

29 January 2021

## **QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2020**

### **HIGHLIGHTS:**

- Botswana's Ministry of Mineral Resources, Green Technology and Energy Security launched the country's Integrated Resource Plan (IRP) in late December, covering the period 2020-2040.
- Under the IRP, Botswana aims to secure up to 1,540MW of new capacity by 2040, to meet growing energy demand.
- The IRP proposes adding 300MW of coal-fired power via a tender process to be concluded in 2021, seeking operation of the 300MW by 2026, with significant addition of renewable energy sources totalling 460MW by 2027 helping to reduce the carbon footprint.
- The Sese JV is fully permitted and in a strong position to submit a bid into the 300MW tender once announced.
- Business development activities for the Sese JV continued in China and southern Africa related to pursuing project development partners, EPC/OEM contractors and additional power offtake customers.
- Preliminary site visits were made to two of the new exploration licences prospective for large porphyry-style Cu-Au deposits or intrusion related orogenic Au deposits in the South West Terrane of Western Australia, validating the original targeting concepts.
- The Company's investment in Caravel Minerals increased in value by 90% during the quarter and was valued at A\$3.62M as at 31 December 2020.

### **PROJECTS:**

#### **1. Regional Energy Crisis in Southern Africa**

- Southern Africa is currently experiencing a major energy crisis resulting in widespread load shedding, often between 2,000MW (Stage 2 Load Shedding) and 6,000MW (Stage 6 Load Shedding) in South Africa, with a flow through impact in neighbouring countries which import a significant proportion of their power from South Africa, including Botswana, Zambia and Zimbabwe.

- This supply-side crisis is driving strong interest in the low-cost baseload power that can be delivered by the Sese JV Project.
- Many major mining and smelting projects, which are critical to their national economies, are highly dependent on stable power supply. A number of new builds and expansion plans for such projects are contingent on securing long-term power supply at suitable prices.
- The Sese Project is therefore receiving strong interest from potential power buyers and is well placed to satisfy this demand and provide a valuable addition to the southern African energy market.

## **2. Launch of Botswana's Integrated Resource Plan (IRP)**

Botswana's Ministry of Mineral Resources, Green Technology and Energy Security (MMGE) launched the country's Integrated Resource Plan in late December, covering the period 2020-2040. This plan is part of the 11<sup>th</sup> National Development Plan, and consistent with the Government's "Vision 2036" statement.

Under the IRP, Botswana aims to secure up to 1,540MW of new electricity generation capacity by 2040 to meet growing energy demand and reduce its reliance on the poorly performing Morupule coal-fired power stations.

The IRP proposes adding 300MW of coal-fired power via a tender process which MMGE expects to conclude before the end of the year. The 300MW is to be fully installed and operational by 2026 i.e. within 4 years of procurement.

A significant addition of renewable energy sources is also contemplated, totalling 460MW by 2027 and the balance by 2040, helping to reduce the carbon footprint. Battery storage of up to 140MW by 2040 is included in the IRP.

The Sese JV (see below) is fully permitted and in a very strong position to submit a bid into the 300MW tender once it is announced.

## **3. Sese JV (AFR 33.3%, FQM 66.7%)**

African Energy owns 33.3% of the Sese Joint Venture, which is developing the Sese Project. First Quantum Minerals Ltd (FQM) own the remaining 66.7% interest in the Sese Project and is the manager.

The Sese JV has completed several technical studies covering mining, coal preparation and power generation. These studies have established the operating costs, capital costs and a robust financial model for a power project and the associated coal mine and coal processing facilities and have demonstrated that power from Sese could be delivered to the large power consumers in the Zambian Copperbelt or closer (e.g. Botswana should the project be selected under the 300MW coal-fired tender discussed above).

The Sese JV has secured all key licences, permits and stakeholder approvals that are required for power sales including:

- A large-scale mining licence for 25-years (can be renewed) over an area of approximately 51 km<sup>2</sup> which contains 650Mt of coal in resources.
- A Development Approval Order under which the project qualifies for a 5-year tax holiday from the commencement of commercial operations followed by a 15% corporate tax rate.
- Secured Land Rights and an associated 50-year Land Lease Agreement.
- Water extraction rights from Shashe Dam, and an associated Water Supply Agreement.
- Environmental approval for the project for up to 500MW of power generation and the associated coal mining and coal processing volumes.
- Electricity Generation and Export Licence.

Sese JV has executed power sales agreements with Kalumbila Minerals Limited (Zambian subsidiary of FQM) and a Term Sheet with Zimasco (Pvt) Ltd, which together would consume the full output of the initial 300MW power station for a period of 15 years.

Final commercial agreements are required for grid connection and use-of-system agreements in Botswana (negotiations underway), and use-of-system (wheeling) agreements with Zimbabwe and Zambia for power destined for those export markets.

Should the Sese JV be successful in the IRP 300MW tender, this would expand the total project to 600MW, and could result in the first stage (300MW) being allocated to Botswana, with the second stage for export.

### **Outlook:**

- The Sese JV is engaged with prospective partners for financing and construction of the Sese Project and is progressing these negotiations. Negotiations to date have focussed on an initial installed capacity of 300MW gross (2 x 150MW units), which would produce approximately 260MW of net power available for sale and which would satisfy the initial requirements under the Kalumbila Minerals Power Sales Agreement and the Zimasco Term Sheet, or the 300MW IRP tender.
- Continue negotiations for:
  - Conversion of the Zimasco Term Sheet to a Power Sales Agreement
  - Engagement with international power industry partners regarding potential participation in development and financing of the Sese Project.
  - Engagement with OEM and EPC contractors that could provide the equipment and build the proposed power station at Sese.
  - Connection Agreement to the Botswana transmission grid
  - Use of System Agreement related to use of Botswana transmission grid

- Wheeling Agreements (i.e. commercial agreement and costs to transmit the power through third party countries such as Zimbabwe).
- Prepare for 300MW IRP tender submission.

#### **4. Mmamabula West Project, Botswana (AFR 100%)**

PL56/2005 (Mmamabula West Prospecting Licence) contains 2.9BT of thermal coal and was recently renewed for a further two years, expiring on 30 September 2022. African Energy is seeking a partner who is prepared to buy a majority equity stake in the project as an export option for coal into South Africa.

##### **Outlook:**

- Revise mining prefeasibility study to reflect Eskom power station customer requirements, a revised LOM mining schedule and updated capital and operating cost estimates.
- Finalise the Environmental and Social Impact Assessment submission for an integrated coal mine and power station of up to 600MW with the Department of Environmental Affairs.
- Finalise Land Rights approvals.

#### **5. Mmamantswe Integrated Power Project, Botswana (AFR 100%)**

Mmamantswe contains 1.24Bt of thermal coal close to the South African border. The coal quality and coal geometry is suitable for the development of a mine-mouth power station and integrated coal mine, but requires a large off-taker for ~600MW to be viable. The licence is valid until 31 December 2021.

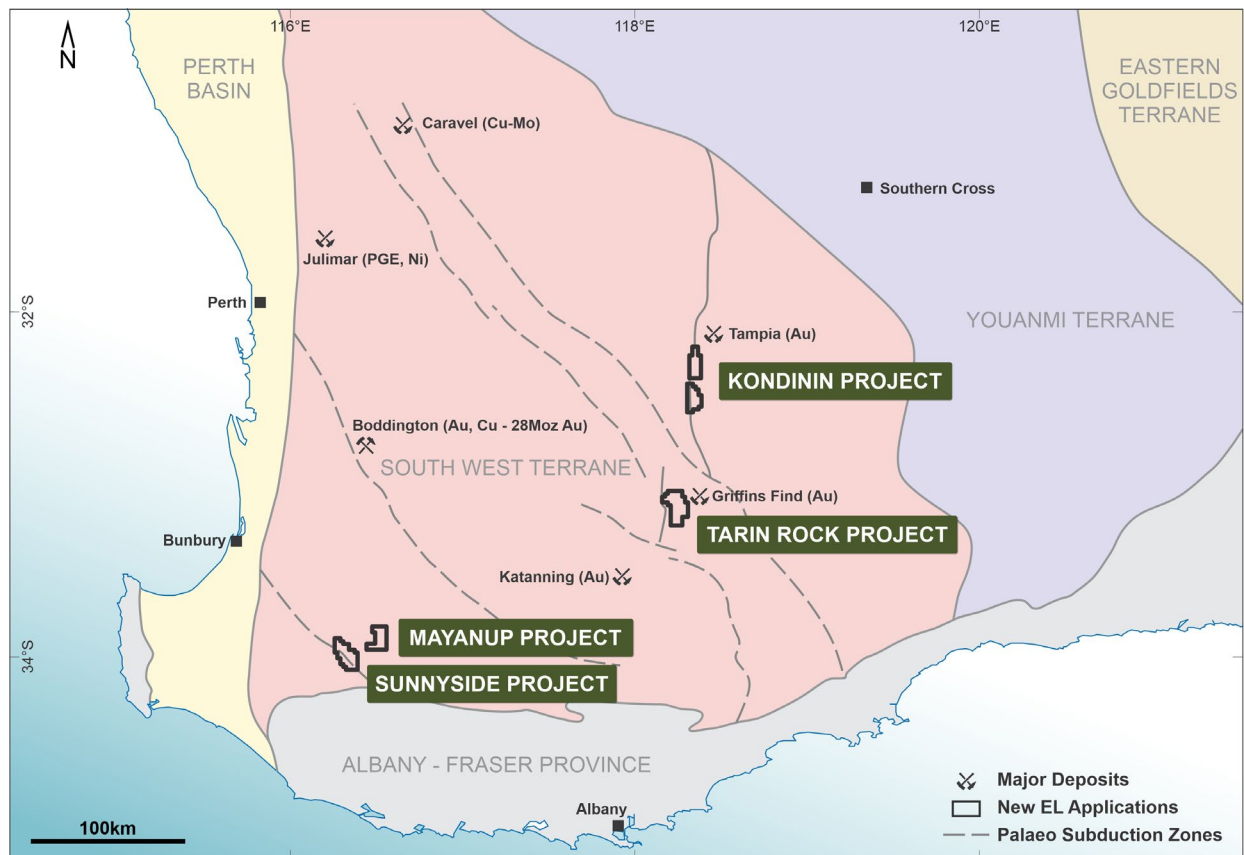
##### **Outlook:**

- Continue with the application for Land Rights over the project area, project access corridor and grid connection corridor.
- Review project development plan against draft update to South Africa's Integrated Resource Plan.

## 6. New Exploration Licence Applications in Western Australia

In the previous Quarter, AFR announced it had submitted five new Exploration Licence applications in the highly prospective South West Terrane of Western Australia.

These applications cover three project areas which are considered prospective for large porphyry-style Cu-Au deposits or intrusion related orogenic Au deposits (see Figure 1 for location). Preliminary evaluation of open file data indicates very limited historical exploration has been undertaken in these areas.



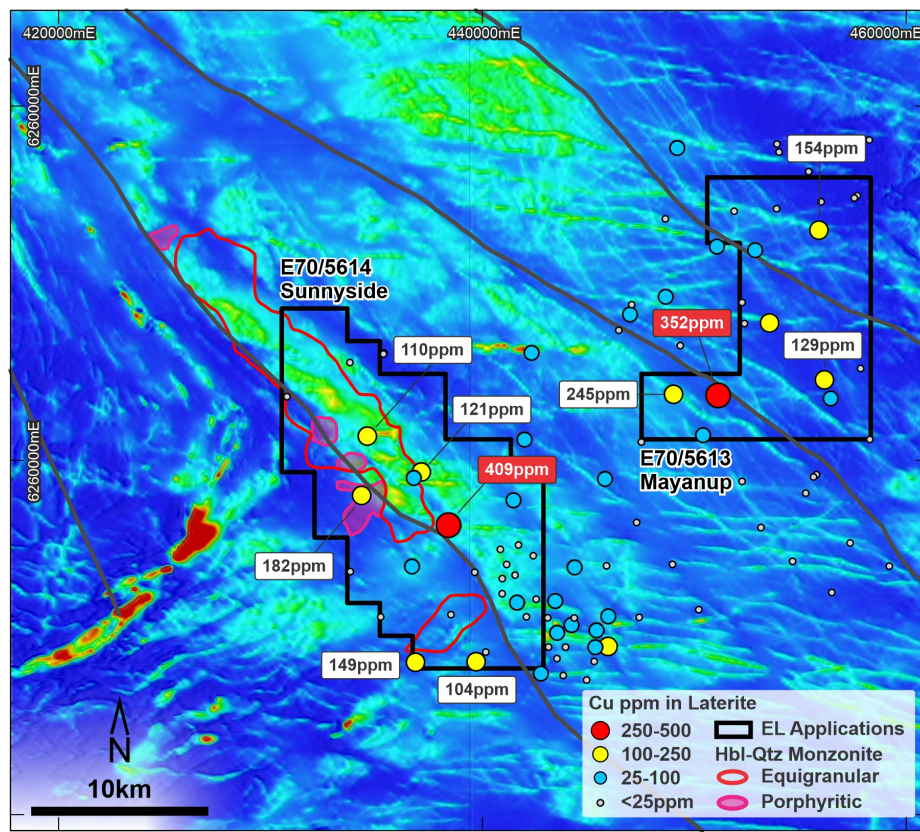
**Figure 1:** Location map showing the five new exploration licence application areas in the SW Terrane of Western Australia.

The Sunnyside-Mayanup and Tarin Rock projects are located close to major crustal scale lineaments believed to represent palaeo-subduction zones that may be spatially related to large-scale porphyry deposits such as Boddington and Caravel. The Kondinin Project straddles a major N-S fault zone which links a palaeo-subduction zone with the terrane boundary between the South West Terrane and the Youanmi Terrane, and which is considered prospective for intrusion related orogenic gold mineralisation.

In the current reporting quarter, the Company conducted preliminary field reconnaissance in the Sunnyside and Mayanup project areas to evaluate historical CSIRO laterite geochemical sampling sites which formed the basis for the area selection (see Figure 2).

The majority of the sample sites that had anomalous copper levels were visited and found to occur in residual lateritic terranes and thus confirmed to be broadly representative of regional

bedrock anomalism, validating the original targeting concept. More detailed sampling will be undertaken once the Exploration Licences have been approved.



**Figure 2:** CSIRO laterite sampling sites and copper assays for the Sunnyside and Mayanup projects in SW Western Australia

### Outlook:

- Initial field reconnaissance of the Tarin Rock and Kondinin project areas will be undertaken in Q1 2021 to evaluate the geochemical sampling medium and to assist with planning follow up sampling.
- Once the exploration licenses have been granted the Company will undertake reconnaissance mapping and geochemical sampling of the project areas to define targets for further follow-up.

*The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The information contained in this announcement was prepared under the JORC Code 2012. References to "Measured, Indicated and Inferred Resources" are to those terms as defined in the JORC Code (2012 edition).*

*Information in this report relating to Exploration results, Mineral Resources or Ore Reserves is based on information compiled by Dr Frazer Tabeart (an employee and the Managing Director of African Energy Resources Limited) who is a member of The Australian Institute of Geoscientists. Dr Tabeart has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person under the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Tabeart consents to the inclusion of the data in the form and context in which it appears.*

## 7. Mining tenements held at the end of the quarter and their location

|                             | Interest at beginning of quarter | Interest at end of quarter | Location | Commodity  |
|-----------------------------|----------------------------------|----------------------------|----------|------------|
| ML2016/42L (Sese ML)        | 33%                              | 33%                        | Botswana | Coal, U    |
| PL096/2005 (Sese PL)        | 33%                              | 33%                        | Botswana | Coal, U    |
| PL197/2007 (Sese West)      | 33%                              | 33%                        | Botswana | Coal, U    |
| PL004/2013 (Foley North)    | 33%                              | 33%                        | Botswana | Industrial |
| PL069/2007 (Mmamantswe)     | 100%                             | 100%                       | Botswana | Coal       |
| PL056/2005 (Mmamabula West) | 100%                             | 100%                       | Botswana | Coal       |

## 8. Corporate

At the date of this report, the Company had;

- 622,960,630 shares on issue
- 31,124,532 unlisted options exercisable at A\$0.02 expiring 20 July 2022 on issue
- Cash reserves of **A\$1.5M**
- Investments in ASX-listed companies valued at **A\$3.0M**
- Nil debt

Approximately US\$19,000 of exploration and evaluation expenditure expensed during the quarter predominantly comprised:

- Application Fees and reconnaissance visits to Western Australian application areas
- Staff costs of exploration data review and project generation; and
- Consultancy fees for advising on the Mmamabula West renewal

Due to the advanced nature of the Companies projects, no substantive mining exploration activities occurred during the quarter.

There were no substantive mining production and development activities during the quarter.

The aggregate amount of payments to related parties and their associates during the quarter of approximately US\$61,000 (refer Item 6 of the accompanying Appendix 5B) comprises the following:

- Director fees (approximately US\$47,000); and
- Mitchell River Group serviced office (approximately US\$14,000)

Authorised for release by Frazer Tabcart, Executive Director of African Energy.

For any further information, please contact the Company directly on +61 8 6465 5500.