

12 May 2022

Sunrise Energy Metals Limited to present at Market Eye's 'Meet the CEO' webinar

Sunrise Energy Metals Limited (ASX: SRL) advises that CEO and Managing Director, Mr Sam Riggall, will be presenting at Market Eye's virtual 'Meet the CEO' conference on Wednesday, 18 May 2022.

Attendees will have the opportunity to listen to the presentations and participate in the Q&A sessions in a virtual environment.

Details for the event:

- *Date:* 11am (AEDT) Wednesday, 18 May 2022
- *Registration:*
https://us02web.zoom.us/webinar/register/WN_0LN40d7qSZap_TQ81pli1w

Mr Riggall's presentation materials for the event are attached.

For more information, please contact:

Corporate

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Investors

Craig Sainsbury (Market Eye)
Craig.sainsbury@marketeye.com.au

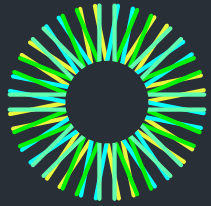
About Sunrise Energy Metals Limited

Sunrise Energy Metals Limited (ASX:SRL) is progressing its world-class Sunrise Battery Materials Complex in New South Wales, utilising its Clean-iX[®] technology. The Sunrise Project is one of the largest and most cobalt-rich nickel laterite deposits in the world and is development-ready, with all key permits and approvals in place. Sunrise is also one of the largest and highest-grade scandium deposits globally.

Forward Looking Statements

Certain statements in this news release may constitute “forward-looking statements or “forward-looking information” within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of the Company or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. These statements reflect the Company’s current expectations regarding future events, performance and results, and speak only as of the date of this new release. Readers are cautioned not to place undue reliance on forward-looking information or statements.

Although the forward-looking statements contained in this news release are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this news release and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this news release.



sunrise
energy metals

Innovation in Battery Metals

Sam Riggall – CEO & Managing Director
May 2022



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Readers are cautioned that actual results may vary from those presented.

All such forward-looking information and statements are based on certain assumptions and analyses made by Sunrise Energy Metals’ management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believe are appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information or statements including, but not limited to, unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; the failure of parties to contracts to perform as agreed; changes in commodity prices; delays in financing or project funding; unexpected failure or inadequacy of infrastructure, or delays in the development of infrastructure, and the failure of exploration programs or other studies to deliver anticipated results or results that would justify and support continued studies, development or operations. Readers are cautioned not to place undue reliance on forward-looking information or statements.

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Our Mission

Delivering better solutions for
a decarbonising planet

The Sunrise Project



Australia's most advanced battery materials project – over A\$250m invested to date and all key permits in place



Fully integrated from ore to battery-grade sulphate



Runs on 100% renewable power and manages waste responsibly



First quartile C1 cash operating costs



Options to incorporate precursor production and black mass recycling



Actively engaging with strategic partners for funding and offtake

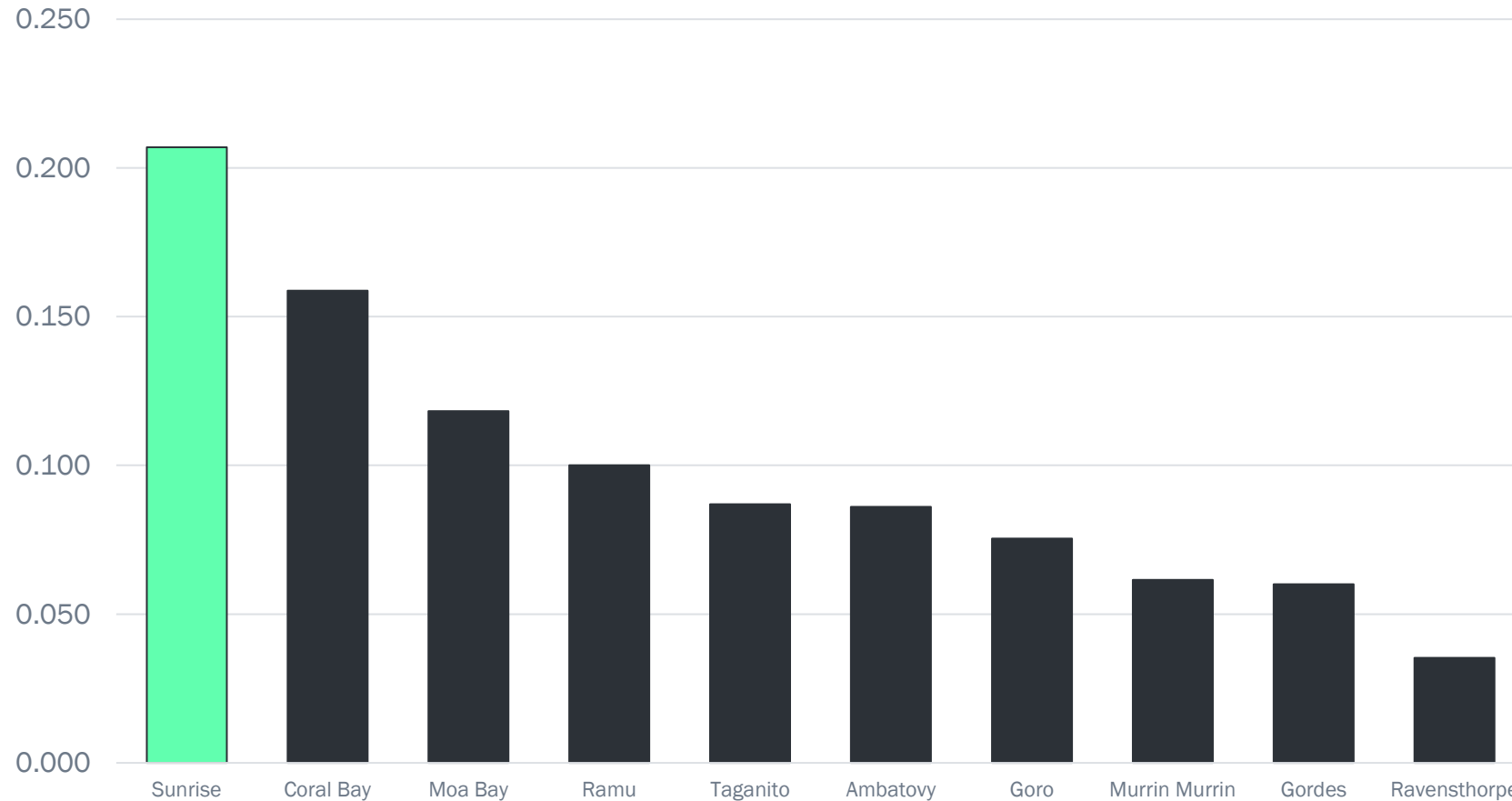


- **Location:** 350km west of Sydney in an established mining district
- **Construction-ready:** A\$250M invested and all key permits and land secured
- **Extensive test work:** piloting and hydromet test work completed, significantly de-risking the flowsheet
- **Infrastructure:** rail, port and renewable energy infrastructure accessible
- **Schedule:** three years from EPCM contract to first production



An unusual yet highly valuable ore body

Cobalt : Nickel Ratio in Nickel Hydromet Operations



- The Sunrise ore body is far richer in cobalt than most lateritic ore bodies
- It contains lower levels of clay materials which improves handling properties and reduces acid consumption
- The cobalt by-product credits deliver the very low nickel-equivalent cash costs

Note: Sunrise data based on the average nickel and cobalt grades over the first decade of operation into the mill. Data from other operations is taken from public reports.

Strong Annual Production¹

Nickel: 21.3 ktpa
Cobalt: 4.4 ktpa

Robust Economics

NPV_g: US\$1.2 billion
IRR: 15.4%

Rapid Payback

5.1 years

Exceptional Cash Flow

LOM EBITDA: US\$10.8 billion
Avg FCF (post-tax): US\$308 million pa

Low Cash Cost

Negative US\$0.80/lb Ni after
by-product credits

Long Mine Life

50-year operation supported by
JORC compliant ore reserves

Note: 1) Average over first decade of operation. Financial evaluation based on first 25 years of operation. Refer to ASX Release of 28 September 2020 for more details.

The large resource and strong economics supports a conventional project financing approach

Bank debt

Four leading global banks have been appointed to arrange a project debt facility, targeting ~50% of the project's funding requirement from commercial debt



Government

Letter of support from Export Finance Australia for up to A\$400 million for the Sunrise Project, plus confirmation of other global export credit agency support

Equity partners

Discussions underway with potential industrial partners to tie exclusive offtake arrangements to funding support at project level

Russia has had an impact, but ...

- The Ukraine War has forced a global reassessment of supply chain risk, especially for nickel
- Russia accounts for ~7% of world nickel production but ~20% of Class 1 nickel
- So far Russian nickel remains unsanctioned



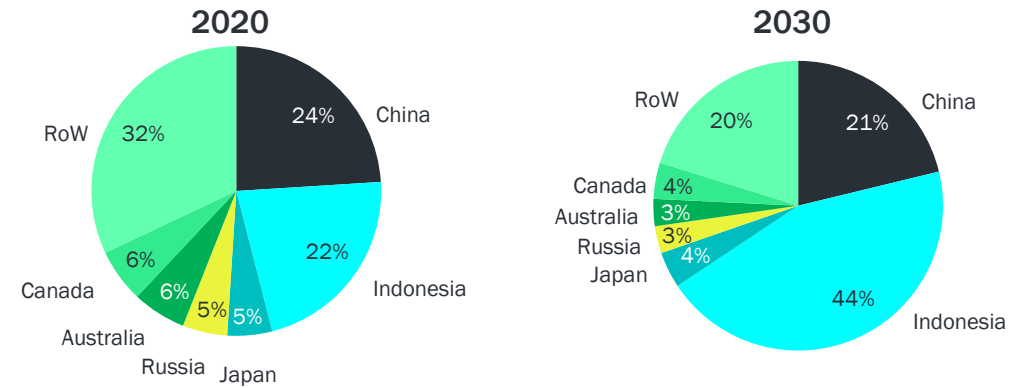
... supply chains were already precarious

Reputational Risk

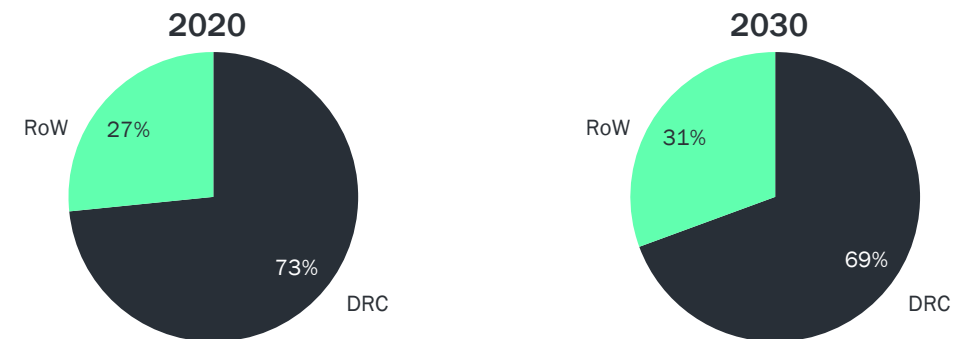


Operational Risk

Over 50% of worlds nickel is from Indonesia, China and Russia



Cobalt supply is mainly sourced from DRC



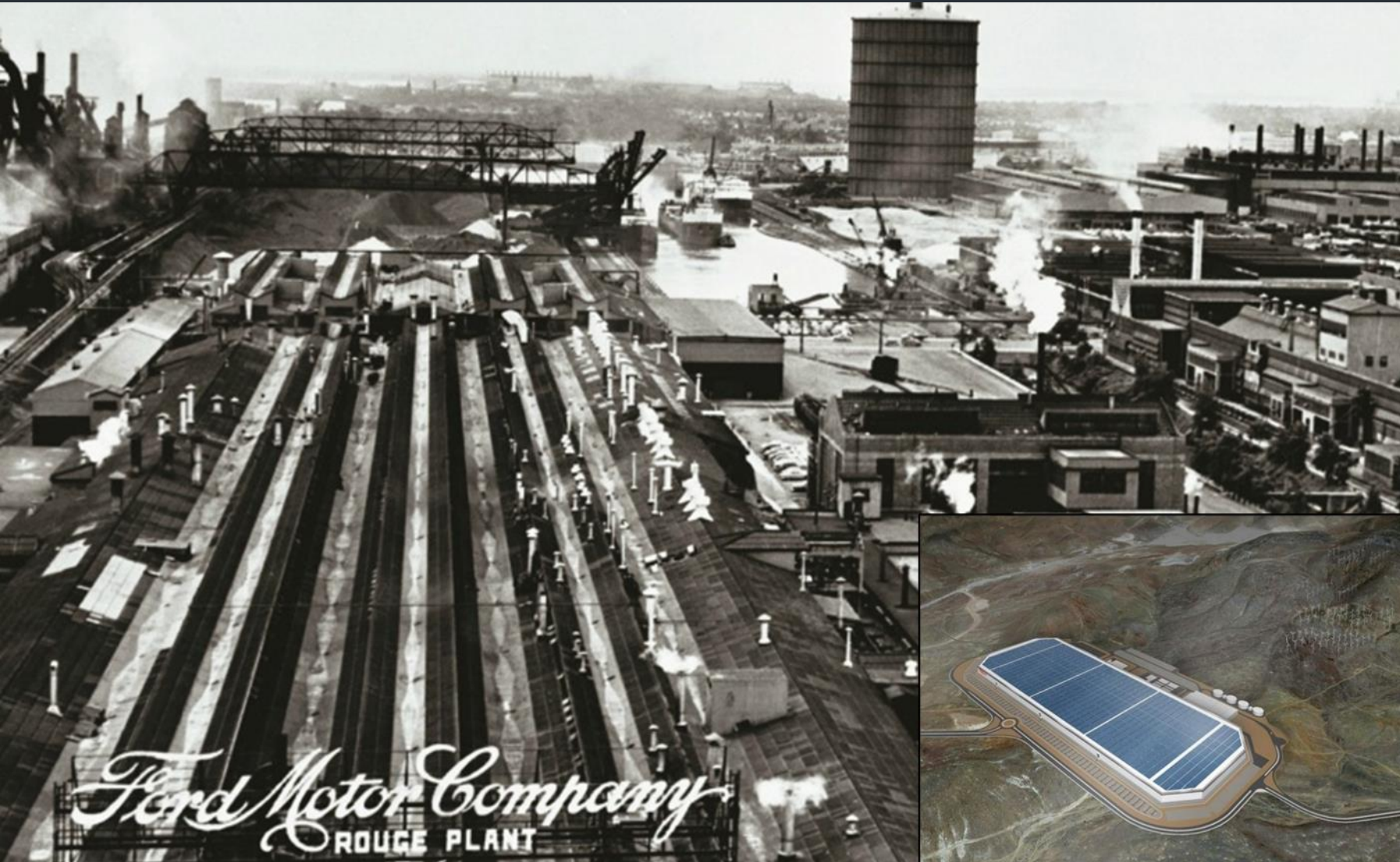
Despite these supply risks, OEMs are investing heavily

Forecast US EV Battery Capacity

				Others
Cell plants	Lordstown (OH), 30GWh (2022) Spring Hills (TN), 30GWh (2023) Lansing (MI), 30GWh (2025) +1 undisclosed (2026+)	Glendale I (KY), 43GWh (2025) Glendale II (KY), 43GWh (2026) Stanton (TN), 43GWh (2025)	Storey Cty (NV), 35GWh (2016) Austin (TX), [100]GWh (2022)	SKBA (GA), 21GWh (2022) Stellantis/LGES, 40GWh Stellantis/SDI, up to 40GWh
pCAM / CAM	POSCO / Ultium JV	Redwood?	Panasonic / SMM	Multiple
Cell capacity by 2026	~120 GWh	~130GWh	~135GWh	~100GWh
Fcst. metal requirement	Nickel: 80-90ktpa Cobalt: 8-10ktpa	Nickel: 90-95ktpa Cobalt: 10-12ktpa	Nickel: 90-95ktpa Cobalt: 10-12ktpa	Nickel: 70ktpa Cobalt: 8ktpa

- Back of the envelope US demand: **nickel 330-360ktpa; cobalt 36-42ktpa** (or 10-15x Sunrise!)
- There is simply not enough new nickel and cobalt supply for the US, China, Europe and SE Asia
- We have now entered a phase of musical chairs; some carmakers will be left standing

Electrification makes vertical integration inevitable



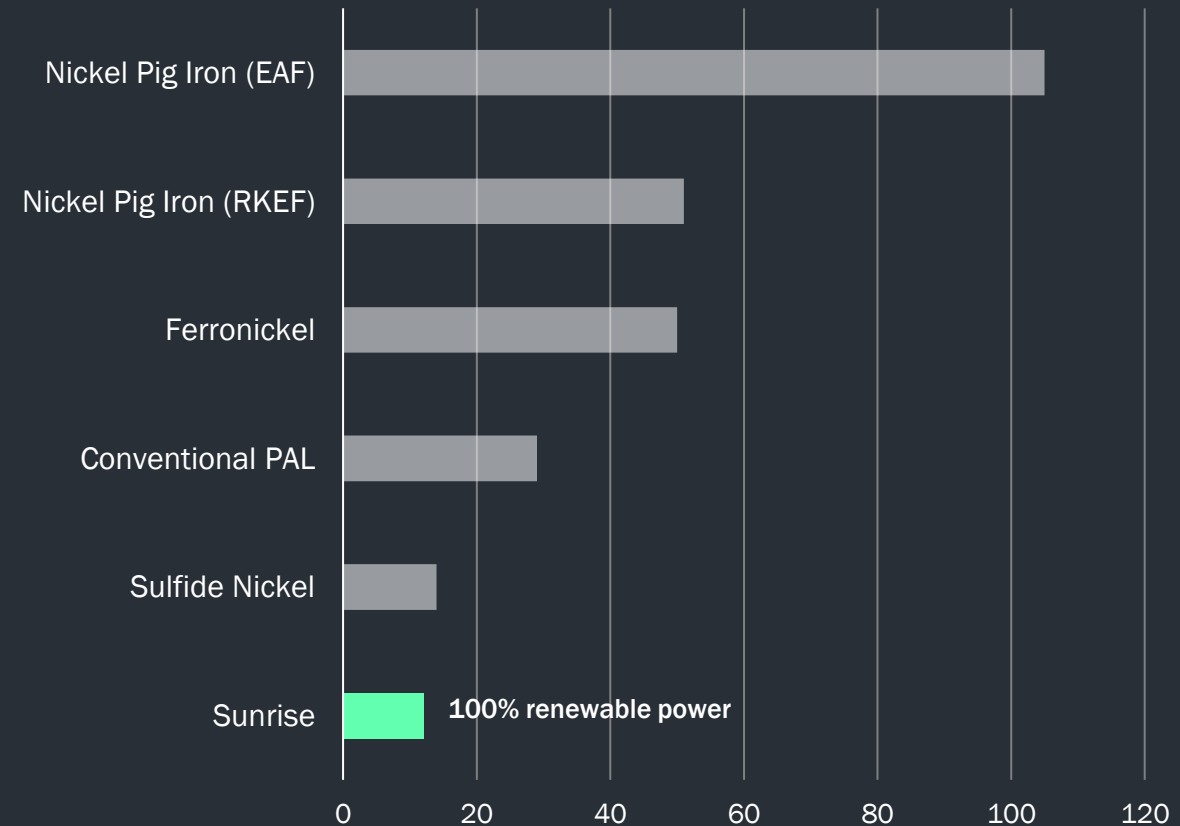
- We have been here before
- Ownership of metal remains the only way to hedge both supply and price risk

A nickel target of 10 is possible

- Key design features of the Sunrise Project include:
 - ✓ 100% renewable power for mine and processing plant
 - ✓ Water re-use from on-site water treatment facilitates
 - ✓ Use of co-gen to reduce electricity demand
 - ✓ Managing HSEC obligations to international best practice
 - ✓ Applying ANCOLD standards to waste management
 - ✓ Option to by-pass crystallisation with on-site pCAM
 - ✓ Capacity to recycle for a fully circular supply chain

Deforestation and pollution from nickel mining in SE Asia

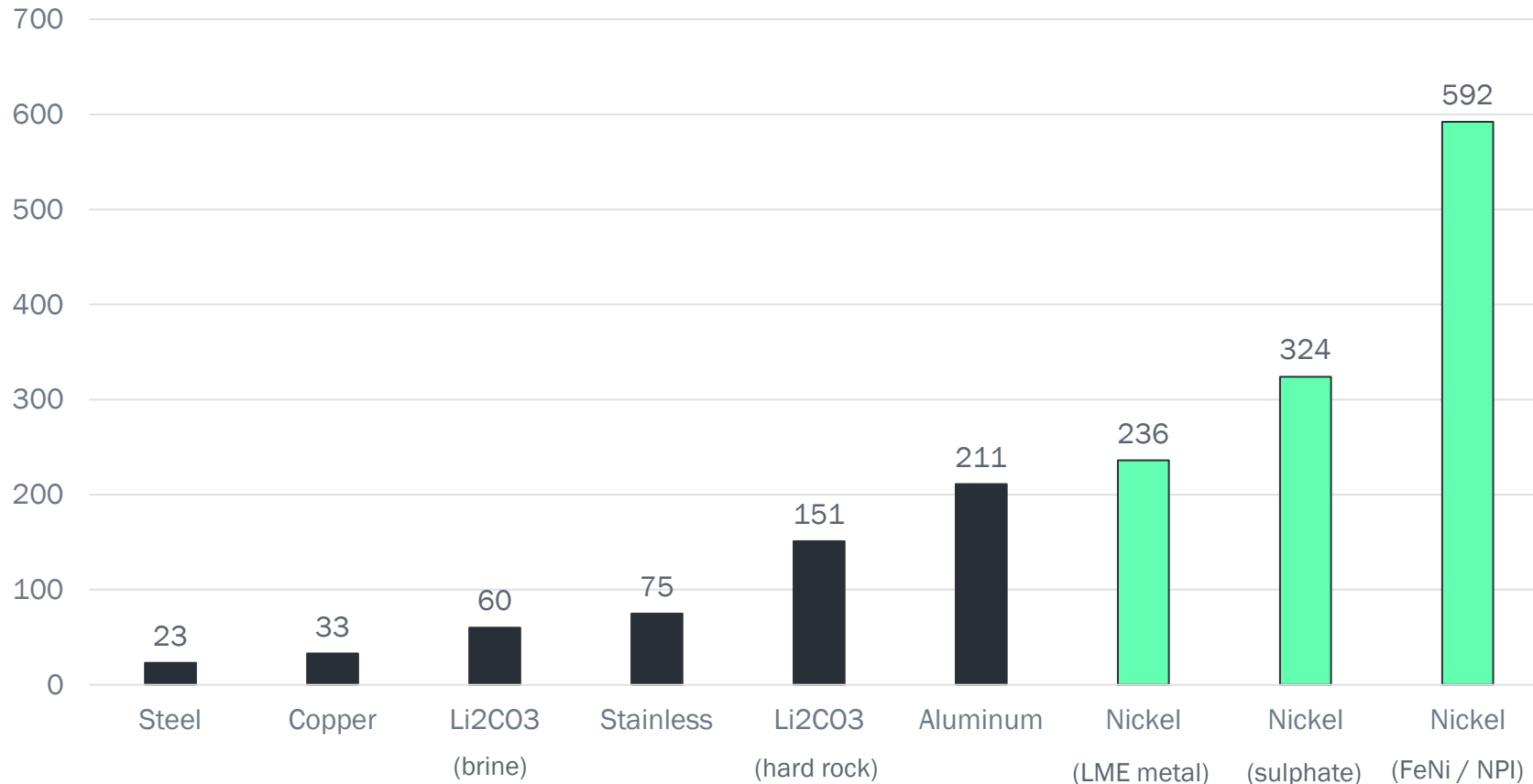
Carbon intensity of nickel production (kg CO₂/Kg Nickel in sulphate)



Source: Energetics, Life Cycle Assessment Report: greenhouse gas emission comparison for nickel production routes (Feb 2020). The GHG emission intensities of alternative processing routes are based on literature data that cannot be effectively harmonized. For comparison purposes the only harmonization that has occurred has been on end product (NiSO₄) and using economic allocation to end products. Comparisons against Sunrise should be considered indicative. See also Nickel Institute, Life Cycle Data Assessment. Energy consumption for conventional PAL, ferronickel and NPI products assumes Indonesian development utilizing coal as primary power source. Sulfide nickel data varies between 9 and 19 kg CO₂e depending on power source.

Why is nickel important?

Energy intensity (MJ/kg of contained metal)



- For nickel, different production processes and different products have widely different emissions outcomes
- China's plan to convert ferronickel and/or nickel pig iron to nickel sulphate does not augur well for the auto industry's Scope 3 emissions

Source: Norgate, Jahanshahi & Rankin, *Assessing the environmental impact of metal production processes*, Journal of Cleaner Production, October 2006. Nickel figures taken from life cycle data published by the Nickel Institute (2020). Lithium figures taken from Ambrose & Kendall, *Journal of Industrial Ecology* (2019) with averages taken over published range. Note, nickel metal and FeNi / NPI still require additional energy to convert to sulphate as a useable battery material. Cobalt energy intensity is not included as figures vary widely due to its by-product status from either nickel or copper deposits.

Scandium – the forgotten metal

- Sunrise collaborates with several industrial partners, across many industries
- Sunrise will deliver a dependable, low-cost supply chain for both defense-related applications and emerging communications technologies
- Our objective is to drive scandium production costs to a point where value in use becomes compelling

Panasonic

AIRBUS

Relativity



Terran 1 3D-printed rocket

Courtesy of Relativity Space

Exposure to large growing mega-trend



- Growing demands for decarbonisation are leading to increased demand for batteries
- EV penetration set to grow 10x from 4% in 2020 to over 25% by 2030
- Other applications such as grid-scale energy storage will also provide strong demand growth

The right location



- Located in stable jurisdiction with low sovereign risk
- Uniquely positioned as the leading western world provider of critical battery metals
- All key permits in place with good government and community support

Significantly advanced project



- Over A\$250m of investment to date in the project
- Significant project work and technical studies have identified the key development pathways and workstreams
- Project now advanced to funding stage with construction activity to commence shortly after securing finance

Scale and exceptional economics



- A 50-year operation hosting the world's largest cobalt resource outside Africa and the world's largest scandium resource
- Exceptional project economics with average free cash flow (post-tax) of US\$308 million pa and 5-year payback
- NPV₈ of US\$1.2 billion¹

Environmentally superior project

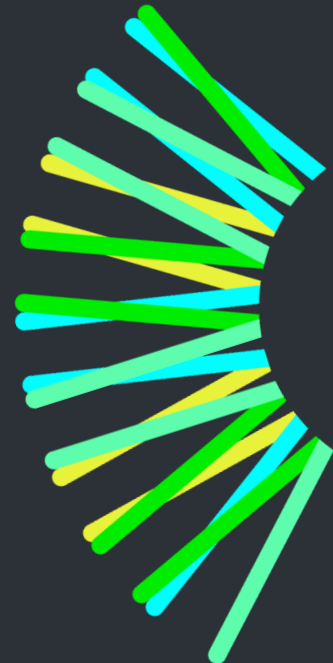


- Sustainably designed to operate on 100% renewable power with industry-leading carbon footprint, water re-use and responsible waste management

Longer term optionality



- Low-cost expansion options are incorporated in the current design, subject to government approval
- Optionality for project to incorporate direct to precursor and recycling of spent EV batteries
- Control of a large package of exploration tenements across the Macquarie Arc

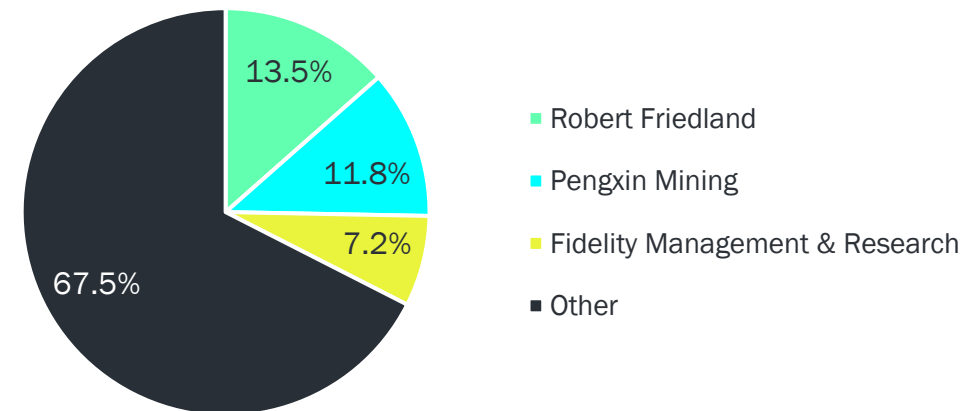


Appendix

Sunrise Energy Metals Ltd

ASX Code	ASX:SRL
OTCQX Code	OTCQX:CTEQF
Shares on Issue	90.1M
Last Share Price (at 9 May 2022)	A\$3.12
Market Capitalisation	A\$281M
Cash (as at 31 March 2022)	A\$27.2M
Options and performance rights	2.3M

Major shareholders



Board



Robert Friedland
Co-chair & Non-Executive Director



Jiang Zhaobai
Co-Chair and Non-Executive Director



Sam Riggall
Managing Director
And Chief Executive Officer



Eric Finlayson
Non-Executive Director



Stefanie Loader
Lead Independent Non-Executive Director



Trevor Eton
Non-Executive Director



Ben Stockdale
Chief Financial Officer

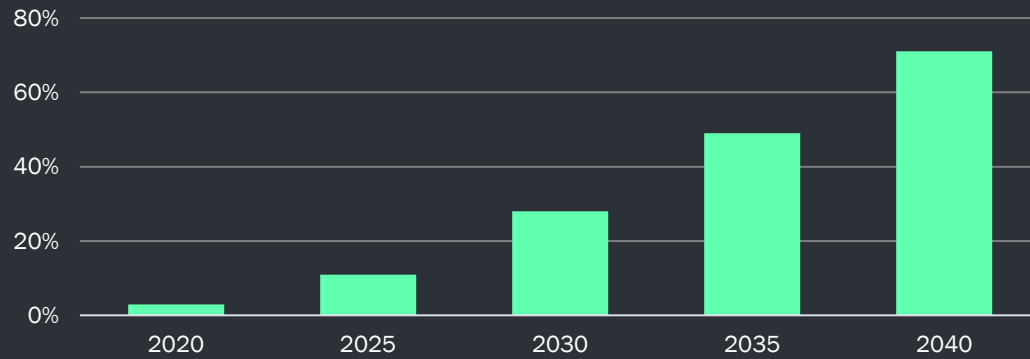


Melanie Leydin
Company Secretary

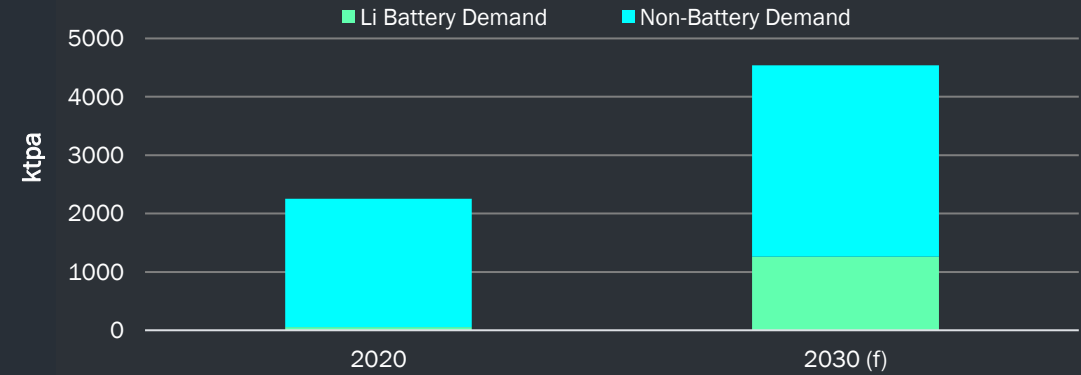
Senior Management

Electrification is a growing trend

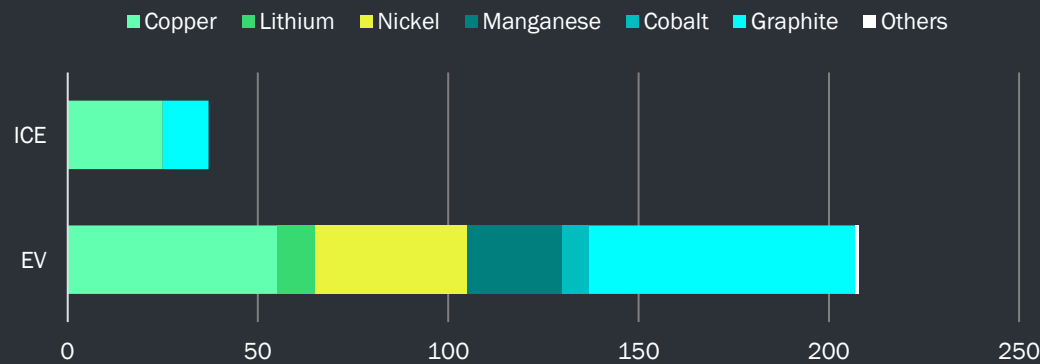
EV Penetration to grow significantly¹



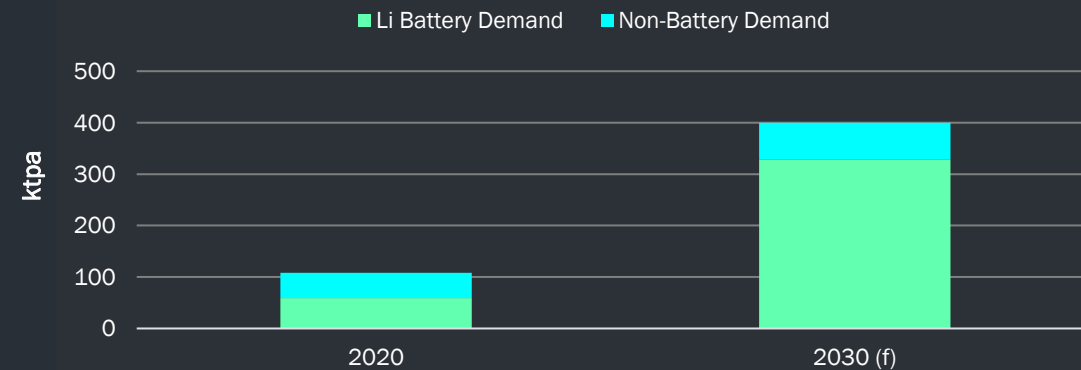
Forecast Nickel Demand Growth¹



EV's are more critical mineral intensive (kg/vehicle)²



Forecast cobalt demand growth¹

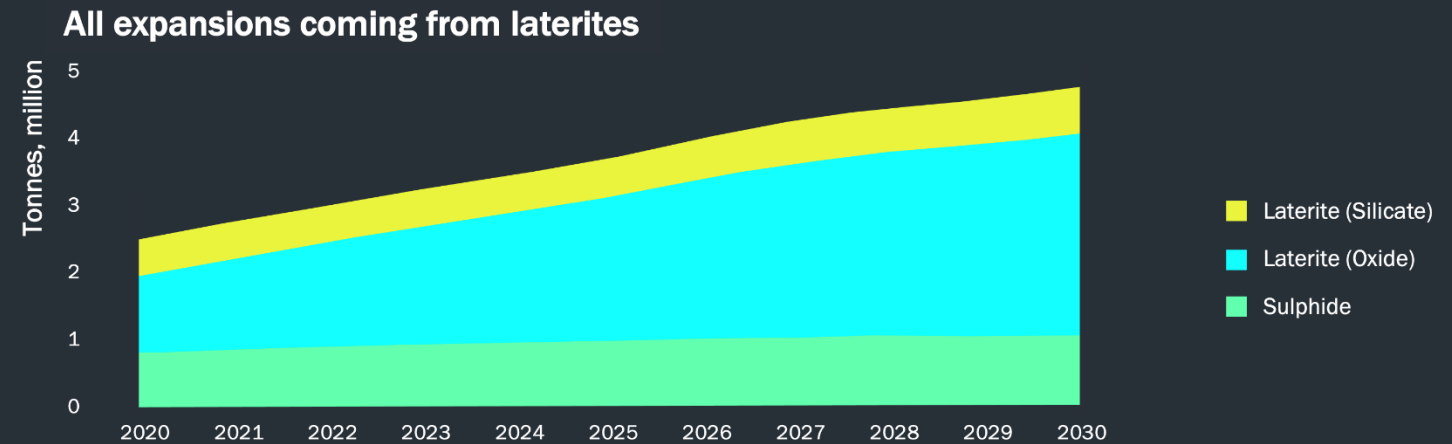
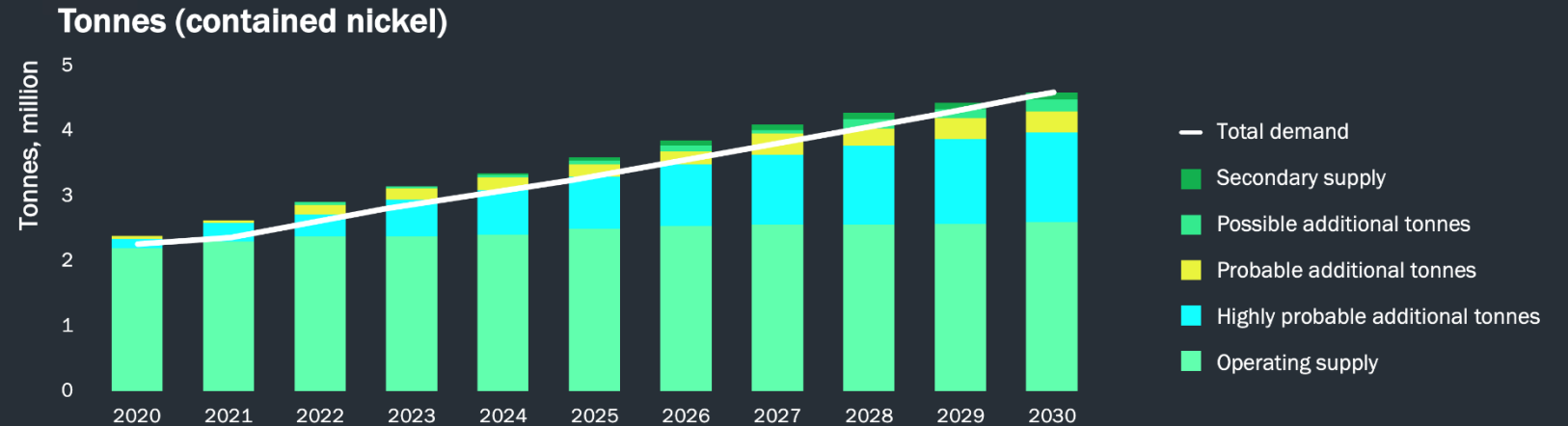


1: Benchmark Mineral Intelligence
2: The Role of Critical Minerals in Clean Energy Transition, IEA, 2020

Nickel laterite development is required to maintain supply

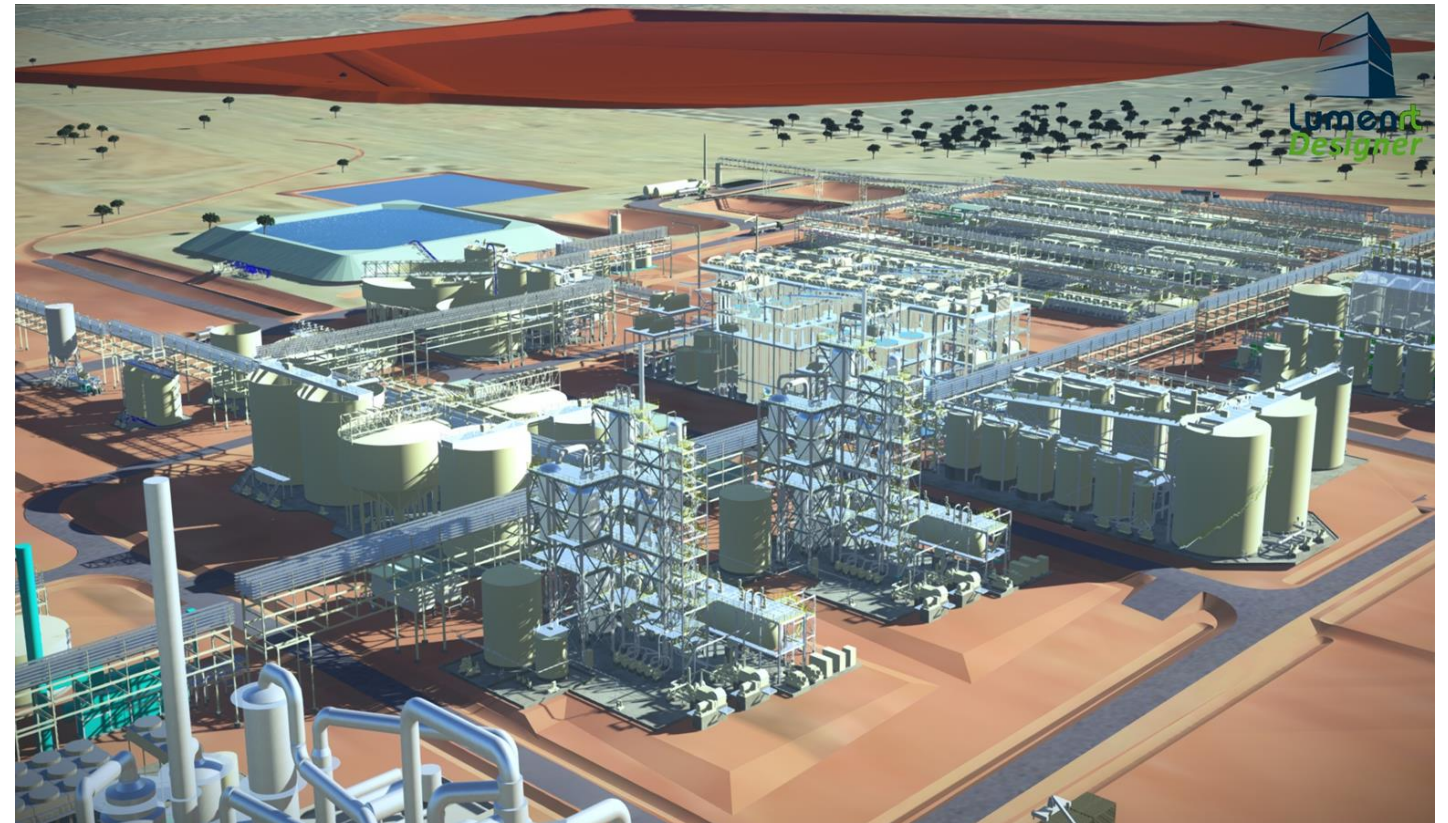


- Majority of new nickel mine supply is coming from laterite deposits, with Indonesian supply accounting for 85% growth
- The mining sector has progressively built capability to successfully deliver hydromet nickel plants - Moa Bay, Coral Bay, Taganito, Ramu, etc.
- Sunrise, utilising 4th Generation HPAL technology, and operating in a stable jurisdiction, provides investors with a unique exposure to the battery raw materials thematic



The Sunrise Project uses a hydrometallurgical processing circuit, coupled with an ion exchange system, to recover metals out of solution. The benefits of ion exchange are:

- A smaller footprint than conventional metal extraction circuits (eg CCD/precipitation)
- Reductions in capex and reagent use
- The simplest and lowest-cost route to battery-grade metal, by-passing intermediate products and third-party refining
- Enables direct-to-precursor (D2P) production, and recycling of black mass
- A proven and robust process currently in use at operations globally





Pre-production capital cost estimated at AACE Class 3 at a p50 (-10/+15%) level of accuracy



At US\$60k/t Ni-equivalent capacity, the construction capital of US\$1.8bn benchmarks competitively against the capital intensity of currently operating nickel/cobalt plants



The capital estimate reflects the full integration of mine to battery-grade chemical production, which is often separated in the supply chain



The capital estimate includes all ancillary infrastructure, including electrical transmission line, water pipeline, rail siding, road upgrades

Capital Cost	A\$M	\$USM
Site Development Costs	28	20
Mining Costs	35	25
Ore Leach Costs	413	289
Refinery Costs	271	190
Reagents Costs	252	176
Services & Infrastructure Costs	424	297
Offsite Operations Facilities	84	59
Total Direct Costs	1,507	1,055
EPCM	264	185
Owner's Costs	157	110
Other Indirect Costs	441	309
Total Direct and Indirect Costs	2,368	1,658
Contingency	241	168
Total Including Contingency	2,609	1,826



Sunrise will be a first quartile nickel cash cost producer



Cobalt by-product credits contribute one-third of Project revenues



At US\$22/lb Co Sunrise's cobalt revenues cover all cash operating costs (i.e. zero cash cost nickel production)



Project cash breakeven prices are circa US\$1.00/lb Ni and US\$20.00/lb Co (100% equity funded basis)

Operating Costs (US\$/lb Ni)	Yr2-11	Yr2-25
Mining costs	0.84	0.76
Processing costs	3.14	3.47
Admin & Site Overheads	0.18	0.21
Haulage & Port	0.15	0.14
Total C1 Costs (before credits)	4.31	4.58
Cobalt Credits	(5.81)	(4.64)
Scandium Credits	(0.31)	(0.58)
Ammonium Sulphate Credits	(0.17)	(0.16)
Total by-product credits	(6.28)	(5.38)
Total C1 Cost (after credits)	(1.97)	(0.80)
Depreciation	2.22	2.33
Total C2 Cost	0.24	1.53
Royalties and other costs	0.88	0.75
Total C3 Cost	1.12	2.28
Total Cash Cost FOB	(1.09)	(0.05)

Significantly advanced project



Significant project work and technical studies have identified the key development pathways and workstreams associated with the construction of the project. Project now advanced to funding stage with construction activity to commence once finance is secured

Extensive piloting and hydrometallurgical test work has been completed on the Project with excellent results, significantly de-risking the flowsheet

The Project Execution Plan (released in Q4 2020) was led by Fluor Australia and updated capital and operating cost estimates, as well as design and engineering work, to deliver a revised master schedule for the engineering, procurement, construction, commissioning and ramp-up of the Project

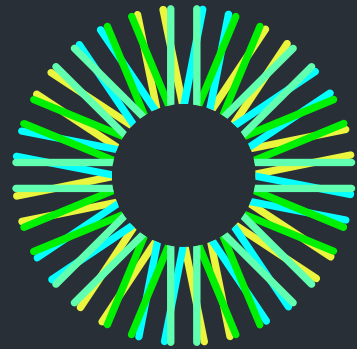
EPCM contract to first production of approximately three years

Robust mine plan



Year		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Ore	MT	10.57	6.94	7.36	1.95	7.87	2.52	7.12	4.70	6.02	3.03	7.83	2.25	2.61	5.06	1.61	4.71	4.59	3.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Waste	MT	2.00	9.43	4.06	3.64	9.05	3.13	8.47	3.88	6.30	4.98	7.97	3.17	8.75	8.39	5.94	9.39	6.29	6.41	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Ore to Stockpile	MT	9.41	6.08	6.08	1.47	5.44	2.20	5.35	3.31	4.04	1.78	5.49	1.32	1.26	3.90	0.93	3.94	3.11	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ROM Ore	MT	1.16	0.86	1.28	0.48	2.43	0.32	1.77	1.39	1.97	1.25	2.34	0.92	1.35	1.15	0.68	0.76	1.47	1.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Stockpile Reclaim	MT	0.00	1.37	1.22	2.02	0.15	2.26	0.87	1.26	0.63	1.38	0.30	1.84	1.16	1.62	2.09	1.98	1.24	1.44	2.74	2.73	2.72	2.69	2.54	2.54	2.68	2.68	
Mill Feed	MT	1.16	2.23	2.50	2.50	2.58	2.58	2.64	2.65	2.61	2.63	2.64	2.76	2.51	2.78	2.77	2.74	2.71	2.87	2.74	2.73	2.72	2.69	2.54	2.54	2.68	2.68	
PAL Feed	MT	1.16	2.23	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
PAL Feed Grade Ni	%	1.09%	1.10%	0.98%	0.87%	1.03%	1.00%	0.90%	0.88%	0.85%	0.83%	0.88%	0.84%	0.56%	0.73%	0.73%	0.73%	0.70%	0.76%	0.75%	0.74%	0.73%	0.72%	0.70%	0.67%	0.54%	0.54%	
PAL Feed Grade Co	%	0.27%	0.25%	0.25%	0.19%	0.22%	0.14%	0.17%	0.19%	0.20%	0.18%	0.17%	0.13%	0.22%	0.13%	0.09%	0.09%	0.15%	0.09%	0.07%	0.07%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	
PAL Nickel Recovery	%	84.84%	91.66%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.84%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%	92.60%
PAL Cobalt Recovery	%	83.56%	90.27%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.44%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%	91.20%
Nickel Production (metal eq.)	T	10,742	22,501	22,596	20,183	23,941	23,186	20,792	20,401	19,792	19,252	20,282	19,532	13,027	16,975	16,963	16,970	16,292	17,514	17,272	17,180	16,953	16,595	16,249	15,593	12,497	12,497	
Cobalt Production (metal eq.)	T	2,585	4,993	5,676	4,255	4,909	3,115	3,985	4,260	4,501	4,180	3,788	2,869	5,002	2,865	2,018	2,139	3,315	2,118	1,698	1,704	1,721	1,822	1,742	1,918	1,714	1,714	





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