



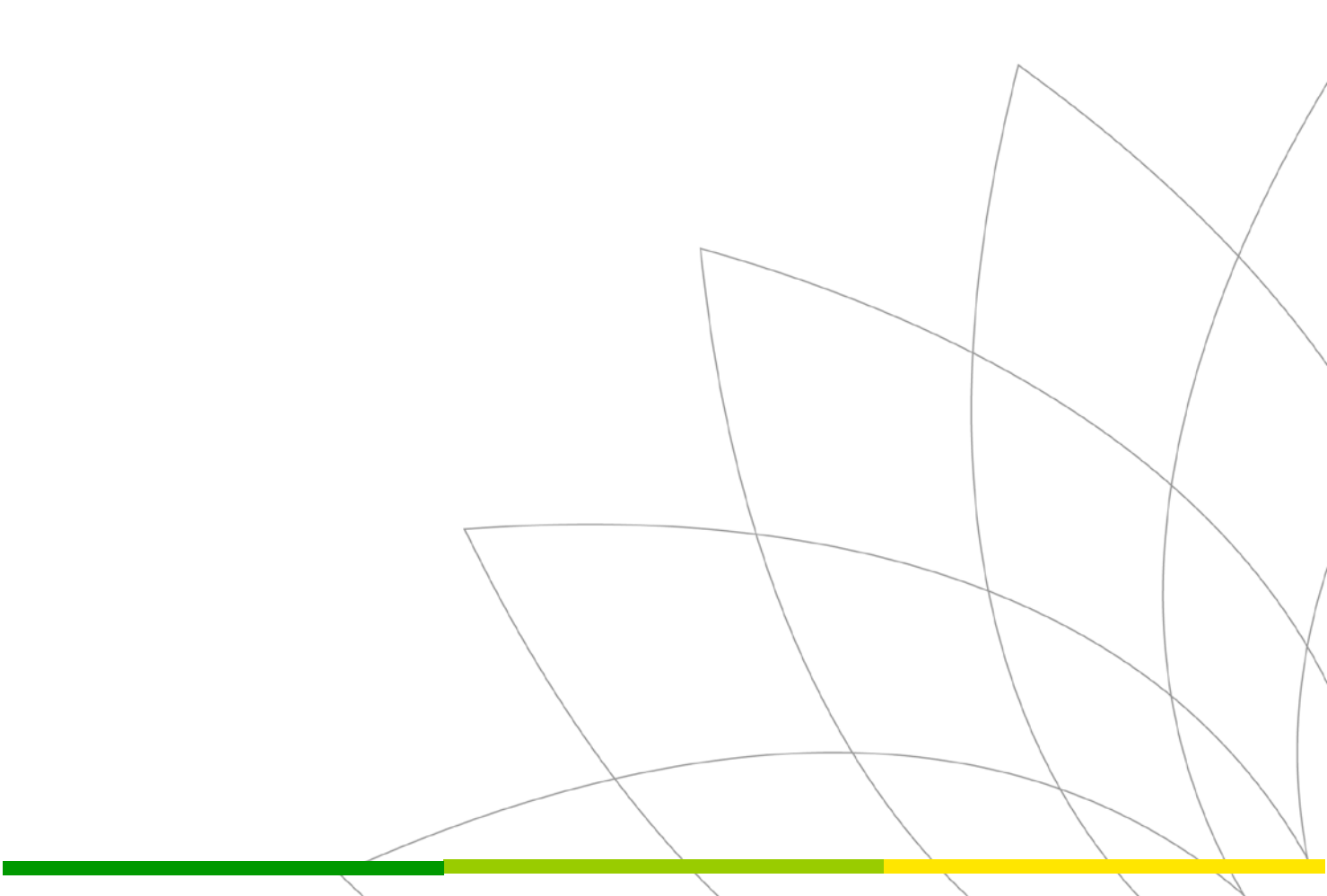
# The role of natural gas in the energy transition

Dev Sanyal, EVP gas & low carbon energy

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## Introduction

Hello and thank you for inviting me.

I would say “it’s a pleasure to be here” but in these strange and unprecedented times, “here” means different things to all of us.

Instead, I’ll say “hello from London”. And while I’m sorry we could not come together in person, I’m delighted we’re at least able to meet like this.

For those of you that don’t know me, I’m Dev Sanyal, executive vice president for gas & low carbon energy at bp.

Given my brief, it’s a particular pleasure to address this audience on this subject: natural gas in the energy transition and the impact of decarbonisation and net zero strategies on IOCs.

## Outlook

Last month, we published bp’s latest Energy Outlook. And it makes for fascinating reading.

The Outlook suggests primary energy demand could rise in multiple scenarios.

The outlook for gas, in particular, is more resilient - and more durable than for coal or oil. Much of that demand is driven by China, India and other expanding Asian economies - as they switch away from coal towards lower-carbon fuels, including gas.

At same time, societies around the world are increasingly demanding energy that’s affordable - but energy that’s also reliable and clean.

A point highlighted by China’s recently announced goal to be carbon neutral 2060 - and I applaud the Chinese government for this ambitious decision and helping to advance the energy transition.

As bp has been saying for some time now, natural gas can play an important role in a low-carbon energy system:

- First, by supporting a shift away from coal in fast-growing, developing economies in which electricity demand is growing quickly, and where renewables and other non-fossil fuels may not be able to grow sufficiently quickly to replace coal.
- Second, by acting as a source of almost zero-carbon power when combined with carbon capture use & storage, or CCUS. In a net zero scenario, the role of natural gas as a greater source of near zero-carbon energy could account for 8% of primary energy by 2050, when combined with CCUS.

But we all must remember that to deliver the low carbon energy transition that many countries are calling for, we have to rethink and rewire the global energy system.

That is why bp adopted its new purpose: reimagining energy for people and our planet.

To help us deliver on that, we have set an ambition to be a net zero company by 2050 or sooner and to help the world get there.

We've bolstered that ambition with 10 aims to help bp and the world reach net zero. And we've set a strategy to help us deliver on all that.

So the course is set.

We know the direction of travel.

But to get us there, we have to reinvent bp.

That means several things but, principally, it will see us transforming from an international oil company into an integrated energy company.

The team I lead, gas & low carbon energy - or G&LCE - brings together energies that will play crucial role in helping us along that journey.

The question I want to address today is how will we deliver that?

The answer lies in what I call the 3 i's: industrialisation, innovation and integration.

## Industrialisation

Before I take you through those, I wanted to touch on the important role that natural gas already plays in bp's business.

We have material equity gas positions, with approximately 120 trillion cubic feet of net discovered resources and close to 8 billion cubic feet per day of production in 2019.

Our gas positions are balanced evenly between pipeline and LNG, as well as international and domestic markets.

So our foundations in this energy source are strong. Now we need to build on them.

That's where the first i comes in: industrialisation.

We are building scale across our businesses by deploying our industry-leading expertise, whether that's project engineering, supply chain expertise or execution capabilities.

We'll harness the broad and deep skills that already exist within bp.

And where we need to develop new skillsets - we'll do so: either by deploying our talented global workforce in new areas, reskilling our people or bringing in talent from other industries and from around the world.

At a national level, it means we can develop strong local ties. So in a country like China, we have long-standing relationships with PetroChina, CNOOC and Sinopec - not to mention national and regional authorities. And we have signed gas supply agreements with Chinese companies ENN and Foran that I'll come back to later.

But let me give you a more detailed example of how we can bring together our gas expertise and make a real difference, by talking about our Tangguh gas project in Indonesia.

bp has been involved in the project for many years, working with many partners from Japan, Indonesia and beyond.

The result of that investment and commitment is the creation of an LNG project that accounts for almost 40% of Indonesia's production, providing 75% of the domestic market, and is emerging as a key global gas source.

For bp, our two LNG trains - soon to be three - provide material cash flow from an advantaged base.

And for the community: we've provided jobs and education - improving the health and livelihoods of people in one of the most remote locations on the planet.

It shows what 'industrialisation' can deliver - and what our purpose or 'reimagining energy of people and our planet' means in practice.

## Innovation

I'll now move to my second i: innovation.

Driving innovation, and embracing digital, will transform our business - and the wider industry.

But what does this mean for an organization like bp?

Driving innovation could also dramatically reduce the carbon footprint of natural gas - if not almost entirely decarbonising it - by deploying both hydrogen and carbon capture use and storage at scale.

Together, hydrogen and CCUS complements our existing businesses - with green hydrogen supporting the growth of renewables and CCUS enabling blue hydrogen.

We believe hydrogen could account for 20% of energy consumption by 2050 - and bp aims to build a distinctive position, with 10% share of hydrogen in core markets.

Work is already underway to develop the fantastic potential of these growth areas.

In May, bp announced a feasibility study into an export-scale renewable hydrogen production facility in Western Australia.

We're partnering with others: playing a central role in Net Zero Teesside: the UK's first decarbonised industrial cluster, aiming to decarbonise heavy industry and generate low carbon power from gas through CCUS.

We're embracing new technology to lower the carbon footprint of natural gas: such as c-capture - world-leading chemical processes for carbon dioxide; or solidia - which locks carbon inside cement.

And we'll work with policymakers around the globe to support further investment and innovation in this area.

Looking ahead, bp aims to build positions in blue and green hydrogen in target markets.

## Integration

Underpinning all this is an understanding that world is becoming ever more connected.

That means energy providers need to offer increasingly integrated solutions: capturing value by optimising across and along energy value chains.

That's where the third i comes in: integration.

We aim to grow our integrated gas position building on our equity gas resources, with our LNG portfolio and our marketing capability.

We aim to grow our LNG portfolio to 25 million tonnes per annum by 2025, and to more than 30 million tonnes per annum by 2030.

Let me give you an example from China of how we'll go about this. Our equity partnership in the Guangdong Dapeng LNG Terminal made us the first IOC - or, as we now refer to ourselves, an integrated energy company - in China to build a presence in regas infrastructure.

Since 2006, the Guangdong terminal has been expanded to allow processing of more than 8 million tonnes per annum of LNG in 2020. Through this facility we are leveraging our access to equity LNG from the North West Shelf and our trading portfolio. The terminal has supplied gas for 10GW of power generation - that's around half the gas demand for Guangdong, China's most populous province.

We have recently announced two gas sales agreements with ENN and Foran Energy, to deliver 0.6 million tonnes per annum starting from 2021. This makes us the first foreign energy company to sell regasified LNG and directly supply gas to customers in China - marking another in the long list of firsts for this project.

These examples show how low carbon electricity and energy is a key pillar of our strategy.

Another is convenience and mobility, which includes scaling-up next generation mobility solutions, including electrification, sustainable fuels and hydrogen. In the UK, bp chargemaster is one of the leading providers of electric vehicle charging infrastructure.

And once again - China is a key market for us. It is expected to account for more than 60% of electric vehicles on the planet by 2030. We are already in action to serve that demand, working with our partners at DiDi - the world's leading multi-modal transportation platform - to build an EV charging network in China.

Meanwhile in India, we have announced the completion of our joint venture with Reliance Industries to build a world class partnership for mobility, convenience and low carbon solutions.

We'll also look to combine natural gas solutions with renewables. By housing gas and low carbon energy within one team, bp is showing the world that offering integrated energy solutions is a key part of developing on our strategy.

As we reinvent bp, a central theme is how we bring together different parts of the business to provide integrated solutions for customers. We've established partnerships with Houston and Aberdeen to collaborate on decarbonised energy solutions. We'll be looking to work with other cities, regions and corporates, integrating our capabilities to provide solutions.

## Conclusion

I'll end by returning to the title of the topic I wanted to address: the role of natural gas in the energy transition and how decarbonisation or net zero strategies affects IOCs.

I hope I've given you a sense of what this means for bp. But let me pull together some concluding thoughts.

The first point to make is that, along with societies across the globe - bp has an ambition to be net zero by 2050 and help the world get there too. So net zero and decarbonisation is integral to our strategy. We see fantastic opportunities to deploy our skills and expertise and develop exciting opportunities as the energy transition unfolds.

Second, is natural gas will play a central role in the energy transition - particularly in Asia. bp is building off solid foundations and is looking to grow.

Third, many people see bp as an IOC. Perhaps we mostly still are today. But we are reinventing bp - to evolve from being an international oil company into an integrated energy company.

That means providing more integrated solutions...

A stronger focus on customers and offering them what they want...

Playing a leading a role in driving the energy transition forward.

And we'll realise that transformation through the three i's: industrialisation, innovation and integration.

As we do that, we are willing to collaborate with anyone who shares our vision: other energy providers, national governments, regional administrations, city authorities - as well as citizens and NGOs.

If you are excited by our ambition - please join us. We'd love to work with you.

Thank you.