BHP

BMO Farm to Market Conference

Presentation & speech

19 May 2022
Thank you, Joel. And good afternoon, all.

This is my first time presenting at Farm to Market Conference. It’s a pleasure to join you here.

I wanted to take a bit of time describing our Jansen potash project, which we believe will become one of the world’s leading potash mines.
Disclaimer

Forward-looking statements

This presentation contains forward-looking statements, including statements regarding, among others, changes in commodity prices and supply conditions; demand for commodities, production capacity, prices, strategies and objectives of management; asset acquisition and disposition; anticipated sales prices of projects; volumes and facilities availability and other projected performance; anticipated capital and operating costs and expenditures of individuals and entities; anticipated production rates of projects; and production levels and characteristics. Forward-looking statements are based on certain assumptions, including, but not limited to, the following:.

Factors that may affect the accuracy of these assumptions include, but are not limited to, changes in commodity prices and supply conditions; demand for commodities, production capacity, prices, strategies and objectives of management; asset acquisition and disposition; anticipated sales prices of projects; volumes and facilities availability and other projected performance; anticipated capital and operating costs and expenditures of individuals and entities; anticipated production rates of projects; and production levels and characteristics.

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The estimates presented in this presentation have been prepared as at a particular date, and the assumptions used in their preparation may or may not be realized. In addition, the financial statements and other disclosures may be affected by various factors.

The Company has prepared this presentation in accordance with Accounting Standards, and the assumptions used in the preparation of this presentation may or may not be realized. In addition, the financial statements and other disclosures may be affected by various factors.

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BHP and its subsidiaries include BHP Billiton, the Company, the Group, and all other entities in which BHP and its subsidiaries have a direct or indirect interest.

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Before I speak to our view on potash and Jansen I want to step back and describe BHP, as many of you may be less familiar with our company.

At BHP, we’re focussed on making sure we have a portfolio that is future fit and positioned to generate value and returns for decades to come.

We have sector-leading assets, and we aim to operate them exceptionally well.

These assets generate strong margins through the cycle and create a baseline of stable cash flows that our shareholders consistently benefit from. In fact, in all bar one of the last dozen years, we’ve delivered net operating cash flows of more than US$15 billion.

This consistent strong cash flow delivery is a defining feature of BHP. Few others can claim this level of consistency.

In iron ore, our assets constitute the best combination of scale, cost competitiveness and quality in Western Australia. We are amongst the top three producers globally. We’re the lowest cost major miner, and have been for a number of years now. And with the ramp up of South Flank – our US$3.6 billion, 80 million tonne per annum new iron ore mine – we’re increasing the quality of our product. The reliability of our operations makes us a partner of choice for our customers and our higher-quality iron ore will remain attractive as steel makers strive to reduce emissions through improved productivity.

The need to reduce steel making emissions will also drive a growing market preference for higher quality metallurgical coals. With BMA, our 50:50 joint venture with Mitsubishi, we operate one of the world’s largest metallurgical coal businesses and produce some of the world’s best quality coals for steelmaking. This coal is highly valued by our customers.

As you can imagine we have world class expertise in bulk commodities and logistics. We not only run our own rail and ports in Australia but are also very experienced in working with third party rail and ports operators.

In copper, we are a top three producer globally, operate Escondida, by far and away the largest copper mine globally, and we have the largest endowment of copper of any company globally.

At Nickel West, we’re selling around 90 per cent of our nickel metal to battery manufacturers and we’re studying ways to unlock growth from what is the world’s second largest nickel sulphide resource.
BHP’s approval of Stage 1 opens up a new future growth front with significant expansion potential, which is expected to unlock up to a century of production. It has the pathway to become our next Western Australia Iron Ore or Escondida over the next few decades.

It will be the most advanced potash mine ever built. The very latest technology and sustainability practices are built into its designs. It will be very difficult for existing potash miners to retrofit and recreate the operational advantages we will capture.

BHP’s strategy is to own a portfolio of world-class assets, exposed to highly attractive commodities, and to operate them exceptionally well. This is designed to deliver exceptional value and returns through the cycle.

The first thing we assess is the attractiveness of a given commodity.

We then look for assets that are large, long-life, high margin and expandable.

Finally, any option must align with our capabilities, in order to unlock full potential. For BHP, this means mining, processing and bulk logistics. As well as the creation of shared value for both our stakeholders and the environment in which we operate.

We are deliberate with these criteria.

And while the framework sounds simple, it is proven to have generated strong value and returns for our shareholders. You can see examples of it throughout our history.

Today, in effect, we’re replacing our Petroleum business with Potash. While Stage 1 won’t deliver this alone, if we decide to bring on all four stages and at prices just half of where they are today, we’d be generating around US$4 to US$5 billion of EBITDA per year. For comparison, our Petroleum business averaged around US$3 billion per annum over the past five years.

And while it will require significant capital to build all four stages, potash requires less ongoing reinvestment than petroleum due to the absence of field decline… hence the relative free cash flow of potash vs. petroleum will be even stronger and it will have the added bonus of negative correlation to existing commodities and better long term fundamentals.

So, potash is a commodity we like; we have an attractive asset; and the capabilities of our teams will extract the most value from it.
We have been positive on the fundamentals around potash for some time – this is underpinned by rising population, changing diets, decarbonisation and improving environmental stewardship.

Investing in potash will add further resilience to future returns. Potash demand and pricing are uncorrelated – or even negatively correlated – with the other commodities we produce. Oil and aluminium on the other hand are quite highly correlated to our existing commodities.

And it’s much broader customer base better opens markets for us in Brazil and here in the US that haven’t traditionally been our largest.

Importantly, it also adds Canada as a high-quality operating jurisdiction with economic stability, a great skills base, and some substantial untapped potential in resources.

These factors will further strengthen BHP’s track record of resilient performance and even greater stability of cash flows and returns for shareholders throughout the cycle.
Turning now to the market. Clearly, it’s been an eventful period since we approved this project last August.

Potash’s already attractive fundamentals have improved further due to recent global events. Overall market changes are either consistent with our working assumptions or positive for our project’s economics.

On the demand side, consumption is expected to be shipment constrained in the near-term. Even at very high pricing, affordability is mixed globally, with demand from food exporters/potash importers likely to stay firm. Furthermore, food security concerns are real and are expected to influence sovereign behaviour.

On the supply side, the key factors are uncertainty over Former Soviet Union operating rates and project pipeline. This uncertainty is expected to draw in latent capacity earlier than anticipated and the region’s project pipeline is the key unknown for the medium to longer term. The bulk of committed capacity expansion in the 2020s was coming from this region.

Pre-invasion, market was expected to reach a balance in late 2020s. That could come forward.

Long run trend pricing is still expected to reflect the cost of developing new greenfield supply, with Canada well placed to meet market growth longer term.

Stage1 FID was based on both latent capacity being mobilised and FSU project pipeline being delivered… so all else equal, the change in circumstances means a more attractive entry point than anticipated at the time of FID.
Now turning to the project development… Jansen is tracking to plan. We’ve awarded around US$1.4 billion in contracts so far, another US$200 million since our half year results in February, covering port infrastructure, underground mining systems and other shaft and surface construction activities.

The fact that approximately 50 per cent of the engineering was completed before sanction gives us greater confidence in our schedule and capital cost ranges – that’s in large part because of the extensive studies done at BHP and also those done by independent experts.

Our scope has been optimised over the past five years and our engineering and procurement has advanced to the level of other successful major projects executed at BHP recently. We’ve also drawn on knowledge of projects in the Saskatchewan Basin and the potash industry. We have a strong understanding of our construction risks, what may impact our critical path and what drives productivity, especially in the underground.

We know we are experiencing some turbulent times at the moment, witnessing the widespread impacts of COVID-19, skilled labour shortages, supply chain disruptions and inflationary pressures. Since we sanctioned the project in August 2021, we’ve seen inflation pick up, in particular following the start of the tragic Ukraine crisis. The maturity of our design and procurement to date, with more than 60 per cent of our packages locked into the market, gives us more confidence also on inflation.

Our team is however very focused on understanding and prioritising execution of tasks which are most exposed to labour, material and productivity risks. Examples of mitigating actions and factors include:

- re-evaluating optimal timing of procurement and contract awards;
- assessing labour sourcing routes and optimum shipping for equipment from overseas; and
- our contracting method at the port which involves protection on cost escalation.

Jansen’s competitive advantage is largely embedded in its optimised design, and so, at the intended nameplate capacity of approximately 4.35 million tonnes per annum, it is expected to be the lowest cost producer in Canada. We estimate operating cost to be approximately US$100 per tonne in 2030. Sustaining capital is expected to average around US$15 per tonne, and the Canadian currency exposure is expected to be ~85 per cent on average over the life of mine.

These estimates have been reviewed by industry experts, they’ve been subject to extensive benchmarking, and they include potential inflationary pressures.
Stage 1 is compelling in its own right, but the overall Jansen proposition is substantial, with multi-decades of production potential.

It is that longevity which is common to the assets and investments that have been BHP’s bedrock over many years, including both our Western Australia Iron Ore assets and our Escondida copper mine.

As we’ve demonstrated time and again, good resources get better over time. Large assets with expansion potential, provide inherent capital efficient, high-return expansion options... for when the time is right.

So, we’re proceeding well and we’re looking to accelerate. We’ll do that by accelerating Stage 1 where we can, although winter weather does limit our options to some extent. And we have decided to concurrently conduct studies for Stage 2.

Stage 2 would add around an additional 4 million tonnes at a capital intensity of between US$800 and US$900 per tonne, almost 30 per cent lower than we expect for Stage 1. While early days, it is expected to achieve an internal rate of return between 18 and 20 per cent and a payback of around four years at long term consensus prices, which are well below spot prices. If markets suit, we may be able to bring this product to market more quickly.

We have a path to 16 to 17 million tonnes per annum of production across all four stages of development. That’s approximately a quarter of the current market size, albeit the market will have grown by the time they all come on.

Our Capital Allocation Framework will guide whether we approve the subsequent stages of Jansen; but we can see a strong case forming in its favour.
We have also designed Stage 1 to have competitive advantages from the outset, like:

- modern 3D seismic technology for a detailed understanding of the total resource; and
- 60 per cent less equipment required, which reduces operating costs by about 10 per cent.

While this will be our first potash mine, we bring a wealth of experience and world class capability in bulk mining. And we have a long history of marketing high-quality commodities in global markets, which has helped us to put in place MoUs for in excess of 100 per cent of production from Stage 1. You can imagine the recent events in Europe have meant potential customers are even keener to engage with us.
Our underground production mining system is designed specifically for our potash ore seam from existing technology and adapted and scaled up into a unique integrated mining system. The system has higher capacity than typical potash borer machines. The borers themselves are sized to extract the highest grade of the potash seam in a single cut, versus a less productive two cut benching method we would have to use if we had typical lower profile borers.

In the picture you can see the borer in its lowest height configuration. It will cut up to almost a meter higher than what is shown here. For comparison, the dotted white line shows the relative size of a typical low profile borer.

As a result, we will have just four mining systems... capable of producing the equivalent of 10 to 14 typical systems. This is a sustainable advantage, with fewer active mining faces for lower operating costs.

Now turning to our shaft capacity... with a diameter of 7.3 metres the two shafts are one of the largest in the industry and certainly the largest in Canada for a Potash mine. Our investment in a larger diameter allows us to deliver Stage 1 production through only a single service shaft. And then for future stages, our larger diameter allows us to achieve 16 to 17 million tonnes per annum of production.
Now turning to our process plant… We have applied the latest equipment and digital technology to a proven potash flowsheet, and as a result Jansen will set a new benchmark for plant automation both within BHP and the Potash industry.

We are aiming to achieve an industry-leading recovery rate of 92 per cent, which is higher than current best performers. A higher recovery means we will extract more potash per tonne of raw ore, resulting in less product going to tails, better energy and water efficiency, and a lower operating cost per tonne.

Stage 1 will be controlled by an Integrated Remote Operating Centre, or IROC, using technology that has been proven in our Iron Ore, Coal and Copper businesses. The IROC will integrate our mining, processing, rail, and port operations allowing us to continuously improve the supply chain and better serve our customers.

Turning to the supply chain and how we get product from the mine to our customers. Stage 1 includes the construction of railway spurs linking the mine to the two national carriers in Canada. We will use a dedicated fleet of 1,200 potash rail cars for Stage 1, destined for Westshore’s terminal on the west coast or domestic distribution into the US. We will have an automated and continuous loading facility that uses robotics to open and close the top hatches which will load and return a train to the mainline in about half the time of current benchmarks.

BHP also entered into a long-term agreement with Westshore to construct and operate a dedicated Potash terminal. The terminal has best-in-class rail access, which will deliver us more reliable cycle times than competitors who are tied to terminals in the more congested regions of the Port of Vancouver. Westshore will construct the terminal under a Design-Build-Own-Operate agreement. It also captures exclusive expansion potential for Stage 2 and possibly beyond.
Looking now at the Project Schedule.

We have a strong track record in major project execution at BHP, with all major projects that have come into production in the last few years, coming on time and on budget. We are confident in our delivery schedule.

This is the same schedule we presented at our briefing in September. We are trying to accelerate it, which could shave some months off but only if all goes to plan in the next few years.
In closing: Jansen is setup for success.

Firstly, potash is an attractive future facing commodity with strong fundamentals.

Secondly, Jansen is a world class, high margin and long-life asset. It will enter the market towards the bottom end of the global cost curve, with operating costs of around ~US$100 per tonne on an FOB basis. Stage 1 delivers both healthy returns and a platform for potential future growth. It will support up to a century of future production and growth, with future expansions significantly de-risked by existing shaft capacity. Our embedded competitive advantages are challenging for our competitors to replicate, meaning Jansen is well setup for the decades to come.

Thirdly, we’ve started to conduct studies for Stage 2. While early days, compared to Stage 1, Stage 2 could have a 30 per cent lower capital intensity, six percentage point improved internal rate of return and a three-year shorter payback period.

Finally, we have built the capabilities we need to unlock value. We have an experienced and diverse team across mining, marketing and Social Value. We have a clear, well-scoped plan for the work ahead and are ready to progress Stage 1 into production.

And now, happy to take questions and I look forward to meeting with some of you in our scheduled meetings.
Appendix
Footnotes

1. Slide 3: Based on published unit costs by major iron ore producers, as reported at 31 December 2021.
2. Slide 4: Aiming to achieve significant workforce participation of 30% by the end of FY22.
3. Slide 5: Consistent with its 2020 FY in FY22 consensus.
4. Slide 6: OFS outlook is based on the current consensus.
5. Slide 7: The OFS outlook is based on the current consensus.
6. Slide 8: Production deferment for Olympic Dam. Potential environmental changes to approval.
7. The operation of future stages could be subject to our due diligence and environmental approvals and the completion of the capital expenditure framework.
9. Slide 10: OFS outlook is based on the current consensus.
10. Slide 11: OFS outlook is based on the current consensus.
15. Slide 16: Expected FY2022-2023 of 240 Mtpa. The OFS outlook is based on the current consensus.
16. Slide 17: Expected FY2023-2024 of 250 Mtpa. The OFS outlook is based on the current consensus.
## Jansen Reserves and Resources

### Table 1. Jansen Mineral Resources (inclusive of Ore Reserves) as at 30 June 2021 in 100% terms reported in accordance with ASX Listing Rules 2019

<table>
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<th>Ore type</th>
<th>Measured Resources</th>
<th>Indicated Resources</th>
<th>Inferred Resources</th>
<th>Total Resources</th>
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<tr>
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<td>Mt</td>
<td>% Cu</td>
<td>Htasa %</td>
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### Table 2. Jansen Ore Reserves as at 30 June 2021 in 100% terms reported in accordance with ASX Listing Rules 2019

<table>
<thead>
<tr>
<th>Ore type</th>
<th>Proved Reserves</th>
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**Notes:**
- The information in this report relating to Mineral Resources and Ore Reserves is based on and fairly represents information and supporting documentation compiled by B Hanesh (MinesMgt Ltd) and T Turkut (APSFEG) for Mineral Resources, and J Sundergaard (MinesMgt Ltd) for Ore Reserves. All Competent Persons are members of the Australasian Institute of Mining and Metallurgy (AusIMM) or a Theoretical Professional Organization (TPO) included in a list that is posted on the ASX and Joint Ore Reserves Committee websites. All Competent Persons are employees of BHP and have sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. All Competent Persons confirm that they have no conflict of interest, perceived or otherwise, and consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.
- The Measured and Indicated Mineral Resources are inclusive of these Mineral Resources modifier to produce the Ore Reserves.
- Mineral Resources are stated for the Lower Patience Lake (LP) deposit only. A proven reserves thickness of 3.96 meters from the top of the 400-c level was applied.
- Measured Resources grade has been assigned to Indicated Resources.
- 25.6% Cu grade is equivalent to 40.5% W grade using the rheological conversion factor of Cu to W.
- Ore Reserve grade is derived from the Mineral Resource grade using a cut-off grade of 0.01% Cu equivalent and 0.005% W equivalent.
- Ore Reserves are reported on an in-situ resource content basis, estimated to be 0.7%.
- Ore Reserves are rounded to nearest 10 million tonnes.

For further details, please refer to the Mineral Resources and Ore Reserves as reported in the 17 August 2021 media release, available on www.bhp.com and are reported in 100 per cent terms. Competent Persons are B Hanesh (MinesMgt Ltd) and T Turkut (APSFEG) for Mineral Resources, and J Sundergaard (MinesMgt Ltd) for Ore Reserves.