

The Role of the Lawyer in the International Oil and Gas Industry

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Introduction

Ladies and Gentlemen,

Firstly let me say how delighted and honoured I am to be with you for at least part of your 53rd Annual Oil & Gas Law Institute Meeting. Your programme covers a wide range of very topical issues and my major difficulty has been how to choose which of the many interesting sessions I should participate in.

My delight at being able to join you here in Houston has, however, been partially muted by being asked to sing for my supper, or, rather, lunch, and to give this talk to such a respected and experienced audience. The topic given to me is "The Role of the Lawyer in the International Oil & Gas Industry" but, as you will shortly discover, I shall be treating both the title and the subject with a fair amount of liberality.

My basic theme is that the role of the lawyer, not least in our industry, is changing and changing quite dramatically. We still, of course, need to be good oil and gas, or corporate or commercial lawyers and still need to be knowledgeable of our business. But as lawyers in a truly international business – even if our own particular focus is primarily in one country or region – we are more and more exposed to external, frequently cross border, political, social, economic and environmental forces, some of which were hardly heard of 5 to 10 years ago. If we ignore these forces, or cannot find ways to respond appropriately to them, we will not succeed as lawyers or as businesses.

The question is, therefore, can we rise to these changes and challenges?

Well, to try to answer that question, I believe we need to take a hard look at our industry today and the macro forces that are likely to impact it as we move through the 21st century. Only then will we appreciate fully what are the demands upon us, what our role as lawyers really is and how we can best fulfil it.

What strikes me most forcibly is how much our industry has changed over the years, how much it has adapted to external and internal pressures, and yet how it, and of course each of us as individuals, are constantly reminded of the continuing power of the unexpected over our lives.

I suspect nothing prepared any of us for the extreme shock of 11 September last year and today, nearly 6 months later, the reverberations continue to rumble around the world.

The energy industry, above all industries, is so easily knocked off balance by events outside its control. Supply and demand are both uniquely susceptible to war

and conflict, political upheaval and loss of confidence among investors and consumers.

The Energy Industry

Today, with the energy industry firmly in focus, we may think we're on more predictable ground. After all, uncertainty is the heart and soul of this business. Every decade feels "momentous." Each decade is seen as a "time of change." No decade is without its "challenges."

The truth is that it's often hard to conceive what is "normal" or "abnormal" in the energy industry. We live with enormous challenges every day. Indeed, they motivate us and are a major factor behind innovation and creativity.

Having said that, the last 50 years have seen the transformation of the global energy business.

- In the 1950s and 1960s we lived through a period of high growth and major expansions in the Middle East on the back of post-war economic recovery and sustained growth in Europe, the US and Japan.
- The 1970s were accompanied by substantial oil price hikes, a wave of nationalizations in oil producing countries and the creation of large state-owned energy groups.
- In the 1980s we experienced steadily declining demand, falling prices and the rise of hydrocarbon suppliers outside OPEC.
- Demand picked up in the 1990s. But then due to over-supply oil prices fell in the late-1990s to a level of \$10 a barrel and a wave of consolidations began. Three super-majors emerged – Exxon Mobil, Shell and BP – perhaps the first major change in the private sector petroleum industry for about 70 odd years. Since then we have seen the creation of Total Fina Elf, Chevron and Texaco, the courting of Phillips and Conoco and, of course, the collapse of Enron.

The 1990s: A Momentous Decade

I'd like to talk a bit more about the 1990s because it is difficult to project forward into the 21st century without a clear understanding of where the energy industry is coming from.

First, the 1990s. Consolidation was not the only factor which reshaped the industry in the 1990s and made it increasingly competitive. There was also an underlying growth in demand, which continues despite the occasional blip, and a change in the nature of that demand.

Today the world consumes around 8 million more barrels of oil a day than it did in 1990. And use of natural gas has risen by 39 billion cubic feet a day over the same period.

The growth in demand for natural gas has been spectacular. Gas has become the fuel of choice, mainly at the expense of coal. In 1990 global coal consumption was

25% higher than gas. Since then coal use has stagnated as gas use soared. By 2000 world consumption of the two fuels was virtually the same.

This is part of another factor reshaping the energy business – a long-term shift toward lighter, cleaner, less carbon-intensive fuels. In turn, this reflects the increasing importance of environmental issues in many societies.

Climate change reached the international agenda in 1992 at the Rio meeting. The Kyoto agreement dates from 1997. In the past four years it has become increasingly accepted that climate change is taking place and that part of the reason for this is or may be the growth of man-made greenhouse gas emissions – especially CO₂ from fossil fuels.

For the energy industry there has also been a *widening of opportunity*. Following the end of the Cold War much of the world has opened up to privately-owned energy companies. The Caspian, for instance, reopened to international business after 70 years. Russia became a new oil and gas frontier. So did Angola and Vietnam, Poland and Mozambique.

Another element driving change in the '90s was *new technology* – all kinds of technology – and I will mention just four – clean fuel technology, sub-sea technology which allows us to work in ever deeper ocean waters, efficient CCGT (combined cycle gas turbine) power from natural gas, and the digital technology and automated controls that have made it possible to fully integrate and optimise refining and petrochemical operations.

In addition, the technology of clean air made dramatic advances in the 1990s. Many cities are far cleaner now than they were a decade ago, and this trend is still gathering momentum.

One other element I should mention is *external shocks*, or “externalities”, because no industry or company, however large, is unaffected by the world around it.

What do I mean by “externalities”? Let me describe a few. Such developments as the 1998 financial crisis in Asia – then the world's fastest growing energy market. The creation of new global financial markets and new procurement exchanges using the Internet to forge new relationships. The deregulation of energy markets and privatisation, not least in the UK and European energy industries. The increasingly unrestricted flow of knowledge. The growing ease of movement. All of these external factors – or externalities – helped to shape the oil and gas sector over the past decade.

And more subtle changes have been taking place in the way industry relates to the wider society around it. Today there's far wider acceptance that industry does not stand apart from society but rather that it's simply another *part of that society*.

Single issue non-governmental organisations have begun to wield real influence – and many global firms have found themselves in the firing line. And ethical investing has taken off, along with greater shareholder activism and consumer boycotts.

I could add many more examples of why the 1990s were such a momentous decade for the energy industry. In any event, the consequences have been enormous.

An Industry With Potential

As we begin to understand the wider impact of what has happened – the impact of the restructuring and the wave of technical change above all – we're also appreciating the huge potential that now exists for the energy industry.

To stock market analysts, oil and gas exploration and production is an "old" economy activity. But in the real world, it's at the cutting edge of innumerable technological breakthroughs. These blend the old and the new – for example engineering and digital technology, or chemical sciences and the dot.com world.

I would therefore describe our industry today as a leading example of the "New Old Economy."

First, we have the basis of all expanding, forward-looking industries – growing demand. And this demand, reflecting global population growth, is adding perhaps 80 million consumers a year, one third more than the population of the UK.

World oil demand has risen through the last decade by some 12% to the current level of 74 million barrels a day in spite of two severe economic shocks over that period. Demand for gas has risen at double the rate for oil – by more than 20% since 1990 to 230 bcf per day in 2000.

All the indications are that this growth will continue despite the short term fallout from the current cyclical downturn and recent events in the US.

Some commentators expect demand for oil to rise by another 20% by 2010 to around 90 million b/d. For gas the likely increase in consumption is at least 25% over the same period.

Second, we have the technology and the knowledge and skills to respond constructively to the environmental challenges we face – from climate change to the need for clean air in our cities. With proper application of that technology the world, and especially the developing world, does not have to choose between growth and environmental care. It can have both.

Third, we have the opportunity to combine growth in the volume of our business – in oil, in natural gas and in petrochemicals – with growth in returns. This is because of huge improvements the industry has been making in productivity, based on new technology and cleverer use of technology.

And fourth the foundations of our business are solid. The resources are there.

Today some 65% of the world's energy demand is met by oil and gas. As we look ahead, that proportion may well increase during the first half of the 21st century in order to satisfy growing demand, mainly in Asia and elsewhere.

To meet this demand we have total proved world oil reserves of more than one trillion barrels (1046.4 billion). That's the equivalent of at least 40 years' supply of

oil at current rates of consumption albeit that two-thirds of these oil reserves are in the Middle East.

At present about 70% of the world's oil and gas production is managed by state entities. The other 30% is in private hands. However, even the super-majors' share is small. In BP's case, we have just 2.5% of global oil production and just over 3% of world gas production.

Within this broad framework the pattern of supply is changing. For example: thanks to technological advances it's possible to develop oil and gas fields in water depths of over four miles. We're already producing in two miles of water in the Gulf of Mexico. Deep water production is expected to reach nearly 10 million barrels a day in 2010 – about 11% of total production.

Even the North Sea, a province which, by Gulf of Mexico standards, is mature continues to attract huge ongoing investment across the value chain, though focusing on mature field investment.

Today proven North Sea oil reserves (UK, Norway, Denmark) stand at 15.5 billion barrels. The average size of new discoveries in the UK sector is, however, declining and development costs are among the highest in the world. Equally importantly, however, recovery rates are improving. In 1990, the prediction was that the Forties Field, for example, would be shut down by 2000. Now it is planned to produce for another 15 years.

Many other fields in the North Sea have the same potential.

There are also undeveloped discoveries in the UK continental shelf. Some estimate gross reserves in the province to be about 1.2 billion barrels, of which some 800 million barrels are being worked on at the moment.

In other words, significant new opportunities, as well as significant technical challenges, still exist in the North Sea. And that is equally true elsewhere. This is the wider theme I would like to develop in the time remaining.

A Time of Opportunity

Let me begin with a brief outline of how I see the oil and gas industry developing in the 21st century. Then I'll mention some specific challenges the energy industry faces in terms of technology, competitiveness, safety and environmental performance, and corporate responsibility.

So what about the future of the energy industry:

The first thing to say is that perhaps for the next 50 years or so, our industry will continue to be materially based on oil and natural gas production. Certainly petroleum will remain important for transport. Natural gas will continue to make inroads in terms of supply for power generation, for example, as the trend to cleaner fuels spreads. But petroleum, in one form or another, is likely to remain the energy source of choice for most of the world's transport industries for the foreseeable future.

A major shift may indeed occur toward renewables and non- hydrocarbon based alternatives, and one day they may well play a major role. There is real potential

in solar power and in the use of hydrogen, wind and wave power, but the key issue is timing: how long will it take?

Right now renewables account for less than 1% of total global energy supply. Photovoltaics *are* economically viable for only a limited number of applications today. And for renewables in general to become big commercial successes will take a lot more technological advancements and investment, which implies a lot more time. In the meantime, the major shift in the energy mix will be to natural gas.

Second, the industry will be extremely competitive because that's its nature. Today's business focus is on serving shareholders and, thus, the resulting ongoing quest to return superior value – not just in the oil and gas sector but in all sectors and across sectors. Staying at or near the top won't be easy.

Third, this will continue to be an industry which has room for new players. It's no longer vertically integrated (from well head to customer) out of physical necessity. Intermediate markets exist all the way along that chain, and it's more possible than ever before to enter the chain at any point.

We already have large independent refiners and strong independent retailers such as the hypermarkets selling petrol. We also have large national companies in such places as Russia and China reaching way beyond their national markets. These trends, I think, will continue.

And fourth, "reach" will remain critical. That's another way of saying that size counts in this industry. The market seems to like "big" in our business. Any company that has the ability to high grade a wider range of options to secure new resources clearly has an edge.

Let me turn now to some of the challenges the energy industry as a whole faces in the 21st century, starting with the technology challenge.

Forecasting anything to do with technology is hazardous – even more hazardous than oil price forecasting. Just think of some of the things we would have missed in our industry over the past couple of decades – 2D, 3D and now 4D seismic; horizontal drilling; subsea completions; CCGT (combined cycle gas turbines).

But somehow detailed forecasting misses the point of the world we live in today. Increasingly our economies are based not on the production of physical goods but on the production and application of knowledge. This is what is meant by the New Economy.

This information economy is one based on positive-feedback. Additional capacity becomes available so quickly and inexpensively that traditional supply constraints become almost trivial.

Economies Are Speeding Up

Again, the speed at which an economy can be run has in effect been raised. And this ratcheting up seems to gather momentum as it takes hold.

By the 1990s the aggregate effect on productivity had begun to include every sector of the economy. And by the mid-1990s the distinction between Old and New Economies was blurring.

It took engineers 129 years until 1988 to learn how to drill for oil profitably in a quarter of a mile of water. It then took them only another nine years to reach one mile. Now, in 2002, one mile is considered boring.

Knowledge, not petroleum, is the critical resource in today's oil and gas business.

The notion of an Old Economy industry with its roots so firmly planted in the 19th century being in the advance guard of technological change in the 21st will be a challenging one.

But let me put to you three paradoxes which together suggest the energy industry is now behaving more like a New, than an Old, Economy activity – that is, an activity in which the marginal cost of additional capacity falls rapidly and production can be ramped up at little additional cost:

- Since the first oil strike at Oil Creek, Pennsylvania, in 1859 the world has burned more than 820 billion barrels of oil. Three quarters of them have been burned since 1973. Yet today the world's proven oil reserves are about half as large again as they were in the 1970s, and more than ten times as large as in 1950.
- Each decade is producing fewer of the very large oil and gas discoveries - "elephant fields". Today, to find a field with even a billion barrels of oil is rare. Yet, according to the Energy Information Administration in the US, the average exploratory well yielded four times as much oil in 1998 as in 1980 - with the big jump starting about ten years ago.
- Clearly, there must be less oil in the ground each year. But finding costs have dropped sharply since the 1970s, even in the US which is the most drilled place on earth.

The common thread which links these paradoxes is technology – or the application of new technology across a so-called Old Economy activity.

The reason average new oil finds grow larger even as average new fields grow smaller is that the industry is drilling fewer dry holes and extracting more oil from each new well it drills. Exploration success rates are now around 30% plus compared with 20% in the 1970s. Success rates could rise still more, even as the difficulty of exploration grows, because improvements in seismic imaging continue to be made.

In fact as technology improves, it's increasingly beside the point if oil and gas fields are gigantic or not. According to the US Energy Department, fully 89% of new oil added to US reserves in the last eight years came from old fields.

In the New Economy cost advantage has tipped toward cleverer and more efficient exploitation of existing resources.

In other words, technology is driving efficiency and technology is also driving substitution.

Gas is the great example. It is technology which has dramatically increased the productivity of gas as a fuel in the power generation sector, and now it is technology which is changing the economics of long distance gas transportation.

This sort of development is fundamental and the whole pattern of supply and demand in the world is altered as a result. Gas can be imported into China from Russia, the Middle East or South-East Asia and so reduce coal dependence – with consequent environmental improvements because gas produces 24% less carbon dioxide than oil and 41% less than coal.

Forecasting technology is indeed hazardous. But there is no reason to believe that the huge improvements in efficiency, productivity and process which we have been experiencing in the energy business over the last two decades are suddenly going to run into a brick wall in the 21st century.

Rather the contrary, in fact. Technology has not yet found a frontier which can't be crossed.

The Challenges Ahead: Competitiveness

The next challenge I'd like to discuss is competitiveness – and the ability of the industry to access the growing amounts of capital it will need as technical challenges increase.

As I said earlier, the energy industry is likely to remain extremely competitive. But this competitiveness will have to fit into a wider context of greater concern over safety and the environment. And it will take place in a very different commercial context from four or five years ago.

In effect much of the industry has coalesced around global companies with the capability – technical, financial and in terms of human resources – to take up any business challenge anywhere

Today the five largest oil and gas companies - Exxon Mobil, BP, Shell, Total Fina Elf, and the Chevron-Texaco combination - have a collective market capitalization of about \$900 billion.

Size can help us to become partners of choice and to gain access to the best new investment opportunities. It can help us to reduce waste and duplication in the industry, especially in exploration and production. It can generate more trading opportunities around our physical assets.

And size can allow us to develop a distinctive and truly global brand offering differentiated products which reflect consumer choice.

In my view, whether a company has "reach" will remain critical to success in the oil and gas business in the 21st century. A company that has the ability to select from a wealth of growth options globally simply does not have to dilute its success.

But I would be among the first to agree that if greater size merely results in generating greater complexity, then we have achieved little. With size needs to come speed and flexibility of decision-making and implementation, and the will to perform strongly and consistently. That needs the right management structures, processes and cultures – and, of course, the right strategy.

Still, so long as there is sufficient incentive and capital available to the industry as a whole there will also be a place for the smaller independent. Remember, even the majors were small once.

The Safety Challenge

A few words about safety and the environment: safety may lack the glamour of big mergers or the excitement of accessing a new oil or gas province. But it's the underpinning of our business – one that if we don't get right, we won't succeed.

Certainly, amongst western companies, safety performance has steadily improved since 1980, year on year, but this sustained improvement isn't about technology or processes – though they help – but fundamentally about attitude. We have all learned this the hard way, and it now underpins our approach. It requires committed leadership and it requires the ability to create and build a culture that believes it can achieve injury-free operations.

This is one area where much of the industry now works to truly global standards. Why should there be any difference in the safety standards we expect from, say, a refinery in China or in Europe. The same is true for road safety –whether it's in Zambia or the US.

The Environmental Challenge

I believe, equally, in global standards of environmental care and protection, whether in relation to water discharges, cleaner fuels, improved refinery technology, developments in solar power or greenhouse gas emissions.

One tool for achieving carbon dioxide reductions is emissions trading. This system tends to cause business to look innovatively at ways to conserve energy and avoid wasteful practices.

I appreciate that not everyone in our industry necessarily agrees but I am convinced that environmental responsibility, and good environmental practice, are not the enemies of profits or performance or wider economic growth. If anything, my experience within an oil and gas company is that they create opportunity and stimulate performance – financial, environmental and social.

So, I for one, don't share the pessimism about the environment.

Another reason for cautious optimism is the growing acceptance that the best way to protect the environment is through a multiplicity of solutions. This is particularly important for industries and countries all starting from different points.

We should be encouraged by experience that the costs of dealing with environmental issues can be, and usually are, much lower than people fear thanks to technological advances. In fact it's even possible to create new business by cleaning up the mistakes of the past.

Corporate Responsibility: The New Frontier

For oil and gas companies in the 21st century corporate responsibility will be a major factor in gaining and keeping a "license to operate." This is the last industry "challenge" I would like to touch on.

Everywhere oil and gas companies operate today they are subject not only to established law and regulation but also to intense scrutiny by a variety of powerful, motivated and usually well-informed interests – governments, non-governmental

organizations, local civic groups, the media. This is the flip side of globalisation, about which little is heard.

Today everyone has far higher expectations of a world without pain and far less trust in institutions – whether family, authority or companies. Communications are instant and respect no frontiers. Single issue campaigning has become the politics of choice almost worldwide.

Being a good corporate citizen nowadays is not primarily about philanthropy. It is fundamentally about how business operations are run to protect the environment, about the standards set for employee conditions and about operating with integrity. And it's also about how management expertise, technology and human development processes are shared with communities.

In today's world international companies are being encouraged to delve into areas never before thought to be the concern of business, such as helping communities to strengthen their institutions, to alleviate poverty and to aid in disaster relief.

The longer this continues – and it shows every sign of doing so – the more likely it becomes that companies will also be encouraged into controversial political and social issues, with unpredictable consequences for both management and shareholders. Yet retreat into a corporate ivory tower is no longer an option.

One of the greatest management challenges of the 21st century – in the oil and gas industry and in many other global businesses – will be to know where and how to draw the line. To live up to wider responsibilities without touching off charges of interference or corporate paternalism. Globalisation has certainly increased the scale and reach of companies. The twenty largest companies in the world now have market capitalisations greater than the GDP of all but 20 of the members of the UN general assembly. GDP and market capitalisations are, of course, two completely different phenomena but the raw numbers create the impression of power. And the world is nervous of the sheer size of global companies and believes rightly or wrongly that they have more power than they actually should.

Conclusions

It's time for me to conclude. But before I do, let me leave you with four thoughts which have underpinned my talk this lunchtime:

- One - there are many challenges facing the oil and gas industry in the 21st century. There were many in the 20th century – and look how we survived! In fact thrived! This is essentially a can-do, optimistic industry. Nothing we see on the horizon today dents that optimism.
- Two - nevertheless, the challenges we face this century are materially different and more complex than those we have faced before. We will only succeed if we are cleverer, more sensitive, and more flexible in how we go about our business.
- Three - the speed of change in this century will, if anything, be faster than in the 20th century because that is the nature of technology. Today we all live and work in a knowledge-based world. The competitive challenge for companies and industries is to access and apply that knowledge more rapidly than anyone else. Those that do have every chance of surviving into the 22nd century and beyond.

- Four – in all these challenges facing our industry, we as lawyers not only have a part to play but a very central and growing part. I doubt if any of us were ever able to be back-room lawyers – but now we stand exposed in an open field. We need continuously to acquire new skills and experience in new geographies and new sectors. We are faced with external forces and demands, some of which, as I said before, were hardly heard of 5-10 years ago. We live in an era where the lines between law, politics, economics, and environmental and social responsibility get thinner and more blurred, we have to find solutions within the rule of law to problems which sometimes lie outside the rule of law, and we have to guide our companies and clients proactively through a world where not only the goal posts and referees are constantly changing but where the playing field itself shifts location, is rarely flat and is often water-logged.

As if that was not enough, our own industry – the legal industry – is itself changing and brings with it challenges of its own – the different and complex demands that face the role and impact of law and lawyers in society, and the application of information technology to competitive advantage, to name but two.

All this seems to me to amount to an energy industry which is very much alive and with a good future, and to a role for us as lawyers which is expanding and exciting. I can hardly wait to get back to it!

Ladies and gentlemen, thank you very much.