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Transcript

More For Asia: The Changing Oil and Gas Trade and New Arenas For Competition

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John Mitchell:

Thank you. Good afternoon. Well, what's new about oil and gas going to Asia, they will ask. I asked myself that question and I decided what was new was probably understanding what this was going to do to us; the way in which oil and gas business was conducted in the future. And that's what I've tried to analyse and address in this paper, this book which I think is on the handout chart.

New information, of course, requires new models of thinking about it before we can develop new policies and that's really what I'm trying to do. We have to start by putting facts in some kind of context, and what these charts attempt to do is to show how important or unimportant the international market, what I call the global market in this presentation, is for the consumers and producers of oil and gas.

The chart on the left shows where consumers of oil and gas get their supplies from – where they got it from – worldwide, in 2009, expressed in percentage terms. The axis on the left is the percentage share, and you'll see immediately – this is the main message – a huge difference between oil and gas.

In the case of oil, on the left-hand side, in the case of the importers on the left-hand side, about 35 percent of the oil consumed in the world is produced in the countries in which it is consumed. In the case of gas, the position is quite different. Nearly 79 percent of the gas consumed in the world is produced in the countries in which it is consumed. So quite clearly, the global market is quite different in importance for the two fuels.

The regional market plays a small role, on the right-hand there, plays a small role in the case of oil and a bigger role in the case of gas. And the role is even bigger in the places where the regional market matters, which is basically North America between the US and Canada, and Europe between Europe and Russia.

For exporters, the problem is exactly the same, of course. For oil, the domestic markets consume about 35 percent of all production. And the global markets take pretty well the rest. For gas, the reverse is the case. The domestic markets consume nearly 80 percent of gas produced as production and the global markets take the rest.

So I think that huge imbalance, which will change as we go into the future a little bit, but shows a fundamental difference between oil and gas, which means that while organisations like OPEC, which deal with the international

trade, are obviously very important in the case of oil, the Gas Exporters Forum is only dealing with a small fraction of the gas business. I think that has some lessons for what the underlying dynamics will be in the future.

Now let me analyse a little bit further those deficits, the global part of that previous chart. Where are the deficits? How are they going to grow in the future? And I'm using here – and the book explains various qualifications and details – the US Department of Energy forecast of the middle of last year. It's convenient because it's geographically much more detailed than the IEA and also it's free.

What you see here is a steady growth in the call on the global market, through to 2030. You see that the quantity – this is all in million barrels a day – for North America and Europe, doesn't change very much given the sort of errors of forecasting and so on. What is spectacular of course is the rise of the deficit in the Asia-Pacific region, to the point where from being more or less equal to the other two combined, it's about 60 percent bigger than the other two combined by 2030.

Well, where do those deficits get met from? This is a chart from the same source which shows the global oil surpluses, surpluses of oil coming onto the global market since 1985. I'll show you why I've chosen to start with a historic background.

What you'll see is pretty well what you'd expect – a huge chunk from the Middle East. What is new, of course, is the growth in supplies from Central and South America – much of that is Brazil – and the supplies from West Africa, which is Nigeria, Angola and a number of other countries. Those are the big suppliers. And together they amount to more increase in supply than is expected from the Middle East.

Now here is the killer. The black line shows the deficits of the Asia-Pacific region. And here you'll see what I think is a real tipping point. In the past, we have been accustomed to the surpluses of the Middle East coming into the European and North American markets. In fact they've been a rather important part of it.

That story is changing right now. These are deficits. There is always some real trade going on over and above that for quality reasons and commercial reasons and trade is probably about 10 percent above the figures you see here. But the point is that from now on, the situation is reversed.

Middle East surpluses will not go further than Asia, except for very special reasons. And the other countries, the rest of the world, is going to have to look around for supplies from these other growing sources. And in terms of these forecasts, if you believe them, the supplies will be there. It's not a question of there being gaps in supply, the way these things are constructed. But the point is, it's a different source of supply and a different weight. And certainly politically, in terms of how much to different countries, matter.

And how much do different countries matter? Well a lot of this depends, in normal times, on logistics. When the world market is functioning properly, transport costs matter. They matter for oil. And they will drive, along with quality and other things, the pattern of trade and direction.

Switching to gas, the situation is not quite so simple. First of all, these are physical units, billions of cubic metres, going onto 2020 because there are so many uncertainties, not least the question of where shale oil is going to come from in the future. And there are very different situations in the different regions.

In North America, we see a very small increase in consumption, a fall in domestic production, and a big increase of conventional gas, a big increase in shale gas. I think this is sufficiently well established. The US Energy Information Agency has just confirmed almost a doubling of shale gas reserves, which would support that level of production for quite a long time.

The Asia-Pacific region, of course, is quite the other way. There's a big increase in consumption. There is some increase in production, but the big increases are of course external LNG, which here means LNG for the Middle East, and regional LNG, which is basically Australia. So big changes there, but again a big shift in the weight of the market to the Asia-Pacific region.

Europe staggers along. Small increase in consumption in these forecasts. Big fall in production, met by LNG. And one of the questions I'll come back to in a moment is does the nature of the gas business in Europe get changed because of the increasing importance of LNG which is competitively priced on a world market, etc.

So I'm going to pretty well finish now, but I think there is a geographical message here. And that is that the balance changing this way puts a number of countries into what I call pivotal positions. We used to rely on the Middle East as the fulcrum. Now I think what we have to pay attention to the countries whose supplies can go either way at more or less equal cost. And that's the West African countries. It's northern Iraq. It's Central Asia, east of

the Caspian Sea. And it's eastern Russia. They are beginning to build their pipelines into the Asian markets, and of course this is a seaborne market, that's another complication.

But I think it is these, what I call pivotal countries, which are going to need a lot of attention. And it's in some cases their policies on how they market their oil and what restrictions they place on it, that will shape the market. If you just add the gas picture into that, I certainly don't see a big international market developing for gas... the markets will be linked by LNG, but the main questions are local… they are shale gas in the North Atlantic and the extent to which that competes with and perhaps drives back Russian pipeline gas in the Pacific. It's a rather simple question of two dominant sources of supply: one which is a state-controlled operation; and Australia, which is the private sector and where there is competition among different owners of resources.

So that's the picture, a great divide opening up. What will that actually mean in terms of the way in which we conduct investment, trade and so forth? Well, I'm just going to leave that up and stop looking at it. I'm trying to distinguish here between investment and trade. In the case of investment, foreign investment in oil exporting countries, we do need to put perspective on this.

The first point is that in almost every country in the world, except the United States and Canada, oil in the ground, gas in the ground, minerals in the ground, are owned by the state. This is not a recent development. It's deeply routed in the jurisdiction and jurisprudence, legal systems tradition, of all these countries.

The second thing is that almost all the oil exporters today were during the last century, the first half of the 20th century, either colonies, dependencies, invaded, occupied, subject of coups. They were not truly independent sovereign states. They had sovereignty over their resources, but their sovereignty was curtailed by the metropolitan powers, mostly European, and it is out of that era that the old concessions sprang, which under the fortunes of the big oil companies, and which came to an end in the 1970s.

That situation is not going to be reversed. The idea that these countries are going to adopt American-style property laws is just ridiculous. What they do do, of course, is give openings for private sector foreign companies to invest in their countries, at terms very enormously… there's a very summary review in the paper. But they all have certain characteristics.

Firstly, their own state companies have a very strong say on the level of production, the level of investment and the way in which the oil is marketed,

and the government takes between 80 and 90 percent of the profits. In volume terms, the amount of oil remaining for the private sector companies is really quite small in relation to world demand.

This is not a road to security of supply. It's a road to fluidity in the markets because the private sector companies put their oil on the markets without restrictions which the state companies generally apply on resale. So the private sector part is very important for the companies, and we hear a lot about them. And it's important for the fluidity of the market, I don't see it is a road for security.

Then we turn to the trade question. Now, the trade question is rather different, because here most of the trade in oil is coming from state companies. The exports are coming from state companies, lubricated if you like by the private sector markets. And there is a huge difference between the two parts of the world, here.

On the Atlantic side, something like 60 percent of the oil put on the Atlantic markets is supplied by competing private sector producers, mostly of course in the United States. And we have two commodity markets in New York and London. We have a very flexible, very active short-term trading market. We have a lot of diverse suppliers. This is our image, if you like, of what the world market ought to be.

The world market isn't quite like that, because in Asia the situation is rather different. Most of the oil marketed in Asia comes from the Middle East, from state-controlled companies, who place restrictions on the resale of their oil, and thus prevent the development of a fluid, competitive market.

The commodity exchanges attempted in Dubai have not really worked. Oil is still priced, believe it or not, off London most formally. And this prospect may change. This is one of the things about the future. It may change because private sector producers in Iraq will come onto the market in increasing quantities and there are now private sector producers coming through Russia, in the pipeline to Russia, which again adds some fluidity. It's not absolutely clear yet to the market.

So Asian markets may get more fluid. The other characteristic of Asian markets, which is not present in the Atlantic markets, is that many of the key importers, notably the Chinese and the Indians, are state companies. So we have a state company to state company kind of relationship. And the big question we have in the future is; are the governments going to get increasingly sucked in to those commercial relationships, or is the continual

contact from the Atlantic market, the open market and through the new suppliers in the Asian market, is that going to erode the rigidities of the Asian market at the moment?

Security of supply, in both cases I think, is a somewhat misleading concept. We have these primeval metaphors of the scramble for resources. Well, under normal circumstances if resources are scarce there will be investment, resources will expand and demand will be reduced. Under abnormal circumstances, that of course may not be the case and I think we have to consider always, as a kind of break down of the world market scenario, where there is for a short period of time at any rate, an abnormal situation, then in that case relationships may help.

But I think my argument made in the paper is that the key here is, is the oil relationship or the gas relationship part of a much broader relationship which it would be very costly to upset by any action on oil, or is it just a single commodity thing? My argument is that if it's part of a very broad relationship, it has a much better chance of survival than if it's just a single thing, notwithstanding investment protection treaties and things like that.

So really, that's the story. I think just to sum it up… I think the summary really – and forgive me for consulting my notes because it's quite a complicated issue – the global balances are changing. The key point about the change is the change in oil from the Middle East being the fulcrum to having a number of pivotal countries whose investment and marketing policies are important.

I think the contrast between the markets that I've just spoken about is important, and how that is going to develop both for oil and for gas is important. Normal times, diversity, the open market, is the best source of security. But we have to think about abnormal times as well.

And let's make one footnote which links back to some previous work we have done, and that is for many oil exporters, having a fruitful diverse relationship with importing countries means paying attention to the exporters' need to develop their economies in a more diverse way.

One of the successes of the Chinese companies in Africa and elsewhere has been their willingness to engage their own companies and the Chinese government in diversifying, broadening, investing in infrastructure of the exporting countries. That's something European private sector companies have great difficulty in doing. Maybe that's something else to think about. Thank you.

Professor Paul Stevens:

Okay, I'll speak from here. Good afternoon to everybody. I want to talk for a few minutes about what's become known as the shale gas revolution. This is part of the unconventional gas story. Unconventional gas is essentially gas that needs something doing to it. Normally, oil and gas fields you drill a hole in the ground and the oil and gas flows. With unconventional gas, and the same on unconventional oil, that's not enough. You have to do something else as well.

The shale gas revolution, which has come to the fore in the US, has arisen because of the development of two technologies. I won't say new technologies, because they've been around for a while. One is horizontal drilling and the other is hydraulic fracturing. So the drilling bit stays the same, but if you just drill a hole then the gas does not flow unless you do something else. And that something else is putting water and chemicals into the well at very high pressure to basically break it up.

Now the shale gas revolution really has taken place in the United States over the course of the last few years. In the year 2000, less than one percent of US domestic gas production came from shale. Last year – and it's difficult to get figures on this – it's quite interesting, in the US where they have very good up-to-date statistics, the shale figures tend to be very lagged and uncertain – but we're looking at around 20 percent of domestic gas production coming from shale. So that's a very large increase over a very short space of time.

This so-called shale gas revolution has had quite a huge impact. US domestic gas prices have collapsed in the last couple of years, although partially that has to do with economic recession and lower demand for gas… how much is to do with shale and how much is to do with recession, we'll have to wait and see.

The other impact, however, has been on the expectations regarding imports. Five or six years ago, the view in the United States was that gas production from the lower 48 would decline and therefore the US would become a major gas importer. And, in honour of that view, a lot of money went into building or taking mothballs out of re-gassification capacity. That's all fallen through a hole in the ground now, and a lot of people have lost a lot of money betting on this particular notion.

Now the shale gas revolution – for me – gives rise to two key questions. The first is: can it continue in the United States? The second question is: can it be

replicated in other parts of the world? Because estimates suggest that if you look at unconventional gas resources in the world, they are very large and very widely spread. Estimates suggest something like five times the conventional proven gas reserves lie in these possible resources.

The answer to both of these questions is rather uncertain. In the USA, it's uncertain for two reasons. First of all, because the very low gas prices we've seen in the last few years means that a number of the shale gas operations are beginning to look rather unattractive from an economic point of view.

But perhaps more importantly there are big question marks over the environmental consequences of hydraulic fracturing. And a number of state governments have put a moratorium on new drilling, waiting for the outcome of studies to look at the environmental impact of hydraulic fracturing.

Both of those mean that we won't know for a few years what the prospects are for US shale gas, despite the fact that there are very considerable reserves, as you pointed out, John. The US government has recently increased its estimates of reserves.

The second question: can it be replicated elsewhere? There are a lot of barriers to suggest there will be problems. In my report, I focus very much upon the possible replication in Western Europe. One of the key barriers in Western Europe is the fact that shale operations are extremely disruptive to the local community.

And Western Europe is not – to use an old military acronym – is not 'mambaland'. ‘Mambaland’ was invented by the British military in the first invasion of Iraq in the First World War and it simply stands for 'miles and miles of bugger all'. The population density in the United States is 27 people per square kilometre, in England it's 385 people per square kilometre. So it's disruptive.

And because of the nature of property rights, in the United States if you are the land owner and somebody comes and messes up your land to get the shale gas, you get benefit because you own that subsoil mineral. In Western Europe, this is not the case.

There's also a problem of lack of infrastructure. Just a very simple little factoid, in 2008 on the Barnett Shale play, there were 199 rigs operating. This is out of a total number of rigs in the United States of over 2,500. Last April in the whole of Western Europe, there were less than 100 rigs. So the idea that you somehow are going to be able to replicate this huge drilling activity in

Western Europe, at the moment at least, is not particularly attractive. There's also the problem of what I call ‘wrong rocks’. The shale plays in Europe are deeper, smaller and less material than they are in the United States.

So what does it matter that the answers to my two questions – will it continue in the US and can it be replicated – what does it matter if the answers are uncertain? That uncertainty is creating significant inhibitions to investments in gas, both conventional and unconventional, but also in renewables. A lot of people see gas as the means to a sort of transition to a lower carbon economy. So who on earth is going to put huge amounts of investment into nuclear and to other low carbon fuels if there are prospects out there that we're going to be floating on a sea of cheap gas for a long time to come?

So why does the investment uncertainty matter? Well it matters because demand for gas will increase. The gas industry is fascinating. If you look between about 1973 and 1990, and you leave out of it the former Soviet Union, the share of gas in the world's primary energy mix was constant at around 17 percent. In other words, it didn't take any market share.

And the reason for this was because the industry faced a whole series of constraints. Now, those constraints, since the 1990s, have been coming off. The best example of what happens when the constraints come off is in fact the UK. In 1990, 20 percent of UK's primary energy was gas. Ten years later, it's 40 percent – because a whole series of constraints came off, gas demand increased.

So the demand for gas is going to go up. Now, if the hype on shale gas turns out to be a reality, that's wonderful. We can all sit back and look forward as I say to floating on seas of unlimited quantities of gas at very low prices. But if it doesn't replicate, if it is rather hype-ish, then the result is we're going to see a lot of inadequate investment with increasing demand, with significant shortages. And that will inevitably lead to significantly higher gas prices rather than lower gas prices. The problem is, the interesting thing is, we won't know the answer to these questions for about five years or so. Thank you.