sunrise
energy metals

Battery Materials for a Sustainable Future

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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.

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_8 of US$1.2 billion

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

Uniquely positioned as a western world provider of sustainable battery materials – currently engaged on securing 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

Construction ready

- ✓ Bankable technical studies completed
- ✓ Piloting and hydrometallurgical test work completed
- ✓ Key approvals and permits secured
- ✓ Project Execution Plan completed in Q4 2020: led by Fluor Australia the PEP 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
- ✓ Sunrise has now advanced to funding stage with construction to commence once finance is secured
- ✓ Construction period of approximately three years

Key project economics

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Strong Annual Production[1]

Nickel: 21.3 ktpa

Cobalt: 4.4 ktpa

Robust Economics

NPV_8: US$1.2 billion

IRR: 15.4%

Capex & Payback

US$1.8 billion

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

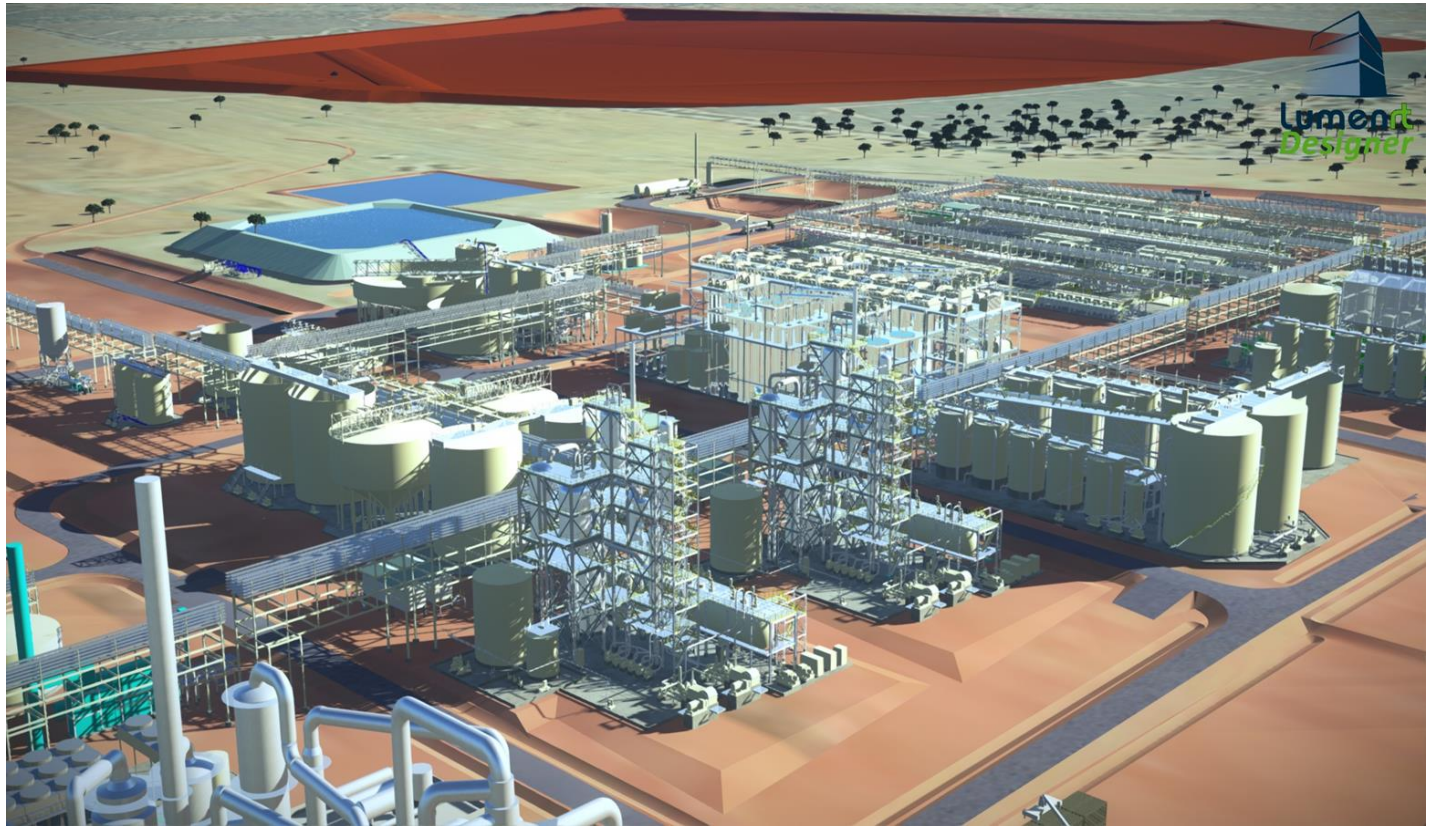
50 Year life supported by JORC reserves

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.

Sunrise – an optimal flowsheet for battery materials

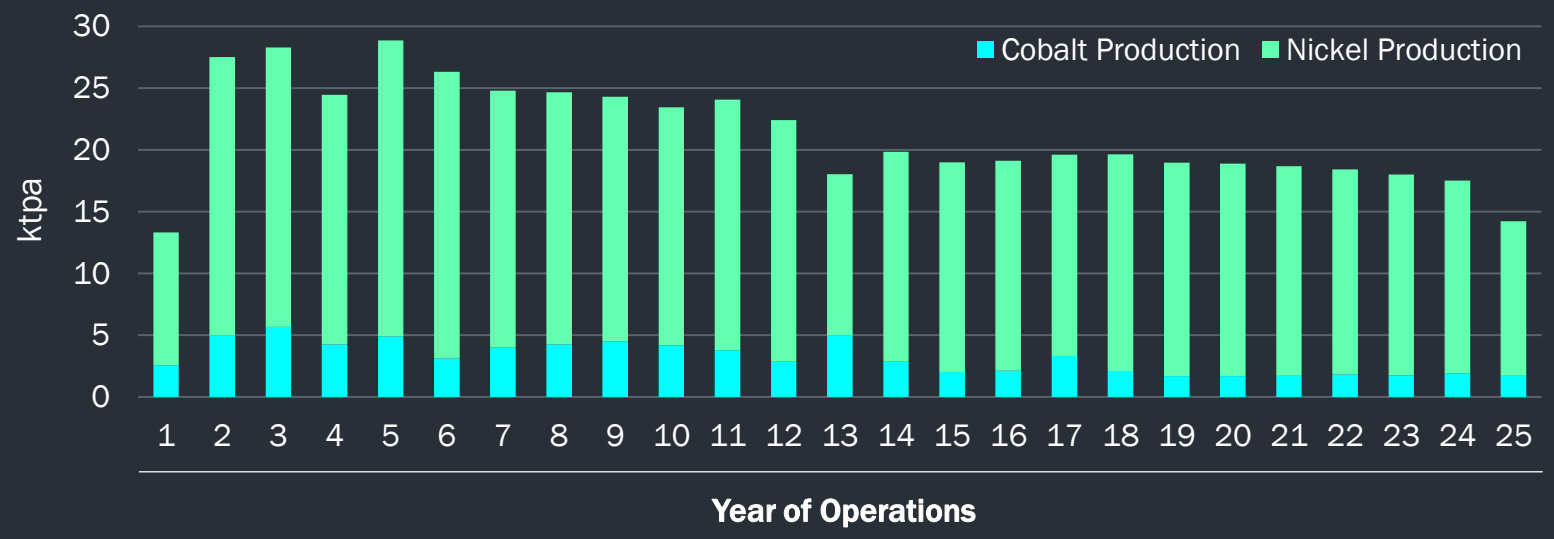
Using a robust and proven ion exchange system to recover metals out of solution, the benefits are:

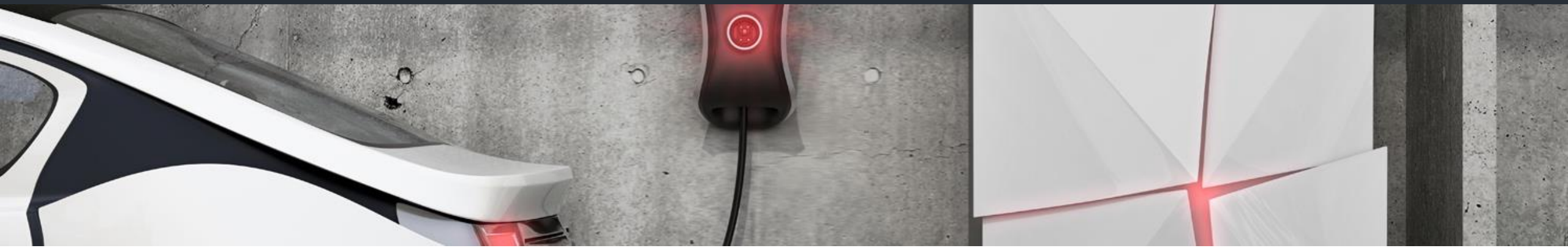
- A smaller footprint with on-site co-gen
- Selective metal loading and targeted impurity removal
- Higher metal concentrations deliver reduced capex and reagent use
- A direct-to-sulphate (D2S) route to battery-grade metal (no intermediates)
- Allows direct-to-precursor (D2P) production by keeping metals in solution (no crystallisation)



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 – a Tier 1 ore body with low mining risk

- The Sunrise deposit extends ~4km x 3km, is shallow and provides simple, free-dig strip mining
- A single deposit containing enough nickel and cobalt in ore reserves to convert approximately 30% of the current US light vehicle passenger fleet to electric
- Flexibility to tailor production plans to accommodate varying nickel-cobalt chemistries

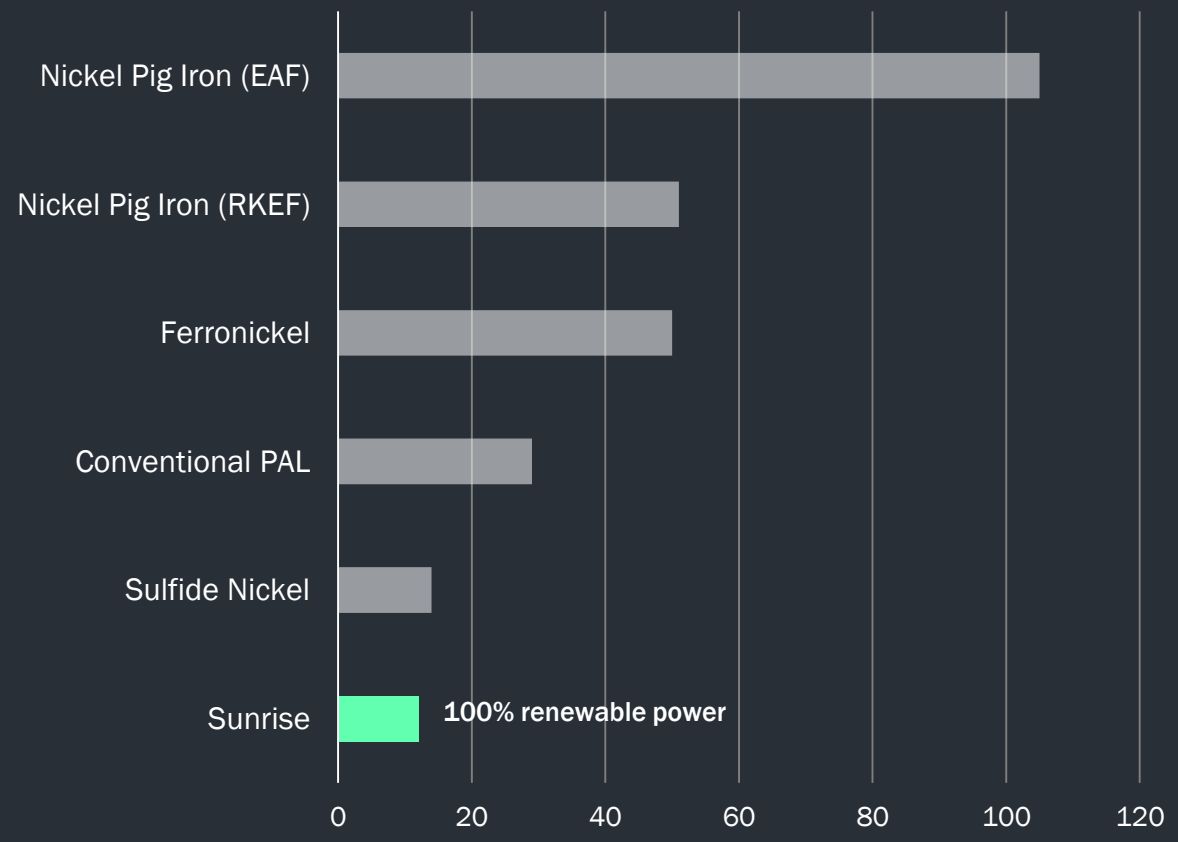
Carbon – nickel is key

- Nickel processing can make up ~95% of the carbon footprint of all raw materials in a battery
- The mining sector needs to embrace sustainability in its capital allocation frameworks
- 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
  - ✓ Managing HSEC obligations to international best practice
  - ✓ Applying ANCOLD standards to waste management
  - ✓ 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 Sunrise?

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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_8 of US$1.2 billion
Environmentally sound project	• Sustainably designed to operate on 100% renewable power with industry-leading carbon footprint, water re-use and responsible waste management
Longer term optionality	• The resource supports low-cost expansion options, subject to government approval • Optionality for project to incorporate direct to precursor and recycling spent EV batteries • Optionality from expanding exploration portfolio

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