



BP Statistical Review of World Energy 2015

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Good morning everyone: a warm welcome to everybody here in London and all of you joining us online from around the globe.

The Statistical Review is a truly global project. We collect data from hundreds of sources worldwide.

So my first job is to say thank you to everyone in the governments, agencies and companies around the world who kindly share their data with us.

This data enables us to build a comprehensive picture of the world's evolving energy landscape. We can see where the energy reserves lie, where they are produced, where they are consumed, and how they get from producers to consumers.

It's a picture that not only records the year gone by, but enables us to see how the big trends in energy are playing out year after year.

This is a long wavelength industry and we need to be able to plan for decades ahead.

We now have half a century of data from past Statistical Reviews to help us – as well as the projections we publish in our forward looking BP Energy Outlook.

Some years, the changes are predictable and incremental. Other years they are more dramatic. And 2014 certainly falls into the second category.

In a few moments Spencer will talk us through the numbers and give us his perspective on these changes - whether they are game-changing shifts or something more cyclical.

But let me just whet your appetite for this banquet of statistics that the team has prepared.

I'd like to pick out three key shifts – three questions they raise – and three signals to pick up as we plan ahead.

First and foremost is a big supply side shift, with the transformation that has taken place in the US.

Spencer will give us the data but it's clear the shale revolution hasn't run out of steam in the US. And oil production is also strong in Canada and Brazil.

The big question is whether this can continue - and if so for how long?

Can the shale producers keep improving their technology and efficiency, lowering their costs, and go on producing profitably at the prevailing price level? We're all watching that now.

And if this does continue, then how does it change the landscape in terms of global energy supplies?

Are we seeing a permanent shift towards the west in the centre of gravity for production? And will we be seeing more trade going west to east instead of vice versa? It's interesting to note that as a group, the OECD countries are now producing more energy and consuming less.

That means all the growth is coming from the emerging economies. Let's not forget we live in a world where a billion people still don't have access to electricity and access to energy can transform lives and enable growth.

Despite that underlying demand, the second very striking development last year was a slowdown in the aggregate growth of global energy demand.

Global primary energy consumption increased by a little under 1%— the slowest growth rate since the late 1990s, excepting the period immediately after the global financial crisis.

This slowdown is partly down to a much slower growth of energy consumption in China. The Chinese economy still grew pretty strongly – over 7% - but energy demand grew by only 2.6%.

So there are some big questions here too. Is China's industrialisation tailing off? Is China's economy shifting in a structural way from the most energy intensive industries like cement and steel? Or were these temporary adjustments?

Spencer will explore this in more detail, but if you've been to China recently – as we both have – you'll no doubt have noted the real determination among Chinese officials and policymakers to realign the economy and its energy mix.

That takes us to a third really striking development, which is the marked impact that slower growth had on carbon emissions.

Global emissions from energy use grew at the lowest rate since 1998 – again excepting the immediate post-financial crisis period.



The 0.5% rate of emissions growth in 2014 compares with an average of 2% a year over the past decade.

So why did this happen? Was it cyclical - or does it herald a structural shift?

Again, the answer to that question appears to depend heavily on developments in China, and the pace at which it becomes less energy intensive and more energy efficient.

Greater energy efficiency is one driver for lower emissions but the other is switching from higher to lower carbon energy. And that also continued to happen in 2014.

Renewables made up almost a third of the growth in energy demand – supported by policy incentives in many regions - although they still only accounted for around 3% of all energy consumption.

You can actually achieve larger emissions reductions by switching from coal to gas. Switching just 1% of coal fired power generation to gas-fired cuts emissions as much as increasing renewable output 11%. But in 2014 both gas and coal grew by only 0.4% and the overall trajectory of emissions is higher than scientists recommend.

So let me conclude with a few possible signals from the data we see here.

First, the apparent resilience of supply and the ever-increasing size of oil inventories mean we have to be prepared for life in a lower oil price world. The \$100 plus plateau of the years leading up to 2014 now feels like ancient history. It was the exception not the rule. We're back to business as usual.

Second, and related, our industry has to respond. We need to maintain discipline on capital and costs – and adjust to this new world. We need to run safe, reliable, simple, efficient businesses. We need to constrain capital spending. We need to reschedule some projects. But we also need to make the right choices about where to keep investing.

Third, if carbon emissions are to be brought to a tolerable level, something more needs to be done – and something substantial – while we continue to provide energy for development and growth.

We are conscious of this dilemma in BP, which is why we joined with a number of our fellow oil and gas companies last week to call for a global price on carbon.

The logic here is simple and is based on the power of market forces. The extraordinary shale revolution currently taking place in the US is a great example of the potential of the market to innovate, invest and drive efficiency gains if given the right incentives.

We now need to unleash market forces to drive a wedge between energy growth and emissions growth. Put a price on carbon and you make the lower carbon route also the lower cost route – encouraging efficiency, renewables and gas instead of coal....or other solutions we can't even imagine yet.

In BP, we are positioning ourselves for this transition, with a portfolio where gas makes up half of our production, and growing, as well as a significant biofuels operation and a wind business. And we encourage policy-makers to move forward on this when they meet in December.

Whatever happens, the results will be chronicled year by year in the Stats Review. It is a great resource for us and I hope you see it as a great resource for your needs too.

So thank you Spencer – and thanks again to your team – and over to you for an economist's perspective on the events of last year.