



**ABN 63 111 306 533**

## **QUARTERLY REPORT TO SHAREHOLDERS**

for the three months ended  
31 December 2020

### **ASX Code - EME**

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This report and further  
information are available on  
Energy Metals' website at:

**[www.energymetals.net](http://www.energymetals.net)**



## **HIGHLIGHTS**

### **Bigrlyi JV Project (NT)**

Large open pit design study completed; other re-  
optimisation studies underway.

Field programs in the NT to resume in April 2021.

## **FINANCIAL**

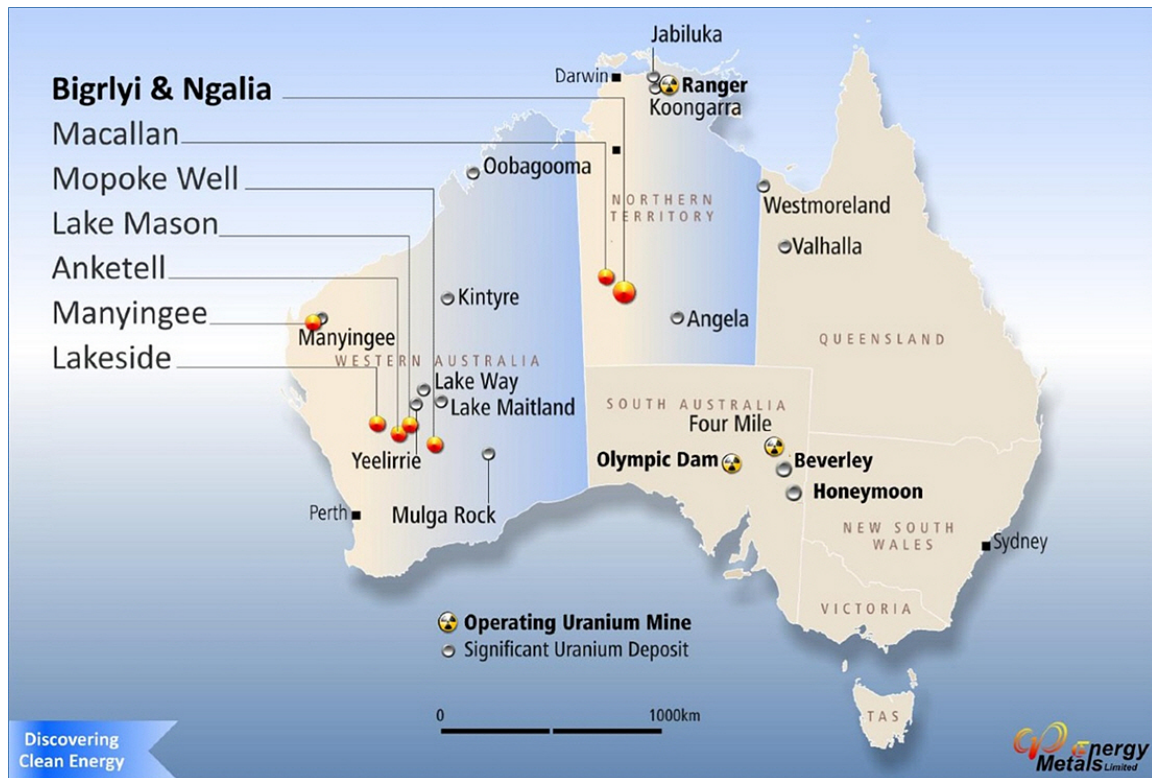
Energy Metals had approximately \$16.21M in cash  
and 209.7M shares on issue at 31 December 2020.

A handwritten signature in black ink, appearing to read '肖树青' (Xiao Shuqing).

**Shuqing Xiao**  
**Managing Director**  
**28 January 2021**

## INTRODUCTION

Energy Metals (EME) is a dedicated uranium company with eight exploration projects located in the Northern Territory (NT) and Western Australia covering over 2,700 km<sup>2</sup> (Figure 1). Most of the projects contain uranium mineralisation discovered by major companies in the 1970s, including the advanced Bigryli Project (NT).



**Figure 1 – Location of Energy Metals Projects**

Energy Metals is well placed to take advantage of the favourable outlook for uranium as nuclear power continues to play an increasing role in reducing global carbon emissions.

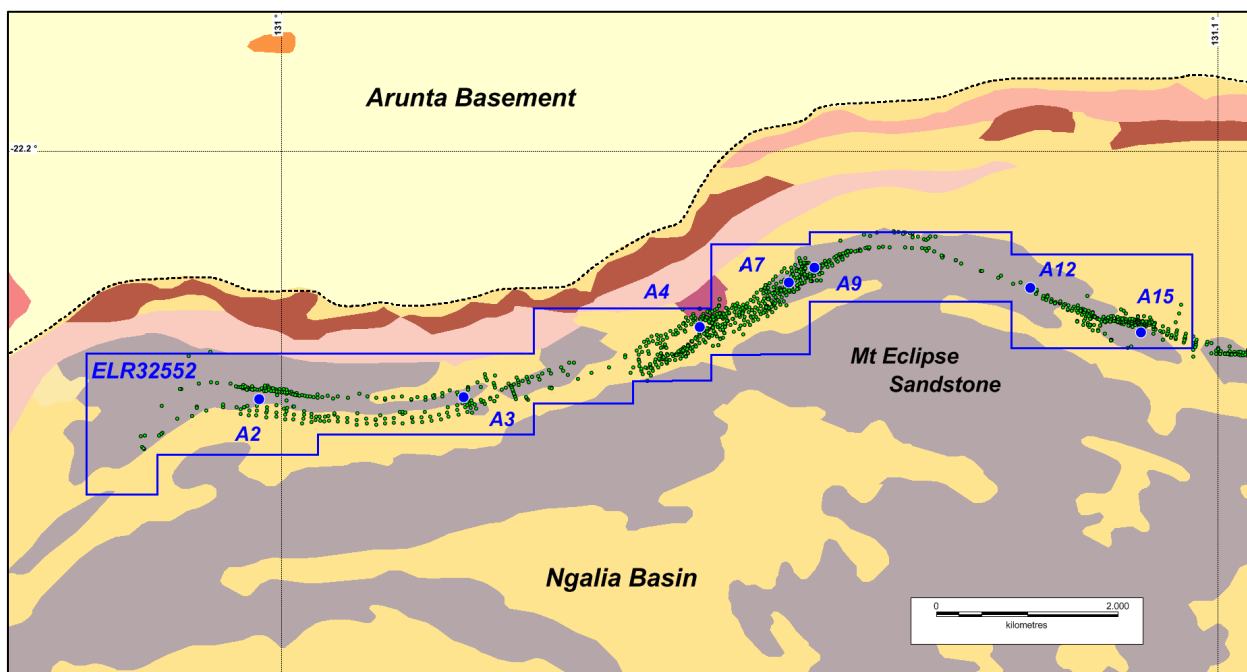
China Uranium Development Company Limited, Energy Metals' largest shareholder (with 66.45% of issued capital), is a wholly owned subsidiary of CGN, a leading company in clean energy and nuclear power technologies in China and world-wide. As of 31 December 2020, the installed capacity of CGN's operating nuclear generating plants was 27,140MWe from 24 nuclear power units with seven other power units of 8,210MWe capacity under construction in various locations across China. This unique relationship with CGN gives Energy Metals direct market exposure as well as access to significant capital and places the Company in a very strong position going forward.

## NORTHERN TERRITORY

### **Bigrlyi Joint Venture (EME 72.39%)**

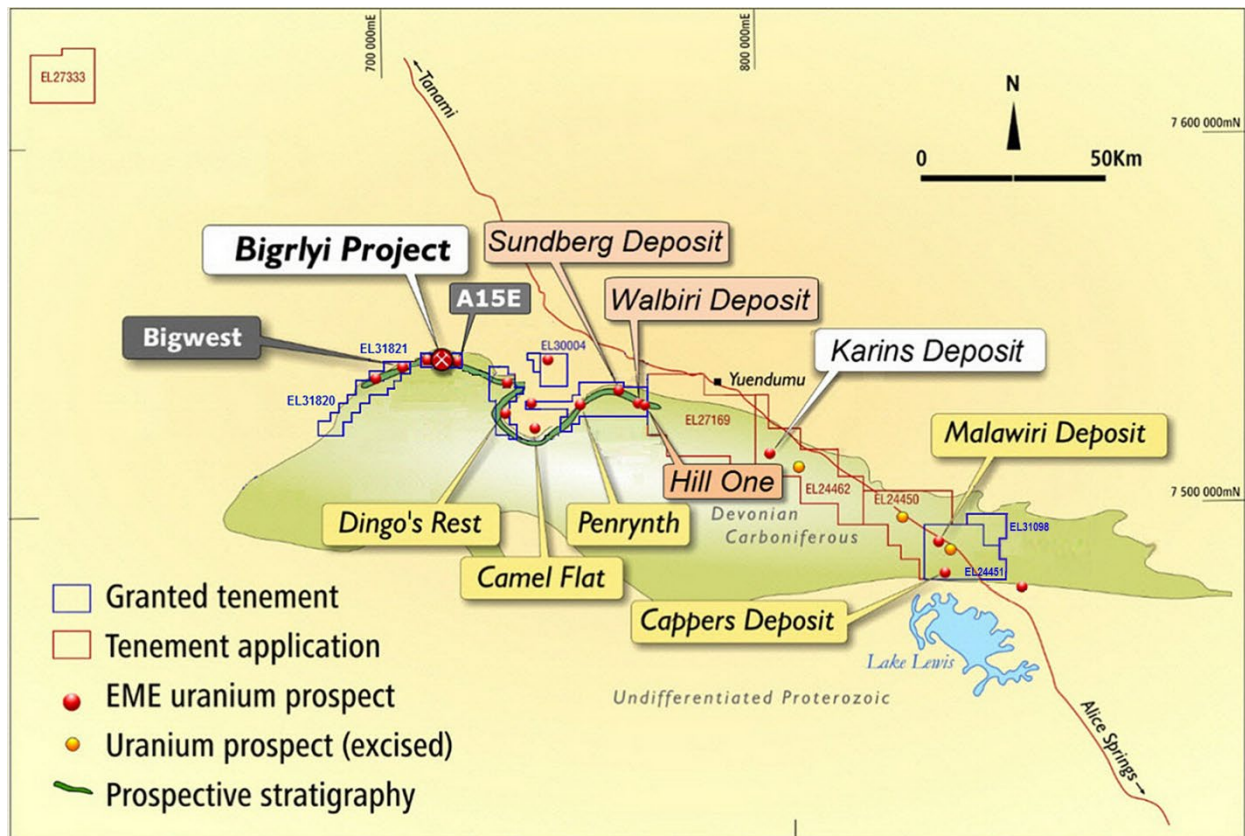
The Bigrlyi Joint Venture comprises two granted exploration licences in retention (ELRs), one granted EL, and several applications within the Ngalia Basin, located approximately 350km northwest of Alice Springs. EME operates the Joint Venture in partnership with Northern Territory Uranium Pty Ltd (NTU; a wholly-owned subsidiary of Marenica Energy Ltd, MEY), and with Noble Investments Pty Ltd (NIL), a private investment company that holds a 6.79% interest.

The Bigrlyi Joint Venture has been the subject of significant exploration activity since 1973, including over 1,040 drill-holes, metallurgical test-work and mining studies focussed on the flagship Bigrlyi deposit, which comprises a number of sub-deposits over a 11km strike length on ELR32552 (Figure 2). The Bigrlyi project is characterised by relatively high uranium grades, vanadium credits and excellent metallurgical recoveries. Further information is available in ASX announcements or from Energy Metals' website: [www.energymetals.net](http://www.energymetals.net).



**Figure 2 – Bigrlyi Joint Venture project area showing simplified geology (grey = Mt Eclipse Sandstone) with the outline of amalgamated ELR 32552 shown in blue; Anomaly-2 to Anomaly-15 (A2 to A15) sub-deposit locations (blue dots) and exploration drill-hole collars (green dots) are shown.**

The historic Karins uranium deposit (Figure 3) is part of the Bigrlyi Joint Venture and a JORC-compliant resource estimate was released to the ASX in 2015. In 2015 a maiden JORC (2012) resource estimate was announced for the historic Sundberg deposit, which is part of the Bigrlyi Joint Venture, and a satellite of the larger Walbiri deposit (Figure 3).



**Figure 3 – Uranium deposits, occurrences and exploration target areas in the Ngalia Basin**

#### **Walbiri Joint Venture (EME 77.12%)**

ELR45 covers part of the historical Walbiri deposit and part of the Hill One satellite deposit (Figure 3). The project is a joint venture with NTU, with EME as the operator. Energy Metals holds a 77.12% beneficial interest in the JV. A JORC (2012) mineral resource estimate was announced for the Walbiri deposit in 2015 confirming Walbiri as the second largest sandstone-hosted deposit in the Ngalia Basin after Bigrlyi. Last quarter, a partial relinquishment of 20% of the area of ELR45 was approved by NT Government following a prospectivity review late last year.

#### **Malawiri Joint Venture (EME 76.03%)**

ELR41 covers the historical Malawiri deposit. The project is a joint venture with NTU, with EME as the operator. Energy Metals holds a 76.03% beneficial interest in the JV and NTU holds a 23.97% interest. EME advanced the Malawiri project to JORC-compliant resource status with release of a mineral resource estimate on 14 December 2017.

## JV Activities (December 2020 Quarter)

Energy Metals is committed to improving the economics of its flagship Bigirlyi project and last year initiated a program to enhance the value of vanadium as a by-product commodity. At the time of writing the vanadium price is \$US 6 to 7/lb  $V_2O_5$ , which is near the long-term average vanadium price; this compares with the current uranium spot price of \$US30/lb  $U_3O_8$ .

**Retention Licence Amalgamation.** During the quarter ELR32552, which covers the Bigirlyi deposit, was granted by the Mineral Titles division of NT DITT. ELR32552 is an amalgamated title that comprises former ELRs 46 to 55. The amalgamation will result in future savings in both tenement management fees and administrative costs.

**Geotechnical Data.** To assist with open pit and underground design studies, all previously collected geotechnical data for the Bigirlyi project was verified and uploaded into EME's Exploration Database during the period. Recommendations were made to supplement this data with additional critical measurements including a program of rock strength test work in 2021.

**Pit Design Re-optimisation.** During 2020 a study into the feasibility of an open-pit-only mining operation for the Bigirlyi deposit has been on-going. During the quarter a preliminary large-open-pit (LOP) design was completed. Technically and financially, an LOP design is considered likely to be an improvement over the combined open pit and underground mining methodologies considered in the 2011 Pre-feasibility study (PFS). The advantages of the LOP are an increase in recoverable uranium and vanadium resources and lower overall mining costs; this is offset against higher stripping ratios and hence an increase in waste disposal costs.

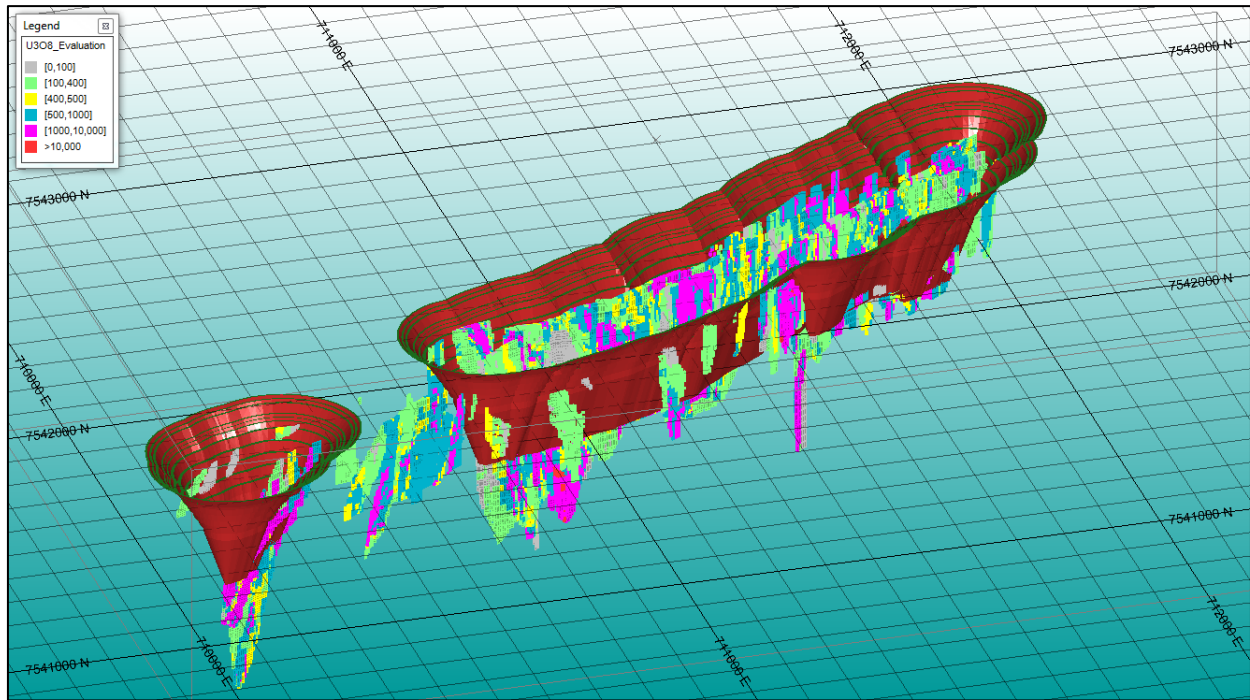
The favoured LOP design was modelled using the toe-to-crest method and base-case pit design parameters from the PFS with the assumption that sufficient rock strength exists at depth. The overall slope angle (exclusive of ramps) varies between  $55.1^\circ$  and  $58.1^\circ$  for Anomaly-4-7, and  $54^\circ$  and  $55.8^\circ$  for Anomaly-15. The design was optimised for maximum recovery of high-grade mineralisation based on the 2011 Mineral Resource Estimate reference uranium block model.

For the A4 to A7 sub-deposit corridor two pits have been designed with the resource present between the two pits left unmined. The two pit sizes are: 450m×350m and 1,690m×400m (Figure 4) and the stripping ratio is 27.4.

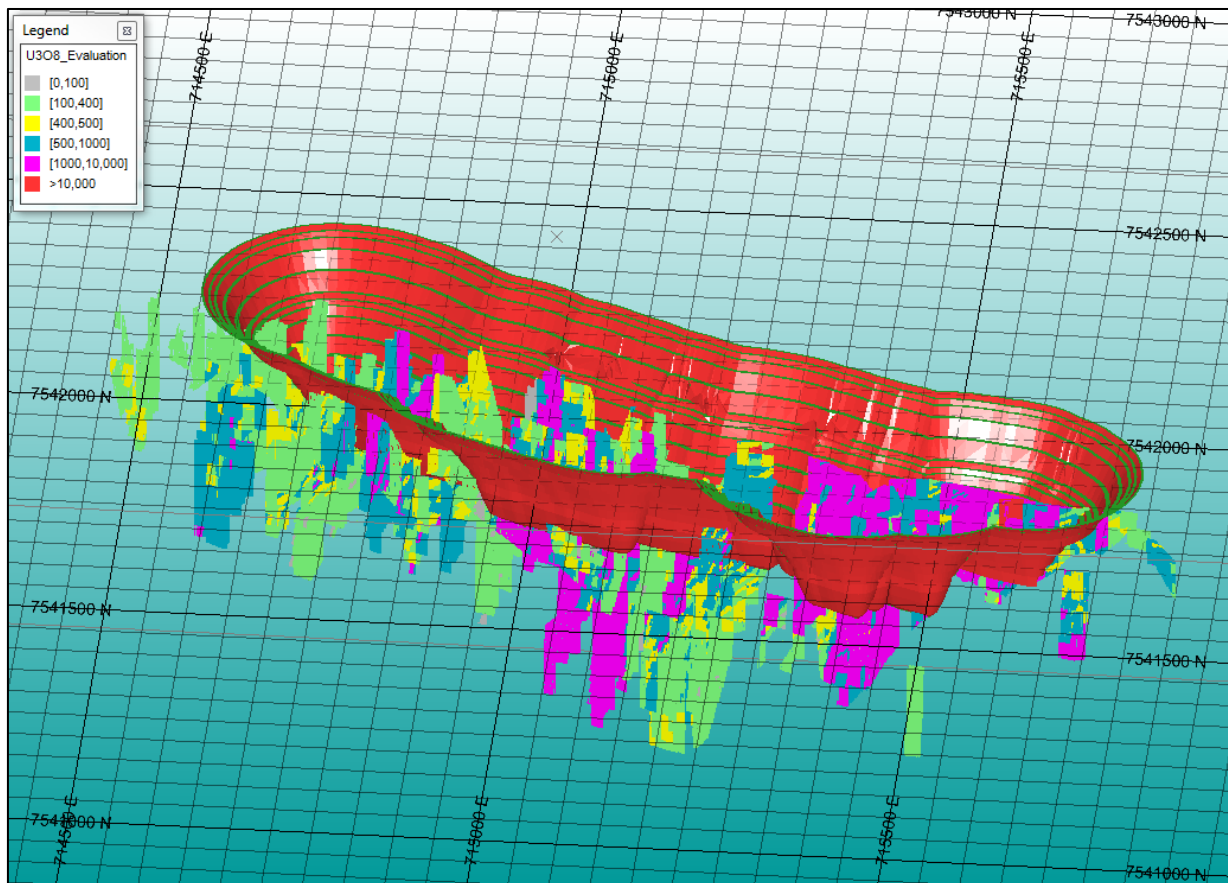
For Anomaly 15, one pit of 1,000m×250m size has been designed focusing on the high-grade resource (Figure 5); the stripping ratio is 29.4.

The LOP mineable resource is estimated to be 40% more than the surface mining recoverable resource determined in the 2011 PFS model. In addition, a significant proportion of the  $V_2O_5$  resource is also potentially mineable. Further refinements to the design to reduce the stripping ratio and optimise the waste to ore ratio are planned for 2021 subject to constraints from additional geotechnical test results.





**Figure 4 - A4 to A7 sub-deposit corridor re-optimised open pit design in relation to the  $U_3O_8$  mineralisation model. Highest grades are shown in the purple to red colours.**



**Figure 5 – A15 sub-deposit re-optimised open pit design in relation to the  $U_3O_8$  mineralisation model. Highest grades are shown in the purple to red colours.**

**Field Program 2021.** Last year's field exploration and camp maintenance programs were suspended due to COVID-19 land access restrictions and state border closures. The field programs are expected to resume in April 2021.

### **Ngalia Regional Project (EME 100%)**

The Ngalia Regional project comprises twelve 100% owned exploration licences, applications and exploration licences in retention located in the Ngalia Basin, between 180km and 350km northwest of Alice Springs in the Northern Territory (Figure 3). The tenements are contiguous and enclose the Bigrlyi project as well as containing a number of uranium occurrences, including part of the historic Walbiri deposit and the Cappers deposit.

Nine of the twelve Ngalia Regional exploration licences have been granted; the three remaining applications (ELs 24450, 24462 and 27169) are located on Aboriginal Freehold (ALRA) land and Energy Metals is negotiating access agreements with the Traditional Owners through the Central Land Council (CLC) (Figure 3).

A number of high priority targets have been identified on the 100% owned tenements and Energy Metals is undertaking a program of systematic evaluation of these prospects, some of which were originally discovered in the 1970s. In February 2014, EME announced maiden resource estimates for the Bigwest, Anomaly-15 East and Camel Flat satellite deposits and, in October 2015, EME announced inferred JORC resources for the historical Walbiri, Sundberg and Hill One deposits (Figure 3).

### **Activities (December 2020 Quarter)**

No activities this quarter.

### **Macallan (EME 100%)**

The Macallan project comprises a single exploration licence application (ELA27333), located 460 km NW of Alice Springs and 140 km from Bigrlyi. The tenement covers a strong 3km-wide bullseye radiometric anomaly. The Macallan anomaly lies within the Wildcat Palaeovalley, an ancient valley system that drains into Lake Mackay to the southwest. The Macallan anomaly most likely represents a surficial accumulation of uranium minerals associated with the Wildcat palaeodrainage system, although other explanations are possible.

ELA27333 lies on land under Aboriginal Freehold title and access is subject to negotiation with the Traditional Owners and the CLC. The negotiation period has been extended until October 2021 and the CLC are currently reviewing EME's comments on a draft exploration agreement.

## **WESTERN AUSTRALIA**

### **Manyingee (EME 100%)**

The Manyingee project comprises retention licence application R08/3, underlying tenement E08/1480 and exploration licence application E08/2856, which are located 85 km south of

Onslow. The project is located adjacent to mining leases containing Paladin Energy's Manyingee resource, a stacked series of buried, palaeochannel-hosted, roll-front uranium deposits. In November 2016 EME announced an initial JORC (2012) Mineral Resource Estimate for the Manyingee East uranium deposit, which is located up-channel of Paladin's Manyingee deposit.

Law firm Gilbert+Tobin were appointed in 2019 to assist Energy Metals with landholder objections to grant of the Manyingee title applications. Matters progressed during the quarter; however, the Warden's Court hearing has been postponed while various legal matters are considered.

### **Other Deposits - Mopoke Well, Lakeside, Anketell, Lake Mason (all EME 100%)**

These four projects are surficial uranium deposits associated with calcrete or calcretised sediments related to ancient drainage and/or lacustrine systems. All projects are located on granted retention licences and mineral resource estimates under the JORC 2004 or 2012 codes have previously been announced for each deposit. Under present uranium market conditions, the deposits are not economic, however, the market is expected to show improvement in the next 4-5 years and Energy Metals will continue to monitor the situation with a view to re-starting exploration and development activities in line with the prevailing uranium price.

There was no activity during the period.

## **CORPORATE**

Energy Metals remains in a strong financial position with approximately \$16.21 million in cash and bank deposits at the end of the quarter, forming a solid resource for ongoing exploration and project development.

As disclosed under item 6.1 in the Appendix 5B, Energy Metals paid \$67,000 in total during the quarter to related parties and their associates. The payments represented amounts paid to the directors, including salaries, non-executive director's fee and consulting fees.



**Table 1: Tenement Information as required by listing rule 5.3.3**

TENEMENT*	PROJECT	LOCATION	INTEREST	CHANGE IN QUARTER
<b>Northern Territory</b>				
EL24451	Ngalia Regional	Napperby	100%	-
EL31098	Ngalia Regional	Napperby	100%	-
EL31820	Ngalia Regional	Mt Doreen	100%	-
EL31821	Ngalia Regional	Mt Doreen	100%	-
EL32113	Ngalia Regional	Mt Doreen	100%	-
ELR31754	Ngalia Regional	Mt Doreen	100%	-
ELR31755	Ngalia Regional	Mt Doreen	100%	-
ELR31756	Ngalia Regional	Mt Doreen	100%	-
ELR32552	Bigirlyi Joint Venture	Mt Doreen	72.39%	<b>Granted</b>
ELR41	Malawiri Joint Venture	Napperby	76.03%	-
ELR45	Walbiri Joint Venture	Mt Doreen	77.12%	-
EL30004	Ngalia Regional	Mt Doreen	100%	-
ELA27169	Ngalia Regional	Yuendumu	100%	-
EL30144	Bigirlyi Joint Venture	Mt Doreen	72.39%	-
ELR31319	Bigirlyi Joint Venture	Mt Doreen	72.39%	-
ELA24462	Ngalia Regional	Yuendumu	100%	-
ELA24450	Ngalia Regional	Yuendumu	100%	-
ELA27333	Macallan	Tanami	100%	-
MCSA318-328	Bigirlyi Joint Venture	Yuendumu	72.39%	-
MLNA1952	Bigirlyi Joint Venture	Yuendumu	72.39%	-
<b>Western Australia</b>				
E08/1480	Manyingee	Yanrey	100%	-
E08/2856	Manyingee	Yanrey	100%	-
R08/3	Manyingee	Yanrey	100%	-
R21/1	Lakeside	Cue	100%	-
R29/1	Mopoke Well	Leonora	100%	-
R57/2	Lake Mason	Sandstone	100%	-
R58/2	Anketell	Sandstone	100%	-

\* EL = Exploration Licence (NT); ELA = Exploration Licence Application (NT); ELR = Exploration Licence in Retention (NT); ELRA = Exploration Licence in Retention Application (NT); MCSA = Mineral Claim (Southern) Application (NT); MLNA = Mineral Lease (Northern) Application (NT); E = Exploration Licence (WA); R = Retention Licence (WA).

### **Competent Persons Statement**

*Information in this report relating to exploration results, data and cut-off grades is based on information compiled by Dr Wayne Taylor and Mr Lindsay Dudfield. Mr Dudfield is a member of the AusIMM and the AIG. Dr Taylor is a member of the AIG and is a full time employee of Energy Metals; Mr Dudfield is a consultant to Energy Metals. They both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)". Dr Taylor and Mr Dudfield both consent to the inclusion of the*

*information in the report in the form and context in which it appears.*

*The information discussed in this report relating to mineralisation modelling, exploration targets and metallurgical test-work results is based on information compiled by Dr Wayne Taylor. Dr Taylor is a member of the Australian Institute of Geoscientists (MAIG) and a full-time employee of Energy Metals Ltd. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)”. Dr Taylor consents to the inclusion of the information in the report in the form and context in which it appears.*

*This report references mineral resource estimates and/or related information that was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.*