Innovating our way to a sustainable future

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Ben van Beurden
CEO, Royal Dutch Shell plc
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Ben van Beurden became Chief Executive Officer (CEO) on January 1, 2014.

He joined Shell in 1983, after graduating with a Master’s Degree in Chemical Engineering from Delft University of Technology in the Netherlands.

Ben’s career in Shell spans both Upstream and Downstream activities. He has held a number of operational and commercial roles, including some 10 years in the LNG business, and a variety of positions in Downstream.

In January 2005, he became Vice President, Manufacturing Excellence, based in Houston, USA. In this role he was responsible for standards in operational excellence and high performance initiatives in refining and chemicals manufacturing.

In December 2006, he was appointed Executive Vice President, Chemicals, based in London, UK. During his tenure in the role, Ben was appointed to the boards of a number of leading industry associations including the International Council of Chemicals Associations and the European Chemical Industry Council.

From January to September 2013, he was Downstream Director and had regional responsibility for Europe and Turkey. He has been a member of the Executive Committee since January 2013.

Ben, a Dutch citizen, is married and has three daughters and a son.
In this speech at the 6th OPEC International Seminar, Ben van Beurden examines the relationship between technology and the environment, and explores ways that the energy industry can constructively participate in the transition to a cleaner, less carbon-intensive energy system. He discusses carbon pricing, natural gas, carbon capture and storage, and biofuels as essential responses to the challenge of climate change. Innovation, genuine multilateralism, and pragmatic policy solutions are all needed, he says, if the world is to cut carbon emissions at the same time as meeting rising demand for energy.

I’d like to thank the event organisers for the opportunity to speak today. It’s an honour to have the chance to debate the future of energy with all of you – particularly alongside such a distinguished panel. So, thank you.

I’m mindful, of course, of this afternoon’s session topic “Technology and the Environment”. So, in the next ten minutes, I want to examine how the two are connected – and explore some of the ways that we as an industry can respond to the challenges of an energy system in transition.

In doing so, I’ll touch on the important role of innovation in providing solutions. And on the essential need for multilateralism, not just between governments but also business and civil society. And I’m sure those are themes we’ll explore further in the discussion.

The challenge we face

First, let me say a few words about the challenge we all face.

All of us in this room recognise that the global energy system is experiencing a profound, if slow, transition. And that there are some powerful fundamentals at work.

Global energy demand, as we all know, is rising. And will continue to rise.

Demand growth will be particularly strong in emerging economies like China and India.

As the number of people grows – which we know it will – so will their desire for goods and services.

How much will energy demand increase? According to the International Energy Agency, by almost 40% by 2040.

Meeting that demand will be a massive challenge.

But so too is the need to respond to climate change.

With COP 21 talks scheduled in Paris towards the end of the year, the global focus on how to respond to climate change is rightly becoming more intense.

For the record, Shell supports the signing of a global climate agreement. But we particularly support multilateral policy initiatives that encourage the implementation of existing technological solutions. In other words, targets are all very well. What we need is answers.

And a key requirement is that governments develop policies which both reduce greenhouse gas emissions and support economic development.

What the global energy system is experiencing – what it needs to undergo – is a transition from the traditional model based on oil and coal to a progressively cleaner, less carbon-intensive model. And
that new configuration needs to be characterised by a greater share of natural gas and renewables – and a key role for carbon capture and storage.

I’ll go further. In a world where, as we heard recently, Saudi Arabia has ambitions to become a “global power in solar and wind energy”, the vision of a long-term future powered in the main by renewables is one none of us can ignore.

It’s also a vision I would encourage all OPEC members to take seriously. Not least because I believe twenty years from now, if we don’t act, global public opinion will be unforgiving.

In essence, we need to provide more energy, with far fewer emissions. To tackle poverty and climate change at the same time.

It’ll take time, a great deal of innovation – and plenty of courage – but I believe it can be done.

**Participating in the energy transition**

Effective carbon pricing is an essential first step. And that’s a public position Shell shares with Statoil, BP, Eni, BG and Total.

Well-implemented and regulated carbon pricing systems have the potential to encourage energy efficiency and promote low-carbon technologies. They’re also typically flexible, fair and relatively cheap to implement.

Carbon pricing can encourage relatively easy changes to be made quickly – such as switching from coal to gas in power generation. That, in turn, can allow more time to sectors that are more difficult to decarbonise – such as cement, chemicals, and iron and steel.

Then there’s natural gas. As you all know, gas is relatively clean-burning, abundant and versatile. When burnt to generate power, it produces half the amount of CO2 that coal does.

At Shell, we believe that natural gas also has a long-term role as a flexible partner to intermittent energy sources like solar and wind.

Meanwhile, carbon capture and storage could revolutionise the way the world produces electricity, removing up to 90% of carbon dioxide emissions from gas-fired power generation.

In the coming months, Shell’s Quest CCS project in Alberta, Canada, is expected to start capturing and storing more than 30% of the CO2 emissions produced when oil sands bitumen is processed into synthetic crude oil. The project will be able to store more than 1 million tonnes of CO2 a year – the equivalent of taking 250,000 vehicles off the road.

As the IEA’s recent Energy Technologies Perspectives report stated: “Deploying innovative, sustainable processes will be crucial in the long run, with CCS playing a key role.”

Making CCS part of the mainstream won’t be easy. But every government represented here today can and should take its potential seriously.

At Shell, we’re advancing our knowledge of CCS – and scaling up the relevant technologies – through projects in Canada, the UK and Australia. And we stand ready

“In essence, we need to provide more energy, with far fewer emissions. To tackle poverty and climate change at the same time.”
Energy systems, as we all know, are hugely complex. Ensuring that businesses and households continue to get the energy they need will require efficient, joined-up action, based on well-informed, joined-up thinking.

More than that, developing effective and appropriate energy solutions will require the world to design plans specific to the needs of a particular region, a particular country – and, in some cases, a particular community. And those plans need always to be alert to the essential role of energy in economic development.

Conclusion – Applying innovation
At Shell, we know that the energy system is transitioning away from a dependence on hydrocarbons, albeit slowly. But we see new means of producing, distributing and consuming energy as opportunities not threats.

In the past, we and others like us have used innovative approaches to reduce water use in our operations. To limit impact on the land. To protect biodiversity.

Today, at Shell, for example, we’re examining a means of harnessing waste heat for district heating systems. We’re asking ourselves whether it would be possible to reuse waste cold air extracted from regasifying liquefied natural gas. We’re assessing the likely future contribution of new transport fuels like hydrogen and LNG. And, of course, we’re working hard to make CCS a reality.

These are real-world initiatives designed to meet real-world challenges.
That’s the philosophy behind everything Shell does. And it’s a philosophy which can and should inform the way we collectively approach the ongoing energy transition.

Thank you for listening. I look forward to our discussion.