

ASX Release

17 October 2023

Updated ASX Announcement

Australian Strategic Materials Limited (**ASM** or **the Company**) (**ASX:ASM**) following discussions with ASX, has amended and rereleased the announcement “Excellent heavy rare earth oxide results from Dubbo Project pilot plant testing” released on 12 October 2023 (**Announcement**) to clarify:

- (a) The testing was conducting on synthetic samples which replicate the product expected from the Dubbo Project at that stage in the separation process.
- (b) The purpose of the testing was to confirm the design capability of the Dubbo Project’s advanced process flowsheet to produce high purity terbium and dysprosium oxides.
- (c) The impact of these results is that they support the Dubbo Project process flowsheet determined by the previous optimisation work completed by ASM in 2021 and announced to the ASX at that time (**Optimisation Study Work**). The results do not impact or otherwise change the assumptions underpinning the forward looking expectations of ASM arising from the Optimisation Study Work (and set out in the Optimisation Study Work Announcement), nor do they relate to or have any bearing on the mineral resources and ore reserves estimates for the Toongi deposit that are the foundation for the Dubbo Project and have previously been disclosed.

Please see the updated Announcement below.

FOR MORE INFORMATION PLEASE CONTACT:

Investors

Jason Clifton
CFO, ASM Ltd
+61 8 9200 1681

Media Australia

Paul Ryan
Citadel-MAGNUS
+61 409 296 511
Ryan@citadelmagnus.com

Media Korea

Sue Kim
Insight Communications
+82 2 739 7035
sue.kim@insightcomms.com

This document has been authorised for release to the market by the Board.

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Supplementary Information: Excellent heavy RE oxide results from Dubbo Project pilot plant testing

- Latest pilot plant separation work for the Dubbo Project demonstrates that the process can achieve terbium (Tb) and dysprosium (Dy) oxide purity of >99.99% and >99.95% respectively.
- Heavy rare earth (RE) oxides, Tb and Dy, are critical components in the production of permanent magnets, used in electric vehicles, wind turbines and other growth industries.
- Tb and Dy represent 18% (~\$151M) of annual forecast revenue from the Dubbo Project¹.



ASM's latest results for terbium and dysprosium separation at the ANSTO pilot plant have exceeded target specifications.

Australian Strategic Materials Limited (**ASM** or **the Company**) (**ASX:ASM**) is pleased to announce excellent results from its latest terbium (**Tb**) and dysprosium (**Dy**) heavy rare earth (**RE**) separation test work utilising synthetic samples created from commercially purchased third party rare earth powders which replicate the product expected from the Dubbo Project at that stage in the separation process. The purpose of the testing was to confirm the design capability of the Dubbo Project's advanced process flowsheet to produce high purity Tb and Dy oxides at industry leading product quality.

¹ Derived from the Dubbo Project overall financials as disclosed in ASX Release: 7 Dec 2021, *Dubbo Project Optimisation Delivers Strong Financials*.

The pilot plant test work was conducted by ANSTO, Australia’s Nuclear Science & Technology Organisation being the terbium/dysprosium solvent extraction pilot program as disclosed in the Company’s June Quarterly Activities Report. Results show the process is capable of producing Tb and Dy oxide product streams that meet or exceed target specifications of >99.99% for Tb and > 99.95% for Dy², at steady state.

The latest Tb/Dy separation work was funded via a \$500,000 grant secured under Stream 1 of the NSW Government’s Critical Minerals and High-Tech Metals Activation Fund³.

“These excellent results demonstrate the strength of ASM’s advanced technical capability. Producing both light and heavy rare earth oxides at high purity sets the Dubbo Project and ASM apart, and allows us to offer industry leading product quality to our offtake partners,” said Ms Rowena Smith, ASM Managing Director and CEO. “Terbium and dysprosium oxides are not only scarce commodities, they are very difficult to separate at high purity. With the continued expertise of the team at ANSTO and the welcome support of the NSW Government, we are positioning the Dubbo Project to be at the forefront of Australia’s rare earth and critical minerals evolution,” said Ms Smith.

Unique ore body & product portfolio

The Dubbo Project is ASM’s cornerstone rare earths and critical minerals deposit in Central West, New South Wales, Australia. ASM intends to produce a diverse suite of products, including light and heavy rare earth oxides (see *Table 1*), zirconium, hafnium and niobium. These elements are at the forefront of advanced technologies driving global decarbonisation and electrification megatrends.

In the case of ASM’s rare earth oxides – NdPr, Tb and Dy – these commodities are critical in the production of high-tech metals required to create permanent magnets, used in electric vehicles (EVs) and wind turbines. The global outlook for these industries is extremely positive, with continuing growth forecasts coming off an increasingly higher base. For example, the International Energy Agency recently upgraded its projections for EV deployment under its Stated Policies Scenario to 20 million vehicles in 2025 and 40 million in 2030, up from 15.9 million and 27.7 million respectively last year.

Potential revenue contribution of heavy rare earths

These results provide further support for the Dubbo Project process flowsheet determined from the optimisation work completed by ASM in 2021 and announced to ASX at that time (**Optimisation Study**

Dubbo’s Rare Earth Oxides
High Purity Neodymium & Praseodymium As mixed Nd/Pr oxide
High Purity Terbium (Tb) As terbium oxide
High Purity Dysprosium (Dy) As dysprosium oxide

Table 1. The Dubbo Project will produce a range of light and heavy rare earth element oxides.

² Relative to rare earth impurities.

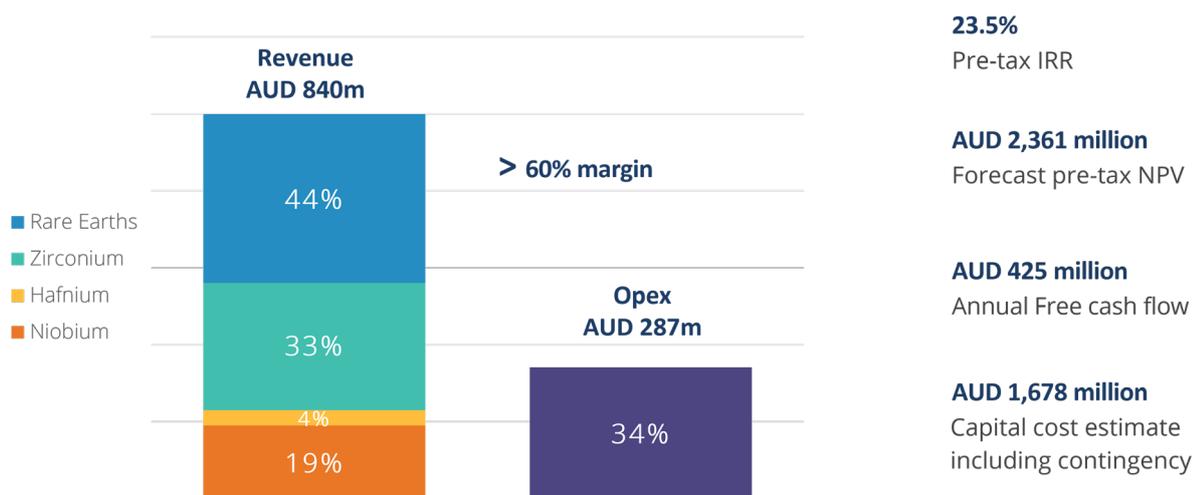
³ Refer ASX Release 22 November 2022: ASM Dubbo Project study awarded grant from the NSW Critical Minerals and High-Tech Metals Activation Fund.

Work)⁴. These results do not impact or otherwise change the assumptions underpinning the forward looking expectations of ASM arising from the Optimisation Study Work (and set out in the Optimisation Study Work Announcement), nor do they relate to or have any bearing on the mineral resources and ore reserves estimates for the Toongi deposit that are the foundation for the Dubbo Project and have previously been disclosed⁵.

ASM’s combined RE oxides account for 44% (~\$370 million per annum) of forecast annual revenue at the Dubbo Project (see *Graph 1*). The high value Tb/Dy oxides represent 18% (~\$151 million per annum) on their own.

“Our heavy rare earth products will be an important element of the Dubbo Project’s diversified revenue stream. Demonstrating the quality at which will be able to produce these products, via these positive pilot plant results, adds further validity to our forecast financials and the compelling opportunity that the Dubbo Project presents,” said Ms Smith.

Recap on annual forecast revenue & opex outcomes from the Dubbo Project



Graph 1. The Dubbo Project’s expected strong financials are derived from ASM’s previous Optimisation Study Work⁶.

⁴ Refer: ASX Release: 7 Dec 2021, *Dubbo Project Optimisation Delivers Strong Financials*. All data and financial information shown is taken from the Optimisation Study Work (**Optimisation Study Work Announcement**). The Company confirms that the material assumptions underpinning the estimates in the Optimisation Study Work Announcement continue to apply and have not materially changed. Key assumptions are: Exchange Rate (A\$:US\$) - 0.75; Discount Rate (real, post-tax %p.a.) 8.0%; Corporate Tax Rate (%) 30%, Long Term Real price assumptions used in the 2021 Optimisation Study table 9, capital estimates in section 13.4, and matters described in Annexure A. Margin is defined as revenue minus opex. Annual free cash flow amount represents the average of years 7-10 in the Optimisation Study Financial Model.

⁵ The information referred to in the Optimisation Study Work Announcement is based on Mineral Resource estimates extracted from the Company’s Information Memorandum released to ASX on 29 July 2020 and is available to view on the Company’s website and on the ASX website. Information relating to a review of Ore Reserves is presented in Section 5 of the Dubbo Project Summary in the Optimisation Work Study Announcement. The Company is not aware of any new information or data that materially affects the information included in the original market announcements and confirms that all material assumptions in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented or otherwise referred to have not been materially modified from the original market announcements.

⁶ Refer: Optimisation Study Work Announcement dated 7 Dec 2021.

Strategic investment & offtake partners

ASM is currently progressing investment and offtake opportunities for the Dubbo Project across multiple jurisdictions, targeting final investment decision by December 2024. The Company will update the market when any binding agreements are concluded.

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Jason Clifton
CFO, ASM Ltd
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Paul Ryan
Citadel-MAGNUS
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