

Markets, Geopolitics, Energy Security and Sustainability

George Anderson
Deputy Minister, Natural Resources Canada

Keynote Address Session 3: Markets, Geopolitics and Energy Security

It is both an honour and a daunting challenge to address such an expert audience on the vast subject of markets, geopolitics and energy security. Even so, I propose to expand the subject further still and add the concept which has been at the centre of so much of this Congress's deliberation—that of sustainability. While markets, geopolitics and energy security are going to remain critical issues in shaping our energy future, more and more they will be joined by the question of sustainability.

Speaking on this subject requires modesty because of the uncertainties, the complexities and the range. I shall not, in twenty minutes, try to emulate the physicists in coming up with a unified theory of everything. Rather I shall try to put forward some observations and questions that might help us as we think about energy in the twenty-first century and how the future may differ from the past.

Geopolitics

Imagine we were meeting a little over thirty years ago, say in September of 1973. We would be on the eve of the greatest geopolitical upheaval in the modern history of energy—the two oil shocks and everything that flowed from them. How many would see such shocks coming? Or be able to predict the path oil prices back to much lower levels? Who would foresee the North Sea boom or the surge in production in the Gulf of Mexico? Or the tremendous progress in offshore technology, horizontal drilling and seismic techniques, or in bringing down costs in the oil sands and LNG? And how many crystal balls would foretell the larger shifts in the geopolitical shape of the world—the collapse of the Soviet Empire, and the emergence of an extraordinarily robust market economy in China and increasingly in India as well—with all the attendant implications for energy supply and demand?

We have lived through an extraordinary three decades of turmoil and surprises in the global energy business. However, as we look back on those three decades, it is striking how much it was geopolitics that shaped the main energy story.

The oil shocks were a geopolitical phenomenon. Of course they were made possible by the market power of certain producers and it was market responses that eventually brought oil prices back into line—so markets

mattered—, but it was geopolitical factors that drove both shocks, not normal functioning of markets. The high prices they brought drove the development of many new technologies—not just in oil extraction, but in alternative energies and energy use as well—as well as the exploitation of high cost oil provinces, notably in some offshore areas.

Similarly, the end of the Soviet Empire and the huge changes China were geopolitical in nature, first and foremost. But they have played out with major consequences for global energy supply and demand.

Will major geopolitical factors—major ruptures or seismic shifts in the geopolitical nature of international relations—play a similarly important role in driving the energy story in the coming thirty years? I ask this question when terrorism is at centre stage, when a war is still unfinished in Iraq, when an Arab-Israeli peace settlement seems further than ever and when relations between the Muslim world and the West are exceptionally strained.

It would be rash indeed to predict no geopolitical surprises. Surprises can be positive—as we have seen with the end of communism—but they can be nasty as well. I don't propose to speculate on different geopolitical scenarios, but I do want to make a few observations.

All indications are that there will be significantly increased market dependency on OPEC, and more specifically on the Gulf states, for oil. Thus more than ever, the Gulf area is going to be the geopolitical cockpit of the global oil system. There are widely different scenarios that are quite conceivable for the Gulf region—from some sort of success in stabilizing Iraq and the region more generally to other, much bleaker, prospects.

Russia and the former Soviet states are also likely to become more significant suppliers of oil (and gas for that matter) and there are clearly geopolitical issues in this region which could affect how these possibilities play out. I will differ to Mr. Chubais on this subject.

On the demand side, the fast growing Chinese and Indian economies—to name only the largest—are going to have increasing economic and political weight in the world and are also going to be amongst the largest purchasers of oil from the Gulf. They also have higher oil dependency than the OECD economies, so they are more sensitive to oil price movements. So we can expect China and India to become significant new actors in the geopolitics around oil.

While it is true that international trade in gas will increase dramatically, it appears unlikely to have the same significance in geopolitical relations as oil. The gas market is not fully globalized in the same way oil is and importers typically have more diverse or perhaps more politically stable sources of supply than is the case with oil. While some speculate on the eventual emergence of a

“Gaspec”, most discount the likelihood. Similarly, coal trade will grow, but it will not be of major strategic significance.

Even without any major geopolitical surprises, it can be assumed that major oil importers will become increasingly concerned about their degree of dependence on Gulf oil. Should there ever be a nasty surprise with major consequences for oil markets—a serious supply disruption or a major price spike—that could be a tipping point in terms of both geopolitical strategies and policy responses relating to oil security.

Markets

Let me turn now to markets. Energy markets in the twentieth century were not, for the most part, fully free markets. There were all kinds of interventions: to protect producers or consumers; to stabilize prices; to limit or promote demand for a particular commodity; to protect long-term security. These interventions reflected both considered philosophies and sheer politics. The politics of energy played out quite differently depending on the size of the local coal, oil or gas producing interests, as well as the history of consumer protections or subsidies.

Throughout the twentieth century there was a tension between market forces and oil producer interests. When oil is abundant, markets tend to drive the price down and favour production in the lowest cost areas. Much of the history of the oil business has been the play between these market forces and various producer inspired measures to counter them—devices such as prorationing, oil import duties to protect local producers, and international cartelization. The argument in favour of some such management of these markets is usually that stability in prices, or certain minimum prices, can be beneficial, and that may be true. But vested interests always risk pushing for too much. And how do the short term and longer-term rationales square? For example, US policies to promote its domestic industry meant its oil was exploited earliest and at relatively low prices. OPEC's very high prices after the oil shocks set the stage for a subsequent dramatic fall in price and market share for OPEC.

The point is that it is not realistic to expect pure market forces to shape energy economies around the world. That said, there is clearly more respect for market mechanisms than there was fifteen or twenty years ago—this is outstandingly true of the transitional and developing economies. And the OECD countries, in particular, have become much more rigorous in designing their energy policies to be market compatible. This is true even when they consider interventions in the energy market—increasingly the instruments used, such as emissions trading, are designed to take advantage of market forces.

The major current issues around the role of markets deal largely with investment conditions—especially for electricity and for oil.

The International Energy Agency has done valuable work reviewing the long-term investment needs of the energy sector globally. The Agency is concerned with whether all least some developing countries will be able to mobilize the capital for their huge investment needs in electricity. Some face political challenges to correct badly distorted markets, where electricity producers may receive a fraction of the cost of their service and consumers are subsidized. The IEA is also concerned that OECD countries may not have got their market design right for liberalized electricity markets. What both these sets of issues have in common is the need to meet market tests for private investors. If private capital is needed, private investors will have to be satisfied.

There are also concerns around investment in the oil sector, notably whether the investment conditions will be in place for the Middle East to contribute two-thirds of the growth in global oil production from now until 2030. While Middle Eastern needs are not that large relatively—because costs are so much lower than in other areas, notably Canada's oil sands—they are strategically very important. If those countries discourage investment—generally or by restricting access of foreign investors—, then this could feed back to bring higher oil prices, less global economic growth and, significantly, lower revenues for the OPEC countries. Of course, these questions are closely tied to what OPEC's strategy might be—or what different members would like it to be. But the issue goes beyond that because within the large oil exporting countries there are significant domestic political considerations around the role of foreign capital and the rate of investment of domestic capital in oil development.

Energy Security

This brings me to the issue of energy security. Energy security was a major issue after the two oil shocks but then gradually diminished with plentiful supply and lower prices. Concern about energy security is now rising again. This year it was a focus of discussions amongst western hemisphere and APEC energy ministers and at the International Energy Forum in Amsterdam. High prices have brought political and public focus to vulnerabilities in oil markets, including how exogenous developments—such as those in Iraq, Venezuela and Nigeria—can have major impacts.

Energy security can mean many things. After last August's massive blackout, we in North America are very conscious that reliable electric systems are part of energy security. As well, the threat of terrorism has brought focus on the need to protect energy infrastructure.

But the major issue of energy security has always been focussed on oil—on potential vulnerability to interruptions of oil supply or major oil price manipulation. This is because oil dominates international energy trade in value terms and because international trade is such an important part of the oil business. In 2000, 45% of global oil supply was supplied from outside the region

in which it was consumed; by 2030 that could rise to almost 60%. Oil is the most political commodity. It is only oil which has known deliberate supply interruptions and managed price escalation.

Both the current focus on the Middle East and high oil prices have made oil security a major issue in the current US presidential election. Longer-term North America is headed towards getting the majority of its oil from imports. This is not necessarily alarming—both Europe and Japan already have much higher oil import dependencies—but it is a fair question how increased oil dependencies will play out in the strategic thinking of the unique superpower. At this stage, candidates Bush and Kerry are proposing quite different responses.

The OECD economies are becoming progressively less oil intensive, so that at one level their vulnerability to oil insecurity is decreasing. Against this, all the OECD oil producers except Canada face declining production, real rises in oil demand and an increased demand for foreign oil. As I mentioned earlier, a very interesting shift in the broader geopolitics of oil security will be how China, India and other fast developing countries may play. While all of these countries are becoming less energy intensive, they are at the stage in their development where they are becoming *more* oil intensive and more dependent on oil imports. So these countries are potentially the most vulnerable to oil insecurities and that, plus their increasing weight in international relations, could have major implications for the shape of international oil politics in the coming years.

On balance, my view is that energy security is likely to become a more important focus of energy policy—both in the OECD and in the rapidly developing countries—than it has been in recent years.

Sustainability

This brings me to the overriding theme of this conference—sustainability. Sustainability has two major dimensions: sustainability of supply and sustainability of use.

Until quite recently, sustainability as it related to energy policy was primarily about sustainability of supply. In this sense, it was a particular aspect of energy security. There was some focus on this at the time of the Club of Rome in the early 1960s, but the dire predictions of resource shortages never materialized and the concern was widely discredited. However, timing is everything and a new, quite vigorous debate is emerging around the issue of global oil production “peaking”. The world consumed some 718 billion barrels of oil from 1850 until 2002. It is on track to consume a like amount in about twenty more years. And then a like amount again in less than the twenty years after that. The drama of all this is that most geologists hold that the world’s total recoverable oil resources are somewhere between 2 and 3 trillion barrels. As well, some believe production follows a bell curve and starts to decline once half

the ultimately recoverable resource is exhausted. It appears certain the oil age will end this century: the question is when production will peak and start to decline.

The debate over oil peaking is very polemical, with opponents often treating one another as fools and knaves. I enter this territory with great caution. The uncertainties are clearly great. A study by the US Energy Information Administration found that oil production might peak between 2030 and 2075—a huge range, with the earlier number having major strategic implications. Leading pessimists see the peak come much sooner. A neutral observer, Bob Williams, Executive Editor of the *Oil and Gas Journal*, has concluded that the peak oil debate is no longer a mere academic exercise and that it could have major impacts on public decisions. He sees an urgent need to address the data and methodological issues around potential global oil production, and I must say I would welcome that.

It may be that constraints on investment, notably in the Gulf states, will prove more important than a looming resource shortage in the next decade or two. In any case, the scale of the production challenge is so large that thinking about potential constraints should probably have a bigger part in our scenarios than it has in the past. It could have important implications for oil prices, geopolitics and strategic thinking about energy options.

However, the current focus of the sustainability debate, as we have heard in this conference, is on sustainable energy use, not production. In most of the last thirty years, this focussed on localized issues of clean air and water, including acid rain. As well, concerns about energy security and high prices motivated various off-oil or energy efficiency drives, which were also sold on the basis of their green virtues. Though there are still significant challenges in dealing with clean air and water in the most advanced countries, progress has been dramatic and I think it fair to say that the particular challenges around clean and water air do not, in and of themselves, have profound implications for the nature of our energy economies: we know the solutions and they are, by and large, compatible with current use patterns, if at some cost.

Of course, the situation is different and more acute in the developing and transitional economies. They face huge challenges regarding clean air and water, made more urgent by the fast growth of their fossil fuel consumption. But again, one could envisage, over time, their following the lead of the highly developed countries in cleaning up and managing these impacts largely within the framework of existing patterns of production and consumption.

Climate change is another matter. A sustainable level of carbon emissions into the atmosphere will require the most profound transformation of our energy economies—perhaps eventually to have greenhouse gas emissions at one tenth current levels, relative to economic output.

Climate change, as has been much discussed here, goes to the heart of our use of fossil fuels. It came onto the radar screen of energy policies in a serious way in the 1990s, but concrete measures were still very marginal. Canada is a signatory to the Kyoto protocol and has undertaken a series of significant long and short-term initiatives to address climate change, but we realize how long and difficult the road will be and that it must be part of a collective effort internationally.

I do not propose to enter into possible measures and strategies, but I would like to make a few observations about how climate change might link to geopolitics, markets, and energy security. It is clearly the most contentious issue of energy policy, stimulating strong clashes of views and interests.

One such clash is particularly acute within the advanced economies. There sometimes appears to be a dialogue of the deaf between, if I can borrow from a recent book, the hard headed thinkers from Mars and the soft minded dreamers from Venus. The Martians are focused on the tough issues of competitiveness, energy supply and security, and geopolitics. The Venetians are preoccupied with the longer-term environmental sustainability of energy systems and the need for fundamental transformations.

A second clash around climate change is between economies at different stages of development. This is the well known debate around burden-sharing in addressing the issue. It overlaps with the first debate in that the Martians tend to be particularly tough-minded on burden-sharing, while the Venetians tend to believe that the most advanced economies should move first as an act of leadership and equity.

I am not so naïve as to believe that these differences will be resolved easily or soon. But the rising concerns about oil security and longer-term prices may provide some common ground for all sides to decide we need to address the rate of growth in oil consumption. There are measures that could have significant impact, for example by promoting some of the promising technologies coming available in the transportation sector.

There is also a broad consensus around the importance of research, development, and technology transfer. The global commitment to energy R&D, both public and private, has dropped significantly and is a fraction of what it should be given the challenges we face. I believe we shall need to pay a good deal more attention to cooperative international energy R&D strategies in all their dimensions, including technology transfer to developing countries. Canada's government is proposing that 5% of our R&D programs should be done in partnership with developing countries.

Certainly, R&D will have to be part of finding a solution to the challenge of coal. Coal is prospectively at least as important a source of CO₂ emissions as is oil. But there is little concern about security of supply or even longer-term prices; in fact, coal becomes even more attractive economically as oil and gas prices rise. While fast developing countries may move to clean up local coal emissions, doing so only lowers CO₂ emissions through higher efficiencies. Longer-term a fruitful strategy on coal is going to rely on different forces and actions. A focus on technical issues is clearly needed and Canada welcomes the international cooperation on both CO₂ sequestration—I shall be representing Canada at the ministerial meeting on this in Melbourne next week—and on other clean coal technologies.

Some Conclusions

In conclusion, we are clearly entering a very different period for global energy relations. We shall continue to face geopolitical risks and uncertainties and concerns around energy security are likely to continue to rise. Oil will remain the most strategic and political energy commodity. But there shall be more and more focus on sustainability and potential constraints on our current energy paths—especially because of climate change, but possibly because of investment and even resource constraints. It will be interesting to see how these old and new issues might relate to one another. The roles of leading actors in the global debate will also change as the centre of gravity for oil production shifts back towards the Middle East, while Asia assumes a much larger role in energy consumption. One thing is certain: it is going to be interesting and challenging. I wish I were a younger man.