

ENERGY OUTLOOK OPENING REMARKS

Introduction

Good afternoon everyone, both here in London and online. We've timed this session so that people from different time zones can join us - so thanks for participating.

My name is Bob Dudley. I am BP's group chief executive and it's my pleasure to welcome you to the launch of our *Energy Outlook 2030*.

This is a report on future energy trends which is put together by our economics team under our chief economist Christof Ruehl. We publish these projections so they can be used by people who work in industry, governments, universities, think-tanks and other organizations. And they are well used – last year's Outlook was downloaded over 70,000 times from bp.com.

For the past three years we have been updating the data for the 2030 time horizon and next year we plan to look further ahead.

Christof will take you through the report in detail in a moment, but first I would just like to pick out some of the main trends and messages.

Headline trends

The most fundamental trend in this Outlook is the path of future energy demand. We are still projecting that this will grow by around 1.6% per year or around 36% between 2011 and 2030, with 93% of the growth expected to come from emerging economies.

Unconventional oil and gas will play a major role in meeting demand; not only oil and gas from shale formations but tight gas and heavy oil such as that produced in Canada, as well as biofuels. This year's Outlook includes a detailed investigation of the implications of the growth of unconventional oil and gas.

We expect the shale revolution will help make the US just short of self-sufficiency in energy by 2030, while China and India become increasingly import-dependent. In fact I think the shale revolution will turn out to be the greatest technology development in our industry in the last decade or two.

However, it is worth remembering that all of this is part of a broader story of quite phenomenal demographic and economic growth over the last two centuries.

In 1813 the world population was under one billion. In 1913 it was under two billion. But today in 2013 it is over seven billion. If you were born around 1960 then the world's population has doubled in your lifetime.

That has been accompanied by even faster growth in economic terms. The world economy nearly doubled over the past twenty years and it's expected to double again over the next twenty.

Meanwhile this Outlook shows how other economic forces are at work in response to the high prices of the past decade.

In particular, two underlying mechanisms of response are visible – increasing energy efficiency on the demand side and a more intense search for new resources on the supply side.

The impact of increasing efficiency is seen by the fact that while the expected 36% rise in demand to 2030 is high – it is not as high as the growth in demand between 1990 and 2010 - which was 48%.

Looking forward, we expect the average annual growth rate of energy demand to slow from around 2.1% between now and 2020 to around 1.3% from 2020 to 2030.

Looked at another way, as energy efficiency improves, we expect a fall of one third in the world's energy intensity – the amount of energy required for one unit of GDP.

Carbon dioxide emissions are expected to grow by 26% between now and 2030 – in other words slower than energy demand.

There is a small silver lining here environmentally, but we recognise more action is needed. As we always say, this outlook is a projection, not a proposition. And in fact BP supports additional measures being taken, in particular the widespread pricing of carbon emissions.

There is an intriguing process of convergence at work, whereby oil, coal and gas are each expected to account for around 26 to 28% of total energy consumption by 2030.

This happens as gas and coal compete more with each other in power generation and oil continues to act as an essential but specialised transport fuel.

A similar pattern of convergence is taking place among the three types of non-fossil fuel - nuclear, hydro and renewables – which are each expected to have shares of around 6 to 7% by 2030.

Looking at the different types of fuel individually, oil is expected to remain by far the dominant fuel for transport – still accounting for around 90% of liquid fuel in 2030.

It is an essential and valuable commodity. It is projected to grow more slowly than other fossil fuels at around 0.8% a year. However, that is still an extra 16 million barrels per day we need to find by 2030, far more than the daily production of Russia or Saudi Arabia.

Unconventional oil is set to play a big role in growing supply. Tight oil from shale formations is set to account for 9% of global supply by 2030, meeting around half of the world's growth in demand. And most of that tight oil will come from outside OPEC, incidentally, injecting even more competition into the landscape.

We expect gas to be the fastest growing fossil fuel – at around 2% a year – although gas is likely to continue to be traded in regional markets with differing pricing mechanisms.

In the US the shale gas revolution has taken shale gas output to 36% of all gas production. Shale gas development elsewhere is expected to be material, but slower. We think that by 2030 around three-quarters of shale gas production will still be in North America.

Coal consumption is expected to grow at over 2% in the current decade but to slow to 0.5% in the decade to 2030. This is largely due to China using less coal as its economy matures.

Renewables other than hydro are expected to remain the fastest growing form of energy - but constrained by the need for subsidy - so that they still only make up around 6% of all energy in 2030.

Key messages

So what are the messages we can draw from these projections? There is a fundamental point to be made about risk. We are working in new areas and there are risks associated with all these opportunities – so systematic operations and risk management must remain the bedrock of our operations.

Apart from that underlying point, I would pick out three key messages – about competition, technology and investment.

First, there is a message about the power of competition in driving innovation and efficiency. This process has helped to unlock new supplies, drive the growth of natural gas as an alternative to coal and encourage greater fuel economy in vehicles.

Second, there is a message about technology. Technology is absolutely central to all these trends and so there is a clear message to us in industry to keep up the pace of innovation.

For BP, for example, this reinforces our drive to invest in seismic imaging that will allow us to better ‘see’ what is under miles of rock. We will also continue to work on advanced water-flooding of reservoirs to increase recoveries - and of course on the technologies required to produce unconventional oil and gas.

Third, there is a message about the way that resources are opening up and the far-reaching implications this can have, not only in terms of energy, but economic and strategic influence.

This is very relevant for the US. The fall in import dependence could have a major impact on trade balances, given that energy accounts for around half of the US trade deficit today.

This gives the US a real boost at a time when the conventional wisdom has it that the OECD world – including the US - is declining in influence.

The energy industry has provided a transfusion of resources, income, jobs and tax revenues for the US and it will be interesting to see how that is put to use in the years to come.

Other countries clearly have a desire to follow suit. China for example is expanding shale exploration and liberalising gas prices. I was also encouraged to see the Indian prime minister last week supporting a market price for gas.

With unconventional resources becoming available at scale, companies now have many more options for investment. The lesson of this Outlook is that it is

a highly competitive sector and the investment will flow to the places which not only possess the right resources below the ground but the right conditions in the markets above the ground.

Companies also face a choice of investment options across the oil and gas sectors. Clearly there are many exciting opportunities in natural gas as demand grows so rapidly.

Meanwhile, demand for oil, while growing more slowly, is set to remain robust as it continues to dominate transport fuel – and this is why companies are working all the options here as well, from enhanced recovery to deepwater projects, heavy oil and tight oil.

Finally, we are also seeing the impact of competition on carbon emissions. In many places gas is displacing coal in power generation. High oil prices have encouraged greater fuel economy in vehicles. Emissions are now falling in the US and Europe. This is why we believe it makes sense to bring market forces to bear even more powerfully by pricing emissions across as much of the economy as possible.

Conclusion

So to conclude, this report shows the degree to which what was once accepted wisdom has been turned on its head. Fears over oil running out—to which we never subscribed — appear increasingly groundless. The US will not be increasingly dependent on energy imports. Indeed energy is set to reinvigorate its economy. Meanwhile, China and India will need a lot more imports to keep growing.

The projections demonstrate that we inhabit a diverse and dynamic energy market in which there is everything to play for. The future is full of opportunities for job-creating businesses with world-leading technology and capability and for countries that want to work with them.

From BP's perspective, this Outlook encourages us to continue to play to our strengths – strengths such as exploration, giant fields, deepwater projects, gas value chains and world-class downstream businesses. Our focus is well aligned with the trends we see at work here. And looking ahead, these projections reinforce the case for our investment in Russia as the world's leading producer and exporter of oil and gas today, and a region with great potential for tomorrow in areas such as enhanced oil recovery, tight oil and natural gas.

That's why we're optimistic the world can have the energy it needs to fuel continued economic growth. And do it affordably.

Christof and his team have done a great job of 'unlocking' the story from the enormous amount of global data. So thank you very much and let me now hand over to Christof to take you through the report.