



# **Anglo American Presentation of 2018 Sustainability Performance**

Wednesday, 3<sup>rd</sup> April 2019

## **Welcome**

Jon Samuel

*Group Head of Social Performance and Engagement, Anglo American*

### **Welcome and housekeeping**

Okay, good morning ladies and gentlemen, and welcome to our annual presentation on our sustainability performance.

So what we're going to cover today is firstly just, again, a focus on safety. We're redoubling our efforts on that, and Mark will talk you through some of that. Sustainability is very much a part of how we manage the business in Anglo American and again we will be pointing that out to you and describing how sustainability feeds through into many of the ambitions we have for the company. We'll have a particular focus on climate change, obviously very topical at the moment, looking at things like energy transition from fossil fuels to metals for the low-carbon economy, and then we'll also briefly touch on some of the other work we're doing in this space, a bit earlier on in its pathway, and then we'll show you, we hope, how FutureSmart Mining really is becoming a value addition and a real differentiator for us here in Anglo American. So – and how that works very much closely with sustainability, they're very much intertwined, all our innovation is very purposeful in the sense that it advances safety and sustainability in our business.

So, without further ado, I'm going to hand over to Ruben to talk you – talk us through the experience at Minas-Rio last year.

## **Safety Share**

Ruben Fernandes

*CEO of Base Metals, Anglo American*

So, good morning everyone.

The Minas-Rio pipeline spill – a very important moment for us in terms of learning, and with positive and negative outcomes and – of course, the way you approach the crisis makes a lot of difference.

What do you see in this picture? Community engagement, so local employment. We had 100 people working for us from the local community where we had the spill. That was a very important moment to engage everybody in recovering that situation. Family, as well – very important to have family support and trust. We had Programme Lotus, a special programme that we created to engage and keep the link with the company throughout the nine months that we were shut down, so trust and family support were very important for our employees, were very important for the community as well.

Transparency: what do you see? Constant transparency, constant process with the workforce: telling the truth, telling the plan and, of course, engaging with them and motivating them to overcome the difficult time that we faced last year. With the communities as well, a process, always with them a sharing experience, apologising, doing the right thing and keeping them

aware of the next steps and what we had to do in order to clean everything and of course show that we are a responsible company.

Personal commitment: we delivered water to the community in 24 hours, we had that as a personal commitment: people with their cars and trucks delivering water to the whole community. We had 4,000 people in that city. We had 300 demands from the media and we answered all of them. All of them we answered with truth and respect, showing what happened and what we were doing to solve the problem and always about a balance between financial gains and social responsibility. You have to find this right balance.

And it's about collaboration, right, which drives excellence, in all senses: in community, stakeholders, government representatives, really to create this trust and to show that it's possible to have sustainable and responsible mining despite the crisis and despite the difficulties and tough moments that we faced. And of course it's about re-imagining mining to improve people's lives. I think that was the big learning that we had last year in Brazil throughout this process that we went through.

## **Our Purpose**

Mark Cutifani

*Chief Executive, Anglo American*

### **Introductory remarks**

Thank you very much Ruben. We forecast it would take us nine months to correct the issue. And I think the call was the right one, to pull the operation down and commit to a works programme and it is a great credit to the team that at the end of that nine months they had the confidence of the government, they had the confidence of the local community and they had the confidence of employees to restart the pipeline, as they had forecast nine months before.

I've got no doubt that they'll probably get a few questions on tailings and the construction approach that we've used at Minas-Rio, and I'd like you to remember the points that Ruben made about bringing everyone along on the journey as an important point to reflect on when we talk about what we're doing and how we're bringing the authorities, the communities and our employees along the journey, explaining the construction methodology we've used, why it's different and how we're going through the next phase of the approval process.

### **Our purpose**

The what, reimagine mining, is all about us reflecting on the industry after something like 100 years, we can change the face of mining to better serve society's needs. And that 'better serve society's needs' touches the why: to improve people's lives. We had something like 30 words and getting that down to four words was the biggest part of the debate. Because we all agreed we needed to reimagine our industry. We needed to reimagine the way we went about our business, and we felt that if we couldn't connect that to the difference we make in society, then what's the point of being? And for us, for 90,000 people that come to work every day at Anglo American, our job as a leadership team is to help give purpose to them and that purpose, in fulfilling a very important role in society, is why we're here.

Consistent with that, at our recent leadership conference, every one of the group executives had to talk to our values, and what that meant for us as a leadership team in terms of behaviours. And as a consequence of the purpose, we redefined what those values should look like in terms of behaviours in the organisation, in particular leadership behaviours. And Anna, our CFO in the Brazilian business, did the presentation that Ruben did today. And it's only when you've got real challenges in the business do those values and your approach to business really come out, in terms of the local community. And I think it's remarkable that, in fact, when we did our social surveys, our connection with the local community went up after we had the pipeline leak, and for me that was a remarkable achievement: that we rebuilt the trust on the basis of the way the team went about the work. And so, to Seamus, to Ruben, to the team I say thank you for providing the leadership in our organisation in putting shape to what those words actually mean in the business.

### **Sustainability at the heart of our strategy**

So we talk about sustainability being at the heart of the business. Around that we have the processes that we go through in converting natural resources to useful products for society. Around that, we have our values and our strategy. In our strategy, we talk about portfolio: strategy is much broader but portfolio is key in determining how we go forward through our focus on quality assets.

As a consequence of our focus on quality assets, we have a broader, more diversified portfolio and when somebody says, 'You've got a bit more diversity than most in your commodity mix, isn't that complex?' and the answer is, 'No, it's not.' We mine, either open-cut or underground; we process material and we deliver it to a customer. The fact it's nickel, copper, coal, iron ore or any other product, including diamonds, the complexity is managed with our marketing group through our hubs in Singapore and London and other parts of the world. How we've brought together our broad range of quality assets and our marketing group, we believe, is unique and a competitive edge.

On people, Ruben captured what we think.

Today's focus is on innovation and how we're connecting that reimagining of mining from a technical perspective to the footprint that we leave in society, and how we're trying to bring those two pieces together to be both the most efficient miner in the industry, and the most connected to society's needs and being responsive to those needs to deliver the best outcome.

### **2018 – continued delivery**

Our 2018 production volumes are up 6%. We've gone from 68 assets to 34 assets, our actual production today is higher than it was with the 68 assets. So, by definition, we've almost halved our physical footprint. So we've certainly reduced our footprint relative to the product we produce. As a consequence, our costs are down by 26% (nominal – or around 43% real), our EBITDA at \$9.2 billion for us represents, or was driven by, 42% margin and if you think back a few years, we were at 30%, with an approximately 10% higher price deck.

Two very important metrics that we think about in terms of measuring our performance: Free cash flow, \$3.2 billion. Our focus is to try and deliver 15% free cash flow against our capital employed; and, with that, to deliver a better-than-20% return on capital employed through the cycle. And whilst we're not at the end point, we're certainly giving it a real shake and

you'll see that we've improved both free cash flow and our returns quite materially over the last five years in particular.

The other numbers that are also important: our net debt at the end of last year was \$2.8 billion, so we've taken more than \$10 billion-worth of debt out of the business. We've paid almost \$3 billion in dividends and our net-debt/EBITDA ratio is now at 0.3. So very different to where we were five years ago.

### **How we measure sustainability**

Free cash flow measures our effectiveness in running the business. How we measure the efficiency of running the business is return on capital employed. The third element is: is our performance sustainable? And we measure sustainability across seven dimensions (on slide 8). So, our job is to try and make a connection and try and build a partnership, not always successful, but our commitment is we will continue to try and understand and make that connection. Our employees, are part of a team delivering on our potential for society. Our production base is a measure of, in some ways, critical mass and what we can achieve and can we continue to improve our efficiencies as measured by cost? And in terms of the financial dimension, have we kept our balance sheet in a position where we can take up opportunities through the cycle?

### **Sustainability scorecard**

In terms of our sustainability scorecard, it's always, for us, most important to start with safety. In the last 15 years we have reduced fatal incidents across the group by more than 90%. But today, last year, we've had five fatalities. So until we get to zero, the job is not done. It was our best year ever but not one of us thinks we had a good year while we have a fatality. So it is and remains our most important challenge across the business. We have defined and put together an elimination of fatalities task force to go through every part of the business trying to understand the impact of our leadership, good and bad; trying to understand the culture of risk-taking across the organisation, and trying to understand what we can learn from each other to get to zero fatalities. That work is long and deep in terms of its approach, and at the same time within each business, each general manager, each leader of a commodity, is driving hard on very specific projects in their business with urgency and with their teams to try and improve that performance as well. So it's a two-pronged attack across the business. Our total injury rate dropped by 16% across the year, so incredible improvement but a lot more to be done.

On health, we continue to improve, although last year we had some musculoskeletal incidents in our coal operations in Australia, and so we're working to understand what causes those types of injuries, so we're working with the teams both in terms of dynamic design and other factors inside the business. We are very proud of is our HIV and TB programmes. We led not only South Africa but the world in the provision of medication and treatments for workers and families. We continue to learn and we will talk about some of the gains and progress that we've made across both HIV and tuberculosis. We measure our performance there. What we look for is 90% of the people know their status. Those that know their status have the appropriate medication and support and those programmes – I think we're at 88% and 86%, and so we've come from something like 20% over the last few years. So really improving the

education and trying to take the stigma out of the conversations in all of those aspects and we've made great progress, particularly in platinum.

I think the environmental issue was dealt with upfront by Ruben, the two leaks at Minas-Rio. I think that work has been a very good learning piece for us as an organisation, and across other parts of the business you'll see that we measure against our targets from a socio-political point of view – measuring interfaces with communities, protests from communities, those issues that may impact our operation, and trying to be very granular on the data to help us understand how well or how badly we are doing in local communities. And whilst our social scores have all improved significantly, we've still got a lot of work to do in the communities and, again, absolutely critical and our most important interface.

If you think about the mining industry on a global scale, we drive about 45% of the world's GDP directly, indirectly and as a consequence of the products we produce and that number we've talked about for a while. The actual physical footprint we leave across the globe is less than 0.5% of the globe's landmass. Therefore, if you just take a direct correlation of landmass versus population, there's about 1% of the population that we impact in a very physical way: that is, they are located close to or near our operations. And it's our view that we haven't done as good a job as we can connecting with those people most impacted by our operations, and our conversation with governments is how do we make sure that those people are getting a better share of the pie from our industry, both direct and indirect, and that's something that's very important to us in making sure that we've got the right partnerships and that government and the rest of the society recognises the partnership that we need to have, and that we support them doing much better than they have in the past. I think that's critical for us as an industry and as a company to be successful in the future and Quellaveco is a very good example of that approach in action.

### **Elimination of Fatalities Taskforce**

We've done about half of the operations. The early themes emerging are around leadership, behaviours, they are around risk-taking in operations, they are around not necessarily following procedures, and so us unpacking what's happening in our organisation with respect to both leadership, conversations, people being comfortable sharing what risks they say and how we come together and address those risks is absolutely critical. So the actions that are being driven by the group executives and their teams are very clear and very action-orientated in terms of things we could change. The focus of the Elimination of Fatalities Taskforce is much broader across the business and trying to get under the culture, working with the teams in a much broader way in terms of the leadership. It really is about making sure that we're learning from each other and building from a much more solid base across the business and starting to deal with some of the consistent issues.

So, for us, the big issues that we're learning: context in terms of local communities, I'll give you an example. At Amandelbult last year we reported two fatal incidents: a bee sting and a fall of ground. What's even more frightening, we had 12 people killed on public roads getting to work at Amandelbult. So there's some big issues we've got to deal with inside the mine, and Chris and the guys are taking that on, but they're also working with the local community and the police around the condition of roads, the management of risk-taking behaviours, because for us it's about being part of the community and our employees are part of that community, so making sure that we understand how those pieces connect. Joint company

and employee representative leadership and visibility. Improving the facilities across the organisation. Being respectful and dealing with things like absenteeism, trying to understand what the issues are at work. And that can be mental health issues, it could be physical health issues, it may be conditions at work, it may be behaviours at work that are making the workplace not a great place to be. We're working on all of those elements.

### **Safety, health and environment**

From a safety perspective on fatalities: better, but not good enough. In terms of health, that blue line and the light line represent the tuberculosis incident rate in our operations; the red line is the broader community tuberculosis incident rate. We've now dropped below the South African incident rate of tuberculosis, which is quite remarkable. If you look in history, with silicosis, where we've worked with former employees in terms of being impacted by silicosis, our actual TB rates in the workplace are now better than the broader community. We will keep working with the South African government and others to help them understand what we've done to try and improve that rate on a broader community basis, and we're working in the communities to try and replicate those types of results.

On the environmental side, two issues here: the two incidents in the pipeline, and we also tightened our standards. If I go back to 2013, 2014 standards, we would be at two incidents, the two from Minas-Rio. But as we improve, we raise the bar on what we report.

### **Climate change**

We all agree that it's probably the most significant issue for our industry and in particular a coal producer. We're trying to navigate a very careful passage. We understand our role in society and trying to make sure that we are operating consistently with your expectations, and also being consistent with our commitments to employees, local communities, customers, governments that actually own the resources and all of those stakeholders that we have to navigate in terms of these conversations.

There have been a lot of conversations in our organisation about thermal coal, obviously, and I expect there'll be a few more questions and I'll pick that up a little bit later.

We're on track to reduce GHG emissions 22% by 2020, and our 8% energy reduction target for 2020 as well. We're on track for prior commitments. We have, in the sustainable mining plan, made a number of commitments around energy efficiency, greenhouse gases, water consumption, employing five people – or being a catalyst for employing five people per person employed on site because the nature of work is also changing. We're very happy to talk about the pathways to delivering on those commitments, and we're also happy to talk about what we're doing across the business and with our stakeholders on those areas.

Our specific responses to climate change are very important and they are still a work in progress, it's important to say. Some key points to make: we are now a formal supporter of the Task Force for Climate-Related Financial Disclosure (TCFD). The key missing piece of the jigsaw from our previous work on climate change was a forward-looking quantitative scenario analysis. That's in the process of being completed, and we'll talk that through at the AGM.

We've begun detailed work at each of our sites in how we deliver the 2030 stretch goals on greenhouse gas emissions and energy efficiency and the exact targets will be dependent on the level of emissions at each site, the potential for reductions and the investment case for

the reductions at each site, so we're prioritising where we can have the best bang for our buck as part of that process. This helps us set a pathway towards our 2030 emission-reduction goals, and then to carbon neutrality to our operations. What we don't want to do, at this stage, is make a commitment on a date in terms of carbon neutrality until we're pretty clear on how we get there. So it's not a matter of if, it's how and when, and that work is being undertaken. A number of pathways are considered and you'll hear from Tony and the guys, in terms of the roadway, but we want to make sure that we understand exactly what it looks like so that we're measuring ourselves on that journey. We don't want to present to you a date that isn't based on the right science, the right approach and getting the balances right. But that's a commitment we're making and that's certainly a very big focus of where our work is going today.

In terms of other areas, people have made the comment about our connection with associations across the industry. If I just make a very simple comment that we have, and we're in the process of, reviewing all of our association memberships but there's a point of principle that we're debating and I'm very open to hear your thoughts in terms of the debate: not all of the associations do we agree with their positions on certain things but we have made a decision in certain cases to stick with those associations because we believe they do deliver benefits and that being inside the organisation, you can be a much more effective agent for change in those debates.

I'm not sure, and we're not sure, whether that's a blanket statement that we'll stick with. If we do believe that the conversations are so far out of court and we don't think we can change the conversation, we will make a different decision. But again: in everything we do, we try and be thoughtful, we try and take account of all of the positions that are in society that need to be considered and then we navigate a pathway that is consistent with our long-term objective of being able to lead in a constructive way, taking the account of all parts of society. But at the end of the day, we're not scared of taking the tough calls that have to be made.

It is sometimes a more complex task. Sometimes it is easier to sell something, or walk away, but we don't think that makes it right, and we do think we have to take all the key stakeholders' issues into account and manage that path carefully. And included in that will be feedback from yourselves – that's very important from our point of view.

On specific commitments, we've covered the key pieces. I just want to make sure – from a quantitative scenario analysis, that we've got the alignment on the TCFD, we've built scenarios using the International Energy Agency's work as a basis. In doing that work we are looking at our commodity mix and trying to understand where the broader trends will be in terms of society. The optionality we have in our strategy probably positions us better than most, from the mining industry, and in terms of being resilient where we go forward.

We believe that, based on the work that we've done so far – and you'll see this in our future reporting – that we are financially resilient under a two-degree scenario in terms of climate change and I think that's a very important point to make and we'll unpack that in our formal presentations as we go forward. And so we want to be and will be part of the solution in terms of climate change as well. And so we will produce minerals which are a key part of the transition to a low-carbon world.



We're also committed to implementing a carbon price across all our operations, taking into account carbon pricing in terms of our investment decisions. It's different by country, different by product and so our conversation is how do we take carbon pricing into account in terms of our investment decisions? And I think the most important point is that, in taking carbon pricing into account, we are also testing to make sure that our operations and our investment decisions are robust in the face of likely carbon pricing scenarios. And then that feeds into the resilience of the business going forward.

On thermal coal specifically, people know that we've reduced our coal footprint in the last five years. We don't intend to acquire additional thermal coal assets and we will manage our transition from thermal coal over time. We have good assets, we've got good people, we've got commitments that we've made to governments, to customers that we're sensitive to, and we've got a great team running the business and we're looking at how we manage that transition over the next few years. It'll be done properly in a considered and responsible way to all of our stakeholders and that's important over the longer term.

We are committed to operating our thermal coal resources responsibly and to the highest standards of safety and sustainability in that process.

### **A transformed and sustainable business**

We need to deliver results and we will continue to improve the business because we believe that reducing our footprint, reducing our energy consumption, improving our efficiencies all counts to the bottom line. In the last few years, we've almost doubled productivity across the organisation: that is, people are delivering twice the revenue they were delivering five-odd years ago. Our unit costs in nominal terms are down 26%, or 43% real. Our return on capital employed, at 19% is up off 11% back in 2012 and our objective is to be north of 20% through the cycle. That 19%, is on an approximately 10% lower price deck than 2012, and our mining margins have gone from 30% to 42%, in the same period. And so the real improvement is almost up near 50% against those prices. There's been significant change in the business and we're producing 10% more product.

We're also forecasting to continue to grow the business around 20%, and at the same time we believe we can drive those margins, on today's price deck, towards 50%. So not only do we believe we're bringing on production that is profitable, we're also bringing on production that enhances the quality of the portfolio if you measure it in terms of margins as well, so we get the double whammy in terms of improving the business. And with the breadth and the quality of the resources that we have, we think well positioned against our competitors, both today, medium term and for the long term, again with our assets having, on a production-weighted basis, more than 30 years' life, and that's unique in our industry.

### **Governance**

From a governance perspective, there are many aspects that we could touch on in the business. Inclusion and diversity is absolutely critical and when we talk about female representation– we make the point that inclusion and diversity is a much broader concept. When we started five years ago we had 11% females in the top 150 roles. Today we have restructured, so the top roles, the 100 today – well, it's 92, I think today, and there are 21% women. And from our point of view, we believe that 33% is possible by 2023. We've been very careful and considered in coming up with that objective and likely scenario on the basis

of the talent we see in the organisation and the time taken, we believe, to bring that talent through, and through external recruitment, looking at something like a 50% employment rate of new employees, because we think you really have to make sure you've got the balance right and you're not pushing people into roles that they may not be ready for, where you'll do more damage to a career. So we're trying to get that balance right and make sure that, at the same time, it's not a threat inside the organisation. Or the unintended consequence, I think, of making the targets unrealistic is then people start to look either side of them in terms of where they are and what their future is in the business, so we're trying to get that balance right. But the imperative is critical. A more diverse workforce, we think, provides you a much more considered, a broader view that matches with society, so we have a long way to go.

In terms of business conduct, we've trained people across the business, and so 4,000 people represents 99% of the management have received Code of Conduct training, and that is an ongoing process and an annual renewal process as well. It's been very important as part of our purpose, our values and living those values. In terms of remuneration, 60% linkage to the annual bonuses, deferred into shares and they have at least a three-year vesting period, and they're also subject to claw backs. I think the governance issues in terms of our remuneration policy have been generally well endorsed. And in terms of transparency, our payment of taxes and other fees to government, will be contained within our sustainability reports as we do, and we will continue to look at how we can improve the transparency in terms of our reporting.

### **Inclusion and diversity**

On inclusion and diversity more specifically, we look at all of the dimensions across the group. The strategic direction and how we're approaching this varies by location because each part of the business, we have different cultures and different considerations in society, but the principles are the same no matter where we are. And I should say is we are very sensitive to local cultures and bringing our values while being respectful of and consistent with those cultures. And getting that balance right, as many people will know, can be very complex at times but absolutely critical to getting it right and making sure it's sustainable.

We're trying to make sure that the technical work and the operating focus in each of the businesses is consistent with all of the governance and other issues in those particular operations, and, in particular, consistent with our sustainability strategy across the business.

## **FutureSmart Mining**

Laura Brooks

*Head of Sustainable Mining Integration, Anglo American*

For those of you that were here last year, you'll remember that we launched our sustainable mining plan; this is part of FutureSmart Mining. It sets out a series of deliberately ambitious commitments to achieve by 2030, alongside milestones in 2025 and 2020.

Since we launched our sustainable mining plan one year ago, we've done some great work in establishing the foundations for this complex, multi-year programme. We've set up a multidisciplinary steering committee to oversee implementation, and we've also developed

guidelines for the sites. Each mine site is required to have a five-year sustainability plan by 2020. Importantly for this, we're fully integrating sustainability into our life-of-asset plans so that sustainability is seen as part and parcel of our day-to-day decision-making at the site, and it's not seen as a bolt-on activity that happens somewhere else. We've also worked with the business units in the sites to develop an implementation roadmap and we've reviewed our stretch goals, which triggered one material amendment to our responsible sourcing stretch goal. Previously we'd agreed that we would agree a common responsible sourcing standard with industry by 2020 and we've changed that to advocate for a common responsible standard for industry. This amendment reflects our inability to compel industry to adopt a standard.

Whilst we have focused on setting up for success and establishing the governance foundations, we have also made some progress towards achieving the goals that we set out for ourselves in the sustainable mining plan.

## **2018 highlights**

### *Accountability*

On accountability, we commit to establishing national and local level accountability forums. During 2018, we convened our first accountability dialogue, the national accountability dialogue, in South Africa. It was attended by over 55 stakeholders and it focused on our contribution to the SDGs. The stakeholders who participated in the dialogue really welcomed the initiative and expressed the desire for greater collaboration. We are planning to convene a global accountability forum later this year.

### *Education*

On education, we have a really stretch goal, which is to position our schools in our host communities within the top 20% of state schools by 2030. During this last year, 2018, we identified 90 schools and 100 early childhood development centres to participate in the South African programme. At those schools, we have had initial planning sessions and we are starting to identify the appropriate interventions. The planning in other geographies will commence later this year.

### *Biodiversity*

On biodiversity, another stretch goal for 2030, is that we commit to delivering a net positive impact across our organisation. Our highlight for 2018 is the De Beers Moving Giants project. This involves translocating elephants from the Venetia Game Reserve in South Africa, where the elephant population has far exceeded its plan-carrying capacity and presents threat to the ecosystem, to the Zinave National Park in Mozambique, where the elephant population was decimated during the civil war. This project aims to secure the future of two ecosystems. During 2018, 48 elephants were successfully relocated, and the remainder will be moved by 2020.

### *Water*

Finally, on water, we have a really innovative project at Mafube, which is one of our coal mines in South Africa. This project irrigates agricultural land using mine water. It is a three-year trial that started last year and will conclude in 2021, and the initial results have been very successful. We have seen crop yields more than double in a year. We will continue to

monitor the land, the groundwater and the crops to make sure that there are no impacts, as well as look at the bioaccumulation of metals within the crops themselves to ensure that they are fit for human consumption. This presents a great opportunity to promote sustainable agriculture, but also mitigates risks for post-closure mining liabilities.

I will hand over to Tony now who is going to talk about the technology side of FutureSmart Mining. He is an enormous advocate of sustainability and he will tell us how it will contribute towards our energy and water stretch goals.

## **Technical Innovation**

Tony O'Neill

*Technical Director, Anglo American*

### **FutureSmart Mining**

FutureSmart is absolutely about footprints, as Mark spoke about this morning and Laura just mentioned. I think with the nine sustainability goals and the sustainability plan last year, in many ways, a sterile technical programme actually got a heart. FutureSmart, as I said, is about footprint. It was about precision. How do we extract our resources in a manner that is absolutely predictable, reliable and errorless? I actually think precision, these days, is not adequate.

### **New areas for the programme**

In this context, I would like to give you an update on where we are and some of the thinking in new areas and where we are going to take the programme.

#### *Operating model*

Firstly, in terms of assurance, the operating model, in many ways, is akin to the chassis of a car. It is what we base all our work on. It provides the planning, the right procedures, the way the tasks are to be executed, how we measure the results, how we analyse the results and puts it all into a virtuous loop. Without this absolute predictability and the assurance in the way that we do things, that we cannot lay down new technology, we cannot run our operating businesses in a predictable manner. It is the glue to everything that we do.

#### *P101*

P101, we introduced last year. In that context, P101 is about mining in a textbook fashion, taking out all the mistakes, establishing new benchmarks for the industry in terms of efficiency, in terms of the way that we work and, in many ways, you can conceive P101 as the ultimate step in manned operation before we go into machinery and autonomous operation. It is how we push that boundary towards absolute limit. We have made some tremendous progress with P101 in the last 12 months. We have seen productivities and some of our key processes doubling. At its essence, it is about reliability and predictability. The technology side of things we will unpack a little bit as we go further through the conversation.

## **Eliminating tailings dams**

### *Challenge*

We have said for some time now that our goal is to eliminate tailings dams. We have had a long history in mining, over 100 years now, and therefore have operated many, many tailings dams.

About five years ago, we implemented and have been operating to a higher standard than in the industry. That standard is mandatory. There is absolutely no wiggle room.

### **Approach**

#### *Reduce risk*

A lot of this was due Caius Priscu, but how do we take this to another level? I think the first part of this is how do we measure and monitor our tailings dams.

We developed a new technique in geophysics called passive resistivity surveys, where we have been able to use geophysical techniques to work out how much water is actually sitting in the tailings dams. Nobody else in the industry does it. We have run this technique across our dams to assure basically our understanding of what is in the dams, and I can confirm that we are pretty comfortable where we are.

#### *Fibre-optic sensing*

We have also put fibre-optic installations into some of our tailings dams and we will complete three more dams by the end of this year, so that we have got near, real-time monitoring of strain, deformation and seepage in our dams. No one else in the industry is doing this either.

#### *Satellite monitoring*

In Quellaveco, we are taking that a step further forward. We are introducing micro-seismic monitoring of tailings dams foundations. That provides high quality target monitoring, and is aimed at the geological and structural features in the dams and their foundations. It is yet another industry first.

#### *Coarse particle recovery*

While all the above provides us with an extremely high level of assurance, ultimately, the aim is to get away with tailings dams, as we said. We have done a lot of work on coarse particle flotation and we have talked to you about that over the last couple of years. We are doing a lot of engineering design. We intend to put it into El Soldado in Chile next year. Hopefully, we will have a proposition for the owners of Quellaveco, both Anglo American and Mitsubishi, for its installation at Quellaveco.

#### *Polymers*

We also have mentioned the development of polymer systems, the ability to clean up water much quicker, that allows the coagulation of the coarse particles and to leave large coarse of particles, and we have had a lot of success with that. And we are now starting to implement some of our initial pilot plans.

The aim ultimately is to create the particle size to – large enough, and that is probably around 250-300 microns – where the water naturally releases out of the tailings dams. Coarse particle flotation enables that.

### *Dry processing*

Our ultimate aim is to take that into dry stacking. As we sit here today, that technology isn't practicable for operations at scale. But it is something that we are working on.

## **Reducing water and energy intensity**

### *Coarse particle recovery*

We are also working on a step change in capital intensity and footprint equation. As we have talked before, coarse particle flotation gives us a reduction of water consumption like-for-like of 30%, energy by 30%, and with an increased output of 30%.

### *Bulk sorting*

We have talked about bulk sorting and we are expecting a 5% to 7% lift in head grade. We have talked about the Ve Ro crushers, these new crushers that we are developing between ourselves and a group in Germany. We expect to achieve a 10% energy reduction.

### *Precision classification*

We have made tremendous progress in the last 12 months or so. Our first bulk sorter is now operating in Chile. We have got another two imminent for Brazil and South Africa. The early signs are very promising on that work, and they have been enabled by a new generation of neutron sensors, and we think that these sensors, as they develop, and when combined with artificial intelligence, will give us a whole range of new applications.

### *Ultrafine recovery*

The Ve Ro crushers, are promising, but I must say, we have actually destroyed a number of them in the development process. We have not quite got that one right, but certainly, the signs are that we will get there. And these will replace in many instances, some of these really large energy consuming segments, so watch the space in that area.

### *Novel Leach*

I think the most exciting area is the area of Novel Leach, which is new chemistry, enabling the targeting quite specifically of different minerals in the leaching process.

Our aim is to also target some of our legacy issues with these new chemistries. How can we come up with a way to clean up some of our legacy tailings dams? That is something that I think will come throughout the next year or so.

## **Smart energy**

We're also working on smart energy. I have no doubt that we will all achieve our commitment on the sustainability goals of a 30% reduction by 2030. Our real interest beyond that is creating a smart energy mix that allows us to be carbon neutral and have a very different footprint. That leads us straight to hydrogen.

Why am I telling you this so early? Because I think you guys have a clear role to play in committing on the way investment decisions are made. If we apply the normal rate of returns that Stephen and crew require of us, we cannot get away from carbon fuels in the operations. It becomes really, really difficult. What some in my team have done is, said, 'Okay, we are not focussing on a return here and now. As long as the project washes its face, what does that do?' What does it do, particularly if you oversize your power consumption enough that you can actually generate hydrogen, and it puts you into a very different decision

process than before. All of a sudden, we have enough hydrogen so we can use it in our trucks. We looked at the trucks and re-engineered the way they work. Voila, we found that all of a sudden we can get 5% to 10% more out of our trucks.

We are starting to use these very, very different decision processes, and all of a sudden it came up with a very different outcome. Whilst the financial people will be a bit nervous at this point to commit a lot of money to help us along this pathway, I think that is actually the key to unlocking this as an industry.

With that in mind, we are now at the point of starting to work out how do we get the technology now to fit the business model, rather than focussing purely on the finances. I think we can see a pathway through that. Our aim is to get, hopefully in the next 12 months, a truck running around using hydrogen.

### **Safe and responsible production**

Safe and responsible production, and Mark talked to it earlier, meant safety is our number one priority, it is our number one value. Out of the Elimination of Fatalities Taskforce work that Brian's doing, we are seeing a lot of cultural issues that we need to deal with, a lot of leadership issues, as we mentioned. But it is also very clear that we have to develop a new generation of engineered controls to reduce the exposure and the optionality of people in work processes.

What you can see in slide 27 is rock cutting earlier, which has come of age in the last 12 months has come of age. It works. We are now building a production sized machine for some of our mines in South Africa.

It is not a technical issue anymore. Now it becomes a social issue, 'How do you put it in a way that is sustainable and acceptable to our employees?' Next is smart – robotic mining – swarm robotics, which is the next generation of rock cutting generation, but will ultimately mean that the most of their mines become essentially people-less, or in the areas where we have safety exposure, that we can actually operate them in a completely safe way – and we are not talking about automation per se, we are actually talking something quite different, but we can operate them with swarm robotics.

The physical tests mean we have already worked out how a machine can work a chisel far more effectively than a human through AI. It is being worked on by people who are working on space-type projects, but it is very much, I think, the way of the future for our industry.

### **Re-defining predictive quality through digital**

Finally –digital AI and the benefits that we think that we will get in terms of productivity. I think the whole digital side gives us another dimension on assurance. How do we operate our plants with a much a higher degree of integrity? That are actually using data rather than someone's opinion.

We are going through a major programme of instrumentation of our facilities, an instrumentation programme that provides a much higher and connected level of a platform. We aim to have our entire business with a higher instrumentation this year, and across that we are putting in advanced process control.

It has a two pronged, or two-side effect. One is clearly the assurance, because we are actually operating on real information, but what we have also seen when we have switched them on, is – in one of the SAG mills in a copper mine, a 3% improvement in energy efficiency. If you think across that, across all the SAG mills across the globe, that is a major number. It is probably the biggest energy impact that the mining industry will have across this entire business.

At one of Seamus' iron ore mines on the conveyor side, just lining up with advanced process control, we saw a 30% reduction in energy consumption. If you start to add all that up, across the business, all of a sudden we are in a very different debate around energy, and certainly well on our way to achieving the goals of the community.

## **Minas-Rio video**

Ruben Fernandes

*CEO of Base Metals, Anglo American*

The dam. It is a downstream dam and it is a very safe dam. We are building the first raising now and this is the license that we have to convert from – preliminary license to operational license.

We have six layers of governance, completed – exceeding the legislation in Brazil and in the world, gives us a lot of comfort in terms of integrity of the dam. You can see some offices there, of course, because we need to have engineering offices there, but it is outside, and all the dam break analysis. You can see here, it is a different elevation, so no risk at all.

### **Pipeline**

The first leak was 100 metres from the pump station 2. The area is completely recovered. We replaced four kilometres from the pump station number two, downstream as a precaution.

We are doing much more than what was mandatory. This is an agricultural area and there is a natural degradation which we are helping manage as part of our commitment to society. What is mandatory is concluded. Now, we are doing more.

## **Performance**

Mark Cutifani

*Chief Executive Officer, Anglo American*

As we said earlier, in terms of measuring performance, we look at effectiveness and efficiency, cash flow and delivery of returns.

You can destroy value by over-investing capital and still create cash flow. We are trying to drive cash flow and make sure that our returns reflect good use of shareholder's money.

You need to create real, long-term value for shareholders. So making sure we get that balance right is absolutely critical. None of this makes sense if it is not sustainable.



We have got assets that got an average life of 30 years, and we talked about the seven dimensions of sustainability. That is what we talk about inside the business to make sure that we can deliver those results on a long term, sustainable basis.

In terms of an investment proposition – three points. First, in going from 68 to 34 assets. We made tough decisions, we closed operations, we sold operations because we did not think they are a fit. And we reduced our productive capacity by about 20%. However, of the assets that we retained, on average, every one of them is producing 30% more product.

The portfolio change, and the technical changes that Tony has given you some insights into, have each driven about a third of the cost reduction.

The other third is through the implementation of the operating model, which defines the minimum standards and the minimum behaviours that we expect to see at any operating site. Where every one of the 90,000 people that do work in this business understands exactly where they fit, what they are accountable for and how we connect, and how each one of us is critical in delivering an outcome.

The third point, is getting the balance right in terms of the technical innovation. It is absolutely critical that we are allocating our capital to exactly the right things.

‘You’ve got to put the financial considerations aside for a minute and think out of the box. Think Apple, think innovation, think a different world.’ We do that at the level that does not require massive financial support. It actually requires intellectual capital rather than financial capital. We have not got a massive budget; an appropriate budget where the intellectual effort looks beyond those borders.

That is how the new generation thinks and that is who we are as an organisation. We tap that potential both in the grey hairs and the new generations that are coming through the organisation and building something different. We are about changing the world, that is who we are.

## Q&A

**Jon Samuel:** The first question is, does Anglo American expect to more clearly outline its pathway to retire and or dispose the more coal assets?

**Mark Cutifani:** That is still a work in progress because we have so many stakeholders in the process. We are not putting a date to it on the basis that we have still got a lot more work to do to make sure we have got the pathway right, that we have managed our stakeholders and they have been consulted in the process.

**Adam Matthews (Church of England Pensions Board):** Hi, I am Adam Matthews from the Church of England Pensions Board. Thanks for the very detailed presentations and equally share so much of the general approach of Anglo and the relationship you perceived you have for society. I think that the way you approach that is industry-leading and very much to be welcomed.

Picking up on the point on climate change, I mean, I would encourage the speed at which you have that clarity around your trajectory to be reflected upon, because we really, as investors, do need to understand your future projection to then be able to have a meaningful conversation with you as Climate Action 100+ on what that pathway looks like and if the resilience that you have in that pathway is one that we can have confidence in. Until we have that line of sight on that trajectory over the coming decades, it is very difficult to have an informed conversation with you.

We have the same challenge in the oil and gas sector, but now we can have that in informed conversation with the likes of Shell. We know what their Scope 3 looks like. We need to be able to do the same with you and I would encourage a review perhaps on the timeline for that.

In relation to your point in lobbying, really looking forward to that lobbying review, I think again that is really important that you are reviewing your lobbying associations and trade association memberships, and obviously after this there are 60 investors which Anglo will be addressing on this point. I think we are looking for a sort of evidence of good governance, good oversight to make informed decisions that we can have confidence in. It is not the job of the investors to say which trade association you are in or not, that is your decision. But really having that evidence that you have got that rigour in the process is what we are after.

Just lastly on tailings dams, hugely appreciated the contribution Anglo has made to the group of investors working on tailings dams and around the safety following the Brumadinho disaster. I think, clearly Anglo has practiced some procedures that are industry leading. They are hugely important.

I guess, I suppose the broader question for you really is given what has happened in Brumadinho, are we dealing really with an existential crisis for the mining sector where society has demanded the resources, but the actual costs of tailings management are not been passed through to society, and the result is disaster such as Brumadinho and Samarco? In that context, clearly Anglo as a leader is impacted by that, when actually this is something that is affecting the whole industry, and we need perhaps a very different approach to the one that we currently have.

**Mark Cutifani:** Let me take the last point. I think the first two points are noted, and we understand exactly the point of the questions, and that is what we are working on, Adam. That is a work in progress, but we will keep people posted.

On the last point, yes it is an existential crisis. As a leadership team, we do believe it is a defining moment for the industry where things – were we make assumptions from a technical perspective and how we collaborate as an industry. Whilst we are lucky to have Caius and the team looking after our global work, with very clear accountabilities and doing good work, we are always looking to do better. The access to that sort of expertise may be limited, and so how do we as an industry collaborate, so what do we do in terms of standards and expectations.

The models that we design going forward in terms of leadership, have to change. Whether that's a conversation in the ICMM, or any other number of associations, we have to change the way we operate and the way we connect together. We will be right in the middle of that conversation or if we are to lead in that conversation, we totally accept that responsibility and we will do everything we can to make those changes happen. But we agree it is a very different type of conversation.

We thank you for your support in making the point that the mining industry is critical in terms of society. If you do not grow it, you mine it. The only way we are going to make this planet sustainable is if mining's role is defined and plays a sustainability role. You cannot purify water without the products from mining, you cannot purify the air, you cannot ensure that we can grow enough food to feed seven billion people without the mining industry. We are absolutely critical.

We can't afford to see one investor step away because it looks too hard, we're too important to everything for that to occur, and we appreciate that support from yourselves.

**Jon Samuel:** There is a question about the technologies and the impact on communities, and Froydis Cameron, who is our head of international and government relations, is leading that work.

**Froydis Cameron-Johansson:** We started a piece of work called the Social Licence to Innovate. We talk a lot in the mining sector about the social license to operate, but how are we actually going to be able to deploy all the innovation in a way that is responsible, and we are not actually going to be impacting, in a very negative way, some of the communities and the social fabric in the areas which we are operating?

This is a particularly challenging point in somewhere like South Africa. The mining sector is seen as very much an economic driver, and this is all part and parcel of the fourth industrial revolution. How are we as a company going to be responding to the need to deploy technology to ensure that operations are safer, we have a reduced footprint and we are actually keeping that sector sustained for the long term, and how are we going to work in partnership with the government, with education, the unions, with our communities and other stakeholders, to ensure that we enable this transition in the most responsible way? The way we are approaching it in Anglo American is that we do not have all the answers, we are not about to put forward a solution that's completely baked and say, 'Here we have the answer, this is what we need to do.' We are being very open about the fact we need to work in concert with everybody, to actually co-create our approach. We have had initial engagement

with the government, with unions, and everybody is very keen to support this work and then make sure that we work it through in the most responsible way.

**Jon Samuel:** And probably worth saying as well that, key components of the sustainable mining plan do address some of those challenges, so the livelihoods and the collaborative regional development elements, in particular, looking at alternative economic opportunity.

**Mark Cutifani:** On being a catalyst for five jobs for every job on site, was partly in recognition that the nature of work and our role in those communities is pivotal to actually dealing with that issue of jobs on-site versus off-site and we think we can help create a much more diverse commercial environment for those communities.

**Francis Sullivan (HSBC):** Mark, thank you very much indeed for an excellent integrated presentation about the sort of economic and financial and capital side of things, the technological innovations, and also the sustainability aspects. And I think the fact you can bring all that together in such a compelling story is excellent.

I also really like the new focus on climate change, and particularly the TCFD work. Congratulations on that.

Moving to my question, Anglo American has been a steadfast supporter of an organisation called the Initiative for Responsible Mining Accreditation, IRMA, over the last few years. I just wondered if you could give us a quick update on IRMA and your relationship with IRMA, and also how that might feed into other emerging certification schemes such as the certification scheme for steel called Responsible Steel that HSBC is supporting?

**Jon Samuel:** I have been our representative in IRMA for the last few years. Again, going back to the sustainable mining plan, we made a commitment to essentially responsible mine certification or assurance processes, our De Beers sites already have it through the Responsible Jewellery Council, and IRMA is the scheme we are looking at for the rest of our operations serving the industrial markets principally.

We have a commitment that by 2020, half our sites will be third party assured against an externally verified standard, and then by 2025 we have a commitment that all of them will be third party assured.

We have spent a long time working with IRMA, as you and others will know. The standard itself had some challenges. We think we have worked through the majority of those. We are now in a pilot phase; there will still be lessons learned through that phase and we will continue to feedback to the secretariat and make our position and views known as a board member.

We have done our first self-assessment against the standard at our Barro Alto nickel mine. We wanted a cold sort of a cold assessment on how the Anglo standards actually marry up against the IRMA ones. Actually pleasingly, they got about an average of 80%. I think that tells us and gives us confidence that it is a standard that we can aim for.

**Tony O'Neill:** First one for technologies. I think you need to just to break them out into two parts: firstly, open pit, and then underground. Open pit, the first way that you can fundamentally reduce your strip ratio is with automation, it is taking people out, we laid back the walls of open pits to make them safer for people to work in.

If we take the people out, you can stand them up much steeper and probably reduce your overall waste tonnages on top overhead, 20% to 30%. That gets back into the immediate debate of employment versus some of the negative impacts.

I think overall, there is a trend on underground mining. Over a lot of your lifetime, you will see that become the dominant, probably, way of method. I think swarm robotics, or miniaturisation will be the way of the future.

I think Novel Leach will be a key component. There are two things to this: one is, we will have to develop methods of being able to overlay all bodies on underground with a blanket, and being able to then contain the leachate within the blanket that actually is at the edge of the oil body. I think that's actually going to be quite possible.

When you do that, then you are essentially within the footprint of the normal mine, you are being able to leach it, being able to extract it remotely without anybody entering underground and the amount of waste that goes onto the surface is actually minimal.

On the leachates themselves, part of the – one of the things we are seeing is that there are some benign leachates starting to be developed. It is really early stage. But we are seeing leachates being developed around lactose products, so milk. Do not think it is all nasty chemicals. I think the day will come when some other things that we're able to extract minerals with will be quite benign.

I think that will be, the way mining will fundamentally change the footprint as an industry.

On Quellaveco: Quellaveco is a conventional mine. But it may be the last conventional major copper development given the technologies that are coming through over the next five years or so. It will have tailings dams, it will have waste dumps in the mines that you are familiar with. But it is one of the first completely digital mines. It will be digital end-to-end.

The level of assurance we are developing with Siemens the level of assurance that you will see with Quellaveco will be beyond anything, I think, you can see currently.

Although not approved, I am very hopeful that there will be coarse particle flotation installed at Quellaveco before we start production. The numbers certainly looked promising.

Quellaveco will be the recipient of all our focus and our technologies. There is an absolute trend towards electrification of mining. I can see the day coming where our in-stored diesel fleet gets replaced by electricity. Then you come back to, 'Well, what's the power source?' and I go back to my hydrogen little story earlier.

I think the industry, the world is missing a trick with hydrogen. Everyone is focused on cars – a transportation, a mobility issue. Why people are not focusing on the generation of base-led power is beyond me because that is where the game really is made, in my view.

**Menno Sanderse (Morgan Stanley):** First, on Peru, Mark, what are the specific challenges that you are facing in Quellaveco and what people have you put in place/organisation to address these?

Clearly, the relationship with the governor got off to a really, really bad start, if you are still in London and you read newspapers. Can you update us to what happened there because those articles were clearly not pretty?

The Las Bambas situation is clearly unhelpful. Have you analysed what is happening there and if there are any issues there that are relevant to Quellaveco?

The second one is on – not the second, the third is on Minas-Rio. Have you considered alternative tailings storage methods? Because, clearly, these are very sensitive things now in Brazil and you may never get the license for this new raised – to operate the new raised facility. Is it technically possible? Is it too expensive? Is it technically not possible?

Then finally on – this is not my personal view. But if I am very harsh and I take a devil's advocate point of view: diamond mining has no social benefit. Diamonds have no social benefit, except for the people that mine it. Rather than talking about thermal coal, which has some social benefit, no, because you get energy, cook with it, should we not talk about shutting down diamonds? As I said, not my view, but focused so much on energy.

**Mark Cutifani:** Some interesting questions there, Meno. Let me work through those systematically.

Firstly, on Peru. The most important issue for us in Peru is to get the community relations right. I think you know that in the last five years we have invested in that relationship critically. And consistent with that, we have built a set of relationships that I think are quite unique. In our context, our water solution critical to turn to farming from a 180 day year enterprise to 365 days. So we have got a different type of relationship where the mine and its benefits to the community are very clear in terms of, let us say, the agriculture sector. In terms of enterprise development and a whole range of other things we have been doing, that has been critical. I will come back to Las Bambas in a second.

Secondly, on logistics, the construction of Quellaveco is a logistics exercise. It is earth-moving and concrete. At this stage, we are doing very well on the earth-moving, so we are ahead of schedule, and concrete we're on schedule.

The next 18 months is critical from a technical and logistics point of view. Tony, myself, Duncan, in terms of previous role, Ruben, we are all connected in making sure we make – each step is a winner. So far, we have been very pleased with the progress.

At Las Bambas, if you look at the history of Las Bambas, when it was originally approved it included a pipeline. Towards the end of the approvals, and going into construction, they changed from a pipeline to a trucking fleet for the concentrate.

They also relocated a community associated with where the pipeline was going. When they constructed the haul road, it actually goes next to that new community that they constructed. So there's a dispute, and I am not going to make judgments on the issue – but there's a dispute between Las Bambas and that community that were involved in the original pipeline conversations and the final solution that was developed.

We think it is quite specific to the project. We think that we have dealt with those types of issues through the approval processes, and we have made no significant changes to the scope of the works, and therefore we think it is a very different relationship. Certainly, when the government talks about models for developing new mines, they talk about Quellaveco.

**Anik Michaud:** To answer the governor question. You are right. At the beginning of – when he first was elected, there was a lot of noise. Through a lot of engagement, we actually had a

breakthrough moment with him when he was side-by-side with us PDAC this year. So I think the nature of the relationship has now completely changed.

**Mark Cutifani:** The Governor actually came out in support of mining, and in particular Quellaveco at PDAC and after. We think that relationship is in a good place but we are under no illusions, it is our most important issue that has to have the care and attention required.

Ruben new in role handing off from Duncan, and Tony is involved as well. Each one of us starts every conversation with safety and then social relationships, how are they going, what are we doing. We spend probably 60% of the time.

In terms of Minas' tailings, I'm not sure it's the right question. Although I understand the point. Minas-Rio is in an area in Brazil that has high rain fall on an average throughout the year, but it can have extreme rain fall events and it can have droughts, and so the water balance is absolutely critical.

Now, for us to minimise our environmental footprint, we had to come up with a solution that took account of the natural community in which we are living and the social community, and so the tailings dam is not an upstream tailings dam because we do not believe it is appropriate in that type of environment to have upstream.

Downstream conventional is technically appropriate, but we went one level above that again and made it a water, or an engineered water dam, where there are hundreds across Brazil. This is standard technology for containing water. That is how we have designed this facility. Because what we then do is we harvest the water, the rain and the water in the process and funnel it back through the process. The structure is, we think, the best in environmental solution, and because of the engineering, we also think it is appropriate from a risk perspective as well.

When you say, what are other technologies? Well, there are dry technologies that will not do for the environment this facility does, for the operation at Minas-Rio. Now, I have been critical with Minas in terms of what we paid for the resource, and for certain elements of the project, and I will not go back through that story, but what they got right was the tailings design and its application in terms of the process. I think it is the right call.

The big lesson learned, and that is why I was pointing to Ruben's approach on the pipeline, is our approach in terms of the next lift of the tailings is exactly as he described in the pipeline. They are in with us every day, the government, the technical experts, all part of our process. No one has suggested that the design is inappropriate for the application. In fact, if anything they have said, this is the right approach in terms of the way things should be done.

I got no doubt the administration of the process will be certainly different to what we have seen in the past and it will require more time. But we are going to have to be patient. We are going to have to work with the authorities, but we think we have got the right approach.

I think we have got that pretty well covered, but there is one way looking at. There are different technologies. It has been dry stacking in the industry for 30 years. In fact, Tony, himself and Seamus were involved in one of the original dry stacking mines at Mount Keith in the nickel business back in the mid-90s. We understand the technology very well and we were leaders in implementing that technology in the base metals industry. We understand

the technologies, we understand where the applications are. We are looking at a few more technologies where we can more broadly apply the approach across our business.

Third, on diamond mining. I do not know how to describe gold's role in society, but it is been there for 5,000 years, and for some reason I do not think it is going to disappear next week. Diamonds, for the last 130 years, have represented something above and beyond my comprehension, and probably most people's comprehension, in terms of the value it represents in terms of a gift or recognition of someone's relationship with another.

For the last 100 years, diamonds have meant something special, whether it is diamonds are forever, or diamonds representing an engagement, is all about what people believe the value should be. Certainly from our perspective, we do not think the world is going to change in that minute in terms of giving something that is meaningful. Diamonds have been in the earth for billions of years, and the value proposition is based on that rarity and the unique characteristics of that product. Now, I am not going to go further with selling the diamond story, but we do think it is different.

Interestingly, Millennials of today are most important market. They do not get married as frequently as we Baby Boomers but they buy it to celebrate special events in their life, and that is why they are so significant because they recognise rarity, the real is rare campaign was targeted at Millennials.

On the other side, Botswana. GDP per person, one of the top three in Africa, and it is off the back of diamonds. There is no commodity in the world that has meant so much to a group of people in terms of lifting them out of poverty than diamonds in Botswana, or diamonds in Namibia. The footprint of our operations representing less than, I think it is about 0.3% of the land mass in terms of land disturbed, in terms of the revenue, and the benefit to those people cannot be understated. From the president, to people living on the ground, they understand the importance of diamonds and their contribution to that society.

We believe that 98% of diamonds are produced from operations that are ethically sourced and delivered to our customers. We think we could do a much better job in demonstrating that social story, in terms of selling our diamonds, and that is certainly where the focus will be and I think you got a great example of how we can actually improve environmental outcomes with the Walking with Giants, exercises.

We can improve environmental diversity through the consequences of our activity. We have got to more on the marketing side, where we went from the around \$40 million expenditure to around \$170 million last year. In terms of the benefit to society, we think that is an easy conversation to have with anyone, that would argue otherwise.

**Jon Samuel:** We will take one final question. Harriet has been very patient. Over to you, Harriet.

**Harriet Lamb (International Alert):** The first question is in reaction to the very welcome discussions about the transition out of coal. What is your thinking about how you are going to manage that process for the communities who lose their livelihoods, and if there was ever a case for innovation and sustainability, that might be where we most need to think about, indeed as Froydis has touched upon?



The other question was the very welcome commitment you spoke about in how to make sure that the community is getting a better share of the resources we generate? If there is one issue that is at the heart of so much of the inequality, the conflict, the difficulties I think we face in the world, it is that sense about people not getting their fair share. Is that something where you can fulfil your ambition to be the leader in the mining sector in terms of sustainability?

**Mark Cutifani:** On the coal transition, the thermal coal we mine is actually owned by the government and the people of the country. In South Africa, they made a commitment to thermal in terms of future power supplies, for the country.

Now their conversation with us is, you are a responsible mining, you are improving efficiency, you are doing a better job, the water technologies, a whole range of other things, that we like what you are doing. They are very supportive of us being an operator.

We have said that at some point we may think differently if investors no longer invest in us because of the thermal exposure.

But in any of those jurisdictions, we have to respect the government and what their intentions are, because we do not and cannot unilaterally decide what we can do with their resources, because we rent, we purchase the right to extract and sell, but we do not have the right to determine whether those resources stay in the ground. Having said that, making the judgment call about is it better for us to operate as a responsible operator, or do you sell them off and let somebody else worry about it? It just does not feel right to just walk away and sell the asset and say, 'Now somebody else can worry about it.'

Second point on local sharing of resources. We think if we invest and the way we think about it, we invest in a mine, there might be 10% of the local population gets a job. There is another 10% that will get work through contract relationships, or when we go out and look to local sources much we can, maybe it is 30%. The people that work in our business, or are connected to our business, usually get paid above what the average salary would be in the community. And therefore, cost of goods and services go up because there is more demand because people have more money, and so some people actually experience a negative impact of their operation. Our view is the local community has to experience us in a more positive way whether it is through energy and having more power available to people in the community, whether it is through hospitals, health services and other things that comes as a consequence of us being there, or whether it is through commercial support in developing new businesses above and beyond the mining industry that looks elsewhere, and there is half a dozen other things that we do.

Jon, did you want to talk to that?

**Jon Samuel:** So it starts with collaborative regional development, you know, as we become more productive, mechanise and automate, there will be fewer jobs and those jobs will be higher skills, so that is why we have our education stretch goal to make sure local people have a better chance to getting those jobs. About half our turnover typically goes out through the door through procurement and capital expenditures, so again, local supply chain development. Last year, more than \$2 billion spent, about 20% of addressable spend, was with local communities, and that is probably the biggest lever we have.

Then the broader opportunities in the region through collaborative regional development, looking at the opportunities in agriculture, or tourism, or adjacent industrial sectors, and so on and so forth. Actually putting proper, decent money into developing those regional opportunity plans, we think actually gives us a much better chance to have a more inclusive and a longer lasting contribution. Mark talked about our lives having a 30-year operating life, but you know, agriculture would be there in perpetuity for example.

I think there is whole package of things we are doing. We are very conscious that that is probably not going to be enough. But we have got more ambitious targets we believe than anyone else in the industry and we will keep looking at those and seeing how we can improve.

**Mark Cutifani:** Also promoting royalty regimes, different royalty regimes where a proportion of royalties are allocated to local communities. Then we work with the governments through the regional collaboration programme to work out how to support of the government, spend those monies to help and support those local communities as well.

I do have to acknowledge the South African government, they go dollar for dollar with us on Zimele programme. They are also with Norman and the team on the schools programme. Getting the government and helping the government is also an important part of lifting those communities and for them to see more of a benefit from mining. I think that is absolutely critical.

**Jon Samuel:** Okay, ladies and gentlemen, we will finish it there. Thank you very much for your patience.

[END OF TRANSCRIPT]