

17 August 2023

Power Supply Delays Black Swan, but Strategic Value of Assets Highlighted

NEED TO KNOW

- Grid power not available until late CY2024
- Further metallurgical testing required
- Black Swan site visit highlights strategic value

Black Swan restart pushed back, largely due to delayed grid power:

Poseidon (POS) has announced that the restart of the Black Swan 1.1mtpa mine and processing plant has been pushed back. This is primarily because Western Power has informed POS that grid power will not be available to the site until late CY2024, which alone accounts for a 4–5month delay. POS had originally planned FID for the project in July 2023 followed by a ~12-month refurbishment.

Metallurgical review to confirm recoveries: The recent Black Swan drilling campaign had the key objective of delineating the metallurgically important serpentinite and talc-carbonate hosted resources to convert Inferred Resources into the Measured and Indicated categories. Recent assays from this campaign suggest that the 'non-sulphide' nickel component of the material below the current pit could be higher than previously understood. POS has decided to do more drilling and collect more samples for metallurgical testwork to ensure that recovery rates outlined in the Black Swan BFS have not been materially affected.

Site visit highlights strategic nature of Black Swan: Our visit to the Black Swan site in August highlighted the good condition of the mining and processing assets, as well as the strategic 'head start' POS has over a greenfield project.

Investment Thesis – Strategic Assets

Black Swan restart – delay disappointing but may present options: The Black Swan restart presents near-term value for POS. While disappointing, the delay may present options to POS with the timing of the expansion project or to look at short-term direct shipping ore opportunities, particularly if further high-grade zones are discovered near Silver Swan.

Black Swan expansion to 2.2mtpa adds value; additional projects provide options: Black Swan's large ore resource is amenable to producing a lower Ni grade, high MgO concentrate for sale into HPAL or POX plants. This could allow a significant boost to production and, potentially, increased mine life. POS owns 100% of two other Ni projects in WA, providing further Ni production potential.

Strategic assets: POS has a large NI resource spread across three assets, two with existing mills. High replacement costs, long approval times and recent corporate activity in the Ni sector demonstrates the strategic value of the assets.

Nickel – a key commodity for the new world: The use of high-quality Ni in EV batteries represents a long-term driver for demand. Battery manufacturers are adopting battery chemistries with higher Ni content.

Valuation

Our valuation is A\$0.15, fully diluted (down from A\$0.16 previously). This valuation, substantially above the current share price of A\$0.02, is driven by our expectation of the successful restart of Black Swan and subsequent expansion to 2.2mtpa. We also include a risked valuation for the restart of Lake Johnston.

Risks

Key risks: further restart delays, Ni price volatility and increasing capital costs.

Equities Research Australia

Metals and Mining

Michael Bentley, Senior Analyst
michael.bentley@mstaccess.com.au



Poseidon Nickel (POS) owns 100% of the Black Swan, Windarra and Lake Johnston nickel (Ni) assets located in Western Australia's Goldfields Ni province. The Black Swan project is the focus for POS, with the high-grade Golden Swan and Silver Swan adding high-grade Ni tonnes to the Black Swan open pit. A BFS has been completed on the 1.1mtpa Black Swan Restart Project, with a PFS for 2.2mtpa expansion due late CY2023.

<https://poseidon-nickel.com.au/>

Valuation	A\$0.15 (previous A\$0.16)
Current price	A\$0.021
Market cap	A\$74m
Cash on hand	A\$5.7m (30 June 2023)

Upcoming Catalysts and Newsflow

Period	
1HCY24	Black Swan: funding and offtake completion; FID
3QCY23	Black Swan Exploration Target 5
2HCY23	2.2MTPA Pre-Feasibility Study
2HCY23	Lake Johnston Maggie Hays West drilling

Share Price (A\$)



Source: FactSet, MST Access.

FINANCIAL SUMMARY POSEIDON NICKEL LTD. Year End 30 June

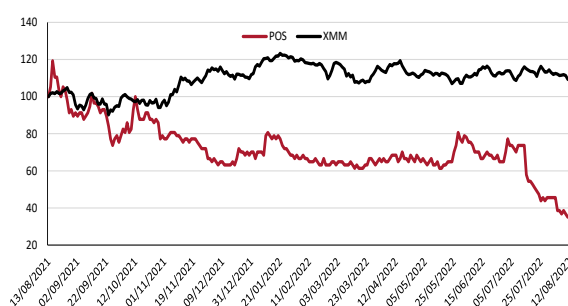
POSEIDON NICKEL LIMITED

POS.AX

MARKET DATA

Share Price	A\$/sh	0.022
52 week low/high	A\$/sh	0.06 - 0.02
Valuation	A\$/sh	0.15
Market Cap (A\$m)	A\$m	81
Net Cash / (Debt) (A\$m)	A\$m	12
Enterprise Value (A\$m)	A\$m	70
Shares on Issue	m	3,704
Options/Performance shares	m	10
Other Equity	m	1,030
Potential Diluted Shares on Issue	m	4,745

12-Month Relative Performance vs S&P/ASX Metals & Mining



INVESTMENT FUNDAMENTALS		Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Reported NPAT	A\$m	(11)	(12)	(11)	(7)	5
Underlying NPAT	A\$m	(11)	(12)	(11)	(7)	5
EPS Reported (undiluted)	¢ps	(0.4¢)	(0.4¢)	(0.3¢)	(0.2¢)	0.1¢
EPS Underlying (undiluted)	¢ps	(0.4¢)	(0.4¢)	(0.3¢)	(0.2¢)	0.1¢
P/E Reported (undiluted)	x	n/m	n/m	n/m	n/m	17.9
P/E Underlying (undiluted)	x	n/m	n/m	n/m	n/m	17.9
Operating Cash Flow / Share	A\$	(0.00)	(0.00)	(0.00)	(0.00)	0.00
Price / Operating Cash Flow	x	n/m	n/m	n/m	n/m	6.2
Free Cash Flow / Share	A\$	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)
Price / Free Cash Flow	x	n/m	n/m	n/m	n/m	n/m
Book Value / Share	A\$	0.02	0.02	0.02	0.03	0.03
Price / Book	x	1.03	0.89	0.97	0.81	0.73
NTA / Share	A\$	0.02	0.02	0.02	0.03	0.03
Price / NTA	x	1.03	0.89	0.97	0.81	0.73
Year End Shares	m	2,809	3,064	3,404	4,445	4,445
Market Cap (spot)	A\$m	62	67	75	98	98
Net Cash / (Debt)	A\$m	8	11	6	(8)	(53)
Enterprise Value	A\$m	54	56	69	106	151
EV / EBITDA	x	n/m	n/m	n/m	n/m	5.1x
Net Debt / Enterprise Value		(0.1)	(0.2)	(0.1)	0.1	0.8

Profit & Loss (A\$m)	Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Sales	-	-	0	-	46
Expenses	(10)	(11)	(11)	(7)	(32)
EBITDA	(10)	(11)	(11)	(7)	14
D&A	(0)	(0)	(0)	(0)	(5)
EBIT	(10)	(12)	(11)	(7)	9
Interest	(1)	0	0	1	(1)
Tax	-	-	-	-	(2)
Underlying NPAT	(11)	(12)	(11)	(7)	5
Reported Profit	(11)	(12)	(11)	(7)	5
Balance Sheet (A\$m)	Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Cash	8	11	6	54	9
Receivables	1	1	0	0	4
PP&E	25	25	25	82	138
Exploration	87	100	106	106	106
Other	4	4	4	4	4
Creditors	3	2	0	0	4
Debt	-	-	-	62	62
Other	1	1	1	1	1
Liabilities	65	65	63	125	129
Net Assets	60	76	77	121	134

PRODUCTION AND PRICING		Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Nickel in con Production	kt	-	-	-	-	1
Nickel Price (US\$/lb)	US\$/lb	-	-	-	-	12.4
AUDUSD	:	-	-	-	-	0.65

Cashflow (A\$m)	Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Interest	-	-	-	-	(2)
Tax	(0)	0	0	1	(1)
Net Cash From Operations	(10)	(11)	(6)	(3)	16
Capex	(0)	(0)	(0)	(55)	(55)
Exploration	(12)	(12)	(11)	(3)	(5)
Investments	-	-	-	-	-
Free Cash Flow	(22)	(24)	(17)	(61)	(45)
Equity	9	27	11	47	-
Borrowings	(25)	-	-	62	-
Dividend	-	-	-	-	-
Net Increase / (Decrease) in Cash	(37)	3	(5)	48	(45)

Nickel Sulphide Resources	Mineral Resource Category									
	MEASURED			INDICATED			INFERRED			TOTAL
	Tonnes (kt)	Ni% Grade	Ni Metal (t)	Tonnes (kt)	Ni% Grade	Ni Metal (t)	Tonnes (kt)	Ni% Grade	Ni Metal (t)	Tonnes (kt)
Black Swan Project										
Black Swan	800	0.78	7,000	15,100	0.73	111,000	10,400	0.69	71,000	26,300
Silver Swan	-	-	-	138	9.00	12,450	8	6.00	490	146
Golden Swan	-	-	-	112	4.70	5,200	48	2.20	1,050	160
Silver Swan Tailings	-	-	-	675	0.92	6,200	-	-	-	675
Lake Johnston Project										
Maggie Hayes	-	-	-	2,600	1.60	41,900	900	1.17	10,100	3,500
Windarra										
Mt Windarra	-	-	-	922	1.56	14,000	3,436	1.66	57,500	4,358
South Windarra	-	-	-	772	0.98	8,000	-	-	-	772
Cerebus	-	-	-	2,773	1.25	35,000	1,778	1.91	34,000	4,551
Total										
Total	800	0.78	7,000	22,417	1.11	233,750	16,570	0.84	174,140	40,462

Source: POS; MST Estimates

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Black Swan: Restart Delayed – No Grid Power Until Late 2024; Other Work Streams Progressing

In November 2022, POS completed a BFS for a restart of its Black Swan mine and processing plant. The BFS outlined a robust project with a company-calculated NPV of A\$248m and free cash flow of A\$333m over a ~4-year life (based on November 2022 spot pricing), utilising 1.1mtpa of the plant's 2.2mtpa capacity.

POS had previously indicated to the market that finalising of debt and offtake agreements and Final Investment Decision (FID) would occur in late June/early July 2023, and that following an approximate 12-month refurbishment, first concentrate would be produced by mid-CY2024. The delay of the delivery of grid power has pushed FID and first concentrate back.

Key input to project – grid power: lower cost and greener

The revised November 2022 BFS updated a previous Feasibility Study (FS) from 2018. The 2018 FS assumed the use of diesel-fired generation for the site's power. One of the key changes to the 2022 BFS was the inclusion of grid power to the site.

Grid power has three key advantages over on-site diesel generation:

- minimal capital cost
- lower cost per kilowatt
- lower carbon emissions.

Western Power hit with supply chain issues – Black Swan restart decision deferred

Western Power, the provider of power to the Black Swan site, had previously indicated to POS that power to the site would have been available to coincide with a mid-2024 start up. Delays relating to the delivery of capital equipment required to upgrade Western Power's transmission system to Black Swan have caused Western Power to review the commencement of delivery of power to the site to the end of 2024.

POS has decided to delay the FID for the restart. While the power availability is the key factor, other considerations have gone into this decision:

- the fact that offtake and project debt finance is not yet concluded. Discussions are ongoing with both shortlisted parties
- continuing tightness in the WA labour market
- tightness of Kalgoorlie FIFO accommodation
- increased volatility in global commodity and equity markets.

POS expects less volatile markets and a more favourable environment for project development running into 2024.

Further metallurgical testing required

Resource definition program increased resource

The drilling program infill drilled the area 125 metres below the existing Black Swan open pit. Overall, the program defined 8,000 more tonnes of contained Ni (a 4.4% increase) while uplifting the average grade of the resource by 14%.

Upgrading some of the large tonnages of Inferred Resources that are available within the proposed open-pit shell to the Measured and Indicated Resources (M&I) categories could lead to an increase in mining inventories and reportable open-pit ore reserves. Delineating the metallurgically important serpentinite and talc-carbonate hosted resources to the M&I categories has increased the confidence in the Ni grade distribution, and the metallurgical characterisation provides improved certainty of concentrate specifications.

Drilling also indicated potentially higher percentage of non-sulphide nickel

Assays recently received from the drilling campaign suggests the 'non-sulphide' nickel component of the serpentinite ore could be higher in some parts of the resource. POS's technical team noted that a higher non-sulphide nickel content could affect the recoveries of Ni from the ore in the open pit. The technical team determined that the samples used for the Black Swan BFS testwork program had a lower non-sulphide nickel content, and therefore samples used for the Black Swan BFS may not suitably represent the Black Swan BFS mine plan which includes ore from below the base of the previous open pit.

Consequently, additional samples must be tested to confirm the recoveries used in the BFS for the serpentinite ore. These samples will be tested through a confirmatory locked-cycle flotation program. This testwork program (drilling and metallurgical) will take up to six months to complete, due to the Christmas break. POS has taken the decision to re-test the ore to ensure that the recoveries as determined in the BFS are appropriate.

Drill rigs have been secured to obtain drill core for the metallurgical testwork program and are on site.

Other key deliverable – offtake and financing – well advanced

Key to reaching FID is securing customer offtake agreements and debt funding. The concentrate produced for the initial 1.1mtpa project will produce a smelter-grade concentrate, ideal for potential customers to process through conventional Ni smelters to produce Ni for use in the stainless steel production process and EV batteries.

The demand for the Black Swan concentrate has been high, attracting a number of potential customers from across the globe, with the company receiving attractive Ni payabilities and other terms.

In the process of determining the best offtake terms, POS concluded that potential offtakers were also providing the best debt terms. POS has now narrowed down the potential providers of both offtake and debt to two parties, both of which have provided draft offtake and financing agreements which have been reviewed by POS. Negotiation of these documents is well advanced; however, the urgency of completion of agreements is not as great as it was previously, given the delay in the decision to restart.

Key work streams in process – progress on pre-works

POS is making solid progress in a number of other areas for the Black Swan restart to go ahead.

The status of pre-works at Black Swan is as follows:

- resource update – completed and reported in early June 2023
- processing plant – contract for plant refurbishment being negotiated with GR Engineering Services Limited (GRES)
- approvals – all approvals are in place for a project restart
- accommodation – continuing to progress securing an option over 150 rooms in Kalgoorlie
- power – Western Power have confirmed grid power will be available late CY2024
- offtake and project debt financing (well advanced, as discussed above)
- metallurgical testwork (further testwork required, as discussed above)
- open-pit dewatering: completed.

Refresher: Phase 1 BFS – 1.1mtpa; Plant Restart

The Phase 1 BFS is based on the plan to mine ore from the Black Swan Disseminated Ore (BSD) open pit (serpentinite ore only) and Silver Swan and Golden Swan high-grade underground mines, supplemented with Silver Swan Tailings and existing surface stockpiles (disseminated serpentinite material). The company will then process these feed sources through the refurbished existing concentrator and associated infrastructure at an annualised rate of 1.1mtpa. Processing of the current mining inventory of 5mt therefore leads to a 4-year project life.

The BFS assumes that only a portion of the Mineral Resource is processed at Black Swan and paves the way for a Phase 2 BFS, based on full plant capacity of 2.2mtpa.

Phase 1 BFS (released November 2022): key project attributes

- High-grade high-quality concentrate grading 15% Ni
- Processing a total of 5mt of feed (1.1mtpa)
- Total concentrate production of ~200kt, 30kt of contained Ni
- Ore reserves of 3.5mt @ 1% Ni for ~35kt of Ni
- Pre-production capex A\$50m
- C1 operating costs of US\$4.52/lb (before smelter deductions)

Black Swan Site Visit Confirms Strategic Nature of Assets, Good Condition of Facilities

On 8 August 2023, MST visited the Black Swan site.

The visit confirmed the strategic nature of the asset and gave us confidence in the good condition of the processing plant and associated infrastructure.

Key features of the Black Swan site include:

- fully dewatered open cut pit
- processing plant, including SAG mill and ball mill and full flotation circuit
- fully operational 50-person camp – suitable for exploration and refurbishment activities
- office and change room facilities
- maintained road network
- permitted tailings storage facility (TSF)
- waste dumps
- underground mine and decline network upgraded to include modern safety and exit facilities
- run-of-mine (ROM) stockpile of open pit ore to be utilised for commissioning of the refurbished plant
- concentrate shed
- Sliver Swan tailings available for processing.

Facilities in very good condition

The facilities, which have been on care and maintenance since 2008, have been very well maintained – they have the look and feel of an operating site. A full-time caretaker lives on site to ensure security. POS has employed an experienced maintenance supervisor who ensures the site does not deteriorate and that it is ready for refurbishment to begin.

Required refurbishment likely to be straightforward

The site visit gave a clear indication that the refurbishment will be relatively straightforward. Although time takes its toll on non-operating sites, it is clear that the refurbishment will simply be a process of updating, repairing, and modernising rather than a process of complete replacement.

The key challenges facing POS will be as follows:

- The SAG mill (1.1mtpa of capacity) has a crack in it. This will require a reasonably significant repair, but will not need to be replaced.
- There has been a wall failure at the southern end of the pit. The failure is not significant, and as the pit requires a cut-back in order to reach the deeper open pit ore, the wall failure will be corrected by this process.
- A TSF wall lift will be required to increase capacity.
- Grid power will need to be delivered to the site by Western Power.

Black Swan significantly lower cost and 4 years faster than a greenfield project

The Black Swan refurbishment per the BFS will cost a total of A\$50m initially and a total of A\$100m over the 4-year life of the project. The initial refurbishment will take 12 months to complete. Industry estimates for the cost of building the equivalent processing plant and mine infrastructure for Black Swan is around A\$400m.

The Black Swan project is substantially approved. Industry estimates of the approval times for a similar project for Black Swan would be at least 4 years, with a minimum 2-year construction period – meaning that, if a company were to start the process for a Black Swan project today, first concentrate would likely be in mid-CY2029.

Figure 1: Underground portal



Source: POS/MST

Figure 2: Black Swan open pit



Source: POS/MST

Figure 3: TSF



Source: POS/MST

Figure 4: Stores and maintenance sheds



Source: POS/MST

Figure 5: Crusher and ROM pad



Source: POS/MST

Figure 6: Further ROM for commissioning



Source: POS/MST

Figure 7: SAG mill



Source: POS/MST

Figure 8: Ball mill



Source: POS/MST

Figure 9: Flotation circuit



Source: POS/MST

Figure 10: Camp, SAG and ball mill



Source: POS/MST

Figure 11: Concentrate shed



Source: POS/MST

Figure 12: Concentrate shed



Source: POS/MST

Black Swan: Restart Delay Disappointing, But Options Arise

Black Swan, Phase 2 Expansion Project – 2.2mtpa; potentially better economics

Background – maximising the Black Swan open-pit ore

The updated Black Swan Mineral Resource in July 2022 significantly improved the confidence in the Ni grade and distribution of the serpentinite and talc-carbonated hosted disseminated mineralisation immediately below the Black Swan open pit. The newly announced updated resource (June 2023) has increased this confidence further and allowed further work to be progressed in looking at the Phase 2, 2.2mtpa Expansion Project.

Potential for 2.2mtpa Black Swan mill – PFS to be completed by late CY2023

The BFS for 1.1mtpa has the Black Swan Mill operating at 50% of its rated capacity of 2.2mtpa in order to produce a smelter-grade concentrate, requiring low-talc ore.

With a better understanding of the BSD ore, and in order to fully understand the economics of the downstream production of a mixed hydroxide precipitate, POS has included studies on producing a rougher concentrate which could be delivered to a POX plant or sold to other Ni plants in WA that utilise autoclave leaching technology.

This option would present an opportunity to process a larger portion of the significant Ni endowment within the BSD resource and significantly increase the annual Ni output, increasing the utility of the large Black Swan resource. Additional capex would be minimal (MST estimate: A\$20m).

Rougher concentrate product would be targeted at the high-growth battery sector. The pre-feasibility study (PFS) for this option will be completed by late CY2023.

The silver lining – potential options arising from delay

With the delay of the Phase 1 FID, and the completion of Phase 2 PFS due at the end of CY2023, we see the alignment of timing of the two phases presenting POS with a number of options on how to maximise the value of the project.

Commence with Phase 1 and run into Phase 2

Our current expectation of how the project will be delivered is that POS will commence with Phase 1 at 1.1mtpa and then run that into Phase 2.

This process would allow the high-grade ore to be utilised and would achieve a smelter-grade concentrate in Phase 1 as well as higher payabilities. Phase 2 would commence at the completion of Phase 1 and utilise the lower-grade ore at the higher production rates.

Commence Phase 2 immediately, utilising all the ore

POS could look at the option of commencing Phase 2 immediately, utilising all the open-pit and underground high-grade ore. As mentioned above, we would estimate Phase 2 capex to be an additional \$20m above the Phase 1 capex.

This option would see the higher output commence immediately, delivering higher nickel production. With utilisation of the high-grade underground ore, nickel production would be enhanced further than just utilising a larger volume of lower-grade open pit ore, but it would have lower payability than the higher-quality Phase 1 smelter-grade concentrate.

Commence Phase 2 immediately with high-grade ore as Direct Ship Ore (DSO)

POS has a further option: to commence Phase 2 immediately and utilise all the open-pit ore, but set aside the high-grade Silver Swan and Golden Swan ore and send it for processing as DSO.

This option would see the higher output commence immediately, delivering a higher tonnage of rougher concentrate. The concentrate would have lower payability than the smelter-grade Phase 1 concentrate; however, it could present POS with the opportunity to send DSO to the market, meaning no processing costs.

Any further discoveries of the high-grade ore from Target 5 could add further DSO into the mix.

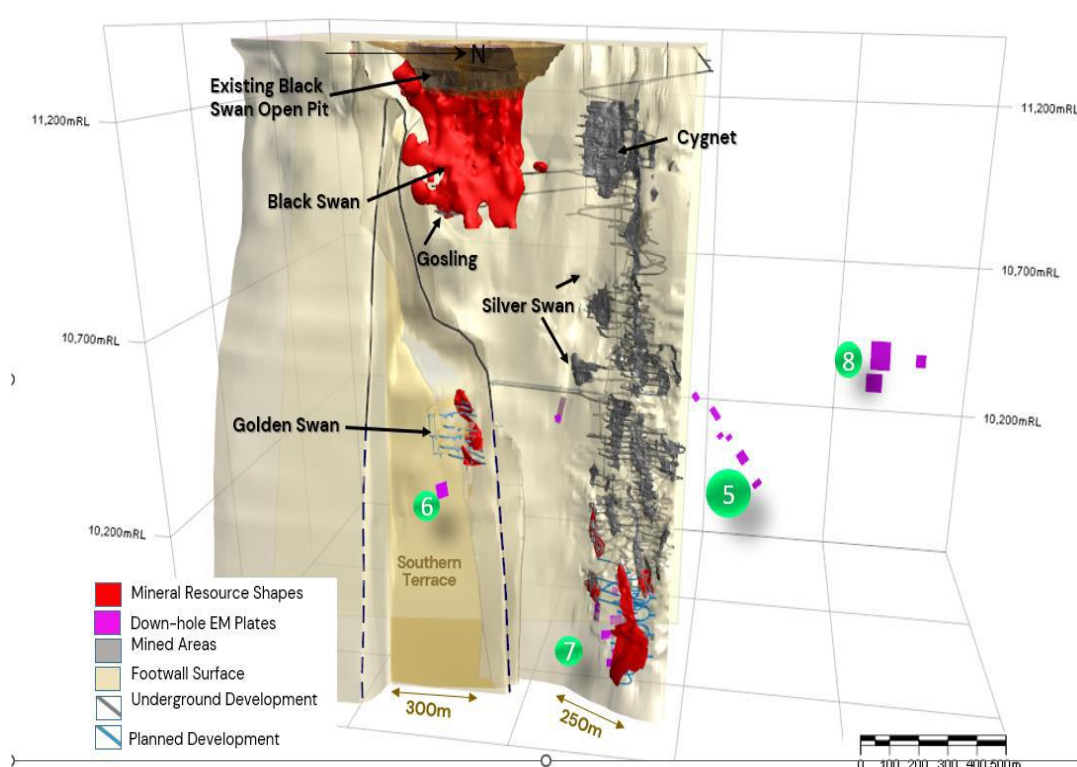
Drilling potential – POS identifies potential new high-grade zones

POS has identified 10 exploration targets that require follow up. One in particular, Target 5 (see Figure 13), is a series of unexplained electromagnetic anomalies to the north of the high-grade Silver Swan channel and is considered a priority target which can be drilled from underground.

Historical downhole electromagnetics (DHEM) identified a series of low to moderate electromagnetic anomalies that are similar to the Southern Terrace area to the south of Silver Swan, which is host to both the Gosling and Golden Swan deposits.

Target 5 merits follow-up as it lies below the current depth of surface holes and associated DHEM anomalies that were not followed up at the time of identification back in 2006.

Figure 13: Target 5 – potential high-grade Ni



Source: POS.

A drill rig has been secured for the exploration program on Target 5 near the Silver Swan Decline.

POS Portfolio: Strategic Nickel Assets

Asset overview: three assets in WA – 422.7kt of contained Ni

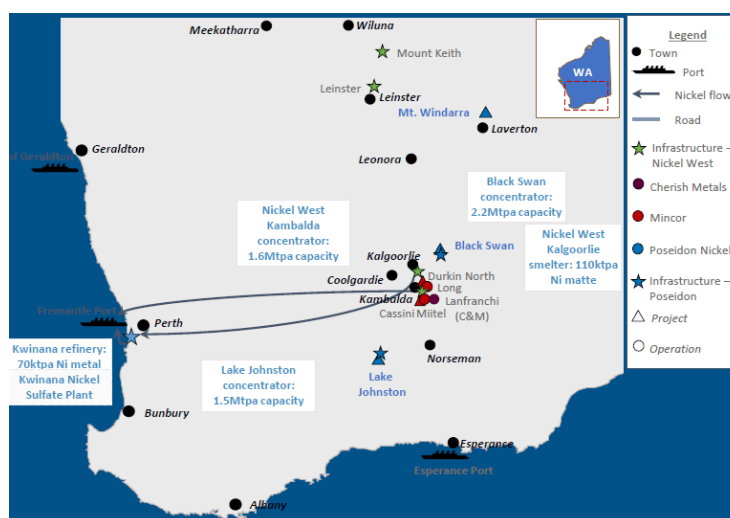
POS holds 3 assets in Western Australia, including 2 fully developed and substantially permitted mines and processing plants.

Figure 14: Summary of POS assets in Western Australia

Asset	Resource Size	Processing plant	Approval status	Tailings storage	Other
Black Swan	222kt contained Ni	2.2mtpa plant	Substantially approved	In place	12 month refurbishment Further exploration potential
Lake Johnson	52kt contained Ni	1.5mtpa plant	Substantially approved	In place	12-month refurbishment Strong exploration potential
Windarra	148.5kt contained Ni	No	Exploration	Gold tailings project	Trucking distance to Black Swan Exploration potential

Source: POS.

Figure 15: WA Goldfields nickel sulphide province



Source: POS

Recent consolidation in the WA nickel industry highlights the demand for high-quality nickel assets

WA's Ni industry has seen a surge of corporate activity of late, highlighting the market's desire for high-quality Ni assets.

- OZ Minerals – acquired by BHP for \$9.6bn (includes yet to be developed West Musgrave Project)
- Western Areas – acquired by IGO for \$1.26bn
- Mincor – acquired by Wyloo for \$756m
- Cannon Resources – remaining 80% acquired for \$45m by Kinterra (a US\$650m private equity fund looking for 5-6 \$100m acquisitions in the battery space)

Brownfield lower cost and 4 years faster than a greenfield project

Per the BFS, the Black Swan refurbishment will cost a total of A\$50m initially and a total of A\$100m over the 4-year life of the project. The initial refurbishment will take 12 months to complete. Industry estimates for the cost of building the equivalent processing plant and mine infrastructure for Black Swan or Lake Johnson is around A\$400m.

The Black Swan and Lake Johnson projects are substantially approved. Industry estimates of the approval times for a similar project for Black Swan would be at least 4 years, with a minimum 2-year construction period – meaning that, if a company were to start the process for a Black Swan or Lake Johnson project today, first concentrate would likely be in mid-CY2029.

Lake Johnston: POS's Other Key Project – Low-Capex Restart, Just Like Black Swan

A quick history of Lake Johnston

The Lake Johnston plant started operating in 1998, treating ore from the Emily Ann underground Ni mine. 1.5m tonnes of ore were mined and processed, at an average grade of 3.8% Ni, delivering 57,000 tonnes of contained Ni in 1998–2007. There have been a number of expansions since, the most recent being a major expansion to 1.5mtpa throughput capacity in 2006. The Maggie Hays deposit was brought online in 2007 with a resource of 12.3m tonnes at 1.5% Ni for 182,000 contained Ni and mined and processed in 2008–2013. The plant was placed on care and maintenance in 2013. In 2017, certain pieces of infrastructure were removed from the Maggie Hays mine and the workings were allowed to flood.

The current Lake Johnston resource for the Maggie Hays deposit is 3.5Mt @ 1.5% Ni for 52kt Ni.

Pathway to a Lake Johnston restart

What would be required? In order to restart Lake Johnston, the mine would need to be dewatered and the mill refurbished. In 2020, mining consultants Entech costed the dewatering and rehabilitation of the submerged underground workings and reinstallation of required underground infrastructure at \$26.4m. The expected duration of these works was 22 months.

What would it cost and how long would it take? POS engaged GR Engineering (GRES), the same organisation that provided the mill refurbishment estimate for Black Swan, to estimate the refurbishment cost of the Lake Johnston mill in late 2021. GRES estimated that the processing plant and associated infrastructure could be refurbished for a cost of \$31m and that this would take approximately 7 months to complete. The operating cost for the process plant was estimated at the same time at approximately A\$36 per tonne of ore based on a throughput rate of 0.9mtpa. The project also has a 200-person village, tailings dam and airstrip.

Drilling campaign to increase resource – first 6,600m strong results; exploration potential high

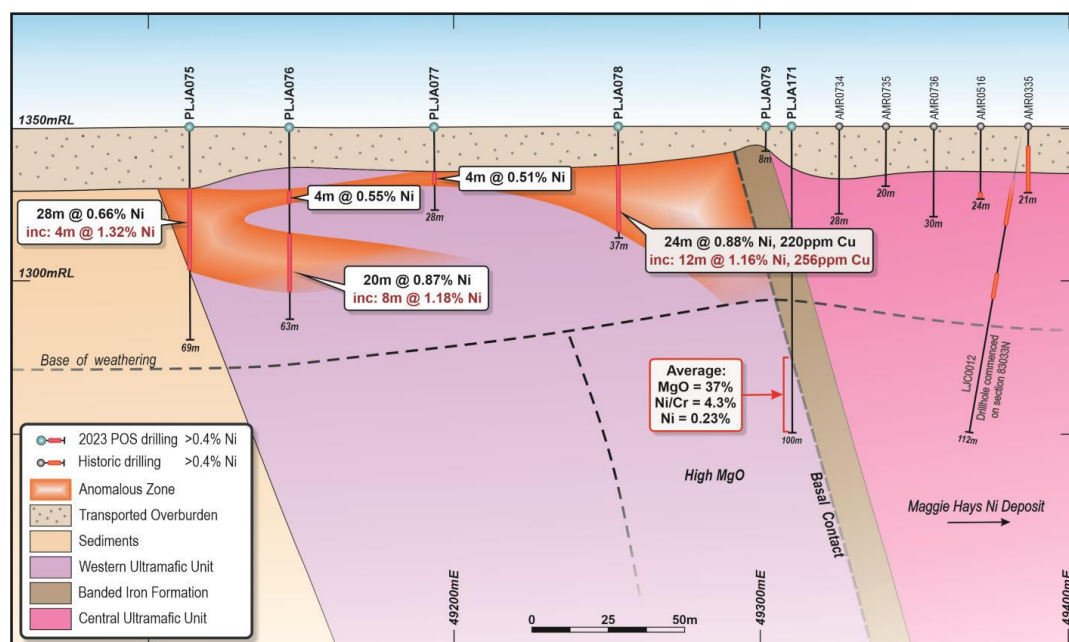
POS plans to conduct an exploration program aimed at increasing the Lake Johnston resource, starting with a 15,000m RC program that commenced in April 2023 focused on the highly prospective Western Ultramafic Unit (WUU). The first 6,600m of the program is complete. The addition of Lake Johnston to POS's production profile would contribute to its corporate strategy of producing >15,000t of Ni in concentrate per annum.

The drilling program is aimed at testing the base of the WUU against the underlying Banded Iron Formation (BIF) Unit, at regular intervals over its 14km strike. The WUU is sparsely drilled with a lack of effective drilling that intersects the all-important basal contact position.

The WUU is interpreted to represent the extruded portion of the intrusive body hosting the Maggie Hays and Emily Ann deposits that has breached the BIF Unit. As the extrusive lavas flow over the basal contact, melting and assimilating of the sulphidic BIF Unit occurs, which is conducive to the formation of nickel sulphides.

The recent drilling at Maggie Hays West intersected several zones grading above 1% Ni. Importantly, the long section (see Figure 16) shows a thickening of the ultramafic unit to 200m with geochemistry in fresh rock reflecting high MgO values (max 41% MgO) and elevated Ni:Cr ratios of up to 4.3, indicative of channel facies ultramafic cumulate rocks prospective for bearing sulphides. Positive results support continuation of exploration along the WUU, and particularly at Maggie Hays West. POS is developing a plan for further drilling during 2H2023.

Figure 16: Maggie Hays West – significant nickel intersections



Source: POS.

Financials: \$6m Raised to Fund to Black Swan FID

At 30 June 2023, POS had A\$5.7m in cash.

On August 7, POS raised A\$6m in a placement to professional and sophisticated investors. The placement price of A\$0.02 per share represented a 23.1% discount to the last closing price and a 23.2% discount to the 5-day volume weighted average trading price to 2 August 2023.

The raising has placed POS in a more comfortable position to complete all necessary processes to go to FID for the Black Swan restart, in addition to:

- conducting exploration drilling at Black Swan and Lake Johnston
- conducting confirmatory metallurgical test work for the Black Swan restart
- working through Black Swan prestart activities including offtake and project debt negotiations, securing Kalgoorlie accommodation, etc.
- completing the Black Swan Expansion prefeasibility study
- re-reviewing the exploration potential of Windarra
- meeting general working capital needs
- undertaking mediation works at Lake Johnston.

Valuation: A\$0.15/Share (Previous \$0.16)

Valuation methodology: SOTP with risked NPV

Our valuation has decreased marginally to A\$0.15 per share (from A\$0.16). The main driver of the change is that we increased our total capex estimate for Black Swan Phase 1 to \$110m (from \$99m). We also pushed back the start of Phase 1 to mid-CY2025 from the end of CY2024 predominantly due to the delay of electricity supply from Western Power.

We use a sum-of-the-parts (SOTP) methodology, valuing the assets on a risked NPV basis (see Figure 17).

We have risked the 1.1mtpa at 100% as we consider that the project is at an advanced stage with strong funding and offtake interest. We risk the Phase 2 expansion to 2.2mtpa at 60% as it is at a less advanced stage and there are a number of milestones to be achieved for the project to advance. We consider Lake Johnston as an attractive option but it is less advanced and requires further drilling; as such, we risk this project at 50%.

Figure 17: Valuation summary

VALUATION	Current Valuation			Previous Valuation	Valuation Methodology
	A\$m	Risk Weighting	EQUITY VALUE A\$/SHARE FULLY DILUTED		
Equity Valuation of Black Swan 1.1	\$186.6	100%	\$0.05	\$0.05	Risked NPV
Equity Valuation of Black Swan 2.2	\$493.0	60%	\$0.06	\$0.07	Risked NPV
Equity Valuation of Lake Johnston	\$311.1	50%	\$0.03	\$0.04	Risked NPV
Windarra Gold and Nickel	\$30.0	100%	\$0.01	\$0.01	MST Estimate
EQUITY VALUE PROJECTS	\$1,020.8		\$0.16	\$0.17	
Add: Cash	\$11.7		\$0.00	\$0.00	Balance 30/06/23 plus \$6m Cap Raise
EQUITY VALUE PRE SG&A	\$1,032.5		\$0.15	\$0.17	
SG&A	-\$30.0		-\$0.01	-\$0.01	NPV of Corporate Costs
EQUITY VALUE	\$1,002.5		\$0.15	\$0.16	

Source: MST estimates.

Black Swan constitutes bulk of valuation – our key assumptions

Production: Our valuation is based on POS adopting the Black Swan 1.1mtpa concentrator model as per the BFS for 2 full production years, utilising the Black Swan BFS modelling. From year 3 onwards, we assume POS switches to the 2.2mtpa model, producing a rougher concentrate and accessing the entire Black Swan Disseminated (BSD) ore body.

Tax losses: We have assumed all tax losses are utilised.

Black Swan 1.1mtpa smelter-grade concentrate: Our valuation of the 1.1mtpa option predominantly follows the assumptions in the BFS. The BFS is less than 12 months old, but POS have indicated that pricing pressures continue in the market and that there some small increases to capital costs. We have increased our total life capex estimate from A\$99m to A\$110m to reflect this commentary.

Our key assumptions for the 1.1mtpa option are:

- first production in FY25, ramping up to full production in FY26 and FY27
- WACC of 10%
- Ni price \$11.50/lb escalated at 3% pa
- total capex of \$110mm (see Figure 18)
- operating cash costs of US\$4.60/lb escalated at 3% pa
- full utilisation of the high-grade Silver Swan and Golden Swan deposits
- AUD/USD exchange rate of 0.65
- Ni price at spot for 1.1mtpa project
- payability on contained Ni of 80%
- recovery rates as per the BFS
- project funded 60/40 debt to equity (A\$110m funding).

Figure 18: Capex estimates: Black Swan restart, Phase 1 (A\$m)

Black Swan Phase 1 Capital Costs	New Estimate	Previous Estimate	Comment
Concentrator restart capital costs	42.8	37.8	MST Est increased by \$5m over BFS Cost estimate
Open pit mine establishment and pre-strip	1.8	1.8	
Underground mine establishment and development	24.8	19.8	MST Est increased by \$5m over BFS Cost estimate
Other capital items	8.1	7.0	MST Est increased by \$1.1m over BFS Cost estimate
Open pit mine development	26.8	26.8	
Open pit & underground contractor demobilisation	0.5	0.5	
Sustaining capital – Processing plant	0.8	0.8	
Sustaining capital – Underground mining	1.5	1.5	
Sustaining capital – Tailings facility uplift	2.9	2.9	
Total capital expenditure	110	98.9	

Source: MST estimates.

Black Swan 2.2mtpa rougher concentrate: Our valuation of the 2.2mtpa option assumes that FY28 is the first full year of running a 2.2mtpa mill and mining the entire BSD open pit. We assume ~75% of the BSD resourced is mined, taking into consideration that part of the resource is not open pitable and that there is mining dilution. We assume a 9-year mine life for this project. Feed from Windarra is assumed to add an additional year of mine life to the project.

Other key assumptions for the 2.2mtpa expansion are:

- WACC of 10%
- additional capex (above 1.1mtpa project) of \$20m
- operating costs of US\$3.60/lb
- AUD/USD exchange rate of 0.65
- Ni price \$11.50/lb escalated at 3% p.a.
- payability on contained Ni of 70%
- recovery rates of 70%
- project funded by cashflow and/or debt
- risk weighted at 60% to reflect pre-PFS assumptions and execution risk.

Our assumptions for the 2.2mtpa Black Swan rougher concentrate project are preliminary and will be refined upon the release of the PFS in 1HFY24.

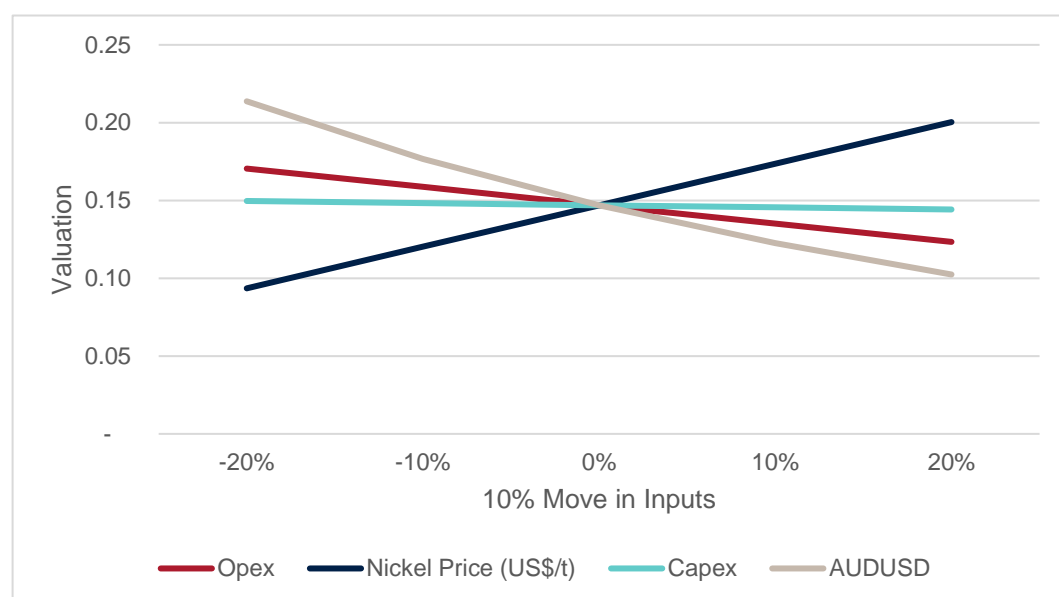
We consider that the 2.2mtpa option has strong potential, because it would mean:

- producing a larger amount of concentrate sooner, thus bringing forward higher cashflows
- reducing reliance on high-grade ore
- a longer mine life
- lower unit operating costs
- minimal additional capex for the rougher concentrate option
- broader market options and possible better payment terms
- with the inclusion of a POX plant, producing a significantly higher-value product (we estimate a POX plant would cost around A\$100m).

Sensitivity analysis – Ni price and AUD/USD the key factors

As would be expected, the key drivers of the valuation are Ni prices and the AUD/USD exchange rate. The project is relatively sensitive to operating cost changes but not capital cost changes (see Figure 19).

Figure 19: Sensitivity analysis: variation from base case



Source: MST estimates.

Positive catalysts for the share price

Key drivers of share price upside

Offtake agreements for Ni production and funding: Funding is key to achieving FID, and any agreements to purchase Ni from POS would be a positive indication of the Ni market's acceptance of the product.

FID for Black Swan mill refurbishment: The FID for the Black Swan mill refurbishment will mark a major step towards first production and will be a positive catalyst.

2.2mtpa PFS: We have estimated a 2.2mtpa option in our valuation and consider that confirmation of this option has the potential to be a key catalyst for the share price.

Exploration and further resource definition: Further exploration success and reserve and resource definition at Black Swan are key to share price appreciation.

First production from Black Swan mill: The first production from the Black Swan mill refurbishment will mark the start of cash flow generation for POS.

Exploration success at Lake Johnston/Windarra Ni: The Lake Johnston and Windarra projects both have exploration potential. Exploration success at either project would accelerate the potential and add to the valuation.

Ni price increases: POS is directly leveraged to higher Ni prices. A sustainable increase in the Ni price would accelerate the potential start of Black Swan in particular, even without exploration success.

Other potential share price catalysts

Potential processing of third-party ores at Black Swan/Lake Johnston: Black Swan and Lake Johnston have processing facilities. Any agreements to process third-party ore could generate cash at high margins.

Risks to the share price and valuation

Key risks to the share price

Further delays to or not achieving FID for Black Swan mill refurbishment: The FID for the Black Swan mill refurbishment will mark a major milestone. Any further delay or non-achievement of FID would be a negative catalyst for the stock.

Delay to first production from Black Swan mill: The first production from the Black Swan mill refurbishment will mark the start of cash flow generation for POS. Any delay to first production would be a negative for the stock.

Extended period of low Ni prices: Ni prices are the key driver of POS's valuation. Extended periods of low Ni prices could delay projects, even with exploration success.

Disappointing exploration at Windarra Ni/Lake Johnston: As longer-term drivers of value, any disappointing exploration results at Lake Johnston/Windarra could lead to a decrease in the share price/valuation.

Other potential risks to the share price and valuation

Further capital cost increases for projects: Capital cost increases lead to direct valuation decreases. Capital costs at the POS projects are relatively low, and therefore have a smaller effect on valuation, but increases could nonetheless be negative to stock sentiment.

Further operating cost increases: Any increase in operating costs would have a direct negative effect on valuation.

Appreciating AUD vs USD: An increasing AUD against the USD would lead to a decreased AUD Ni price, reducing cashflow and valuation.

Appendix 1: Other Key Projects for POS

Windarra: another option in the nickel portfolio

The Windarra Nickel project sits some 250 km north of Black Swan in WA's Mt Margaret Goldfields, about 25km west of Laverton. The project, in a well-established mining precinct, is well serviced by regional infrastructure with a skilled labour and contracting workforce available. Since 2008, POS has completed over 550 drill holes for ~70km of drilling on the project to bring the historical mine resources into JORC-compliant status. The drilling program also discovered a new resource at Cerberus.

The Windarra deposit consists of three broad geologically based mineralised areas: Mt Windarra, South Windarra and Cerberus. A more recent exploration focus lies between Cerberus and Mt Windarra at Crazy Diamond.

Windarra underground mine remnants contain resources of 148,500t of contained Ni at an average grade of around 1.5%. There are no processing facilities at Windarra. With the Black Swan mill in operation, the option to process ore from the Windarra deposit opens up, with ore trucked to Black Swan.

Appendix 2: The Nickel Market – Batteries Turbo-Charging Growth

Over the medium to long term, Ni demand will be incrementally driven by the battery market off the back of EV demand. Recent shifts in legislation that favour EVs will likely result in a surge in demand for Ni units to be used in battery production.

Global nickel demand growth: the future is batteries

While stainless steel will continue to be the primary use for Ni, the major engine of demand growth over the next two decades will be batteries. In 2021, batteries accounted for only 7% of the total market. Market consensus is that battery use will grow to 35-40% of Ni consumption by 2040. That will push Ni demand to double in size to 6 million tonnes per year.

The use of high-quality Ni in EV batteries represents a long-term driver for demand and upside to the Ni price. Battery manufacturers are now adopting battery chemistries with higher Ni content. The Ni market is likely to encounter significant supply deficits over the medium to long term and we expect prices to rise, incentivising new production capacity.

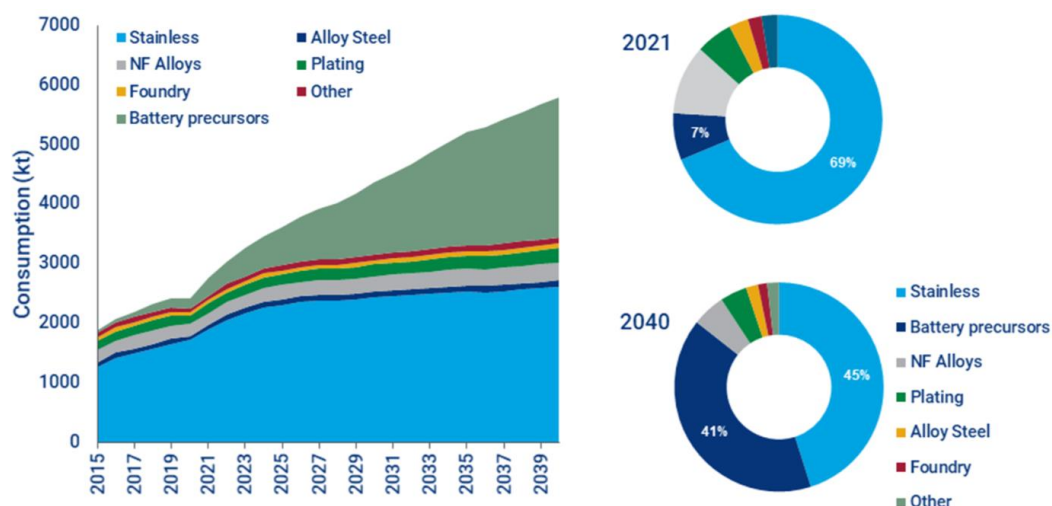
The UK's plan to outlaw the sale of wholly petrol and diesel cars from 2030 is an indication of where the global motor vehicle industry is heading and the forces which will drive Ni demand. Greater net zero commitments from governments and automakers are increasing the importance of energy storage to enable wider use of renewables, which will also be an important factor in driving demand.

Significant additional Ni will be required over the next decades. However, the vast majority of new capacity development over the past decade has been in Indonesia, and has had significant environmental side effects. Recent pledges by Indonesia to reverse deforestation and cease coal-fired power station development will hamper Indonesia's potential continued contribution to Ni supply growth.

There is a growing focus on using locally-produced raw materials in Europe and the US. However, the lack of new project development for Ni mining outside Asia means battery manufacturers will need to turn to recycling to plug the gap.

BHP has made statements on Ni which support this view, with its Chief Commercial Officer stating: 'Demand for nickel in batteries is estimated to grow by over 500 per cent over the next decade, in large part to support the world's rising demand for electric vehicles.' 85% of BHP's Ni is now sold to global battery material suppliers.

Figure 20: Use of Ni in batteries to increase significantly over the next few decades



Source: Wood Mackenzie.

Recent performance of Ni prices – rarely below US\$9/lb

Early 2022 saw some extraordinary price action when the LME suspended Ni trading for several days following a massive rally sparked by fear of supply disruptions after Russia's invasion of Ukraine, with a short squeeze by one of the biggest Chinese steel manufacturers, Tsingshan Holding Group, also fuelling Ni's massive price rally.

A global economic slowdown caused by central banks' aggressive monetary tightening and the effects of COVID-19 lockdowns on China's economy saw prices decline in mid-2022 but recover once China relaxed its COVID-related quarantine measures.

Continued concern recently about ongoing tightening monetary policy, particularly in the US and concern about further Chinese economic weakness has seen prices for Ni and other base metals decline into 2023.

The price of Ni has rarely dropped below US\$9/lb over the past 2 years.

Figure 21: 2-year nickel price – volatile, but rarely below US\$9/lb (US\$20k/t)



Source: Factset.

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