

## ASX ANNOUNCEMENT

### Evolution's strategy to become a vertically integrated producer

#### HIGHLIGHTS

- Evolution's primary focus is developing the advanced Chilalo Graphite Project in Tanzania with key upcoming milestones including:
  - Execution of the Framework Agreement with the Government of Tanzania.
  - Completion of the updated Definitive Feasibility Study (Updated DFS) and Front end Engineering Design (FEED).
  - Project financing, with a final investment decision expected in the March quarter, 2023.
- Evolution's vision is to become a vertically integrated producer of sustainably sourced graphite products and battery materials. The suitability of Chilalo's high-quality graphite product to high-value applications is central to that vertical integration.
- Testwork and qualifications have confirmed Chilalo's performance characteristics for graphite foil and hydrogen fuel cells (coarse flake) and battery anode materials (fine flake). This provides Evolution with:
  - The ability to achieve high prices from the sale of its flake graphite concentrate; and
  - A strategic opportunity to develop downstream facilities to purchase Chilalo flake graphite concentrate and manufacture value-added products, thereby capturing higher revenues and margins.
- The Company is advancing these value-accretive downstream business strategies in parallel with the development of Chilalo.

Evolution Energy Minerals ("Evolution" or the "Company") (ASX: EV1, FSE: P77) is pleased to provide strategic context to recent announcements<sup>1</sup> regarding downstream testwork to produce coated spherical graphite ("CSPG") within Evolution's broader strategy to become a vertically integrated producer of sustainably sourced graphite products and battery materials.

Whilst excellent results have been achieved in the CSPG program, the Company's priority remains advancing the Chilalo Graphite Project ("Chilalo") towards a final investment decision ("FID") as soon as practicable.

Driven by battery demand, the market for flake graphite has moved into deficit, resulting in graphite prices increasing from late 2021 into 2022. Whilst prices have flattened during July/August, this is peak season for mining in China, the world's largest supplier of graphite.

Mine supply in China will reduce substantially during the Chinese winter from November to February and as a result, the outlook for graphite prices across all flake sizes remains favourable. It is within this market context that the Company is seeking to develop Chilalo.

<sup>1</sup> ASX announcements dated 6 July 2022, 12 July 2022, 18 July 2022, 21 July 2022 and 22 August 2022.

The Company's project financing process is progressing well with strong interest from banks, development finance institutions and credit funds. Key project milestones required prior to FID include:

- Execution of the Framework Agreement with the Government of Tanzania; and
- Completion of the Updated DFS and FEED – expected in Q4 2022.

The economics of the Updated DFS will continue to be underpinned by high-value coarse flake graphite concentrate, which testwork has confirmed as highly suitable for graphite foil and fuel cells. Owing to the high quality of Chilalo's graphite, the Company has the intention to pursue the manufacture of the following value-added products:

- CSPG and other high-value products from Chilalo's fine flake graphite; and
- Graphite foil from Chilalo's coarse flake graphite.

Working with established partners to obtain vertically integrated exposure to the lucrative battery anode market is expected to enable the Company to capture greater margins in the value chain and drive a materially higher company valuation.

Importantly, progression of these downstream initiatives does not impact upon the timeline for the development of Chilalo. The mine will produce a coarse and fine flake graphite concentrate regardless of the downstream initiatives. It is envisaged that these concentrates will eventually be further processed into high-value graphite products, with the location of the processing facilities to be investigated in the next stages of study.

**Phil Hoskins, Managing Director of Evolution Energy Minerals, commented:**

*"Not all graphite is created equal and determining suitability for use in high-value applications is a matter of testwork and qualification. Whilst the supply of flake graphite concentrate produces solid margins, the real opportunity lies in leveraging our high-quality graphite with proven technology to produce value-added products."*

*"We are committed to rapidly advancing these downstream strategies and have already commenced work on site selection and recruitment of specialist personnel to help drive our strategy."*

**Downstream processing – fine flake graphite**

Evolution has completed a commercial verification program with its US-based technology partner that has determined that Chilalo fine flake graphite:

- Can produce 99.9995% C via thermal purification, exceeding the qualification criteria for applications in the nuclear industry, where ultra-high purity graphite sells for up to US\$30,000/t.
- Generates a yield of approximately 64% spherical graphite from spheroidisation milling, which when compared to the industry average of 40%, will have a substantial impact on revenue and overall economics of a downstream operation.
- Is highly suited to the production of CSPG, which has delivered exceptional electrochemical performance and is expected to be highly sought after by battery manufacturers.
- Outperforms leading synthetic graphite in electrical conductivity applications (note the product tested was the non-spherical by-product of the spheroidisation milling process to produce CSPG).

Discussions are continuing with Evolution's US technology partner in relation to a joint development agreement to secure the technology for the Company's use in its proposed downstream facilities.

The Company is planning further testwork to support a feasibility study for the production of CSPG and other high value graphite products with shorter qualification timeframes than into EV anodes. To support this study work, Evolution has commenced a review of potential downstream site locations, started a

process to recruit specialist personnel and is currently mining a 500-tonne bulk sample of Chilalo ore, which will be used to support qualification with both lithium-ion and alkaline battery manufacturers.

### **Downstream processing – coarse flake graphite**

Evolution is well advanced in its discussions with its cornerstone offtake partner, Yichang Xincheng Graphite Co Ltd (“**YXGC**”) regarding the formation of a joint venture to manufacture expandable graphite products, including graphite foil and bi-polar plates for use in hydrogen fuel cells. YXGC is the global leader in the manufacture of these products and is central to the technology and marketing efforts of the proposed JV.

Immediately upon entering into a joint venture with YXGC, a scoping study is expected to commence. To enable that study to be completed as quickly as possible, the Company has begun preliminary work to assess site locations and will use material from the 500-tonne bulk sample described above, to undertake product qualification with targeted customers.

YXGC remains committed to the 30,000-tonne binding offtake agreement signed earlier this year. Any Chilalo graphite proposed to be sold into this downstream JV would likely require an expansion to Chilalo’s initially proposed production level.

This announcement has been approved for release by the Evolution board of directors.

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# ABOUT EVOLUTION (ASX:EV1)



## Development ready

Chilalo Graphite Project in Tanzania



## 58% > 80 Mesh

World leading flake size = highest margins



## Unique offtake and downstream collaboration

Extensive product qualifications with YXGC, global leader for EG and foil



## Framework agreement

To provide Tanzanian government certainty



## FID by H1 2023

Strategic ESG fund cornerstone support



## Sustainable battery anode strategy

Superior performance, environmentally friendly thermal purification



## Carbon neutrality

Pursuing net zero carbon from day one

**Evolution's vision is to become a vertically integrated company that will only supply sustainably sourced graphite products and battery materials.**

This will be achieved by combining our unique graphite source with industry-leading technology partners, working closely with customers and producing diversified downstream products in both Tanzania and strategically located manufacturing hubs around the world. Evolution is committed to being global leaders in ESG and ensuring its operations support the push for decarbonisation and the global green economy.

**EVOLUTION**  
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