

9 July 2024

Update of Syerston Scandium Project Feasibility Study to commence

Highlights:

- **Sunrise Energy Metals has appointed GR Engineering Services to commence an update to the 2016 Syerston Scandium Project Feasibility Study**
- **The study will update the capital and operating cost estimates for the 2016 Syerston Scandium Project Feasibility Study, which highlighted the potential for annual production of 49.2 tonnes per annum of scandium oxide over a 20 year mine life**
- **In parallel, commercial pilot scale extrusion trials are expected to commence shortly in the United States, which will test the Company's proprietary 6xxx-series aluminum-scandium alloys in a range of automotive components**
- **Offtake discussions have recommenced with several counterparties across the speciality alloy, semiconductor and aerospace markets**

MELBOURNE, Australia – Sunrise Energy Metals Limited (**Sunrise Energy Metals** or **Company**) (ASX:SRL and OTC:SREMF) is pleased to announce the appointment of GR Engineering Services to commence an update of the 2016 Feasibility Study for the Company's wholly-owned Syerston Scandium Project at Fifield, NSW.

While the Company remains focused on the financing and development of the Sunrise Nickel-Cobalt Project, developments in the scandium market have necessitated a reassessment of a stand-alone, fully integrated scandium mining, processing and refining facility in Australia. These market developments include the increasing adoption of scandium in specialty semiconductor applications, as well as an increased focus on scandium-containing alloys in the military and defence sectors.

The Company has received expressions of interest from a range of parties for scandium offtake. While the update of the Feasibility Study is underway, discussions with these parties will remain ongoing with a view to converting expressions of interest into firm offtake commitments.

Like many rare earth markets, scandium supply is dominated by China. Regulations handed down only last week by China's State Council have nationalised all of the country's rare earth resources

(including scandium), as well as banning the export of technology to extract and separate rare earths. This follows restrictions implemented last year on the export of germanium and gallium, used widely in the chip-making sector. It is worth noting that the American semiconductor industry's dependence on China for scandium already exceeds its dependence on China for silicon, germanium and gallium.

It is in this context that development of western sources of scandium supply - capable of competing with China on cost and quality - will become increasingly critical for a number of technology-driven industries. The recent designation by the United States of both Australia and the United Kingdom as 'domestic sources' of supply under the Defense Production Act is a welcome step in building a coordinated response to these strategic and emerging markets.

In addition to the semiconductor market, the Company has continued to invest in scandium alloy development programs to service both the aerospace and automotive industries. We have been particularly encouraged by results of our product development work at Michigan Tech, which has demonstrated a range of unique 6xxx-series alloys that deliver yield strength improvements of circa 90 MPa (c. 33%) over standard alloys. This opens up the possibility of using aluminum-scandium alloys in automotive applications where high-strength steels currently dominate.

As a result of this development program, the Company is now engaged with partners in the United States to undertake commercial pilot scale extrusion trials to test these proprietary 6xxx-series alloys in a range of automotive components. This will be critical to establishing a long-term, viable market for scandium, as the volume requirements for alloys will far exceed all other markets.

Sunrise CEO, Sam Riggall said: *"The potential for a small, high-grade, stand-alone scandium mine adjacent to the Sunrise Battery Material Complex provides a potential pathway to near-term operations and cashflow for the Company. With a considerable body of study work completed, we have a strong foundation to update the previous Syerston Project Feasibility Study, assess opportunities for funding support and rapidly move the project towards production."*

While the scandium market is still relatively small, we believe scandium will play an important role in semiconductor advances over the next decade, as the world transitions towards 5G and 6G communications infrastructure. In addition, the role that scandium-containing thin films may play in emerging flash memory chip applications, given its strong ferroelectric response and high remnant polarisation, is also highly encouraging. The real uplift in volume, however, will come from the development of a new generation of high-performance aluminium alloys for the aerospace and automotive sectors."

Syerston Scandium Project Feasibility Study Update

GR Engineering Services has been appointed to conduct an update of the key economic and project parameters of the 2016 Syerston Scandium Project Feasibility Study, which assessed the potential for a processing plant with designed throughput capacity of 64,000tpa of ore feed from near-

surface, high-grade scandium resources over an initial 20-year mine life. The processing plant consisted of a small high-pressure acid leach (HPAL) circuit, a resin-in-pulp plant and a hydrometallurgical refinery to purify the product. The construction timeframe was estimated to be 18 months.

Other key assumptions and outputs of the 2016 Feasibility Study are detailed in Table 1.

Table 1: 2016 Syerston Scandium Project Feasibility Study key assumptions and outputs

Parameter	Assumption / Output
Processing Plant Throughput	64,000tpa¹
Processing Plant Average Feed Grade (Years 2-20)	583g/t Sc²
Sc ₂ O ₃ Average Production Rate (Years 2-20)	49.2tpa Sc₂O₃
Processing Plant Sc Recovery (Years 2-20)	88%
Construction period	18 months
Commissioning and ramp up period	18 months
Life of Mine (including commissioning and ramp up period)	20 years
Long Term Sc ₂ O ₃ Price Assumption (99.9% purity)	US\$1,500/kg Sc₂O₃
Exchange Rate	A\$/US\$ 0.75
Total Capital Cost	A\$100M³
Average Sc ₂ O ₃ C1 Cash Cost (Year 2-20) ⁴	A\$593/kg Sc₂O₃ US\$444/kg Sc₂O₃
Net Present Value (NPV) – post tax	A\$273M⁵
Internal Rate of Return (IRR) – post tax	33%

1. Autoclave feed rate. Following 18-month commissioning and ramp up period
2. Includes pit selection, dilution and mining factors applied
3. Includes A\$4.5M contingency on capital costs
4. Excludes commissioning and ramp-up operating costs and scandium oxide production during year 1 and royalties
5. Post Tax, 8% discount rate, 100% equity, real terms All \$ are in Australian Dollars (A\$) unless otherwise stated

The Syerston Scandium Project Mineral Resource¹ Estimate supporting the 2016 Project Feasibility Study was based on a total of 1,334 holes and 31,711 scandium assays. Table 2 provides a summary of the 2016 Mineral Resource Estimate at scandium cut-off grades of >300ppm Sc and >600ppm Sc. Should the Feasibility Study update provide sufficient encouragement to warrant moving forward, it is expected that the mineral resource estimate and ore reserve will also be updated.

¹ This historical estimate is no longer compliant with the JORC 2012 Code. For details see announcement of 30 August 2016 “Completion of Syerston Scandium Project Feasibility Study”.

Table 2: Syerston Scandium Project 2016 Mineral Resource Estimate²

Cut-off	Classification Category	Tonnage, Mt	Sc Grade, ppm	Sc Tonnes	Sc ₂ O ₃ Equiv Tonnes*
Sc >300ppm	Measured	5.8	454	2,635	4,032
	Indicated	15.9	420	6,697	10,247
	Inferred	6.4	386	2,487	3,805
	Total	28.2	419	11,819	18,083
Sc >600ppm	Measured	0.6	685	394	603
	Indicated	0.8	663	545	834
	Inferred	0.1	630	57	87
	Total	1.5	670	996	1,524

* Sc tonnage multiplied by 1.53 to convert to Sc₂O₃.

Permitting and Approvals

An approved Environmental Impact Statement (EIS) supports the Development Consent for the Project. Potential environmental impacts, impact assessments, mitigation measures and environmental management, rehabilitation and monitoring strategies are documented in the EIS. The Project was first granted Development Consent in May 2001, with several modifications to the Development Consent taking place in subsequent years.

The various modifications include approval to produce scandium oxide and a right to operate an initial smaller-scale scandium operation while preserving the approval for a larger nickel/cobalt operation, which may be considered in the future.

The Company completed construction of three approved water bores in June 2023, to the south of the project site. Monitoring wells were installed at three locations and pump testing was successfully completed under the terms of the Company's water supply works approval.

This announcement is authorised for release to the market by the Board of Directors of Sunrise Energy Metals Limited.

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² This historical estimate is no longer compliant with the JORC 2012 Code. For details see announcement of 30 August 2016 "Completion of Syerston Scandium Project Feasibility Study".

About Sunrise Energy Metals Limited

Sunrise Energy Metals Limited (ASX:SRL) is progressing its world-class Sunrise Battery Materials Complex in New South Wales. 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.