

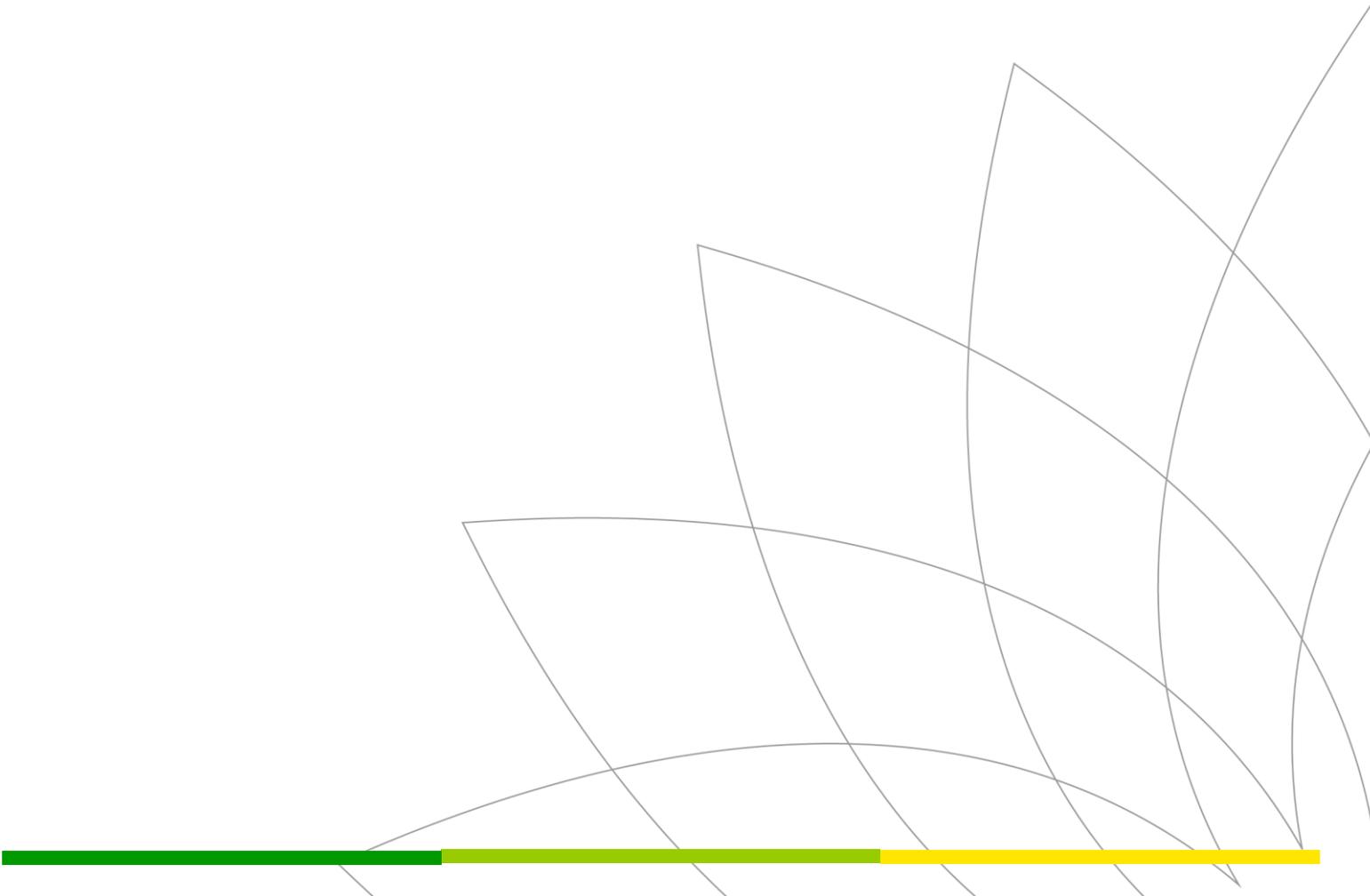


Gas in a net-zero energy system

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Introduction

Thank you, it's good to be here.

It's been an interesting few days!

I expect you'll know that last week I confirmed the rumours.

And announced that I'll be retiring from BP.

I'm still in the role until February.

But forty years in this business feels like about right.

The company's in good shape.

Bernard's a great pair of hands.

This morning I'm not going to talk about oil, or money.

Instead, I want to talk about gas.

One of my concerns is that gas is being increasingly marginalised.

Even vilified, and demonised.

Some folks are saying that a role for gas conflicts with the world's climate ambitions.

But this is a misconception. Worse than that, it's misleading.

Gas has a vital role to play in the energy transition.

And not just in the transition, but in the destination – the net-zero economy we must achieve in the decades ahead.

But only – only – if we take the right steps now: methane leaks and flaring can and must be tackled, and gas itself can and must be increasingly decarbonised.

The energy transition

Let me first talk about that energy transition.

Our industry is under intense scrutiny here in London, and in many places around the world.

So we meet today in the intensifying glare of global expectations.

And that's OK. We welcome those heightened expectations.

It's our opportunity not only to say we agree the world is on an unsustainable path, and that we need to move to a low-carbon energy system, but to show how much we're already doing, and that we are going to do even more in future.

The energy destination

That's a challenge I believe we can rise to - because our industry understands, more deeply than many, what the energy transition entails.

It's more than an evolution.

It's the transformation of the global energy system.

And that won't be easy.

Our energy system is complex.

It serves billions of people with coal, oil, gas, nuclear power, solar, wind, geothermal, and more.

Each fuel has different attributes, costs and benefits.

Yet even with the full array of energy sources we deploy today, we still fall short of the world's needs.

For every six families who turn on an electric light after dark, there's one family that still can't.

So the question is not just: how do we get to net-zero?

It's also: how do you get to net-zero while meeting the needs of every family?

And there's no single answer.

How we decarbonise heat in London requires a different answer than it does in Beijing or Boston.

The same goes for power, and even domestic cooking.

Those differing answers will emerge as different economies, sectors, companies and customers all look for the cheapest, most effective solutions - and each relative to the resources available to them.

So it's a complex picture.

But already, one thing seems certain.

To succeed, we need every tool at our disposal.

To exclude gas – when so much is at stake – is to take a huge and unnecessary risk.

The sun doesn't shine all the time.

The wind doesn't blow every day.

Not all countries are blessed like Iceland with abundant geothermal energy.

Or hydro-power, like Brazil, Canada or Norway.

Gas is crucial now and in the future

Gas, however, is abundant.

It's affordable.

Gas is an efficient store of energy, in a way that batteries can't replicate now, and quite possibly never will.

Gas is easily transported – piped from producer to distributor to customer.

Gas is energy-rich, supplying huge quantities of power or heat instantaneously.

And gas is flexible.

Able to generate power when the sky is overcast and the wind turbines are still; able to power cars; trucks and ships; able to heat our homes and fire our stoves, and able to generate the intense heat needed to make steel and cement.

But of course – and this is critical, as I said at the outset - to feature in a net-zero system, gas will need to be decarbonised.

And here's the good news.

Gas can be decarbonised.

We have the means to do so.

The energy industry is already producing carbon-neutral biogas, which when burnt releases only the carbon absorbed by the plants from which it's made.

And we can now make carbon neutral synthetic gas.

Admittedly, these are both niche products.

But gas more broadly will play its role through carbon capture, and hydrogen, and these no longer are niche products.

We are investing in carbon capture to decarbonise gas at source – and we have a plan through the Oil and Gas Climate Initiative to accelerate its development.

Hydrogen is in use around the world.

It has many of the best properties of natural gas.

It is plentiful, and can be much more so.

It's safely stored and transported.

And existing gas infrastructure can be easily converted for hydrogen.

Yet unlike natural gas, the product of burning hydrogen is water.

Responding to the case against gas

In fact, the biggest obstacle to decarbonised gas is not technical. It's political.

In this country, gas heating for new houses is set to be banned by 2025.

In the US, at least 12 big cities have banned or plan to ban gas in new buildings.

And on the back of a successful and important campaign against coal, Michael Bloomberg is leading a \$500 million campaign that would halt the building of gas-fired power plants.

These efforts may be well-intentioned. But they are misguided. They rest on a false equivalence between gas and coal, and an assumption that an all-electric economy will emerge just as soon as we close the alternatives.

The truth is different.

It's by switching from coal to gas that the world has cut more than 500 million tons of CO₂ this decade alone.

That's a gain made precisely because gas emits half the carbon of coal when burned for power. That's why gas is so important to the energy transition.

Yet gas – in a decarbonised form – is also crucial for the energy destination.

New gas infrastructure doesn't "lock-in" hydrocarbons – as some critics say. Instead, it paves the way for decarbonisation.

And ultimately, there is no other way to go than gas.

A few weeks ago, I was on a panel with Ernie Moniz, President Obama's energy secretary.

As he put it:

"There's a lot of happy talk about wind, solar, and batteries."

But that:

"It doesn't help any of us to make claims that challenge the laws of physics."

His point is that in a renewables-led economy you need back-up.

Batteries are getting better all the time.

Yet batteries last for hours, not days or weeks or seasons.

That's why you need hydrogen – the most scalable form of decarbonised gas.

To remove gas from buildings or other infrastructure risks pushing the world down a single path, only for us to find too late that the path falls short of the destination.

It's an attempt to achieve the energy transition with one hand tied behind our back.

We might get there. We might not. Even if we do, that destination energy system will be inferior to the one we might have achieved if only we had used all the tools at our disposal.

It will be far less resilient. And much more expensive.

One estimate says the cost of decarbonising the European energy system would be around a trillion dollars more if decarbonised gas were excluded from the mix.

The way forward

So this morning, I want to suggest a way forward.

Not a detailed plan, but an outline of where we must focus our efforts.

Two recommendations for the energy industry.

Two recommendations for governments.

First, one for us. The energy industry.

It's up to us to demonstrate that decarbonised gas is not only viable in a net-zero system, but essential.

It will take demonstration projects, at scale.

Of exactly the kind we're doing through the OGCI.

At Teesside in the north of England, we're working on a natural gas powerplant alongside a CCUS project that will capture and store millions of tonnes of carbon.

But it's not just about demonstration.

We have to advocate, and be willing to develop the arguments for decarbonised gas I have put forward this morning.

Second, and this one's also on us.

We need to produce the gas in our existing energy system in a much cleaner way.

That means introducing higher proportions of biogas into the blend.

And it means cutting down on methane leaks and flaring – today the Achilles' heel of gas.

It's something that, at BP, we're doing already.

We have a target to keep leaks below 0.2% intensity - as a percentage of the gas that goes to market.

A \$100 million fund for new emission reduction projects.

And a month ago, we announced a global first.

We'll now continuously measure methane emissions in all our new major oil and gas sites.

We're using drones, cameras, and lasers to detect leaks that would previously have been invisible.

It's a global first, but it needs to become the global norm.

And that brings me to my third recommendation.

This is one for governments.

If we are to produce gas cleaner and better now, and that's increasingly decarbonised in future, we need regulation.

That includes direct regulation of methane emissions across the value chain.

From the production to the transportation of natural gas.

Not only is it the right thing to do.

The more gas we keep in our pipes, the more we can provide to the market.

But governments should go further.

For over 20 years, BP has been calling for carbon pricing.

It's the most effective, powerful tool there is for decarbonising energy.

So we're not going to stop calling for carbon pricing.

Fourth, and finally.

Another one for governments. We need to get the infrastructure ready for decarbonised gas.

New natural gas projects must be future-proofed for a low carbon world.

Gas distribution systems must be made fully hydrogen ready – just as they increasingly are in this country.

We need flexible industrial processes that can work equally well with methane and hydrogen.

It's not expensive. And it's far cheaper than starting from scratch.

And yes, we need growing investment in CCUS, just like we're doing through the OGCI, to make it commercially viable.

Conclusion

But let me conclude.

We have necessary technology, resources and ambition.

The hardest challenge is to win round sceptical minds.

And then to bring people together on a common set of solutions.

It won't be done by demonization or vilification – from either side.

It will be done by the hard work of advocacy, evidence-building, shaping and promoting legislation, deploying new technology, and developing new markets.

It requires a recognition that there isn't one road to net-zero, but many paths – and we need to pursue them all.

It demands an ambition to reach a net-zero world whose precise shape is still to be determined.

But it is already getting clearer.

And that world is achievable – if we keep all paths open today.