

Unlocking the Future: BP's Global Upstream

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Thank you, Steve for that generous introduction.

Good morning everyone. First of all, it is fantastic to be back at OTC.

This conference is evolving with our industry.

OTC was once predominantly for people interested in the offshore.

But lately, there's been a lot more onshore cross pollination if you look at the rigs outside.

That's evidence of how our industry is changing — and how much the onshore and the offshore can learn from one another.

I spoke here two years ago; I said that BP was optimistic about the future of our company and the future of our industry and the future of our business.

And today, as chief executive of BP's Upstream organization, the future looks as promising as ever.

And here's why.

It is clear that the world depends on our industry for heat, light and mobility — and this is likely to continue for many many many years in the future.

We continue to pursue new hydrocarbon resources and develop new technology to access them.

BP plays a crucial role in finding those hydrocarbons, and continuing to develop and push technology.

And that is what I want to talk about today.

About the continuing need for hydrocarbons — and the shifts that are occurring.

How technology is at the heart of meeting the challenges we have to deliver on those needs.

And about BP – I want to speak about BP some with highlights of what we are doing in the Upstream.

Now I think we all would say that stunning changes are occurring in our industry and in our world – changes that were not predicted as little as a decade ago.

And in the process, BP is — I believe — becoming an even safer and stronger company.

So, as we look at this astounding industry, the first point to make is that there is no sign of slackening world energy demand.

It is Quite the opposite in fact — but it is shifting materially.

Back in January, BP released its latest edition of *Energy Outlook 2030*, that's our forward-looking projection of global energy trends.

We expect a rise in total global energy demand of about 36 percent by 2030. So that's 36 percent just in 17 years.

To put that in perspective, it is the equivalent of adding another US and another China to current total energy needs in the world – in seventeen years.

That means the world could need 16 million more barrels of crude oil a day than it does now.

Many in our industry have worried about whether demand on that scale could be met.

We at BP believe the industry can meet that challenge.

At current consumption rates, the data suggests the world has 54 years' worth of proved oil reserves and 64 years' worth of proved gas reserves in place.

And those numbers will be pushed out even further as the unfolding revolution in unconventional oil and gas continues expanding.

Who would have thought a few years ago that the US would surpass Russia and Saudi Arabia as the world's largest liquid hydrocarbon producer? That is probably about to happen this year.

Or that OECD oil demand would fall and non-OECD demand would grow – shifting that balance by a staggering 16 million bbls/day in the last eight years

or who would have thought that Non-OECD oil demand will most likely exceed OECD demand this year.

And there are big Established energy players such as Russia, with the world's largest oil and gas reserves and its largest combined production, Russia will obviously be a major source of those new supplies.

Rosneft, the world's largest listed oil and gas company by production, will be a big driver.

We were pleased to acquire a nearly 20 percent interest in the company earlier this year.

Rosneft has tremendous potential and we look forward to working with Rosneft to build a stronger company and the potential opportunities both onshore and offshore.

Now it is obvious the US will also play a critical role.

I've already referenced the shale-driven revolution in onshore American production.

That's a world-scale impact if ever there was one.

The US Energy Department projects that US gas production alone is likely to grow 44 percent between now and 2040, driven obviously almost entirely by shale.

US oil production has grown to its highest level in years and looks to grow further into the future.

In gas, our resource base here in the US has expanded so significantly that we have seen gas compete and take market share from coal and set up new manufacturing opportunities in the US due to the low energy costs.

And offshore, we are finding more resources than were foreseeable even recently.

Important as the traditional source countries are, the fact is we are searching for oil and gas and finding hydrocarbons in new places and in new basins all over the world.

BP as an example now has major exploration positions in Brazil, Uruguay, India, Australia and Nova Scotia, to name a few.

So the future opportunities are surely there.

But so are the challenges.

Nothing we do in the industry counts as "easy oil." Or easy gas.

So what will it take?

Accessing these resources safely will require leading-edge technology – and rigorous processes.

It will require financial investment on an epic scale.

It will require Political and regulatory structures that encourage such large investment and taking of risk.

And, perhaps most important of all, a talented, capable, and diverse workforce.

We also know that for BP to remain competitive we need to continually adapt.

We continue taking a hard look at ourselves — and continually improve and refocus how we do business.

We decided to streamline our portfolio and focus on doing what we believe we do best — exploring for oil and gas, operating in the deepwater, developing and utilizing technology at scale, and managing giant fields.

We moved to focus our business to a smaller operating footprint, generating cash and building a quality platform for the future.

Now obviously, safe, reliable and compliant operations are the foundation for sustaining our business.

With safety being at the core, we are moving to enhance standardization, simplify our processes and drive integration across the Group.

So in my new role as BP's Upstream chief executive, I will highlight a few things for you this morning that we believe are important components of our future.

I will touch on what and where we are focusing in the Upstream....

And how we are using technology to drive our business forward....

And a look at the future — and the steps we are taking to continue to enhance safety and risk management.

[PAUSE]

When we decided to restructure BP's Upstream, we asked ourselves a very basic question: what is our objective?

Was it simply to chase more barrels – was it a volume imperative?

That course didn't seem to be sufficient.

All barrels of oil as you know are not created equal.

If we were to justify the immense expenditure of time, money and talent necessary to bring new energy supplies to the market, then our objective needed to be value.

So in the last three years, we have sought to maximize value through a program of divestments and focused investments, while organizing ourselves to improve fundamental operations — from the reservoir to the topsides.

As you appreciate, one of the primary foundations of any business is its portfolio of assets.

When we looked at our assets, we found that it contained many positions likely worth more to others than to us. So we moved to divest them.

We certainly strengthened our balance sheet.

Not only did we reach our target of \$38 billion in asset sales, we did it a year ahead of schedule.

Our footprint has changed very significantly.

We shed around 50 percent of our total Upstream facilities; we sold about 50 percent of our pipelines, and about 30 percent of our wells.

But we retained about 90 percent of our proved reserves.

That has increased the overall quality of our remaining portfolio significantly, while simultaneously reducing its age and its complexity.

We are now more able to apply our strengths to fields that are younger, with more room to grow.

And To deliver on our plans, we are directing a majority of our Group capital expenditures into the Upstream – as much as 75 to 80 percent over the next decade.

And to make sure that the long-term future of the company is developed, our exploration hopper has been significantly expanded.

Worldwide, we have accessed acreage covering more than 150,000 square miles since 2010. That's an area roughly the size of California and twice acreage as much as we acquired in the previous nine years.

It includes promising new areas in Brazil, Canada, Trinidad & Tobago, Uruguay, Australia and the US, among others.

It's still very early, but we're acquiring and interpreting seismic data and planning to drill as many as 25 new exploration wells per year, not counting appraisal wells.

By testing at least ten new material conventional and unconventional opportunities every decade, we want to be able to try to add at least two more new significant producing areas over the next ten years

Each with multi-billion barrel potential.

Now we have very strong incumbent positions in many places around the world, but much of our focus is on four very large areas: Angola, Azerbaijan, the Gulf of Mexico and the North Sea.

We expect these four areas to generate about half of our operating income by 2020 and I'll highlight our operations there in just a few moments.

We also have more than 40 major, high-quality Upstream potential projects in the project pipeline through the end of this decade. Of these, 11 are what we call mega-projects – with means each one of those are over \$10 billion each in terms of capital investment

[PAUSE]

The right portfolio and the right level of investment are indispensable to success, of course. But so is the right organizational structure and the right processes.

Like all large companies, BP confronts complexity and the need to continue improving.

For most of my career, we were a geographically focused company. Each region had its own drilling engineers, project engineers, geologists and other specialists.

So we have over the last three years really restructured the Upstream along what we call functional lines.

People who perform similar work around the world are now grouped under a single global organization.

Drillers are now part of the Global Wells Organization. Project engineers work for the Global Projects Organization. Petroleum engineers and operating personnel are part of the Global Operations Organization, and so forth.

The goal is to continue standardizing and simplifying the way we work, while always driving collaboration and integration.

Now this functional structure makes it easier to share expertise and understanding.

We are leveraging this structure to deliver even better and safer execution across the organization.

And to staff that organization, we are working actively to identify and bring on-board the best minds available.

Globally, we are planning on more than tripling our new hire recruitment of high-achieving engineering, geoscience and business graduates.

In 2009, BP's Upstream recruited around 300 such graduates.

But we are aiming to hire around 900 this year.

But by 2014, we are planning to hire around 1,000 every year.

We'll need every one of them, because for us at BP, technology underpins much of what we do.

I'd like now to highlight for you some of our major technology projects, and then I'll illustrate some of the ways we use them in the real world.

Technology

At BP, we've dubbed our major technology initiatives our "flagships", our technology flagships.

There are nine of them, but I will touch on only three today.

It all begins with discovery, and I believe BP has long been recognized as a leader in advanced seismic acquisition and interpretation.

It can reduce uncertainties about where to drill — and also reduce the costs.

WATS, or Wide-azimuth Towed Array Streamer, is one of our best-known seismic breakthroughs.

By using multiple simultaneous sound boats, our explorers can see beneath the thick salt canopies that overlay oil and gas deposits in the Gulf of Mexico, Brazil, Angola and elsewhere.

WATS I now believe is an industry standard.

Onshore, we took a similar approach where we have utilized what we call Independent Simultaneous Source, or ISS™.

This allows multiple sound trucks to operate independently. Interference is removed by advanced computer processing.

It's a bit like being able to isolate a single conversation in a stadium full of people.

Using ISS technology in Libya, we cut the time it took to do a survey from five years to one, setting a world record in the process.

Last November, we announced a discovery in Trinidad that used innovative ocean bottom cable seismic.

This allowed a major step forward in imaging quality to "see" additional potential from areas that have been explored already.

And off the southern coast of Australia, we have conducted one of the largest surveys ever done in that country using the Ramform Sterling, a seismic ship that is the world's largest moving object.

As many of you know, seismic requires massive amounts of supercomputing capability.

We've acquired so much data in the last decade or so that BP's need for computing power today is around 10,000 times – yes — *10,000 times* greater than it was in 1999.

We already have here in Houston one of the world's most powerful High Performance Computing Centers, and we are now building an even more powerful one.

When it's completed in a few months, it will be the largest commercial research supercomputing facility in the US.

Our investment in the High Performance Computing Center is intended to help BP stays at the forefront of the next generation of seismic imaging technology. I think it will be capable of 2,000 Trillion calculations.

Pushing reservoir limits: increasing recovery from our fields

Discovery alone though, is not enough.

Once fields are producing, a large percentage of the oil stays in the ground — sometimes the vast majority — even with the use of techniques such as waterflooding.

Enhanced Oil Recovery holds enormous potential to change that. BP believes that as many a half-a-trillion barrels worldwide could be recovered using this technology.

BP's efforts in this space center on Designer Water and Designer Gas, the dominant technologies used in conventional reservoirs.

The jewel in the crown of our Designer Water technologies is LoSal®.

Our scientists found that by lowering the salinity of the water used in reservoir displacement, some of the molecules binding the oil to the rock would release — improving recovery by as much as five to 10 percent.

We've been using Designer Gas since 1987 at Prudhoe Bay in Alaska. By re-injecting gas back into the reservoir, we are increasing oil recovery.

This technology in Alaska is liberating hundreds of millions of additional barrels where the overall recovery exceeds 60 percent, or is projected to exceed.

We also see Russia as “opportunity rich” for the deployment of similar EOR technology.

Overall, the potential of EOR is so great that we are now designing it into some of the fields from the initial design, instead of seeking to retrofit it at a later date.

[PAUSE]

The third flagship I will discuss today is **Field of the Future®**, which can be described as turning bits of data into oil and gas.

One advantage of leveraging expertise within the company is that it leads to faster and better decision-making. That improves efficiency, while helping us reduce risk.

To boost data sharing between experts sitting hundreds of even thousands of miles apart, we've laid over 1,200 miles of fiber-optic cable worldwide — nearly the distance between Houston and Detroit.

Real-time monitoring of operating, production and injection data is becoming fundamental in the management of more and more reservoirs.

Seismic sensors installed on the seabed gather information about a reservoir's behaviour and looks for changes over time.

That data is then transmitted to monitoring centers onshore, where technicians can analyze it in real time.

We have more of these centers – 35 — than any company we know of.

Technologies like this are helping us manage our operations from anywhere — using the best brains — to maximize efficiency and avoid issues before they occur.

Like enhanced oil recovery, Field of the Future is now being designed into many of our operations from the start.

[PAUSE]

Now I'd like to give you a very brief tour of how we are using these technologies in the real world, concentrating on four of our most active positions: the North Sea, Angola, Azerbaijan and the Gulf of Mexico.

Together, these four positions should attract about \$50 billion in investment over the next four years in BP projects and positions.

North Sea

The North Sea is one of our oldest offshore positions, but with plenty of life left in it.

After 40 years and nearly \$50 billion of BP investment, we still have a staggering 40 percent of the resources in our portfolio yet to be produced.

Our Clair field is an excellent example of what technology can accomplish.

The field was discovered in 1977, but due to its complex geology, first oil didn't come until 2005. Originally, reserves were estimated at only 250 million barrels, which is still a giant field. But today that number could be in the billions.

Insight into Clair's complex reservoir and geology is being gained via a permanent 4D seismic installation.

This technology takes a time-lapsed seismic shoot over the same area, over and over, so it is possible to see fluid changes over time.

The permanent array of seismic receivers on the sea-bed makes it easier and cheaper obviously to execute multiple shoots.

Phase 2 of the Clair development is called Clair Ridge, is being built now.

Last fall, we began the world's first offshore deployment of LoSal® technology, which could help us recover millions of more barrels.

The North Sea is also leading the way toward the digital field of the future.

In our Valhall field in Norway, we've moved increasing amounts of control and administration from the offshore to the onshore.

Part of Valhall is also powered 100 percent by shore-based power, actually hydro-electricity — the first offshore Norway field and the first within BP to use such a power-from-shore system.

We are also proud of Skarv, which is a new program which began producing late last year in Norway. It includes a new, highly-advanced floating production, storage and offloading vessel, purpose-built for the harsh conditions of the Norwegian Sea near the Arctic Circle.

These technologies are pushing the Norway region's average recovery above 45 percent — toward 50 percent and beyond.

We've been in the North Sea for 40 years, and with fields like Claire, Skarv and others, we feel as though we can be there for at least 40 more.

Angola

Angola is the newest of these four major areas.

Greater Plutonio, our first operated project, came online in 2007.

But that was only the beginning. Last December, our newest project we started up PSVM — a FPSO that uses subsea infrastructure to develop four fields simultaneously.

I've just had the honor to go to Angola and I have to tell you that you really need to see this project up close to grasp its sheer scale.

Sitting in over 2000 meters of water, it features 75,000 tons of subsea equipment and 20,000 tons on the topside.

The footprint of its subsea systems is larger than Greater Houston.

The field has already produced over 10 million bbls since coming on line in December.

The delivery of this project helps illustrate the benefits of a functional organization.

Looking to the future, Angola's offshore pre-salt geologic formations are very similar to those of Brazil on the other side of the Atlantic, making them excellent prospects for our leading seismic technology and our exploration program.

Azerbaijan

In Azerbaijan, We marked our 20th anniversary last year. Since first oil from Chirag in 1997, BP has produced some two billion barrels from the Caspian Sea.

And we believe there's plenty more.

The region has over 40 years of oil and gas resources, and BP's position is strong.

After 15 years of operations, we have produced only 18 percent of the available resources, and we are planning as much as \$12 billion in capital expenditure between now and 2017 in Azerbaijan

In fact, the Chirag Oil Project – a large-scale, new BP project coming on line in a few months – just two weeks ago set the largest jacket ever in the Caspian — setting up a 48 slot drilling and processing platform for the giant ACG complex.

Gulf of Mexico

Finally, there's the body of water just 40 miles from here: the Gulf of Mexico, where we operate four platform hubs.

BP has long been the largest investor in the Gulf of Mexico and our current plan is to invest \$4 to \$5 billion per year for the rest of this decade.

We are the largest deepwater leaseholder, with nearly 700 leases, including 51 awarded in 2012.

This strong, well-established position is built around assets still early in their life-cycle. Only about 20 percent of our resource base has been produced.

We have seven rigs running there now, and plan to have the eighth by the end of the year. Last year, we also started up the Galapagos project, our first in the deepwater Gulf since 2010.

Two new Atlantis wells have come on line recently — and the Na Kika Phase 3 development is progressing.

Our Mad Dog Phase 2 project is continuing evaluation to most optimally develop the giant Miocene resources in that field.

It isn't just new projects or new wells, though.

Our Atlantis platform is an excellent illustration of how we are turning data into oil and gas recovery and production.

Last year, Atlantis completed an optimization program, including improvements in the flow of data.

This allows us to digitally track changes in reservoir behaviour, enabling our engineers and control systems to adjust almost instantaneously.

As a result, we expect this technology will help Atlantis produce as many as three thousand additional barrels per day.

In addition to drilling more wells and optimizing reservoir performance, we are looking ahead to the potential of the Paleogene.

This is a geologic period that ended around 23 million years ago and lies over six miles beneath the ocean floor. We've made discoveries there in the Gulf of Mexico at Kaskida and Tiber.

The Paleogene and similar layers could potentially impact production for the next 30 years or so.

Enter Project 20K™, a BP-led effort we announced last year. It is intended to reach beyond the industry's existing technical limits of 15,000 psi and 250 degrees Fahrenheit.

Our project team is based here in Houston. We have engaged Maersk and KBR as contractors and are collaborating with universities in the US and the UK.

But going deeper into high heat and high pressure environments underscores the constant need to ensure safe and reliable operations.

At BP, that is also a part of our strategy, and we place it at the heart of everything we do.

Safety and regulation

Safety is everyone's business at BP, no matter his or her job.

We believe that safety is good business — and technology is playing an essential role.

We have brought our core and specialty wells training under one roof here in Houston.

BP made a strategic choice to create the Global Wells Institute as an industry-leading professional development center for use by both BP employees and contractors.

Through the GWI, we supplement the training of identified BP employees and drilling contractor staff according to our exacting safety standards.

We've also created the Houston Monitoring Center, which came online in July 2011. Operating 24/7 and featuring dozens of data and video screens, the HMC provides an additional layer of support to help in well-monitoring.

Another essential element to safety is a productive relationship with government regulators. We have collaborated with regulators very closely, both here in the US and abroad, sharing what we have learned so that everyone can produce energy more safely.

Conclusion

I am very very proud to work in this industry. I am very very proud to work for this company.

Just two decades ago, one generation ago, the deepwater scarcely existed. Today, it would be impossible to imagine the oil and gas industry without it.

The unconventional became conventional in the onshore US in an amazingly short time.

So there is every reason to feel optimistic.

The geology is promising – and challenging and full of opportunity

The technology is ever expanding.

Our commitment as an industry has been proven time and again.

And the world is certainly counting on all of us to deliver.

So, I would say in conclusion, welcome to Houston, Texas and OTC I hope that everyone has a fantastic OTC!

Thank you very much.

[END SPEECH]