Facing the Future

Introduction

Good day and thank you for tuning in to my presentation.

My name is Ragnar Udd and I'm very pleased to be able to speak with you today about a couple of topics I'm very passionate about.

- The first is the future and the critical role that the resources industry will play in enabling that future,
- And, the second is, the way in which BHP will contribute to delivering those resources.

Before I share some thoughts on those topics, I want to take a minute to provide a bit of background on myself, where I am coming from… and what brought me here today…. in my current role as President, Minerals Americas for BHP, which involves leading our Chilean Copper Operations, Potash Development Option in Canada, as well as our Non-Operated Joint Venture assets in the Peru, Brazil, Colombia, and the USA.

I was born in Canada and grew up there but moved around a lot. I learnt at an early age that I love change... So, after university, I decided to move to the US and then Australia and have worked in a number of fields including: mine, rail, and port operations, projects, and engineering in commodities such as iron ore, manganese, coal, and copper. Most recently, I led BHP global technology team.

So I've seen our industry from a few different angles. However, I have to say, I have never been quite as excited and optimistic about the opportunities and challenges of a role as I am today leading two of BHP's future facing commodities: in copper and our potash development option. I love the possibilities these opportunities can unlock in our business.

The Future

Such optimism may sound odd coming at a time when most of the world is still dealing with the effects of the pandemic.

So I want to spend a few minutes to outline what I see are some of the main factors for our positive outlook for our industry.

Let's start in Asia, a region we still very much view as 'opportunity rich'.

Later stage urbanisation and industrialisation in China, early–stage urbanisation in India and the significant impact of China's Belt and Road initiative are all expected to provide additional demand for our products over the long term.

Population growth is a second factor.

Along with urbanisation, population growth creates new demand, which in turn, is good for the resources sector. In the 2020s, we expect the global population to expand to 8.5 billion from the current level of 7.7 billion, of which 5.2 billion will live in urban centres. As a consequence of this growth, we expect corresponding increases in global GDP as well as capital expenditure[1].

In addition to creating demand for our raw materials, population growth will also fuel demand for Potash, which will be vital for more efficient agricultural practices to feed this growing population[2].

A third factor is the strong push across the world to decarbonise. This effort will require substantial investment in infrastructure and the technologies that will leverage them.

A great example is electric vehicles. Policy signposts for rapid EV adoption were distinctly favourable over the last twelve months and we have revised our internal EV penetration forecasts upwards. These vehicles use four times as much copper as petrol-based cars, and they will also need more infrastructure to connect charging stations to the grid.

The critical role of resources in delivering this future

This example highlights the essential role resources will play in the transition to renewable energies.

In a Paris-aligned, 1.5 degree scenario, we expect that investment in areas such as copper-intensive solar generation, nickel-intensive batteries, and steel-intensive wind turbines will contribute to a more than doubling of the amount of primary copper and a quadrupling of the amount of primary nickel demand over the next 30 years relative to that produced over the last 30 years.

The commodities we produce are the building blocks of the modern world.

And they always have been.

Everything from railroads to bridges, aeroplanes to batteries, and mobile phones to medical instruments require the resources that we produce.

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[1] Source: Mid-year Outlook *Prospects blog*
[2] Source: CEO Outlook H1FY21 results

The simple truth is that we cannot build a better world without a reliable supply of these natural resources.

This is what we do….

Facing the future - BHPs role in delivering resources for the future

This is BHP's guiding motivation and why we have publicly and proudly committed to our purpose – '*to bring people and resources together to build a better world*'.

We are producing the materials that build global infrastructure and, supporting efforts to solve climate change… all the while providing skilled jobs for our people and support for our communities.

To me, the case is clear: our industry has a huge opportunity in front of us to feed this demand for resources.

But it's not as simple as that. We also have to address the fact that society quite rightly demands more from us.

More in terms of societal contribution, safety and sustainability, and of course operational excellence.

What we produce matters. But it is how we do it is more important than ever before.

BHP's approach

So for the rest of my time today I want to talk about *'the how'* at BHP.

Over the last 15 years we've invested approximately 11 billion US dollars in projects here in Chile, focused on becoming the best operator, and not just the best operator in terms of productivity, but also the best in terms of technology and operational excellence, sustainability, and social value.

Technology & Operational excellence

I'll start with technology and operational excellence. I've deliberately put these two together because they are linked… and will be increasingly intertwined in the mining industry of the future.

Like other industries, we must continue to embrace technological disruption. While it might not always be a smooth transition, the size of the prize is too great to ignore.

Automation and remote operations are a great example of this.

This is not about technology for technology's sake. We want our people to be safe and out of harm's way, and we want to be more productive and more sustainable. The more efficient use of equipment enabled through automation and enhanced decision making will support each of these objectives.

A key challenge is the view that technology is a 'put'…it's inflicted on us. Instead, we need to view it as an enabler… something that makes our lives better. And to do so, we need to help our dedicated employees become technology leaders and problem solvers. This is a skill set that is as exportable as the Copper in Chile, and can be used to build other industries as well.

Looking forward, I see Chile playing a huge role in this.

Sustainable autonomy is only possible with the right skills, most of which still need to be developed. A great benefit of being at this stage is that as we can use technology to attack barriers to diversity in our workforce, be it challenges like physical strength requirements or remote working issues. Technology allows us to provide broad based capability development and leverage diverse thinking. It will help us bring more people inside the industry.

What a great stage to be on, to have both the resources in-country and the opportunity to work together to build the capability to deliver them to the world.

It's an opportunity we simply must embrace.

I´d now like to turn my attention to sustainability…

Sustainability

The resources life cycle of exploration and production through to rehabilitation and closure requires us to operate our assets over many decades.

Sustainability therefore sits at the heart of everything we do.

At BHP we´ve made great strides in this area. It is absolutely core to our strategy and we reflect this with real action on the ground, and there is no better example of this than our Copper operations in Chile.

Water use, for example, is a major issue in the desert regions of northern Chile.

Escondida – the world's largest copper mine– has been planning a transition away from groundwater resources to desalinated seawater since the mid-2000s. Back then, no one was talking about the use of desalinated water.

In December 2019, we successfully stopped withdrawing water from underground aquifers for operational use[3] and transitioned to desalinated water. This was a huge milestone for us and involved a financial commitment of 4 billion US dollars. And we did 10 years before our initial commitment.

As a result we now operate the biggest copper asset in the world with 100% desalinated water.

Water is not the only natural resource we consume in the production of Copper. Copper production is incredibly energy intensive. If it is to be a progressive metal, then we must ensure we minimise emissions in the production of it.

So in 2019, BHP entered into ~~four~~ new power agreements based on renewable energy sources for our Escondida and Spence copper operations in Chile.

These contracts aim to displace over 3 million tonnes of CO2e per year, compared with the fossil fuel-based contracts they are replacing. Escondida and Spence are now on track to have 100% renewable energy supply by the mid-2020s, at a lower cost than the supply it replaces.

These are great examples of the ways in which we are addressing sustainability issues.

Our ‘mines of the future’ simply must be more sustainable.

Social value

The final area I´d like to talk to you about is social value.

Social Value is our positive contribution to society – to our people, partners, shareholders, the economy, the environment and local communities. It is about building deep and authentic relationships with local, regional and global stakeholders, and making them “better off” for our presence.

Similar to sustainability, the longevity of BHP’s assets means that we must think and plan ahead in decades. When I say decades, I mean decades: our Escondida mine, was nine years from discovery to first production, took 25 years to reach peak production, and has now been in operation for thirty years.

When we invest in a region, we become an intrinsic part of the local community for the long term.

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[3] BHP sustainability case study.

Across the globe, we seek to make a positive contribution to the environment and society in which we operate – our workforce, partners, customers, economies and communities.

One part of this is in social investment. Over the past five years, BHP's social investment in South America equates to over $150 million US dollars[4]. On its own, this is a significant amount, but it's what this translates to that really counts.

Take for example, our 'Vamos Juntos' program. This initiative aimed to help Chile through the depths of the pandemic. It focused on increasing testing and tracing capabilities and providing vital supplies to our communities. We also developed a fund to help our contractor companies navigate through the pandemic, while their employees were demobilized from our sites.

So let me be clear: we are part of a society that expects more of us. We recognise that our success depends on our ability to earn their trust and confidence.

For all of us, our contributions to society and how we work with our employees, suppliers, indigenous peoples, governments and communities will be a key determinant of what opportunities we can capture ahead.

The 'mine of the future' must deliver on social value.

Conclusion

To finish off, I'd like to wrap this all together.

Resources will continue to underpin human progress and development. They are critical for urbanisation, population growth, and electrification.

Without resources, the electric vehicles of the world can't exist, the wind turbines can't be made and the electricity grids can't be built.

BHP have been producing resources for more than 130+ years, and our contribution will be even more important over the next 130 years.

But as the world evolves, we must evolve as well – to safer, and more efficient operations, built around new technology, sustainability, and social value.

We look forward to embracing this challenge.

[4] Source: Chantelle Riseborough, 1 Feb 2020.