


[Press releases](#)
[Speeches](#)
[Features](#)
[Images and graphics](#)
[Press contacts](#)
[RSS](#)
[▶ What is RSS?](#)

Keynote Address - The 28th Annual Dinner of the Scottish Oil Club

[Related link](#)

Speaker: Tony Hayward
Speech date: 24 February 2006
Venue: Scottish Oil Club
Title: Chief Executive, Exploration And Production

Good evening everyone. I do appreciate the fact that you've asked an Englishman to talk to you tonight – as well as David, who I'm sure will correct any observations I may make about tomorrow. Forecasting results in this year's six nations seems to be particularly challenging. So while I might make a few forecasts on nice safe subjects - such as the oil price next year - I'm making absolutely no predictions about what will happen tomorrow.

England – Scotland games are always interesting days in the Hayward household – my wife is Scottish - so I got something right – I met her whilst doing a PhD at Edinburgh University. My 15 year old son was born in Glasgow and is a passionate Scot; my 11 year old daughter was born in Colombia and always sides with the Scots – so I'm used to being in the minority.

In fact I've spent a fair amount of my career in Scotland. After Edinburgh I moved to the North Sea where I worked as a rig geologist. That was where I learned what a great industry this is. I worked with amazing people and had some memorable experiences offshore - one of the best was discovering the Miller field, drilling into the reservoir for the first time at 4am on Christmas morning 1982 – one of my better Christmas presents.

In my current role I'm still involved with the North Sea. After 40 years it remains one of the most important parts of BP's E&P portfolio and provides me the opportunity to visit Scotland – the frequency of the visits depending on the performance of the business!

I guess if I had to pick one lesson I've learned from the professionals who work on the North Sea – then and now - it would be that you can fix the toughest problems if you have the right combination of innovation, technology, teamwork - and a positive attitude. The last of those – attitude - is the most important.

Tonight I'd like to look briefly at how we can apply those qualities to the big challenges we face both as a global industry and as an industry in Scotland.

First, meeting demand for energy; second, addressing climate change; and third, maximizing the life of the North Sea. Indeed some of the solutions may meet two or even all three of those challenges at once.

So let me start with demand. Demand for energy, and in particular for oil and gas, is growing - as we all know. Within a decade, oil demand is set to rise by more than 10% to over 95 million barrels per day.

The drivers are population growth – 10,000 people are born every hour – and the increasing pace of economic development.

Recently, the world's suppliers have been tested in meeting that demand. Supply has been put under pressure by conflict and tension in Iraq and extreme weather events, as well as the general level of capacity in the industry.

At times over the last two years, the margin of spare capacity has fallen from its historic norm of more than 3 million barrels per day to around 1 million. And 1 million barrels is less than the production of some of the less

secure areas – such as Iraq or Nigeria.

The industry is running at capacity – both in terms of equipment and people. However we can take heart from a couple of hard facts.

First – the global market has worked to deliver supply - in spite of all the constraints. The overall story has not been one of the market's vulnerability, but its resilience. Fundamentals have already eased as the production lost from the hurricanes last year – which peaked at 1.5 million barrels per day – has now largely come back on stream and new production is starting up inside and outside of OPEC.

Secondly – the industry has been investing heavily over the past few years to build the next generation of oil and gas resources around the world. Total industry investment levels have risen from around \$100 billion in 2000 to around \$190bn in 2005.

And we're now starting to see the fruits of that investment. For BP for example, it's meant start-ups during 2005 in Azerbaijan, the Gulf of Mexico, Trinidad and Angola. BP is involved in 50% of all anticipated non OPEC production growth over the next 3 years. And indeed there have also been start-ups in the North Sea where we have seen discoveries made before I joined the industry – such as Clair and Rhum – being developed by the application of new technology.

In addition, technology is consistently enabling the industry to find and recover new reserves. The data shows that we have enough oil reserves for 40 years and enough gas for 60 at current consumption rates. Beyond these, there are non conventional resources to develop, such as heavy oil, oil sands and gas hydrates.

And yet concerns still remain about resource availability. If you go into a bookshop today, you'll find books with titles like The End of Oil, Beyond Oil, Peak Oil. Strangely I've never found one called Enough Oil, probably because it wouldn't sell – but I do believe that is the reality.

Beyond the resources of oil and gas, there are sources of energy that will be opened up by new conversion technologies as opposed to new recovery technologies. For example, at current rates of consumption, the world has enough coal to last well over 100 years, if it can be converted to energy efficiently and with acceptable emission levels. And of course, there is an infinite supply of sunshine, wind and waves.

However, these are long term options and it would be wrong to suggest that because resources are plentiful, we can dismiss all concerns about energy security.

The reality is that we do have a serious problem. There are plenty of resources, but they're concentrated in a very limited number of areas and not co-located with the strongest demand.

By 2015, two thirds of the daily demand for oil will be traded internationally, with the US, Europe, Japan, China, and probably India being the major importers and the consumer countries will all be dependent on supplies from just three areas – West Africa, Russia and, most important of all, the five states around the Persian Gulf, led by Iran, Iraq, and Saudi Arabia.

In these locations, the oil resources are closed to investment by any private company. The decisions on investment and production are controlled by Governments who have their own interests to pursue – they may not always be aligned with the interests of the consumer countries.

In terms of gas, we will also see consumer countries increasing their dependence on traded supplies. And for Europe, that means a growing dependence on Russia.

I think it's natural for individuals and governments to be concerned about such dependence.

Responding to that concern is the next great challenge facing the industry. Can we increase confidence in energy security? Can we develop new approaches where necessary?

I've already mentioned the high levels of investment that the industry is now making in exploration and production. And we are also investing in the distribution infrastructure, building a diverse set of transport links, including new Liquefied Natural Gas facilities, to ensure that the flow of supplies can't be artificially constrained in times of tension and conflict.

It is also important to understand producer countries and the journey they

are on. In my work I see a lot of the newer producer countries and I know that countries such as Azerbaijan and Angola see their future in energy and have no interest in damaging their route to sustainable development.

If the world develops new technologies and approaches to unlock the available resources effectively and economically, then it will also be addressing the second challenge I want to address – that of climate change.

In my view, limiting the impact of hydrocarbons on the climate to an acceptable level is at least as big a test as providing sufficient supplies of energy. And it is a test we have to pass for the sake of future generations. I have two kids – and when I talk about what I do at work, the only thing they ever want to talk about is “what are you doing about climate change, dad?” - it gives me a strong personal motivation to do something about it. I believe it is important that this industry shows that we want to be part of the solution rather than part of the problem.

At BP we believe now is the time to take action. Our view, based on the science, is that a sensible goal is to stabilize GHG levels this century at around 500-550 parts per million. We think that can be done by deploying a range of technologies – there is no single magic bullet.

That's why in BP we are investing heavily in gas – the lightest hydrocarbon – and why we have launched BP Alternative Energy with plans to invest around \$8 billion over 10 years in generating and marketing power from solar, wind, hydrogen and gas.

We believe the solutions will also embrace improving the fuel efficiency of vehicles and the energy efficiency of buildings. Nuclear energy will doubtless continue to play a part as well.

And the interesting part of this is that many of these solutions not only address climate change but they also address the need for energy security and resource availability.

We increasingly operate in a context that favours fuels that are locally derived, because they provide security; and low in carbon, because they provide sustainability. Such fuels may also require investment in technology or require political change, but in an era of high oil prices and high public concern over the environment, both of these are also possible. The time is therefore right for bold moves which address both climate and security fears.

One possibility is faster progress in bio-fuels – including ones that can be blended into motor fuel in higher proportions than the 5 or 10% which is normal today and have the potential to deliver much greater emissions reductions. If bio-fuels are to be made at scale it is also important that they do not compete with food as a use for crops.

BP is the major leading blender of bio-fuels in the US and Germany, and this month we announced funding for a project in the Indian state of Andhra Pradesh which will demonstrate the feasibility of producing bio diesel from the Jatropa Curcas shrub - a non-edible, oil-bearing, crop.

Another possibility is to accelerate the development of carbon sequestration – capturing and storing carbon dioxide underground. This offers the possibility of taking the carbon out of hydrocarbons – using the same feedstock, but having almost no environmental impact. This is particularly attractive to economies with large supplies of indigenous coal, provided the cost and technical barriers can be overcome.

In BP we already capture and store around one millions tonnes of CO₂ each year at the In Salah gas production site in the Algerian Sahara. And last month we announced with the Edison Mission Group our plans to build a new \$1 billion hydrogen-fueled power plant in California that would generate clean electricity and use sequestration to create minimal carbon dioxide emissions.

The plant would be capable of producing 500 megawatts of low-carbon generation, enough power to serve 325,000 Southern Californian homes, at a time when state agencies are predicting possible power supply shortages. This is the second so-called decarbonised power project BP has announced. The first project of this type in the world I am proud to say, is planned for Scotland.

Last summer, in partnership with Scottish & Southern Energy, we announced plans to develop a hydrogen-fueled power plant at Peterhead. The plan is for North Sea gas to be reformed into separate streams of hydrogen and CO₂ with the sequestered CO₂ piped to the North Sea Miller

platform to help prolong the life of the Miller field through an innovative enhanced oil recovery scheme. It would then be stored (sequestered) safely underground, reducing overall emissions by some 90%.

Like me, the Miller field is now getting past its prime, but we hope this scheme will extend its useful life for another 15-20 years. That's probably where I should end the personal analogy, unless I want comments from my colleagues in the audience on the full extent of my useful life.

And that provides an example of a measure that addresses all three of the issues I have covered tonight – meeting demand, reducing GHG emissions and maximizing the production of the North Sea. A triple win.

In BP we have a particular association with the North Sea. It's our backyard and has been central to BP's development. Our investment there has amounted to around £47bn over 4 decades and it's been a training ground for our people and a test-bed for our technology.

The North Sea's production is declining but it is still significant in meeting demand. According to the latest DTI and UKOOA data, there is still over 20 billion barrels of oil-equivalent to be found and developed in the UKCS.

But to deliver the remaining potential does mean that we have to deal with some real issues.

First, the North Sea needs continued investment, building on the £40 billion in capital and operating expenditure invested by the industry in the UKCS over the last five years.

BP has invested £5.5 billion over that period, enabling us to bring on-stream three new fields in 2005 alone - Clair, Farragon and Rhum.

Secondly, the North Sea also needs advances in productivity and a continued focus on managing costs. High oil prices currently conceal the challenge, but we cannot rely on high oil price in an environment where as the North Sea matures, economies of scale are now increasingly working against us.

Thirdly, technology is critical to increase recovery and make economic the development of complex structures and small accumulations of oil and gas. Here again the industry is responding with 3D and 4D seismic, extended reach and multiple reservoir penetrations from a single well-bore.

And the final thing we need is a secure and stable fiscal environment in which to make long-term investment decisions.

It is easy to understand the logic which says that the industry here, and elsewhere, has benefited over the last year from high prices, and that the result is "windfall profits". It is easy to think that such profits can be safely taxed away without affecting the underlying business.

But that logic ignores the volatility of prices. If a windfall tax is to be applied when prices go up, then the tax should be removed as prices fall. It is also worth remembering what happens to the "profits". Of the \$27bn of operating cash flow that BP generated last year we will reinvest \$14bn. The remainder is returned to our shareholders through dividends and stock buybacks. Last year we returned more than \$19bn.

It's also worth reminding people that without the dividends and buybacks which BP and Shell have made in the last 3 years UK pensions funds would be \$28bn poorer than they are.

I said at the start - what the North Sea taught me - was that you can solve most things with innovation, technology, teamwork - and a positive attitude. I firmly believe that this is how the North Sea's challenges are being approached today by the industry in Scotland. I also believe that those same qualities are at work as the industry goes about meeting demand and delivering security of supply globally. And I think we are also starting to see what this industry can achieve when it puts its technology and capability to work in dealing with climate change.

Good business should generate a profit by satisfying human needs. That may sound simple but it becomes more demanding when you think about the range of needs that our industry seeks to meet. Meeting today's need for more energy is tough enough – at the same time meeting tomorrow's need for sustainable energy is even tougher. Then if you factor in the needs of the communities among whom we work, especially in the developing world, it's more demanding still.

It's also very exciting. Our industry is at the centre of everything. The health

of the planet, the fight against poverty, the search for economic growth and development – we have a direct influence on every one of these.

And I know that as professionals in the Scottish energy industry you will be using all of your experience in the effort to tackle these big issues.

The mention of tackling takes me back to where I started so let me conclude by simply saying that it's been great to be here tonight. I've been proud to work with some great people in Scotland and I look forward to continuing to do so.

And – with the temporary exception of 80 minutes tomorrow afternoon – I wish you every success for the future.

Thanks for inviting me along.

[▲ back to top](#)
© 1999-2010 BP p.l.c.

[Site Index](#) | [Legal Notice](#) | [Privacy Statement](#)