

ROYAL DUTCH SHELL PLC

2019 PROJECTS AND TECHNOLOGY OPEN HOUSE

NOVEMBER 26 2019

BY HARRY BREKELMANS, PROJECTS AND TECHNOLOGY DIRECTOR OF ROYAL DUTCH SHELL PLC

Ladies and gentlemen.

Welcome to the Shell Technology Centre Amsterdam. Together with Houston and Bangalore, Amsterdam is one of Shell's three technology hubs.

It has an incredible history of decades of innovation in gas processing, and refining and chemical processes. It is a place we are very proud of and therefore, we thought a fitting place to host you and discuss what it is that makes Shell different.



We outlined many reasons at our Management Day in June this year. From our strong returns to our record in delivering projects and commercial value. From our operational excellence... to our focus on ethics, safety and compliance... to the way we focus on our many customers.

I believe Projects and Technology plays a key role in all these areas. Now, of course, I would say that... but why should you believe me?

Well, consider this... The projects we build become the assets we operate. They then produce the products our customers want and need. It is the quality of our innovation and technology that characterises our products. It is the efficiency and effectiveness of the supply chains that support this. And all of this, delivered safely and responsibly, is what forms the backbone of Shell. And the people who deliver this every day are instrumental to the success of such an organisation.

And if you agree with all of that, then I hope you will agree that our decision – ten years ago now – to consolidate all this capability under one “Projects and Technology” roof, was a great one.

Back then, we looked at Shell and saw a wealth of expertise. But it was a wealth we were not using properly. The advances we were making at a project level, were not always shared at a global level. The cost savings we managed in one place, were not always translated to others. The great innovations of one team, would often only be used in a limited way elsewhere. We managed many fragmented local supply chains with limited global orchestration.

Ten years ago, we put those talents together to create a joined-up, differentiating capability. To develop systematic ways to apply ourselves and create much more than the sum of our parts. Locally deployed expertise, directed and orchestrated at a global level. Advances, shared and replicated. And savings, leveraged across the whole of Shell.



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So... Let us see what this looks like at a global level. Today Shell Projects and Technology, or P&T, is a broad and versatile organisation. It covers a wide range of expertise and includes a team of 11,500 great people – and that is not counting the tens of thousands of contractors who support us every day.

We expect to manage around \$100 billion of capital spend for the period of 2021 to 2025. We have about 150 projects in different phases of the development cycle, across our lines of business. In about half of the projects, Shell's share of capital spend is over \$500 million. And, in 2018, we drilled about 1,350 wells across our operated and non-operated portfolio.

We also run about \$40 billion of annual spend through our supply chains. We spend about \$1 billion a year on research and development. And another \$1 billion for technical deployments on our assets or projects, which includes advanced technical services.

As you can see, our scale and reach are enormous.

We have central capability, but generally we are embedded throughout Shell, integrated across P&T and joined at the hip with our colleagues in Upstream, Downstream and Integrated Gas and New Energies. We also work closely with our contractors and our suppliers – and we listen to them, we learn from them in a way that, we believe, sets us apart from our competitors.

And you will hear more about this later.

Integration is the key to the way we work. From the initial concept of a project all the way through to design... execution... deployment... supporting operations, sales and marketing... and eventual decommissioning.

We have divisions in projects and engineering... Technology and innovation, of course... Safety and the environment... Sustainability... A Wells division that accounts for half of the capital we control... And finally, to reflect the importance of our supply chains, we include Contracting and Procurement in P&T too.

Every part is deeply integrated with the others. We do not want our specialists hidden away in ivory towers. We want them working hand-in-hand with our teams on the ground, combining expert thinking and doing with a commercial mindset... to create value for Shell.

This integration is what makes P&T instrumental in delivering three things. They are capital project delivery, wells and asset support. All three are interlinked and rely on our strong supply chain and our extensive work in technology. Together, these elements give Shell the products our customers want and need, from fuels to chemicals and catalysts.

You will also see and hear much more about this later. This is how we work... and it is important to say that everything we do is done the Shell way. We aim for no harm to people and no harm to the environment. And we do it all in keeping with our principles of honesty, integrity and respect for people.



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And when it comes to the safety of our people, as with many other aspects of our delivery, we have made good strides over the last decade. The introduction of the Life Saving Rules in 2009 has made a significant impact. There has also been a similar improvement on process safety.

But we have plateaued when it comes to serious incidents, especially when it comes to fatalities. This year so far has been particularly disappointing. We are working on what Shell needs to do to get to the next level. It is very sad to say that by the end of September 2019, seven people had died while working for Shell. Investigations into some of these incidents are still ongoing.

Every year, we also measure both the engagement of our people and their view of the quality of Shell's leaders. And these measurements are bench-marked externally. This year, the majority of the scores for P&T were top-quartile – and they reached an all-time high. The metric for organisational leadership has increased by 31% over the past ten years, which is impressive for an organisation with 11,500 people.

I asked earlier: "Why should you believe me?" I think the best way to convince you is through delivery and demonstration. So, let us look at some broader facts about P&T's contribution to Shell's value.

Over the past ten years we have pretty much seen all significant delivery indicators improve dramatically. Let me start with capital efficiency. We have successfully reduced the unit development costs – or UDCs, of all major Upstream and Integrated Gas projects by more than 50% since the end of 2014.

And when it comes to final investment decisions, the average price at which Shell will break even – or BEP, on a forward-looking basis, has gone from about \$40 a barrel in 2014... to less than \$30 a barrel this year. And that is not based on one individual project, but on the vast majority of large projects sanctioned.

Also, after our final investment decisions, in the execution phase, major improvements have been achieved. The expected rate of return from our investments in these projects has gone from about 16% in 2014 to about 30% in 2019.

And as for keeping to schedule, in the period from 2015 to 2019, 80% of our major projects were delivered at or ahead of schedule.

And finally, we have reduced the cost of drilling wells in the Gulf of Mexico by more than 50% over the last five years.

And what about our cost as an organisation? Well, we reduced this by more than 35% over the last 5 years – and this includes reducing the size of our workforce by 32%. But these reductions did not come at the expense of project value delivery nor execution efficiency... on the contrary.

And as for our supply chains, we reduced total third-party cost from \$65 billion in 2014 to about \$40 billion in 2018. And where 8% of our third-party spend was externally benchmarked at most competitive in 2016, that figure has now risen to 58%.



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During the last couple of years, we developed an end-to-end purchasing tool and we now have one, global, standardised contracts system across the whole of Shell.

Even at the more granular level there are very few, if any, metrics that have not improved. And P&T can do more in every single one of these aspects.

So hopefully, I have made you a bit more comfortable with the statement that we are a differentiating capability. And that probably leads you to say: "But how do you do this? ... And how can I be confident that you will continue to improve?"

Here, I will use two different projects from the USA. The first is the Geismar plant and I want to use it as an illustration of what lies behind our success. Over the years, we have established a set of first principles that govern how we run projects and supply chains, how we support assets, and how we develop technology.

They are: how we manage safety. How we scope projects. How we execute projects. How we run our global agreements. How we work in a very integrated way with our contractors. And, how we have a business-lead, P&T-executed approach to creating value from technology, and this includes the deployment of digital technology.

The Geismar project was a large and complex expansion of an existing asset. It was delivered safely, on time and on budget – and, we believe, is a key growth project for Shell's global chemicals business.

At Geismar, we use a proprietary process that is integral in producing common household goods such as laundry detergents, motor oils and hand soap. Geismar is a living, breathing example of the P&T principles in action. Principles, that we apply across the whole of Shell.

The second example will allow you to measure the effect of what we have done. And it takes us briefly to the Gulf of Mexico. There, at the Appomattox project, the P&T approach meant that we achieved 20% cost reductions against initial concepts. But that was not all. After it was approved for construction, we then reduced capital costs by about 40%.

We did this through innovation... through scoping the project against external benchmarks, not internal ones... and through efficient execution, which essentially means better management of costs and schedule.

In May this year, Appomattox started production months ahead of schedule – and this is a platform designed to produce 175,000 barrels of crude oil a day.

Our work on Appomattox transformed our projects in the Gulf of Mexico and you can see this in projects such as Vito and Whale – and in our future projects.

And it is important to say that Geismar was an example from our Downstream business, and Appomattox an example from our Upstream, but the P&T principles are systematically applied across all of Shell's portfolio. Put again in the broader perspective, at P&T, we are responsible for the safe and efficient delivery of nearly two thirds of Shell's total capital spend.



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So, I hope you will agree, P&T delivers material and differentiating value to Shell through its deep expertise and strong integration. And I hope this gives you a strong sense of what we do, how we do it – and how we have the framework in place to improve it even further in the future.

I have given you some facts and figures, but now, let me introduce another vital element in the P&T story: the team.

Now, we couldn't have all 11,500 with us today... let alone all those vital contractors, but we do have some key members for you to meet. And we will rotate the sessions so that you can spend time with each of them.

Markus Droll, who heads up Projects and Engineering, will talk about how we deliver competitive wells and projects and hence, how we deliver industry-leading capital efficiency.

Yuri Sebregts, Head of Technology, will look at how technology underpins everything we do and how it helps us to deliver market-leading products.

And finally, Fabian Ziegler, our Head of Contracting and Procurement, will show you how our asset support and global supply chain together increase the potential of our assets.

In addition, we have a few other speakers for you. Dan, Claudia, Gosia and Jan will show you first-hand the work Shell is doing on digitalisation.

I will close by giving you a taste of what you will learn in those sessions, but first a little context. This industry faces great change over the next few years – perhaps on an unprecedented scale. We are well aware of the risks that change can represent, to our strategy, suppliers, outlook, programmes and margins.

Today, we will show how we used the last industry downturn to develop and strengthen all aspects of the "P&T way". We are not complacent. We take nothing for granted. But we do have quiet confidence that we understand our key risks – and that the team is ready to mitigate them.

At the same time, we are optimistic and excited about the many opportunities to improve and contribute to Shell's business.

Opportunities, such as these... I showed you earlier how we successfully reduced Unit Development Costs – or UDCs, since the end of 2014. But what about future costs? Markus will outline our ambition to reduce our UDCs by more than 20% in the coming years.

Yuri will demonstrate the strong link between our Research and Development and the end product that is designed to meet customer needs.

Fabian will give you concrete examples of how our world-class engineering and supply chain are increasing revenue for Shell.

Finally, Dan will outline how digitalisation has enabled more than \$1 billion value across our businesses in 2018 – and how this is growing fast.



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Indeed, I think you will find the sessions valuable in many different ways.

It has been a pleasure to talk you through how P&T adds value to Shell. And before we go on to the next sessions, let me give you the opportunity for a brief Q&A.

You will also be able to ask more and very targeted questions in each of the break-out sessions.

Thank you.

