



# Collaborating for competitiveness – how new challenges demand deeper partnerships

Bernard Looney, chief executive, Upstream

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Good morning everyone. Thank you for the opportunity to join you. BHGE is a highly-valued partner for BP and it is an honour to be here today.

It is also a delight to visit Florence again. The British writer John Ruskin came here in 1875 and said: “You will begin to wonder that human daring ever achieved anything so magnificent.”

He could of course have been talking about the BHGE conference – but I don’t think you had them in 1875!

As you might guess, he was referring to the city’s architecture. To take one example, when medieval builders started the cathedral in 1294 they knew they did not have the technology to create its massive dome. But they went ahead and 140 years later the solution was found.

It reminds me of the way our industry often discovers resources before we have the technology to produce them – although today we are unlikely to wait 140 years for a solution – more like 140 days.

More broadly, it inspires us to have confidence in our ability to take on new challenges. And that takes me to my theme today.

I am conscious that you spent yesterday reviewing the challenges facing the industry and ways to address them, including digital technology, the manufacturing mind-set and new business models.

So, to start day two, let me approach this from a different angle and look at three things:

1. Why today’s challenges are different.
2. Why our responses must be different.
3. And, most importantly, why that response must include new kinds of relationships.

## Different challenges

So firstly, why are today’s challenges different? In our business, we often take comfort in saying change is cyclical. What goes around comes around.

And that is true, to a degree. Oil prices are always affected by cyclical factors such as supply disruptions.



But today, things are different. We are seeing some structural changes too.

Shale has changed everything. It is not only cheap, but flexible, helping the market adjust quickly. And it is massive. It is estimated that there is more shale gas resource in each of China, Argentina and Algeria than in the US.

And digital technology is helping us discover oil and gas that was hidden before. Last year we found 200 million barrels at BP's Atlantis field in the Gulf of Mexico by using a new algorithm to process seismic data.

Meanwhile, we are also unlocking more reserves through enhanced oil recovery – or EOR. The US Department of Energy has estimated that next generation carbon dioxide EOR alone could double economically recoverable US oil reserves.

We estimate that there are enough recoverable resources available today to meet the entire world's oil and gas demand for the next 30 years – twice over.

Abundance is here to stay – and with it, downward pressure on prices, even if other factors hold them up in the short term.

Something else is here to stay too. That is the transition to a lower-carbon economy.

The new renewable power capacity built in 2016 was three times that of gas and more than twice the volume of coal. And while Europe has led in the past, China has accounted for 40% of the growth in renewables in recent years, as well as leading the world in nuclear, hydropower and electric vehicles, or EVs.

Only a tiny proportion of the world's cars are electric today. But almost every forecast out there agrees that EVs will grow into the hundreds of millions as battery costs fall. We will also see many autonomous vehicles and more ride-sharing. The question is not if it will happen, but when.

Today, we cannot know what the impact on oil demand will be. The pace of change is uncertain. And there will still be demand from ships, trucks, planes and outside of the transport sector. But we know that there will be some impact – and we need to be ready.

BHGE has coined the word 'fullstream' to reflect the way the industry is integrating. It reminds us that what happens downstream in the power and transport sectors has a big impact on the upstream world.

So, taken together, what do these changes mean? A few principles stand out.



Everything we do has to be highly competitive.

Oil and gas have a future as part of a changing energy mix – but it is a different future.

Demand for oil will continue to grow, but some discovered resources may never be developed. And only the most competitively produced resources will reach the market.

Demand for gas will grow faster as it provides a lower-carbon alternative to coal for power generation and a major source of industrial and residential heating, as well as fuel for ships and trucks.

However, methane emissions in the production chain must be reduced in order for gas to deliver its full benefits.

## Different responses

These new challenges demand a new set of responses from us – responses befitting a new, modern upstream industry.

Strategically, growing gas production now clearly makes sense, along with continuing investments in highly competitive – what we call advantaged – oil.

Operationally, efficiency is critical – and I see that as being driven by three factors which are the core of BP's own modernization and transformation programme:

- greater agility
- a mindset change – accepting and adapting to this new world
- and digital transformation. Digital technology is a game-changer that is coming of age at just the right time.

All of this is enhanced by, and reflected in, partnerships – which matter like never before. In a complex world, no-one can do everything. We have to trust our specialist partners. I call this collaborating for competitiveness.

## Different relationships

So, what are the hallmarks of such collaboration?

First, let us be realistic and acknowledge that costs and rates still matter. We all need to be as efficient as possible and I make no apologies for seeking the best deals with our partners.



However, we have learned that long-term competitiveness depends on deals that work well for all parties over many years.

This is why BP has been moving from the traditional operator-supplier arrangement to more of a partnership model. Like the partnership that we have with BHGE.

These new relationships challenge us to behave differently.

They are based more on trust and long-term benefits, and less on individual transactions.

They are based on respect. Instead of presenting suppliers with our bespoke specifications, we are looking to them for their solutions.

We have seen such relationships at work in projects such as Heathrow Terminal 5 and the London Crosslink rail construction. We have seen how they prioritised early engagement and the sharing of risk and reward.

In our industry, that culture has to be maintained over multiple projects and that naturally leads to long-term, global agreements.

And those global agreements also need to be tailored to local circumstances and the priorities of host governments.

One good example of working with BHGE has been in Oman at the supergiant Khazzan gas field. You have helped us to launch a complex tight gas operation there in a way that has also built the capabilities of the country's workforce.

Strong partnerships can also be the source of innovation. A good example is our partnership on the Plant Operations Advisor monitoring system now being piloted at our Atlantis facility in the Gulf of Mexico. BP has provided domain knowledge, analytics, data, and requirements from our own prototypes while GE has provided the software development, cloud hosting, and support.

Every day, POA on Atlantis performs around 40 million calculations on 400 pieces of equipment. It flags up all divergences or 'excursions' from normal operating limits and frees up engineers to fix and analyse the issues. The next step will be to flag up anomalies before they lead to excursions – so problems can be fixed without resulting in a shut-down. That means greater safety, reduced downtime, enhanced reliability and higher productivity.



Those are significant benefits – and that is why we are planning to deploy the technology across our facilities globally over the next two years. The work is being overseen by a joint project board and supported by a virtual BHGE and BP team in Houston, San Ramon, New Orleans and London.

Let me conclude with an example of another way that things are changing in the world of upstream relationships. This is an example of re-thinking contracts in way that reflects commercial common-sense rather than convention.

We are shortly hoping to conclude an agreement with BHGE that will be the first of its kind for us – and new for the industry, as far as I know.

This is an agreement whereby BHGE will supply a gas turbine for a gas-producing facility in Trinidad & Tobago called Cassia. Nothing unusual in that. However, in this case, instead of buying the turbine, BP will receive it in a way that is similar to the ‘power-by-the-hour’ agreements common in the airline industry. And BHGE will continue to maintain the equipment, with an incentive to maximise availability.

This means BP can look forward to good reliability while BHGE can look forward to a predictable revenue stream and the opportunity to develop skills and improve the product.

We share risk and reward. And we both have a deep interest in maximising efficiency. These examples show that partnership can demonstrate all three of the drivers of efficiency that I mentioned earlier – digital transformation, agility and a changed mindset.

## Conclusion

So, to conclude, our industry faces new and different challenges raised by abundant resources and the low carbon transition.

This demands new responses, recognising the critical role of efficiency and the importance of collaborating for competitiveness.

Partnership will not only help us compete. It will help us in our wider mission to meet the world’s demand for energy in a sustainable way, with the latest technology and the best talent.

The pattern for us here in Florence is not so much the Duomo, beautiful as it is as the work of earlier generations. I think the relevant symbol for us is this spectacular opera house – contemporary, bold, smart, rich in technology, but also part of a proud tradition in



the city that invented opera. It is also a testament to teamwork between architects, builders, engineers, management and artists.

We should draw inspiration from this place to create a contemporary upstream industry that is new, different and high-tech – while respecting tradition and harnessing the power of partnership.

BP is proud to have a great partner in BHGE – with its own illustrious heritage. We look forward to building our future together and with all of you.

Let us aim to demonstrate the same daring that Ruskin saw in Florence all those years ago – so that we too can achieve something truly magnificent.