BHP

Nickel West - Energising Our Future

Eduard Haegel, Asset President Nickel West
9 August 2017

Mt Keith Operation, Nickel West

Disclaimer

Forward-looking statements

This presentation contains forward-looking statements, including statements regarding: trends in commodity prices and currency exchange rates; demand for commodities; plans, strategies and objectives of management; closure or divestment of certain operations or facilities (including associated costs); anticipated production or construction commencement dates; capital costs and scheduling; operating costs and shortages of materials and skilled employees; anticipated productive lives of projects, mines and facilities; provisions and contingent liabilities; tax and regulatory developments.

Forward-looking statements can be identified by the use of terminology such as 'intend', 'aim', 'project', 'anticipate', 'estimate', 'plan', 'believe', 'expect', 'may', 'should', 'will', 'continue', 'annualised' or similar words. These statements discuss future expectations concerning the results of operations or financial condition, or provide other forward-looking statements.

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Disclaimer continued

Competent Person Statement

*Mt Keith and Yakabindie Mineral Resources are reported for the year ended June 30 2016 in the 2016 BHP Annual Report which can be found at www.bhpbilliton.com, and have been estimated by Marcel Menicheli (MAusIMM). M Menicheli is a full time employee of BHP, has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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'. M Menicheli consented to the inclusion in the Annual Report of the matters based on his information in the form and context in which it appeared. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcements continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcements.All tonnes and grade information has been rounded, hence small differences may be present in the totals. Total tonnes of nickel is estimated multiplying the total resource tonnes converted to kilotonnes (kt) by the Ni grade (%Ni) before rounding of tonnes and grades for reporting. All of the Mineral Resources information is inclusive of Mineral Resources that have been converted to Ore Reserves.

**Yakabindie Ore Reserves were reported as at 20 October 2016 in the BHP Business Briefing Nickel West: Reimagining the Future which can be found at www.bhpbilliton.com and have been estimated by Deependra Bhardwaj (MAusIMM). As at 20 October 2016, D Bhardwaj was a full time employee of BHP, had sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he was undertaking 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'. D Bhardwaj consented to the inclusion in the presentation of the matters based on his information in the form and context in which it appeared. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, that all material assumptions and technical parameters underpinning the Ore Reserve estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcement. All tonnes and grade information has been rounded, hence small differences may be present in the totals.

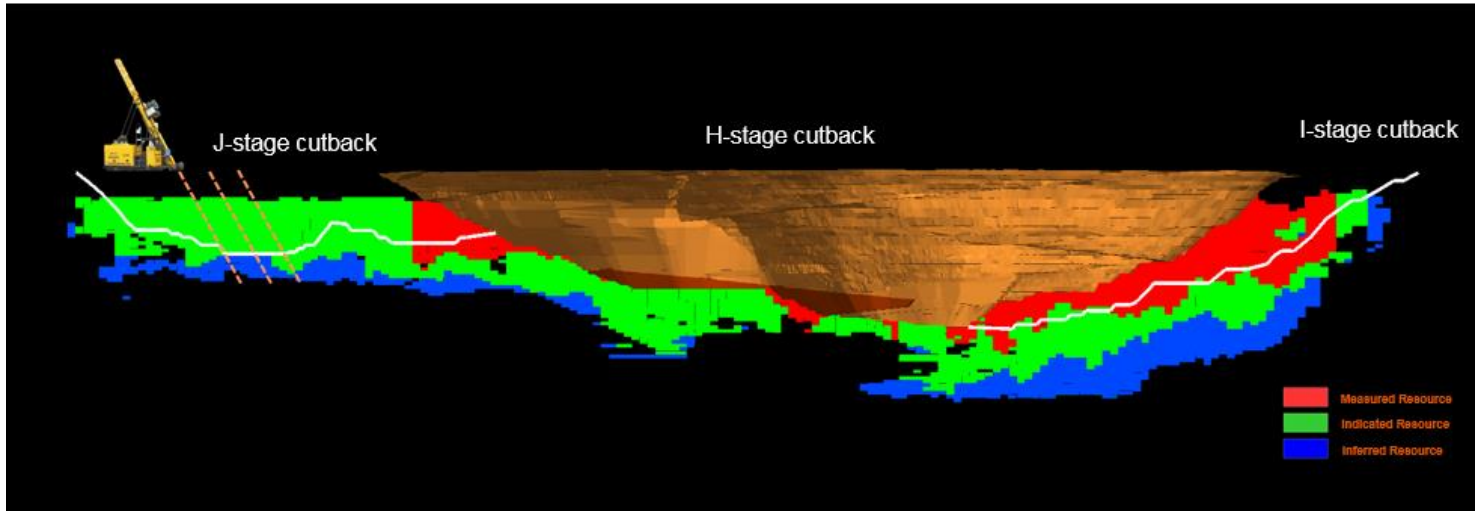
***Leinster B11 Underground (UG) Ore Reserves have been estimated at a cut-off grade of 0.88% nickel. The Project is not material for the BHP Group. Leinster B11 Ore Reserves have been estimated by Mike Thomas (MAusIMM) and Jeff Lessard (P. Eng OIQ). M Thomas is employed by AMC Consultants Pty Limited and J Lessard is a full time employee of BHP; both have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. M Thomas and J Lessard consent to the inclusion in this presentation of the matters based on their information in the form and context in which it appears. This presentation is based on, and fairly and accurately represents, information and supporting documentation relating to Ore Reserves estimates prepared by M Thomas and J Lessard.
Key underlying reserves assumptions are underpinned by the Leinster B11 Pre-Feasibility Study (PFS) and subsequent optimisation work. These include:

1. Maiden Leinster B11 Ore Reserves estimates are prepared based on a Pre-Feasibility Study and all optimisation work completed until 30 June 2017. Ore Reserves are estimated at Mine Gate and based on dry metric tonnes.
2. The Project utilises existing infrastructure at the Perseverance Underground mine and Leinster surface facilities.
3. The current mine design is based on a mining method that significantly reduces the risks associated with the dynamic rock mass response to mining, compared to previous mining methods. The geomechanical aspects have been independently reviewed and reviewed by Pitt & Sherry consultants.
4. The economic assessment is based on cost estimates derived from schedules of rates from experienced mining contractors and has an accuracy of ± 20-25%. The mineralisation associated with underground remnant pillars is included as Inferred Mineral Resource estimates due to associated uncertainties it could not be converted to Ore Reserves.
5. Ore will be hoisted via the existing E94 shaft. Development of the Leinster B11 Reserves supplies ore to process at the Leinster concentrator. Overall metallurgical recovery is forecast to be 88% based on historical metallurgical recovery of Ni from the Perseverance sub-level cave operation.

World Class performance at Mt Keith creates new possibilities…

Mt Keith Mining and Concentrating

- Mining productivity best in class for BHP with >7000 (annualised) truck hours.
- Concentrator productivity best in class for BHP with >8000 op hours per year.
- Numerous new processing technologies being deployed to increase recovery.
- Improved performances may offer the possibility of two new pit expansions: Stages I and J.
- Study work will be initiated this year.



Mt Keith Mineral Resources * as at 30 June 2016 in 100% terms reported in accordance with the 2012 JORC Code

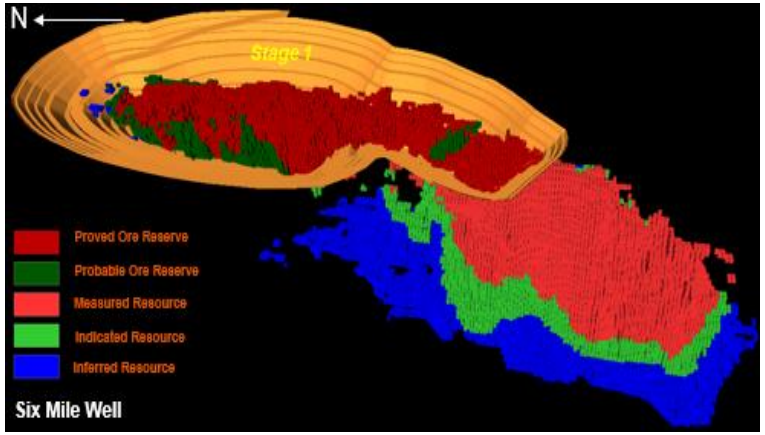
Ore Type	Measured Resources		Indicated Resources		Inferred Resources		Total Resources	
	Million Tonnes	Ni%	Million Tonnes	Ni%	Million Tonnes	Ni%	Million Tonnes	Ni%
Disseminated sulphide	153	0.55	106	0.48	35	0.48	294	0.52

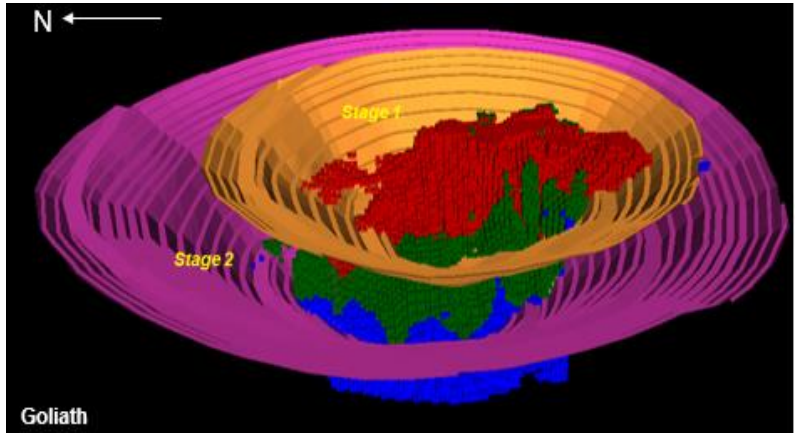
* Refer to disclaimer slide 3

…the Mt Keith Satellite project

Mt Keith Satellites

- Mt Keith Satellite proposal submitted to EPA and under assessment.
- Metallurgy well understood – Mt Keith Talc circuit enables treatment of satellite ores.
- No infrastructure – minimal capital required.
- Focus will move to identifying resource options to fill the pipeline to 2056.





Yakabindie Mineral Resources * as at 30 June 2016 in 100% terms reported in accordance with the 2012 JORC Code

Ore Type	Measured Resources		Indicated Resources		Inferred Resources		Total Resources	
	Million Tonnes	Ni%	Million Tonnes	Ni%	Million Tonnes	Ni%	Million Tonnes	Ni%
Disseminated sulphide	156	0.59	113	0.62	171	0.61	440	0.61

Yakabindie Ore Reserves ** as at 20 October 2016 in 100% terms reported in accordance with the 2012 JORC Code

Ore Type	Proved Ore Reserves		Probable Ore Reserves		Total Ore Reserves	
	Million Tonnes	Ni%	Million Tonnes	Ni%	Million Tonnes	Ni%
Open Cut (OC)	57	0.60	39	0.62	96	0.61

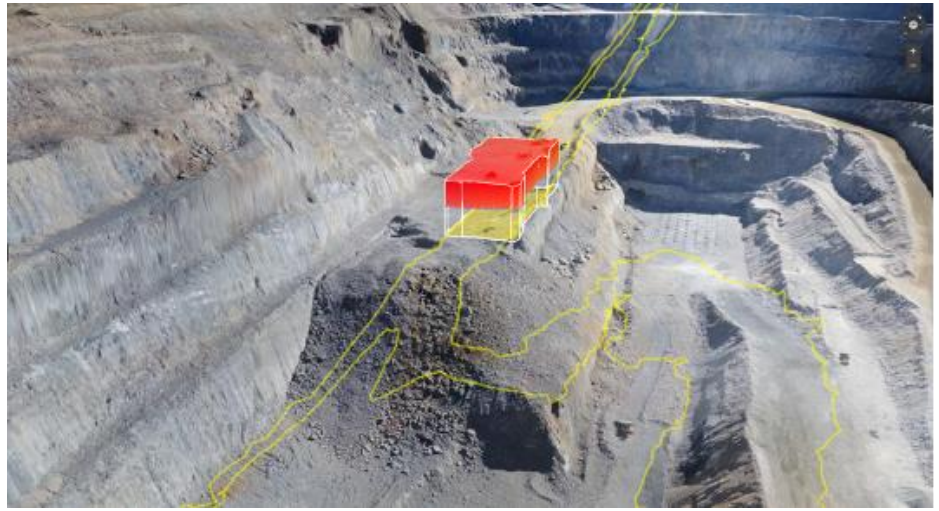
* ** Refer to disclaimer slide 3

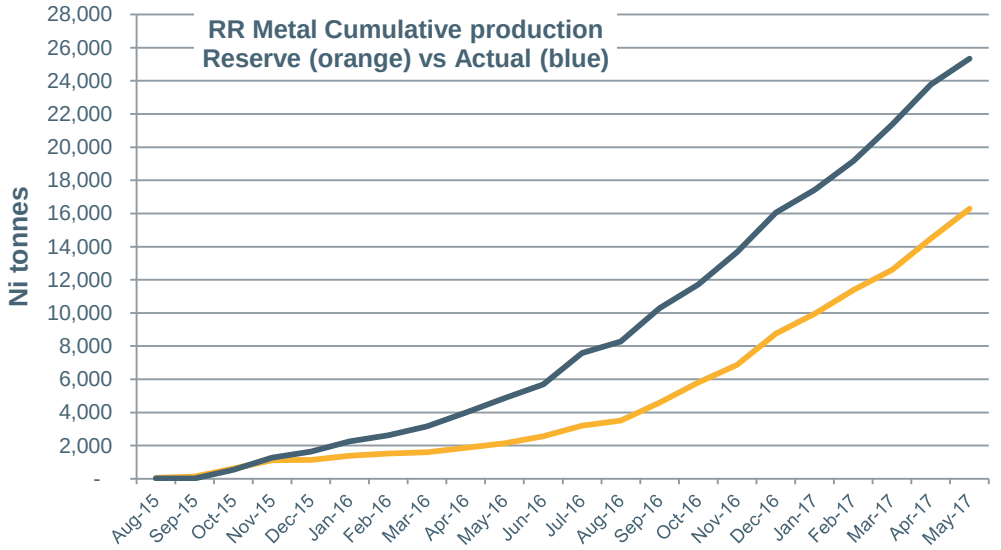
Rocky's Reward Stage 2 really is rewarding

Innovative funding model brought Rocky's Reward into play

- Funding model matches Nickel West payments for mining operations to ore crushed at the Leinster mill.
- Leinster Ore Reserve was based on recovery of low grade disseminated ore not previously mined from underground.
- Additional ore has been recovered from underground stope pillars, and additional pods of ore identified with the ongoing 'spotting' of all ore digging by in-field geologists.
- Daily drone surveys assist ore visualisation.
- Expect to mine over 50,000 Ni tonnes during project life.

Metal mined to date is 156% including bonus recovery from Inferred Resources.

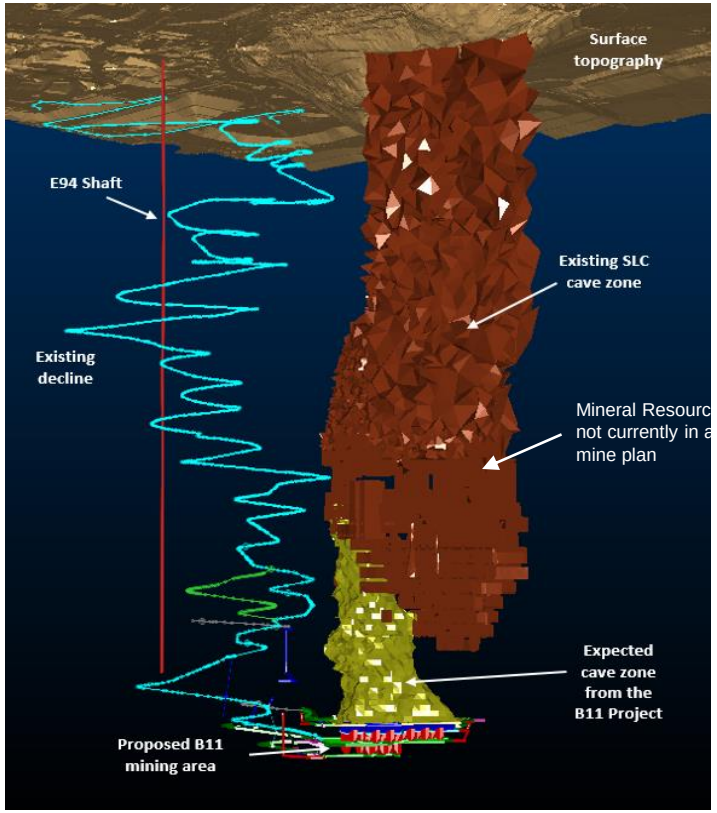




Leinster B11 study selects Block Cave

Reserves declared based on a block cave

- Select study confirms orebody well suited to block caving.
- Block Cave design best suited to manage stresses in ground.
- Anticipated production of 600kt of ore/year for nine years.
- Decline, ventilation, material handling and surface infrastructure are already in place.
- Low capital, low operating cost development.
- Feasibility Study planned for Q4 CY17.

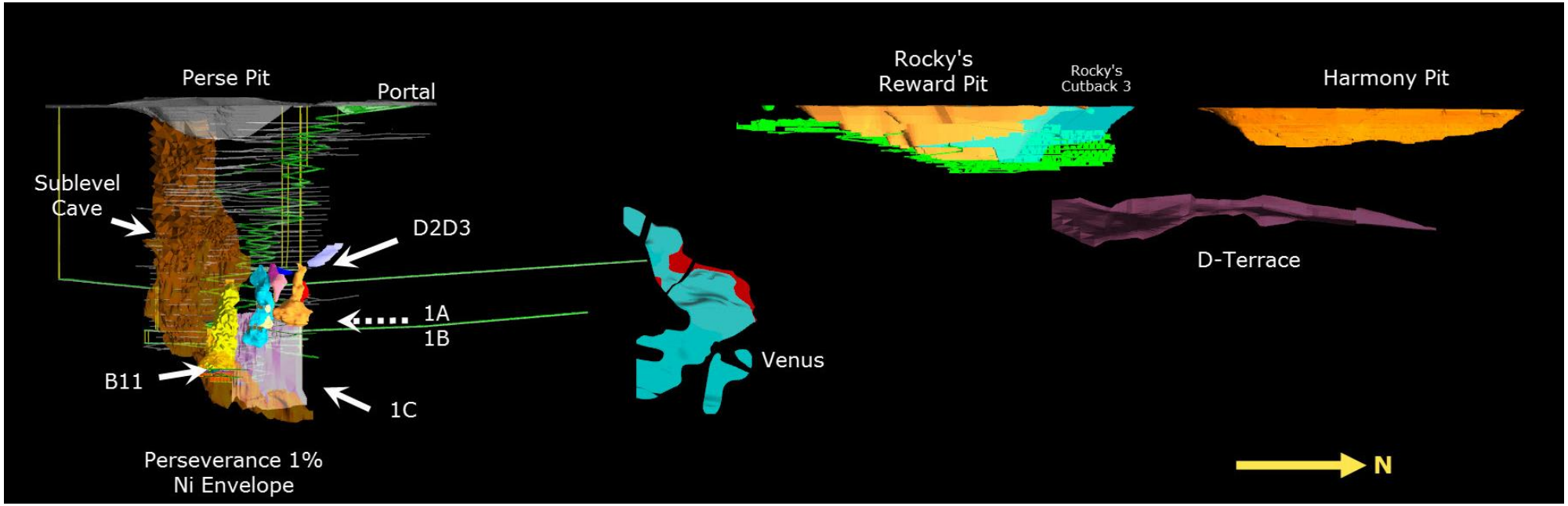


Leinster UG B11 Ore Reserves *** in 100% terms reported in accordance with the 2012 JORC Code

Ore Type	Proved Ore Reserves		Probable Ore Reserves		Total Ore Reserves	
	Million Tonnes	Ni%	Million Tonnes	Ni%	Million Tonnes	Ni%
Underground (UG)	-	-	5.3	1.60	5.3	1.60

*** Refer to disclaimer slide 3

Driving ahead at Venus



Venus

- Top drive complete, commenced drilling.
- Lower drive arrives December.
- Drilling focused on in-fill and extensional work to support reserve determination in H1 CY18.
- Venus requires minimal capital.

Other Opportunities

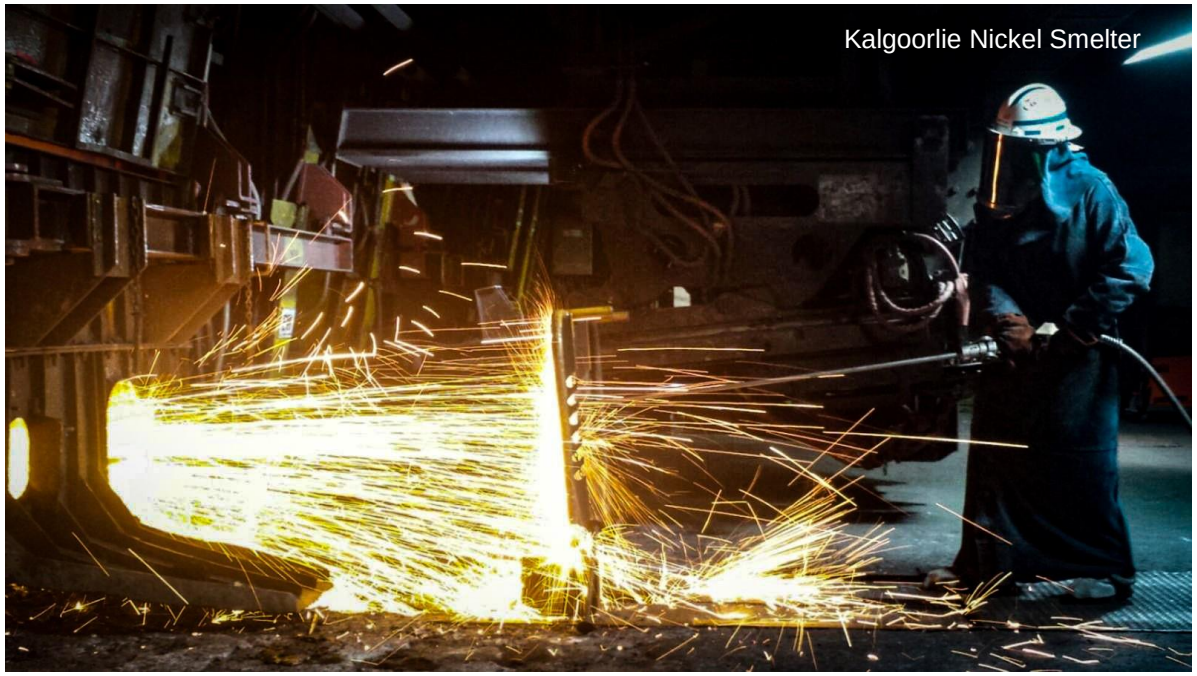
- Increased recovery in Rocky's Reward makes Rocky's 3 a more attractive project.
- D Terrace is open in several directions.

Kalgoorlie Smelter extends furnace life again

Furnace life extended to a range of 2024 to 2027 by:

- Developing an in-house concentrate burner design to deliver a step change in process performance.
- Building on world class technology from Finland (Outotec) for an integrated and automated heat/mass balance model optimising flash furnace operation.
- Implementing an automated feed constraint control system.

Together, provides significant improvement in process stability which is supporting a longer furnace life


Kalgoorlie Nickel Smelter

The Electric and Plug-in Hybrid Revolution has begun

Electric Vehicles (EVs) will move from early adopters to mainstream

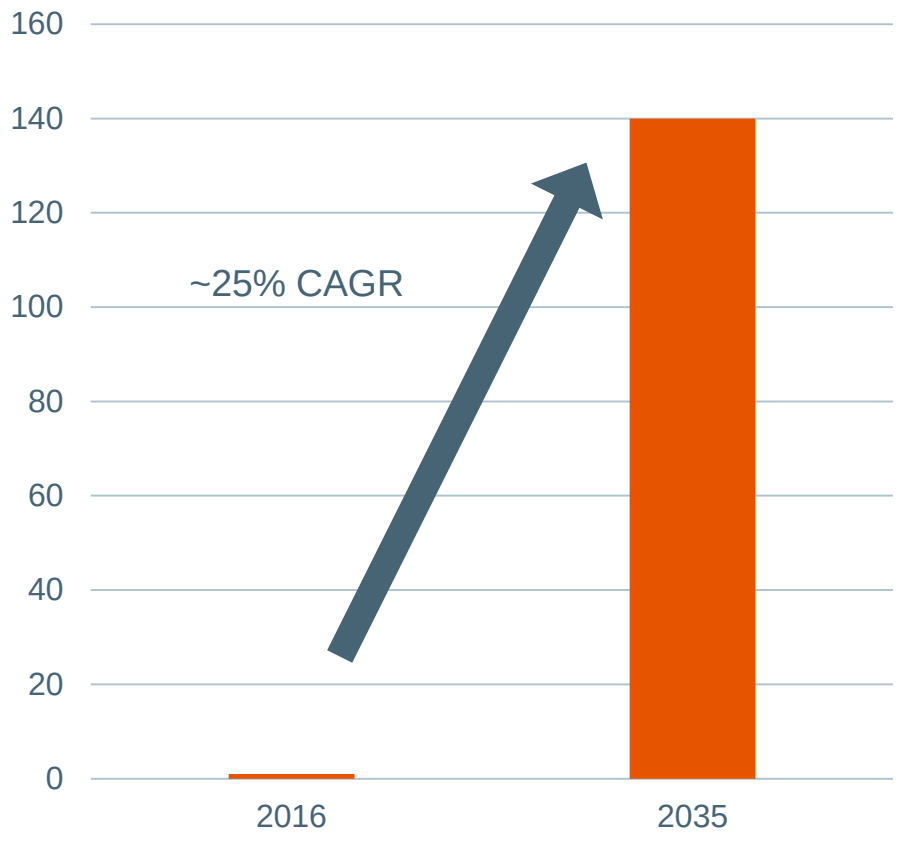
- We see huge potential in electric vehicles.
- EVs are expected to become price competitive on an unsubsidized basis beginning in 2025[1].
- With falling battery prices playing an important role in higher adoption of EVs[1].
- The pace at which vehicle manufacturers are committing to EV and hybrid models is accelerating.
- Volvo commits to 100% EV/PHEV by 2019

"This announcement marks the end of the solely combustion engine-powered car"
Håkan Samuelson, CEO Volvo

- Mercedes brings forward the launch of 10 new EV models by three years to 2022.

1. BNEF, The Long-term EV outlook 2017

Electric vehicle fleet to enjoy rapid growth
(millions of vehicles)



Source: BHP Analysis

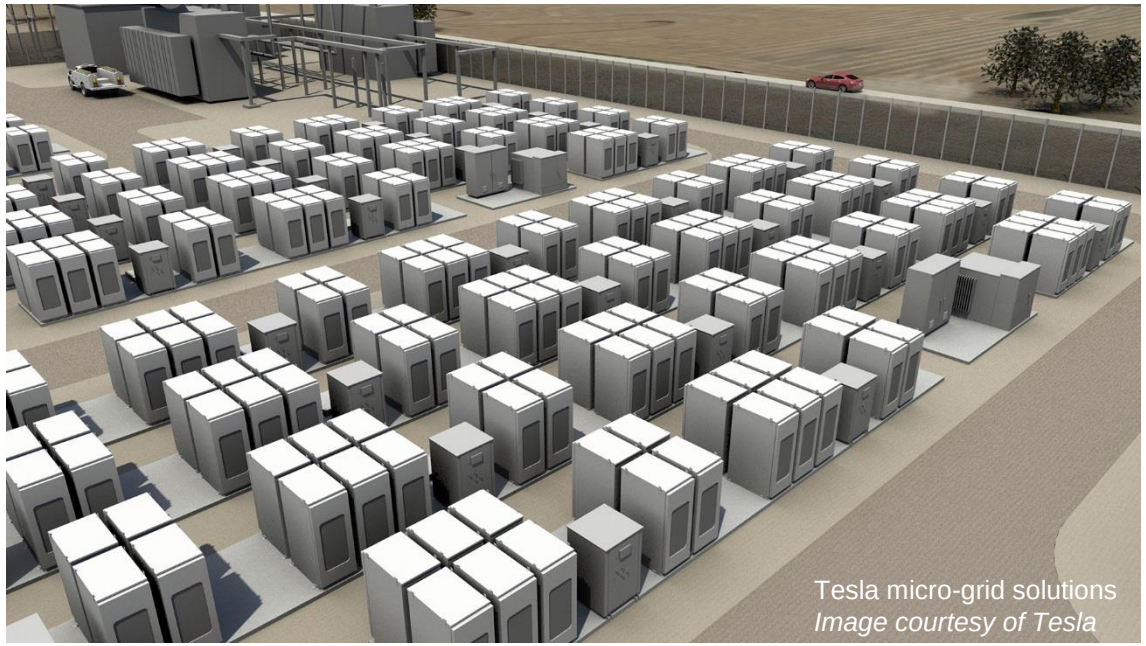
Energy Storage Systems (ESS) adoption

ESS provides grid stability in a carbon neutral world

- Approximately one-third of Tesla's gigafactory output is dedicated to grid storage.
- Tesla will supply world's largest lithium-ion battery (100MW) to South Australia.

"It will completely transform the way in which renewable energy is stored, and also stabilise the SA network"
South Australian Premier Jay Weatherill

- Adoption rates for home storage expected to increase.
- Although many ESS battery technologies continue to compete for supremacy, Tesla has positioned lithium-ion technology strongly.



Tesla micro-grid solutions
Image courtesy of Tesla

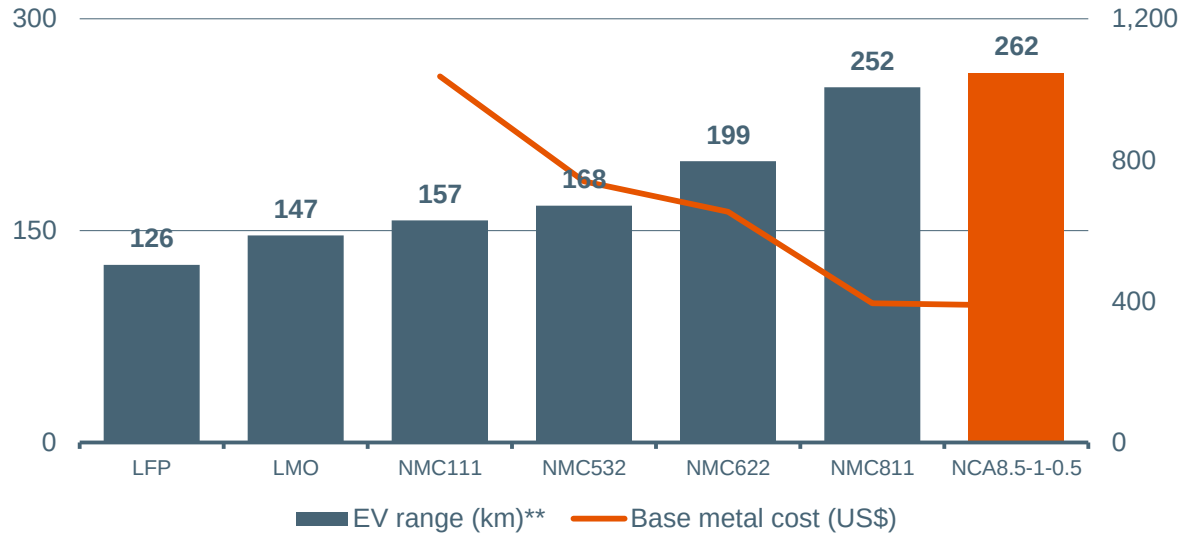
Lithium-ion is the dominant EV battery technology

Nickel-rich chemistries are popular due to higher energy density and lower costs

- Lithium-ion batteries are expected to be the dominant batteries in EVs for the foreseeable future.
- Nickel-rich batteries are preferred due to their superior energy density and increased vehicle range.
- Lithium-ion battery demand from EVs will grow from 21GWh in 2016 to 1300GWh in 2030.[1]
- Tesla uses Nickel-Cobalt-Aluminium (NCA) for EVs.
- A higher cobalt price should incentivize rapid adoption of more nickel-heavy technologies.
- Larger operations, like the Gigafactory, should achieve efficiencies which will help accelerate parity with internal combustion engine costs.

High Nickel Li-ion batteries offer long range at low cost
(EV range, km)

Base metal cost
(US$)



Base metal contained cost in typical 32kWh car battery pack at July 2017 prices
Source: Golden Road Inc

"Our cells should be called Nickel-Graphite, because primarily the cathode is nickel and the anode side is graphite with silicon oxide…[there's] a little bit of lithium in there, but it's like the salt on the salad"

Elon Musk, CEO Tesla

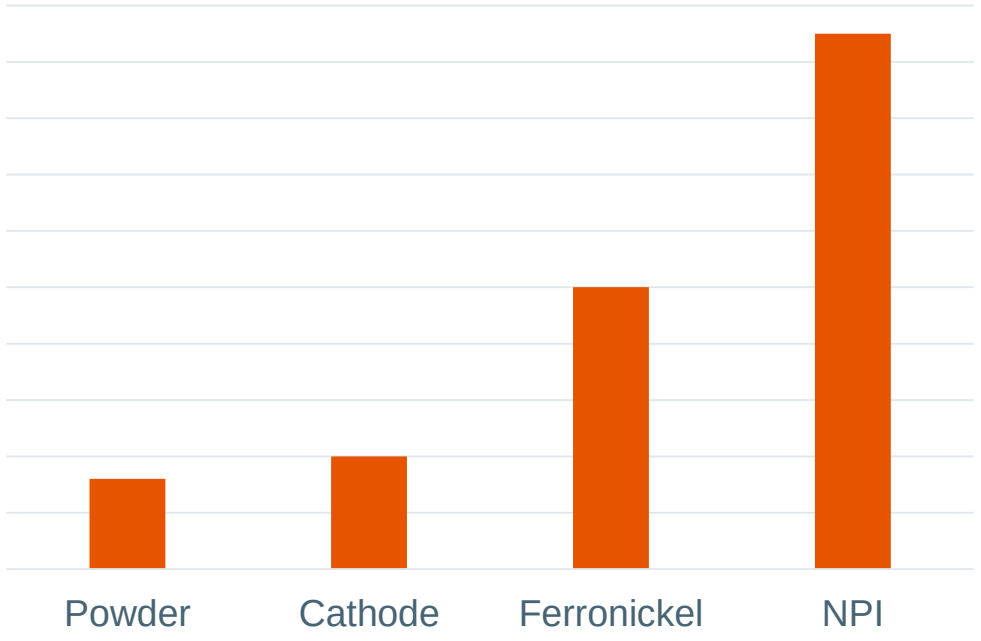
1. BNEF, The Long-term EV outlook 2017

Higher quality nickel inputs leads to lower nickel sulphate production costs

Refined nickel products are the most effective source for nickel sulphate

- Half of the global nickel supply (1000kt) is derived from Ferronickel and Nickel Pig Iron (NPI) from which it is prohibitively expensive to remove iron and impurities.
- Nickel cathode (600kt) is slow to dissolve and the use of solvent extraction separation from electrowinning liquor is expensive.
- Nickel Sulphate production from the dissolution of refined nickel powder (350kt) is more attractive.
- Nickel West produces a significant proportion of global powder production.

Relative nickel sulphate conversion costs by major source type (including capital costs) per tonne of Ni metal



NOTE: Illustrative only, not to scale
Source: BHP Analysis

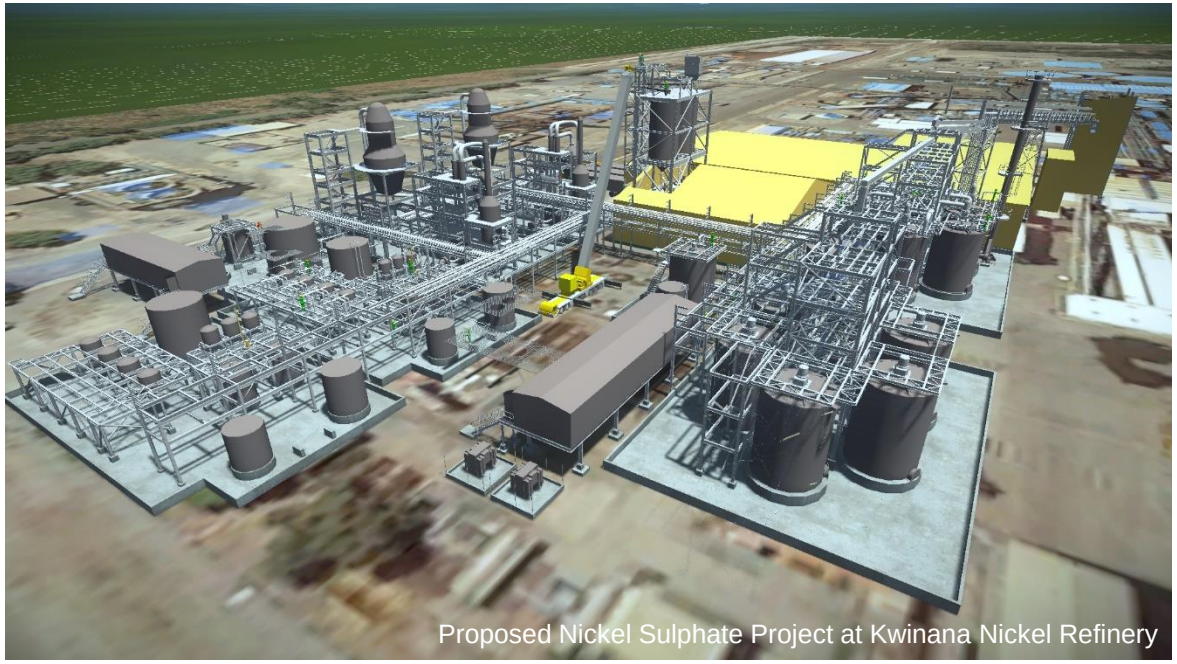
Nickel Sulphate Project at Kwinana Refinery

Nickel Sulphate Project – Phase 1 funding approved

- Produce 100ktpa of nickel sulphate hexahydrate by dissolving nickel powder at Kwinana Nickel Refinery in sulphuric acid from the Kalgoorlie Smelter.
- Process is fully automated i.e. no human intervention before product is bagged for sale.
- Subject to approvals, first production in April 2019.
- **Capital US$43.2m, IRR 43%**

Expandable to 200ktpa as a low cost expansion option

- Expansion would have lower capital intensity leveraging pre-investment in Phase 1.
- At full capacity the plant would consume 44kt of nickel powder and would be the world's largest nickel sulphate facility.



Proposed Nickel Sulphate Project at Kwinana Nickel Refinery

Nickel Sulphate is a good fit for Nickel West

- Low technical risk.
- Successful lab test-work and pilot trials.
- Well developed processes, systems, operating discipline.
- Existing installed infrastructure lowers overall capital cost of installation.

Nickel West will deliver world class product quality

Nickel Sulphate product will support the battery market and nickel plating

- Our culture will be highly customer focused.
- The flowsheet will ensure that there are no organics and no magnetics.
- Study work to further improve calcium quality is underway following feedback.

Cathode precursor – next step?

- Nickel West refinery is an ammonia leach process.
- Precursor production requires access to caustic (available locally) and ammonia.
- Study work exploring the opportunity of producing precursor will be initiated this year.

Expected Nickel Sulphate final specification

Element	Value	Unit
Ni	22.3	% min
Co	10	ppm max
Cu	1	ppm max
Fe	1	ppm max
Zn	1	ppm max
Mn	1	ppm max
Mg	1	ppm max
Pb	1	ppm max
Cr	1	ppm max
Cd	1	ppm max
Ca	5	ppm max
Al	1	ppm max
Na	5	ppm max
Cl	10	ppm max
Si	5	ppm max

Nickel West will improve margins through further targeted investments at the refinery

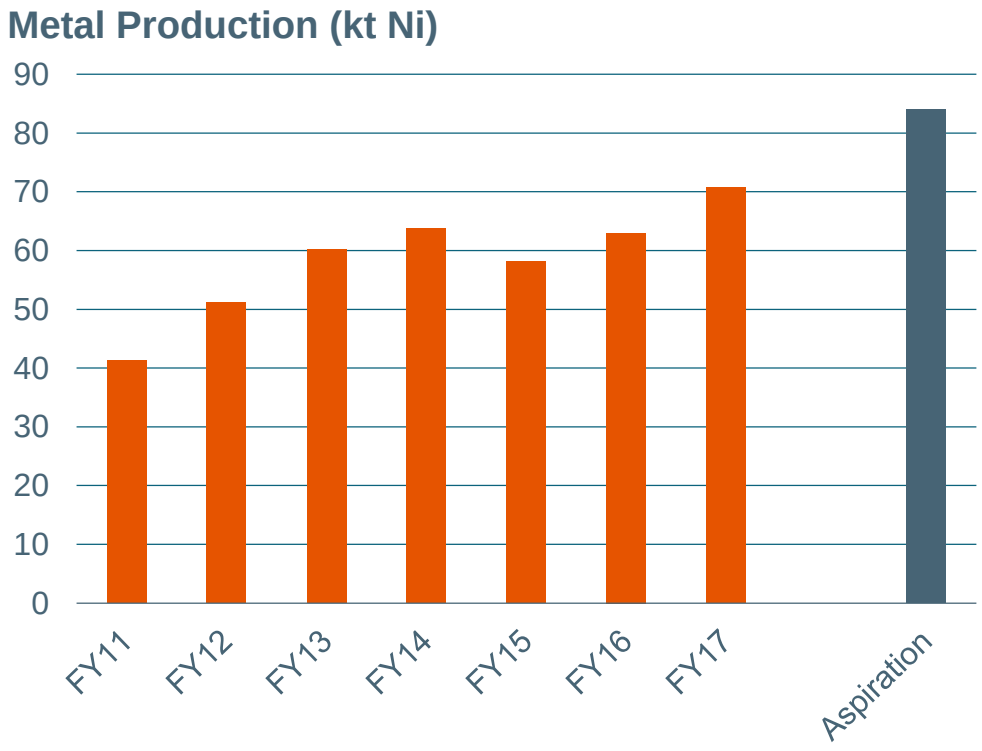
Refinery debottlenecking a continuing success

- Incremental refinery expansion costs remain low.
- Incremental cost of production is lower than expected.
- Attractive margin increase from matte to metal + by-products.

Creating value by ‘raising the ceiling’

- Refinery currently captures 99% of the value of nickel inputs.
- Nickel Sulphate improves revenue and margins.
- The refinery captures 94% of the value of 20 input elements creating an opportunity to increase by-product credits.
- Cobalt solvent extraction plant test work underway.
- Platinum Group Metals (PGM) recovery design and test work well advanced.

Record Production in FY17 – Aspirations even larger



Nickel West – Energising our Future

A New Energy material supplier

- Nickel market disruption through the evolution of electric vehicles.
- Nickel West has Mineral Resources to support the business towards 2040.
- Operating performance is creating opportunities.
- Fully integrated mine-to-market production plants facilitate nickel sulphate production with end-to-end control of supply chain in a safe, sovereign environment.
- World class specifications achieved.


Kwinana Nickel Refinery


BHP