Speech by Bob Dudley, Group Chief Executive, BP, at Pandit Deendayal Petroleum University, Gujarat, India
Third Convocation – 19th October 2013

Introduction and welcome

Honourable Chief Minister, Honourable Gujarat Energy Minister, University President, Director General, members of faculty, eminent guests, and, most importantly, students and families. Thank you for the invitation to address this Convocation today. It is a great honour and a great occasion.

It has been a real privilege to meet the Honourable Chief Minister Mr Modi and to share this platform with my friend and colleague Mukesh Ambani, President of the University and the Chairman and Managing Director of Reliance Industries, and the distinguished members of the Board today.

As Mukesh said, it is remarkable how well-established this new university has become in just six years since its foundation in 2007 and you are all testimony to that.

It is a tribute to everyone who has played a role – the government of Gujarat, the Gujarat Energy Research & Management Institute), your investors, your board and faculty – and of course all of the students who are here today and those who support them, and those who have gone before you.

As Mukesh said above all, this is *your* day, and I remember what this day felt like for me 36 years ago. All that work. All those late nights – those essay crises. And finally – you got there – so well done to all of you.

Now is the moment when – for all of you – knowing how to learn starts to give way to learning how to work. And as Henry Ford, the great automobile industrialist, once said: "Coming together is a beginning. Keeping together is progress. Working together is success."

All of you now are going out to work – and whatever kind of organisation you work in – whether it's a business, a government body, a university or whatever – that organization will be made up of people –so much depends on the ability of people to work in partnership, to work with each other.

Today I want to look at what that idea of partnership means for India, for Gujarat – and for all of you. But first I want to take a step back and look at the global context in which our industry operates and my humble view of the priorities for India.

Global context

When I graduated from university as a young engineer 36 years ago, the world's population had just reached 4 billion people and its total annual energy consumption was around 6 billion tonnes of oil equivalent.

Today, our planet has 3 billion more people than when I had started out and its energy needs have doubled to exceed 12 billion tonnes of oil equivalent each year.

Back then, the international oil industry was beset with political problems, leading to shortages, surpluses and volatile prices. Respected figures – from industry, geologists, and economists – to the US President himself – were warning that world would run out of oil within 20 years.

On reflection, opting to choose a career in this industry at that time may have seemed a brave choice. But as we now know, that gloomy analysis was proved wrong. New sources of oil and gas have been found, old sources have been regenerated and production has continued to grow. The theory of 'peak oil' has itself peaked.

In the last few years, we have witnessed a transformation in North America as a result of the shale gas revolution. That revolution is causing many countries all around the world to look again at their own potential.

Our latest BP Statistical Review of World Energy indicates that today's proved reserves of oil and gas are sufficient for over 50 years at today's production rates. However, demand for oil and gas worldwide is expected to just keep growing for several decades at least.

Our calculations indicate that there will be a rise in global demand for energy of another 4 billion tonnes of oil equivalent – or about 35% – from 2011 to 2030 – and that is just 17 years away. That is like adding another seven new Indias to world energy production.

The good news is that this massive number – the 4 billion tonnes – represents a new chapter in human progress which you will be part of.

It represents millions of people moving out of poverty, into homes and jobs, enjoying heat, light and mobility to improve their lives. Here in India, I know, access to energy really transforms lives.

However, we have to recognise that the rise in energy use is also likely to mean a rise in carbon emissions – something the world didn't worry very much about40 years ago.

So the challenge is to enjoy all the benefits of energy while reducing its environmental impacts.

And when it comes to reducing emissions, there are many opportunities to save energy – particularly through using it more efficiently – switching from coal to gas. That is one reason why I am glad BP is involved in increasing, with Reliance, India's supply of natural gas.

India Context

Looking more closely at India, our projections indicate that we expect India's own energy consumption to more than double over the next 20 years.

So in order to continuing growing, the country will need to get access to all the forms of energy, anything it can produce domestically – coal, oil and gas, nuclear, and renewables.

That is the world of energy that will challenge your generation of graduates. India – and the world – need more energy. They need secure energy. And they need progressively cleaner energy.

Priorities for India

So against such a context, what are the priorities for the industry?

I think, first technology;
Second, policy support;
Third, partnership;
And fourth, and most importantly, people.

Technology

Technology. This has been critical for BP – and it will be critical for India. Technology is often the difference between resources discovered or lying undiscovered – and between reserves being recoverable or irrecoverable.

In the last few decades, we've been working to increase our capacity to find and produce oil at the frontiers of the industry.

We have built up a seismic capability that has been useful in India where Reliance and BP have announced two discoveries of gas off the eastern coast this year.

These technologies require great brainpower; they also need great computing power. Projects that took years to complete a decade ago can now be completed in a day – provided we have enough computing capacity.

We are building the world's largest supercomputing centre in Houston. We are going to have some of the students visiting there this year.

It will have a capacity of two petaflops. I didn't really know what it is but I am sure many of the students know: two petaflops is the capacity to make two million billion individual calculations per second. It is the equivalent of 147,000 Apple iPods. If stacked vertically those iPods would form a tower seven times higher than the Empire State Building in New York.

Our industry – the industry you're joining – has some amazing technology by any standards.

Time prevents me from going on so let me make a comment about policy.

Policy

It is one thing to have the right resources *below* the ground. It is often another to have the right conditions *above* the ground to encourage their extraction.

In the US, the shale gas revolution has been a classic case of markets at work – supported by favourable tax regimes, pipelines, infrastructure, land ownership.

It's the same kind of policies that I see here in Gujarat that are leading to favourable development of business, enterprise, and energy. It's a great place to come from. And that reputation goes toward a global reputation.

In particular, governments work closely in the United States and the United Kingdom as well to regenerate those oilfields.

Here in India, we have seen welcome moves towards creating investment-friendly conditions, enabling regulations in place, and we do hope to see a much more vibrant domestic energy sector evolve, where companies will also be incentivised to develop and apply these advanced technologies necessary to explore, develop, and produce energy to meet the needs of this growing nation.

In particular we hope to see continued progress towards a market-based price for natural gas which will help release lots of domestic production, reduce imports, and improve the trade balance. In fact, I believe it is vital for India in this incredibly competitive world.

And again looking to this State, specifically, I must congratulate the Honourable Chief Minister for his leadership in Gujarat's energy sector.

The measures taken here in Gujarat emphasise how the 'above ground' factors largely shaped by good policy can make a major difference to countries in their quest for energy security and certainly change the lives of so many people.

Partnership

Gujarat also clearly understands the value of public-private partnership. Indeed this university is the result of a productive partnership between government and industry.

In today's complex world, no oil organization can do it all and here in India, BP's business certainly depends on partnership.

We work with the private sector – in the shape of Reliance Industries Limited (Mukesh's company) – and the public sector – in the form of Indian Oil (IOC) – in order to achieve success.

We made a major gas alliance with Reliance and we are working to progress the development of India's domestic resources.

Gujarat too features prominently in our growth plans in India. Through a joint venture with IOC, we are hoping to set up one of the world's largest acetic acid plants here.

And our JV with Reliance for sourcing and marketing gas – India Gas Solutions - is also scouting for options to secure equity or capacity in LNG regasification terminals to bring gas in to the State.

Through these partnerships we create a diversity of knowledge, skills and experience from the rich diverse talent of India that I see so clearly in front of me today.

People

And that final priority. Smart technology matters. Policy matters. Partnership matters. But people matter the most.

And one absolute certainty for our industry is that the baby-boomer generation is now retiring and we face a shortage of highly skilled engineers, technologists, geologists and other professionals. It's a great time to join our industry.

There will be a huge opportunities for you young professionals graduating here today. Huge. There are opportunities in India. There are opportunities in Indian energy companies investing worldwide

– such as Reliance, ONGC, and many others. And there are opportunities with international energy companies as well.

I agree with Mr Modi who has said that developing the human resource for tackling the issue of energy security is just as important as the issue itself.

And a university like PDPU is a fine example of how India is well positioned to develop this new pipeline of well-qualified talent.

Conclusion - "Working together is success"

I began by quoting Henry Ford and I hope that in my remarks I have demonstrated the idea of coming together, keeping together, and working together is highly applicable to energy and to India.

Technology and policy are critical, true, but, like everything else, they depend on people and the partnerships they create.

So let me leave you with some questions to contemplate as you think about the next steps in your career. And I fully agree with the advice Mukesh Ambani gave earlier. My questions to you will be:

1. How will India and the world look when you all enter your fifties and look back on your careers?

2. Will we have succeeded in making our energy more sustainable as well as secure and sufficient?

3. What will you have discovered along the way that we here in this room today do not currently know? And

4. What kinds of partnerships might you be a part of that help India and the world benefit from energy?

Albert Einstein said: “Wisdom is not a product of schooling but of the lifelong attempt to acquire it.”

And in that spirit, may we all continue to learn.

With that I will close and offer my deepest congratulations to each and every one of you here today – and your families who have no doubt supported you – for your hard work and your success at this very fine university.