset some of the declining European production and create more competition for pipeline gas

and delays of some LNG projects. However, I personally do not see a major impact by 2020 but in some specific countries like Poland.

In the Asian region, Australia has the potential to strengthen its position as a major LNG exporter thanks to its CBM assets and numerous CBM to LNG projects, even though probably not all of them will come through.

As to the rest of Asia-Pacific, China, India and Indonesia are usually mentioned but production is, to our mind, unlikely to displace important volumes of LNG due to distance constraints and a necessary time to acquire skills and to bring expertise to fruition. However this could rapidly change with strong political incentives from China for example.

Besides, as the growing rate of demand in Asia is higher than the domestic production development, the LNG “at risk” will probably remain limited.

Therefore, the impact should remain limited on the Asian market by 2020, beyond the Australian impact already taken accounted for, but unconventional gas holds the potential to become a game changer maybe by 2030.

Still, unconventional gas potential is good news for the gas industry and should contribute in restoring the gas image which has suffered lately. Because after all, we were looking for more gas a few years back and now we have plenty, isn't it great news?

2) I would like to insist on the necessity to improve gas image

- Indeed, we still have a lot of challenges to overcome if we want to give natural gas the bright future it deserves.

Natural gas is a very reliably supplied fuel but its security of supply is not always well perceived. For decades, the security of supply was assured by very strong ties between longstanding partners. However the recent Russo-Ukrainian crisis shook the confidence of many in Europe's supply security. Together, we must re-establish that security and gas image as a reliable energy. As you probably know, we are currently discussing in Europe a security of supply regulation. This regulation should help us improving gas image giving more confidence in gas with regards to security of supply.

The debates on CO₂ emissions have also negatively impacted the status of gas. Despite its intrinsic advantages, it suffers from a

lack of recognition, in the public opinion (at least in France and in Europe) as a way towards a greener world.

Unfortunately this is also the case in political spheres, where too many authorities see it as an energy of the past. It is then key for our industry to improve the image of gas and to put it more fashionable. The image of gas, or “gas advocacy”, is a priority of Eurogas. European countries were divided, in the past, on unbundling issues. It completely paralyzed the gas industry. But now it’s behind us. We are more united. The main question now is to ensure a well place of natural gas in the EU energy mix for tomorrow.

Moreover, the future of gas depends by definition on gas demand. The development of its uses should rely on environmental policies more friendly to gas than to coal. The danger today is that environmental policies would eventually be less supportive to gas than to coal or which would put coal and gas in the same category. Clean coal and CCS, despite their price and quite low technology, have positively impacted the image of coal. So why not talking about CCS for gas ?

- **I therefore encourage all the gas players to make efforts for a better communication and for a stronger defense of our product in order to prepare the future.**

In order to do that, we must **keep on investing**, in spite of the current oversupply, in order to guarantee the availability and the reliable access of gas when demand recovers. New developments from upstream to downstream should be looked at and launched
I mean development of new gas fields including in remote regions where access is technologically more difficult.

Moreover, we should continue to invest in expanding large infrastructures to convey these resources.

Also, key success factors like in every business will be **innovation and new products**. It is particularly relevant today for unconventional gas for which it is not known yet if it is economical outside the US and for which new techniques and competences development could be a strong asset to better understand its potential. New fiscal terms and regulation could also be an asset.

In the future mix of energy, renewable energies have of course to increase their share ; and we should not fight against renewables.

But we all agree that they can't be the single answer to the energy thirst that will be amplified by the development in emerging countries. It is time now to say that we still need the other energies. Renewables will have to be combined with other flexible energies, natural gas being ideally adapted.

In conclusion, I wish to insist on the urgency to promote natural gas and to restore its image as a safe, secure, sustainable and affordable energy for all. Unconventional gas will help Europe to rethink its position within gas. This is a great opportunity even if it takes time to materialize. You can count on the commitment of Eurogas to play a significant role in defending the role of natural gas.

Thank you for your attention...