



Taking leadership for responsible operations

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Thank you, and good morning everyone.

The WPC is often described as the energy industry's Olympic Games.

Like the Olympics, it's big, it's important and it's global - that is certain.

But unlike the Olympics, it's not about who comes first, second or third.

Although I think the Republic of Turkey deserves a medal for providing this great venue, and the WPC should have one for creating such a wide-ranging and informative programme.

But primarily, this event is about bringing our industry together, so that we can listen and learn from each other as we discuss the challenges we all face and the potential solutions.

And from where we see things in BP, there are two fundamental challenges.

The first is about providing more energy than ever before - and more competitively than ever before.

Demand is continuing to grow, driven by fast-growing economies like that of Turkey.

Energy consumption here grew by 35% in the decade from 2005 to 2015 - more than twice the global average.

And we expect to see global energy demand rise by around a third over the next couple of decades.

That increase in demand has been anticipated for many years.

What's new is the increase in supply.

Abundant supply is now a fact of life - with the shale revolution and advances in technologies such as enhanced oil recovery.

We have half a century's worth of oil and gas in our proved reserves alone. And there is much more out there. China, Argentina and Algeria are each estimated by some to contain as much shale as the US, for example.



The debate over so-called 'peak oil' has peaked some time ago.

And the unlocking of so much new resource has changed the economics of the industry.

When we last gathered for a WPC in Moscow in June 2014, oil was trading at around \$108 per barrel.

By the end of the following year it was less than half the price, and it has stayed down ever since.

The industry has been adjusting and we have seen some balance coming back into the market, particularly in this past year with the unprecedented agreement between OPEC and non-OPEC producers.

Ideally, what the world needs is a world where the prices are affordable for customers while still providing sufficient capital for future investment.

And what our businesses need is the ability to be resilient and competitive in a lower-price environment where only the most efficient producers prevail.

Meanwhile, on a longer-wavelength, we face a second challenge - the challenge of climate change and the gradual transition to a lower carbon economy.

In some places policy-makers are acting to advance lower carbon energy. In others, technology and economies of scale are acting to bring down the cost of lower carbon energy.

Either way, we need to respond by making our businesses fit for a low carbon world.

So, in short, we face two huge challenges:

- First, providing more energy than ever before in a more competitive market than ever before;
- and second, reducing carbon emissions more than ever before.

There are no quick fixes, no overnight solutions.

Yet, history shows that our industry has taken on these kinds of challenges many many times before, and won.



So, we should be positive - although these new questions need new answers, and we need to do more than just replay what we've done before.

I think there are three areas where we should focus our efforts.

The first is excellence in our operations, or as this session's title puts it, leadership in responsible operations.

The second, is sustainability in our products - fully realising the benefits of both natural gas and renewables as well as our Downstream product range.

And the third is collaboration, or simply working together, in our partnerships - the kind of working together that makes new things happen and drives real change.

Let me expand a little on each of these three areas, starting with operational excellence.

Operational excellence, for BP, is the foundation for safety, reliability and competitiveness.

It means highly skilled, highly committed people, around the world, working in a disciplined and systematic way with clear ways of working and advanced technology to deliver great results.

Operational excellence has multiple outcomes, as we have seen in BP. It drives strong safety performance. It pushes up reliability. And it allows us to minimise costs and maximise efficiencies.

We have more to do as a company but our journey since 2010 has been a positive one.

In particular, we have recognised that oil and gas has a lot to learn from other industries, from manufacturing to IT.

Often, change has meant doing less, not more, simplifying the way we work, reducing interfaces between other parts of the company and eliminating duplication.

It's a combination of using common-sense at large scale and taking full advantage of the wave of technological advances converging on our industry.

Technologies like Big Data are rewriting the rule book for E&P.



Having already turned a page on exploration through seismic processing, digital technology is now opening a new chapter on production through data lakes, real-time feeds and predictive software that allows us to maximise production and minimise downtime.

What used to take weeks can now take minutes.

And a BP engineer anywhere in the world can now get real-time alerts on wells based on the processing of almost a billion data points per second... Unthinkable just a short time ago, and truly transformative.

Technology also has a role to play in the second area I want to cover - which is the sustainability of our industry's products.

This is clear to me in both Downstream and Upstream.

In the Downstream, advanced technologies are key to resolving the paradox of providing more energy while curbing emissions.

BP's projections - and others - suggest that while the global car fleet will double over the next 20 years, growth in oil demand will only go up by about a fifth - still increasing, but at a slower rate.

A whole series of technologies are contributing to that.

Electric cars and hybrids, for example, which are growing fast.

And in particular, smarter, more efficient internal combustion engines, and more efficient fuels and lubricants.

BP's advanced transport fuels and lubricants such as Castrol, and aviation fuels such as biojet are contributing to that trend - as are many of the products made by companies represented here today in Istanbul.

Technology is also driving down costs and driving up the use of renewable energy.

In many circumstances, renewables are now competitive with hydrocarbons, so there is a good business case for investment. As long as there is back-up for when the sun does not shine or the wind does not blow.

BP continues to invest in renewables, building for the longer-term, with large operated renewables businesses. In our case with biofuels and wind.



We see that in Brazilian biofuels as the business becomes increasingly efficient.

And in our large wind business as new developments in turbine technology become available.

However, we must also recognise there is still a long way to go with renewables, because they are starting from low base and only represent around 3% of today's energy supply.

Renewables are the fastest growing fuel, growing at a remarkable 12% a year - actually 33% last year here in Turkey.

But even on that path they are only likely to make up around 10% of the total energy mix by 2035 on current trends - although that could increase with different policies and technology breakthroughs.

Either way, common sense tells us that the ambition to reduce emissions cannot depend on renewables alone.

Advancing a lower carbon future requires many building blocks, and natural gas will also be one of the most important.

This argument is strengthened when you consider that around 10% of total energy-related greenhouse gas emissions could be avoided if all existing coal-fired power stations were switched today to state-of-the-art gas-fired plants.

That is, of course, not practical, but it gives you a sense of the importance of gas.

The advantages of natural gas are clear and at BP we are evolving our production portfolio to contain a larger proportion of gas.

Six out of the seven major projects coming on-stream this year will produce gas.

Three are already on-stream and two are imminent - Juniper in Trinidad and Tobago, and Persephone in Australia.

This trend is also relevant here in Turkey, where gas accounts for around one third of all energy used.

One of BP's largest partnership projects, the Southern Gas Corridor, will bring a further 6 billion cubic metres a year of gas from the giant Shah



Deniz field in the Caspian to industrial customers across Turkey, as well as supplying an extra 10 billion cubic metres a year to EU markets.

Of the 3,500 kilometres of pipeline, 1,850 - more than half - are being laid in Turkey.

The Southern Gas Corridor is opening a new chapter in the way energy is supplied, and Turkey is helping to write that story as one of the great transport hubs of the world.

And this is only possible through team work, and shared goals, which brings me to my final point, which is partnerships.

For me, BP is a business that is based on relationships, not simply transactions.

And good long-term relationships are needed to help us address the global challenges of energy.

They help us increase efficiency, for example, in the work now underway to extend standardisation in areas such as procurement specifications.

They also help us reduce emissions, as is demonstrated by the wide range of major global and national companies who are attending the WPC, working together in the Oil and Gas Climate Initiative, OGCI.

Together, the OGCI companies have committed \$1 billion to bring promising low-carbon technologies to the market, looking initially at reducing methane emissions, carbon capture use and storage, industrial efficiency and transportation.

Partnerships between countries and companies are also important because trusting relationships lead to long-term agreements.

Here in Turkey, we have a relationship that goes back over a century, and has led not only to the construction of strategic pipelines but a network of nearly 700 retail stations.

When businesses are in sync with governments - and vice versa - then together we can make great progress.

The task of meeting demand competitively while simultaneously limiting emissions is a formidable one.

But if we focus on operational excellence, sustainable products and partnerships that work closely together every day, it can be achieved.



Through the leadership of our industry, our partnerships, and our shared sense of purpose, I believe we can meet the dual challenge and be part of the solution. We can deliver energy safely, responsibly, competitively and sustainably over the decades ahead.

We are already starting to see a dramatic change in how we deliver heat, light and mobility to the world.

There is an energy transition underway, and BP is committed to advancing this transition.

Thank you.

