

29 July 2021

## Sunrise Energy Metals “Meet the CEO” presentation

MELBOURNE, Australia – Sunrise Energy Metals (ASX:SRL and OTC:SREMF) is pleased to advise that Managing Director and CEO Sam Riggall will be presenting at Market Eye’s “Meet the CEO” virtual event at 3pm AEST today, Thursday 29 July 2021. He will provide an update on the Company’s Sunrise Battery Materials Project and discuss the company’s exploration and development plans. The presentation will be followed by a Q&A session.

Mr Riggall’s presentation materials are attached.

### Details for the event:

- Date: Thursday 29 July 2021
- Time: 3pm AEST
- Registration: [https://us02web.zoom.us/webinar/register/WN\\_br1oGttZS36f6LMG7SAwjg](https://us02web.zoom.us/webinar/register/WN_br1oGttZS36f6LMG7SAwjg)

This announcement is authorised for release to the market by the Managing Director and CEO.

### For more information, please contact:

#### Corporate

Ben Stockdale (CFO)

+61 3 9797 6777

#### Investors

Craig Sainsbury (Market Eye)

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### About Sunrise Energy Metals

Sunrise Energy Metals Limited (ASX:SRL and OTC:SREMF) 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.



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# Battery Materials for a Sustainable Future

Sam Riggall – CEO & Managing Director  
July 2021



# Cautionary statement



Certain statements in this news release 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 release.

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.

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 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 release.



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## Our Mission

To sustainably provide battery materials for a decarbonising planet

# Critical metals for a decarbonising world



The Sunrise Project is Australia's largest and most advanced battery materials project with a 50 year mine life



Fully integrated from mine to battery chemicals with an average annual metal-equivalent production of 21.3kt of nickel and 4.4kt of cobalt



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



Exceptional project economics with LOM revenue: >US\$16.3 billion, LOM EBITDA: US\$10.8 billion, avg FCF (post-tax): US\$308 million pa and NPV<sub>8</sub> of US\$1.2 billion



Optionality for precursor production and recycling of spent battery cathode to recover valuable metals



Uniquely positioned as western world provider of sustainable battery material production. Actively engaging with strategic partners to secure funding and offtake



# Sunrise Battery Materials Project

- **Location:** 350km west of Sydney with one of the largest cobalt deposits outside of Africa. Jurisdiction is attractive to western world consumers
- **Large resource:** over 900kt nickel and 160kt cobalt in resources, with reserves to sustain a 50-year operation
- **Construction-ready:** A\$250M invested in pre-development capex with all key permits and land secured
- **Infrastructure:** rail, port and renewable energy infrastructure
- **Scandium:** the world's largest scandium resource for stronger and lighter aluminium alloys



# 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

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

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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

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EPCM contract to first production of approximately three years

## Strong Annual Production<sup>1</sup>

Nickel: 21.3 ktpa  
Cobalt: 4.4 ktpa

## Robust Economics

NPV<sub>g</sub>: 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

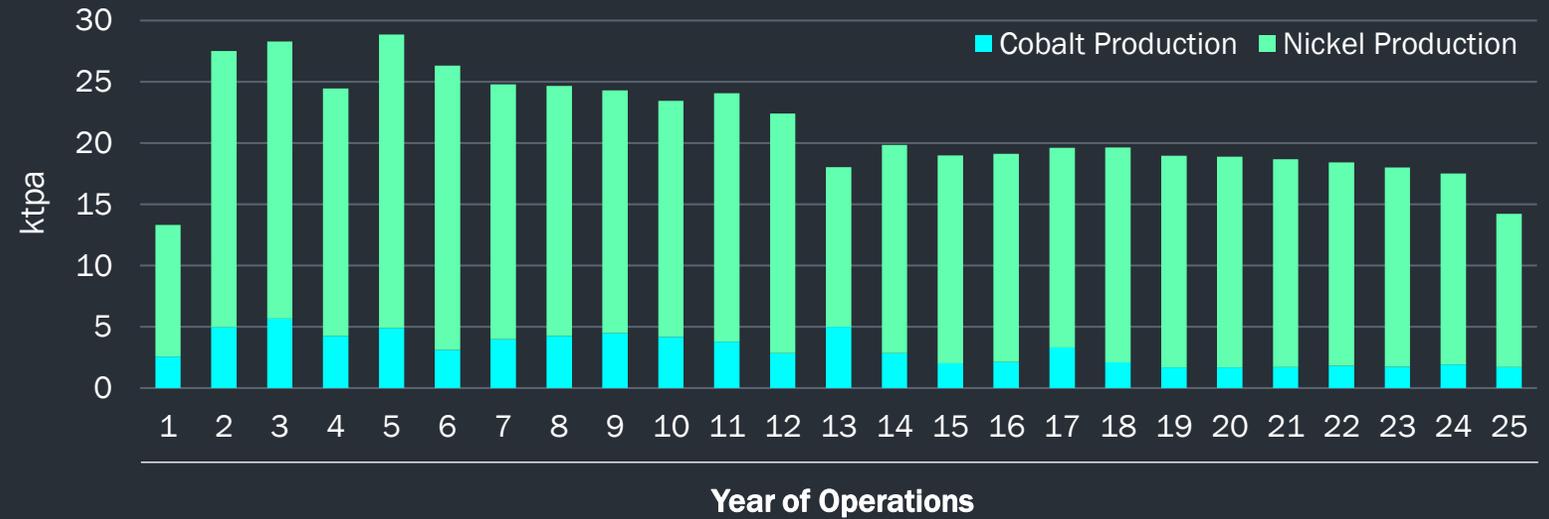
## Long Mine Life

50 Year life supported by  
JORC 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.

# Robust mine plan

- Mining will be conducted via simple strip-mining
- Low average strip ratio
- Processing of 2.5Mtpa ore
- Ore is milled and beneficiated to remove barren silica prior to being introduced into the PAL circuit





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          |
| <b>Total C1 Costs (before credits)</b> | <b>4.31</b>   | <b>4.58</b>   |
| 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)        |
| <b>Total C1 Cost (after credits)</b>   | <b>(1.97)</b> | <b>(0.80)</b> |
| Depreciation                           | 2.22          | 2.33          |
| <b>Total C2 Cost</b>                   | <b>0.24</b>   | <b>1.53</b>   |
| Royalties and other costs              | 0.88          | 0.75          |
| <b>Total C3 Cost</b>                   | <b>1.12</b>   | <b>2.28</b>   |
| <b>Total Cash Cost FOB</b>             | <b>(1.09)</b> | <b>(0.05)</b> |

# Financing and project schedule



Sunrise Energy Metals has appointed four leading global banks as Mandated Lead Arrangers for a project debt facility - targeting 50% of the funding requirement for the project



Discussions have been ongoing with potential equity / offtake partners in the auto, chemical and mining industries – focus on both direct equity and product streaming

First production will be three years from a final investment decision, with 24 months to full ramp-up

*Biden looks to Australia, other allies for EV metals*  
- AFR, 26 May 2021

*General Motors invests in California lithium project*  
- Forbes, 2 Jul 2021

*Germany's BMW signs five-year cobalt supply deal*  
- Argus Media, 10 Jul 2020

*Tesla partners with nickel mine amid shortage fears*  
- BBC News, 5 Mar 2021

*Volkswagen Appoints Supply Chain Watchdog to Ensure Ethical Battery Supply*  
- The Sunday Times, 10 Sep 2020



A\$250M invested in pre-development capex with all key permits secured



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



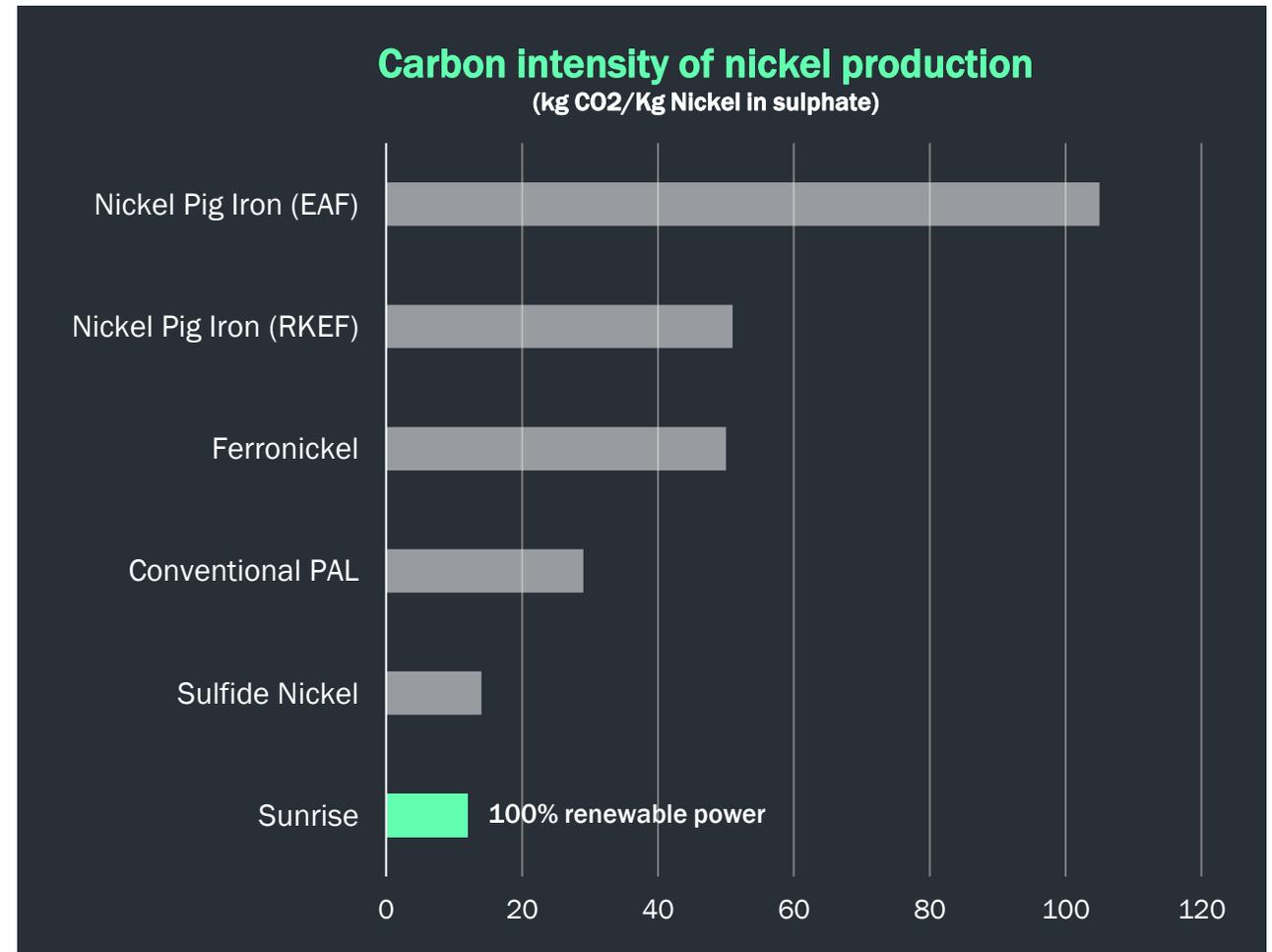
The capital estimate reflects the full integration of mine to battery-grade chemical production, which is often separated in the supply chain



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           |
| <b>Total Direct Costs</b>              | <b>1,507</b> | <b>1,055</b> |
| EPCM                                   | 264          | 185          |
| Owner's Costs                          | 157          | 110          |
| Other Indirect Costs                   | 441          | 309          |
| <b>Total Direct and Indirect Costs</b> | <b>2,368</b> | <b>1,658</b> |
| Contingency                            | 241          | 168          |
| <b>Total Including Contingency</b>     | <b>2,609</b> | <b>1,826</b> |

- The mining industry is critical in supporting technologies required to decarbonise the global economy
- The mining sector needs to embrace sustainability in its capital allocation frameworks
- Key design features of the Project include:
  - Sourcing 100% renewable power for mine and mineral processing operations
  - Maximising water re-use from on-site water treatment facilitates
  - Managing HSEC obligations to international best practice
  - Ensuring waste management adheres to ANCOLD standards and state legislative requirements
  - Capacity to take-back and recycle spent battery cathode to provide a fully circular supply chain



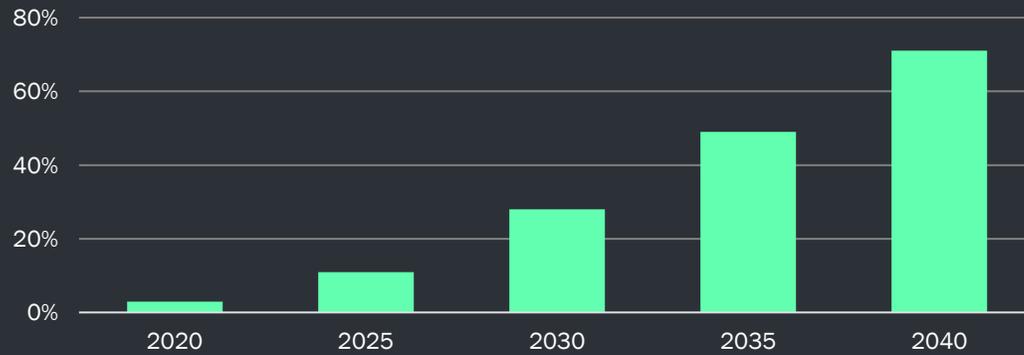
Source: Energetics, Life Cycle Assessment Report: greenhouse gas emission comparison for nickel production routes (Feb 2020). The GHG emission intensities of alternative processing routes are based on literature data that cannot be effectively harmonized. For comparison purposes the only harmonization that has occurred has been on end product (NiSO<sub>4</sub>) 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 CO<sub>2</sub>e depending on power source.



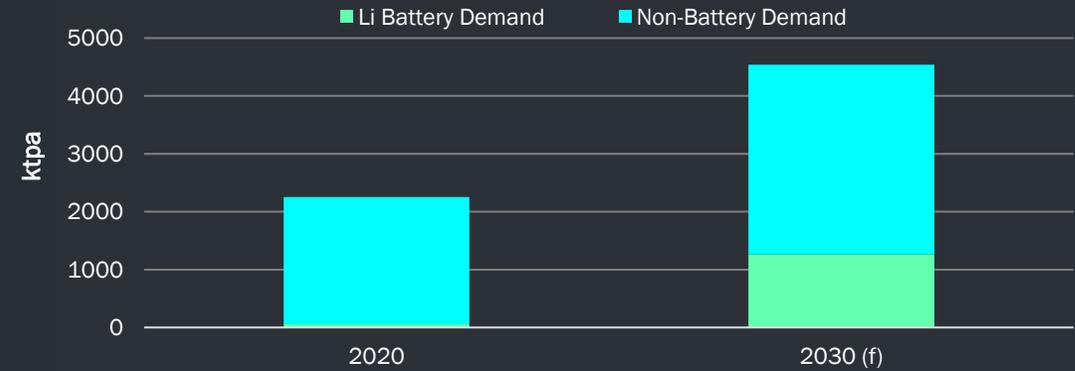
# Battery Market

# Electrification is a growing trend

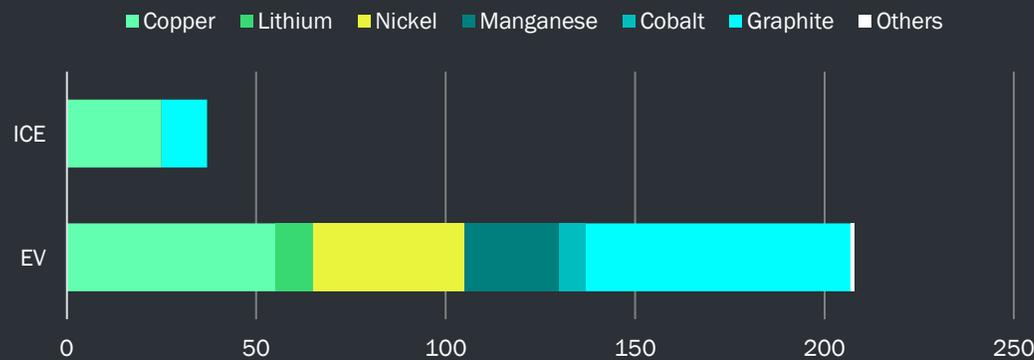
EV Penetration to grow significantly<sup>1</sup>



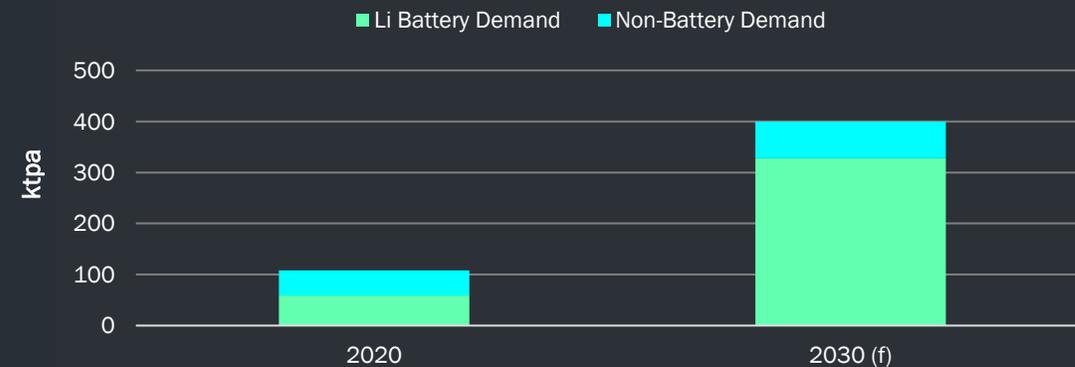
Forecast Nickel Demand Growth<sup>1</sup>



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



Forecast cobalt demand growth<sup>1</sup>

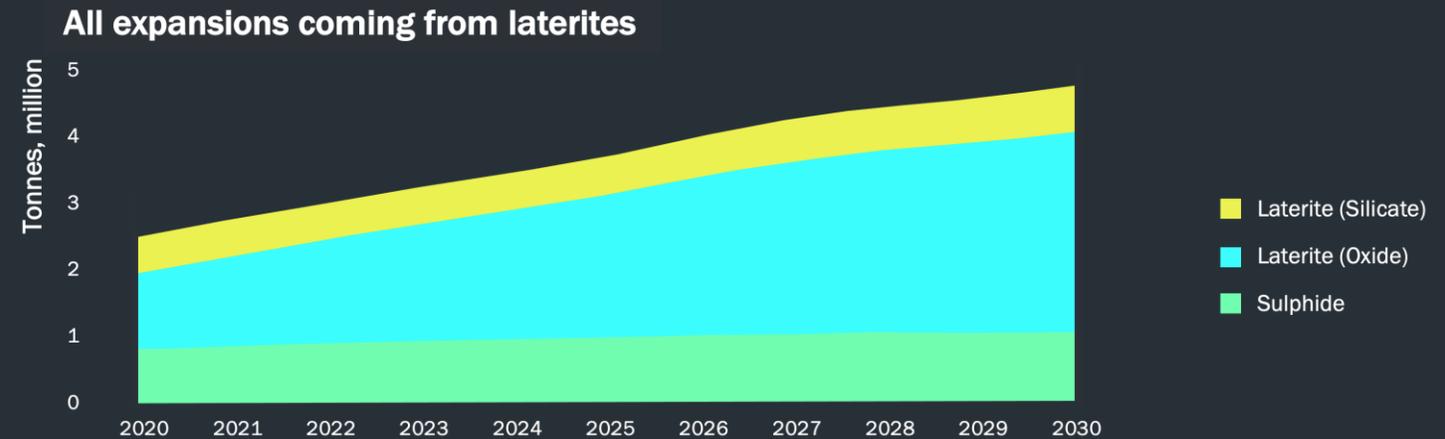
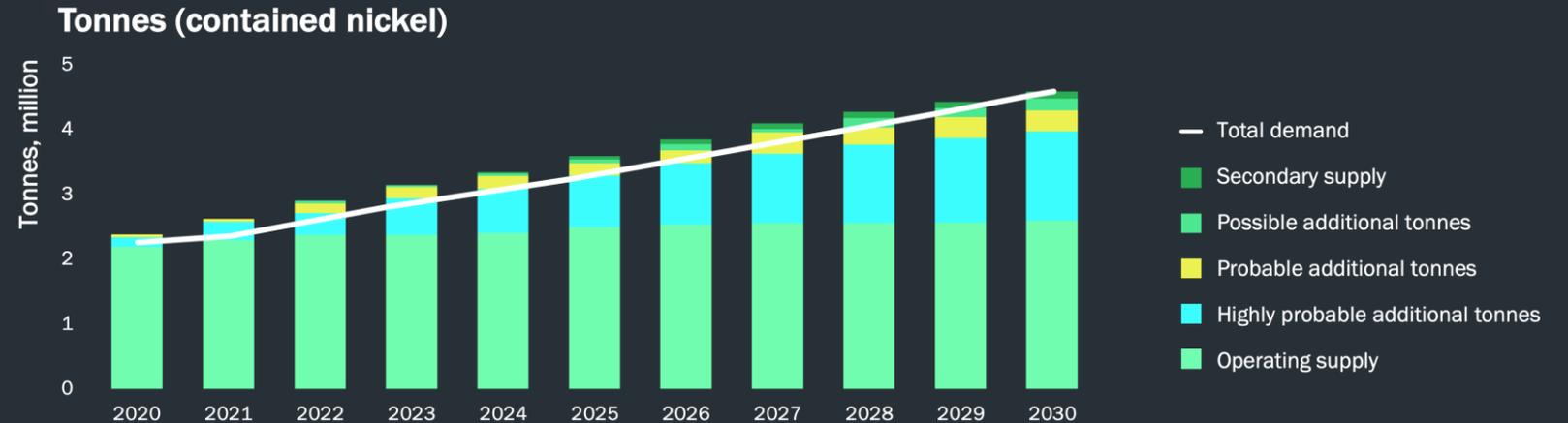


1: Benchmark Mineral Intelligence  
2: The Role of Critical Minerals in Clean Energy Transition, IEA, 2020

# Nickel laterite development is required to maintain supply

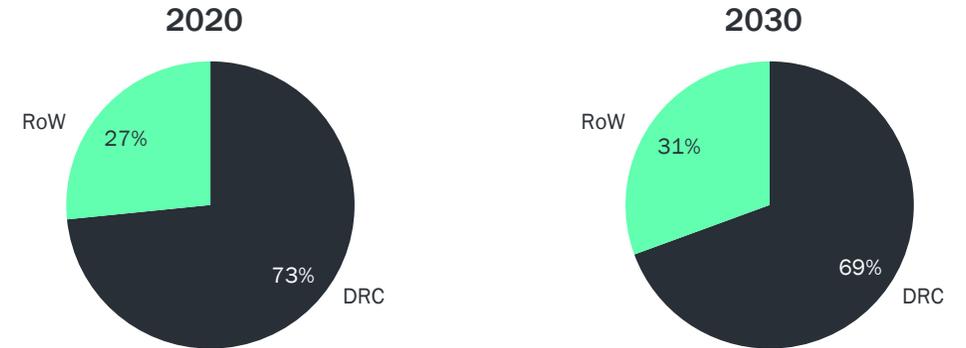


- Majority of new nickel mine supply is coming from laterite deposits, with Indonesian supply accounting for 85% growth
- The mining sector has progressively built capability to successfully deliver hydromet nickel plants - Moa Bay, Coral Bay, Taganito, Ramu, etc.
- Sunrise, utilising 4<sup>th</sup>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

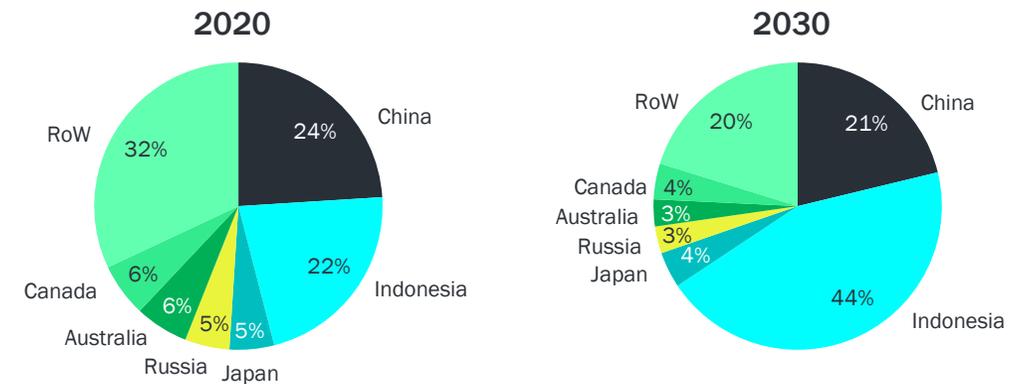


- Sovereign risk and supply chain dependency is driving carmakers to engage directly with the mining industry to secure supply – a new supply chain paradigm is emerging
- Metal price volatility represents a large risk to carmakers; a large opportunity to miners
- Ownership of resources is the only way to hedge supply and price risk for these volumes
- We are already seeing escalating sovereign risk, for example, cobalt being declared a 'strategic' mineral in DRC and restrictions on nickel exports from Indonesia

## Cobalt supply is mainly sourced from DRC



## Nickel supply growth predominantly to come from Indonesia



# Scandium – a new generation of alloys

- Sunrise collaborates with a number of industrial partners, across many industries, to deliver new and advanced scandium alloys
- Scandium production from Sunrise will deliver safe and dependable supply chains 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



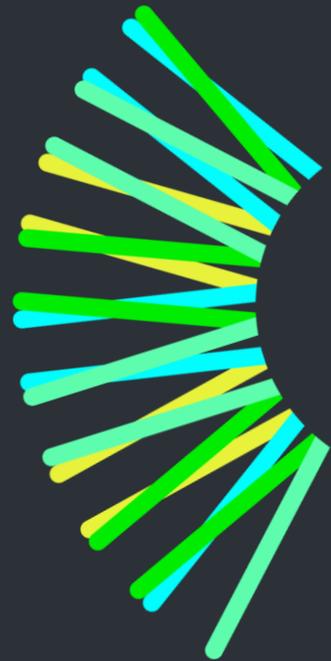
**Terran 1 3D-printed rocket**  
Courtesy of Relativity Space

**Panasonic**

**AIRBUS**

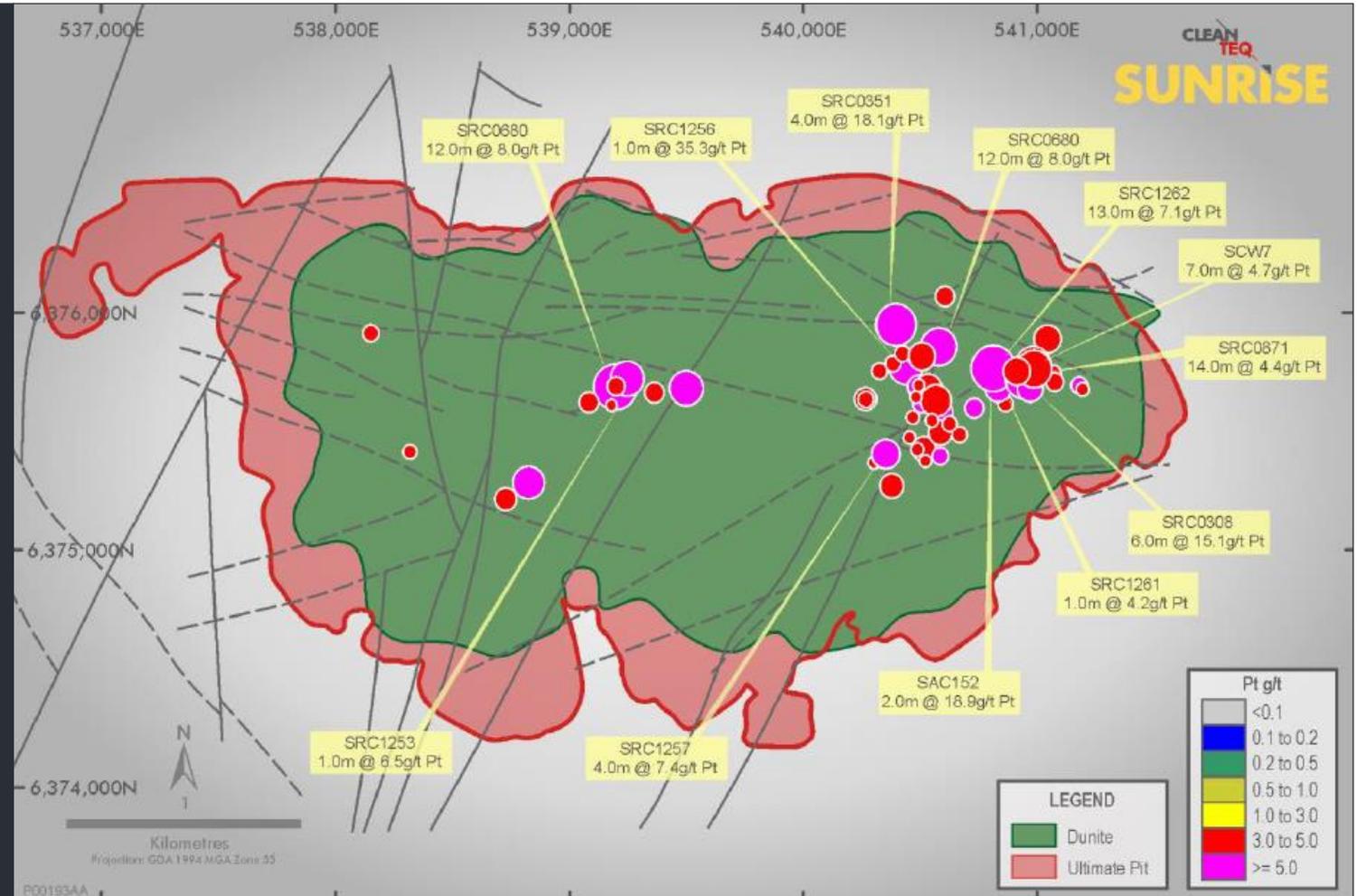
**Relativity**

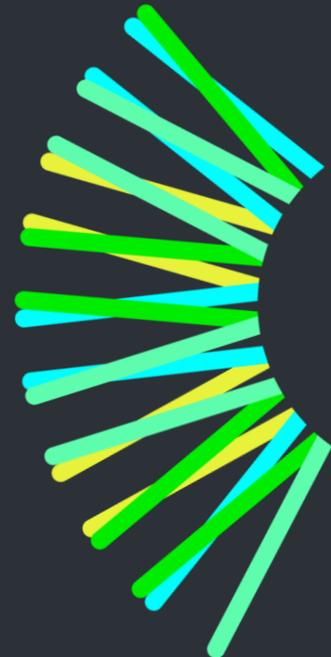




# Exploration Profile

- Sunrise hosts one of the largest platinum resources in Australia, with over 1Moz at surface
- Historic drilling demonstrated good grade intersections below the laterite
- A drill program to test the PGM potential below the laterite is underway with initial bonanza grade drill result returning 0.6m from 255.9m at 129g/t Platinum, 1.23g/t Palladium, 1.79g/t Rhodium, 4.00g/t Iridium, 0.89g/t Osmium and 0.28g/t Ruthenium (for full details see ASX announcement 3 May 2021)
- Platinum is an important metal for the emerging hydrogen economy and fuel cell proton exchange membranes





# Investment Conclusion

## 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 commenced within 3 months of securing finance

## Scale and exceptional economics



- 50 year operation hosting the world's largest cobalt resource outside of Africa & the world's largest scandium resource
- Exceptional project economics with average free cash flow (post-tax) of US\$308 million pa, 15%IRR and 5 year payback
- NPV<sub>8</sub> of US\$1.2 billion

## Environmentally superior project

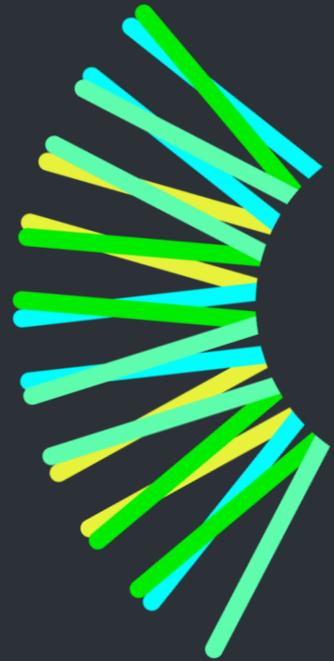


- Sustainably designed to operate on 100% renewable power with industry-leading carbon footprint, water re-use and responsible waste management

## Longer term optionality



- Low cost expansion options, incorporated in current design, subject to government approval
- Optionality for project to incorporate direct to precursor and recycling spent EV batteries
- Optionality from expanding exploration portfolio

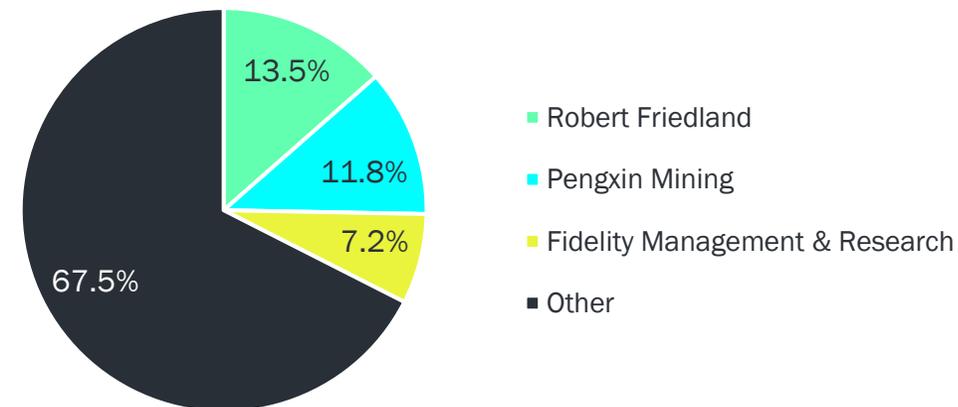


# Appendix

## Sunrise Energy Metals Ltd

|                                    |             |
|------------------------------------|-------------|
| ASX Code                           | ASX:SRL     |
| OTCQX Code                         | OTCQX:CTEQF |
| Shares on Issue                    | 89.3M       |
| Last Share Price (at 12 July 2021) | A\$1.80     |
| Market Capitalisation              | A\$160.8M   |
| Cash (as at 31 March 2021)         | A\$57.7M    |
| Options and performance rights     | 2.7M        |

## 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

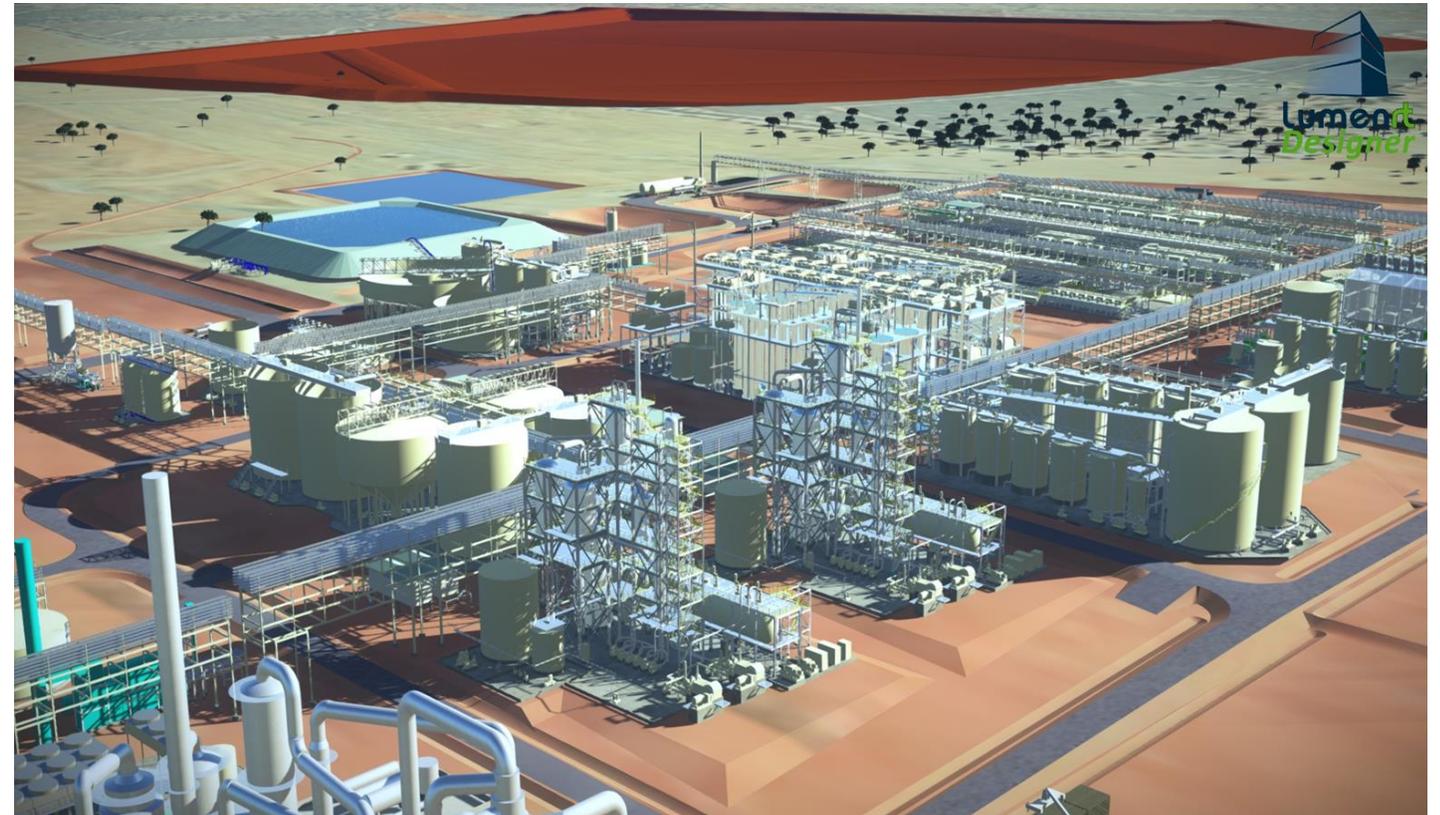


**Melanie Leydin**  
Company Secretary

## Senior Management

The Sunrise Project will utilise hydrometallurgical processing technology with an ion exchange system to recover metals out of solution. The benefits of the ion exchange process are:

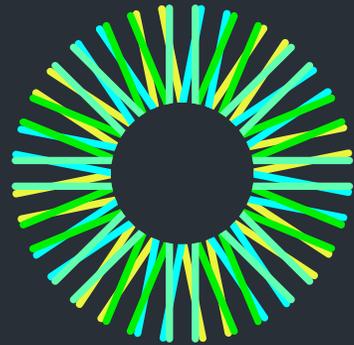
- A much smaller footprint than conventional processing systems
- Reductions in capex and reagent use
- Provides the simplest and lowest-cost route to battery-grade metal, by-passing intermediate products and third-party refining
- Facilitates direct-to-precursor (D2P) production, as well as options for recycling spent cathode to recover nickel, cobalt and other metals
- A robust and proven processing technology currently in use across a range of operations globally



# 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   |
|--------------------------------------|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| <b>Ore</b>                           | 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 |
| <b>Waste</b>                         | 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 |
| <b>Ore to Stockpile</b>              | 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   |      |
| <b>ROM Ore</b>                       | 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   |      |
| <b>Stockpile Reclaim</b>             | 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   |      |
| <b>Mill Feed</b>                     | 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   |      |
| <b>PAL Feed</b>                      | 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 |
| <b>PAL Feed Grade NI</b>             | %  | 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%  |      |
| <b>PAL Feed Grade Co</b>             | %  | 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%  |      |
| <b>PAL Nickel Recovery</b>           | %  | 84.84% | 91.66% | 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% |      |
| <b>PAL Cobalt Recovery</b>           | %  | 83.56% | 90.27% | 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% |      |
| <b>Nickel Production (metal eq.)</b> | 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 |      |
| <b>Cobalt Production (metal eq.)</b> | 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  |      |





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