

ASX ANNOUNCEMENT AND MEDIA RELEASE

16 AUGUST 2022

## **Commencement of Direct Shipping Ore study and Scoping Study update at Wonarah Phosphate Project**

### **HIGHLIGHTS**

- **Commencement of Direct Shipping Ore (DSO) study to verify feasibility and fast track opportunity for rapid market supply**
- **Rock Phosphate 32% P<sub>2</sub>O<sub>5</sub> prices have increased approximately 400% from a 10 year low in April 2020**
- **The high-grade nature of the Wonarah Phosphate Project is advantageous to regional offtake partners**
- **Historic 400,000t bulk sample provides great evidence of quality and feasibility of the orebody**
- **Avenira has appointed engineering firm Bechtel Australia Pty Ltd to complete Scoping Study**

### **DSO Study**

Avenira Limited (ASX:AEV) (**Avenira** or the **Company**) is pleased to announce that it has commenced a DSO Study to determine the feasibility of mining its Wonarah deposit and direct shipping of the phosphate ore to interested regional offtake companies.

The Morocco Rock Phosphate price for 32% P<sub>2</sub>O<sub>5</sub> has increased from ~US\$80/t in April 2020 to US\$320/t last month<sup>1</sup>. This upwards trend has been particularly evident over the past 12 months due to a combination of economic and geopolitical factors, including:

- The Russian and Chinese ban on phosphate exports implemented approximately 18 months ago.
- European Union heavy metal limits for phosphate imports affecting supply originating from Morocco and the Middle East.
- The ongoing Russian invasion of Ukraine constricting supply of ammonia supply for fertilizer manufacture.

Avenira has engaged consultants and is seeking proposals from contractors to fast track a DSO operation at Wonarah, exporting product from Darwin. These appointments and proposals include:

- The engagement of a mining consultant to prepare a revised mining plan with a 30% P<sub>2</sub>O<sub>5</sub> grade cutoff, and another consultant to prepare a mine management plan.
- Requests for quotations from mining, processing and road / rail haulage contractors
- Discussions with the Arruwarra Aboriginal Corporation regarding leasing the existing gas pipeline construction camp (less than 5 years old) adjacent to the Wonarah deposit.

<sup>1</sup> World Bank Pink Sheets Commodity Report 2 August 2022

- Testing representative phosphate ore samples from existing core and pulps for DSO potential.
- Preparing marketing samples retrieved from Wonarah test pit in late July 2022 for dispatch to three (3) potential offtake partners in the APAC region. One of these companies has asked for 2 x 25,000t trial shipments.

Avenir has also been working through the approvals necessary to commence a DSO operation:

- Environmental approval from historical DES is current and valid
- Indigenous Land Use Agreement discussions have commenced with traditional owners with a shared understanding of the fast-track opportunity
- Mining licence discussions have commenced with NT Government

Avenir has historically held all material approvals before and based on discussions with key stakeholders, there is a shared understanding about the importance of the Project. Stakeholders have been made aware of the advantages of a fast track DSO operation and are supportive of the opportunity to take advantage of the recent high commodity pricing environment.

Part of the DSO Study and negotiations with contractors is exploring opportunities to offset the requirements for significant capital expenditure and working capital. Options under consideration may include a future revenue waterfall arrangement or a similar financing structure.

## Scoping Study Update

The Wonarah Scoping Study to develop the Tier 1 Wonarah Phosphate Project to produce critical end products for LFP batteries and fertilizer industries is near completion with existing work completed by GR Engineering Services.

Part of this work completed included a strategic review of both the Lithium Ferro Phosphate ( $\text{LiFePO}_4$ ) pre-cursor cathode market, and the global fertilizer market. This review determined the appointment of an additional Engineer was necessary to complete the Scoping Study due to the increased scope of downstream Ferro Phosphate and Lithium Ferro Phosphate manufacturing opportunities.

Avenir Ltd has appointed Bechtel Australia Pty Ltd (**Bechtel**) to complete an evaluation of the technology for a Battery Grade Lithium Iron Phosphate Powder Plant (LFP) for application in Australia. The Project continues to use the Wonarah Phosphate deposit to feed a high purity phosphoric acid plant and will seek to combine this with a downstream LFP manufacturing plant located potentially in Darwin or Perth.

Bechtel and Avenir were in Asia with their engineering teams last week undertaking detailed due diligence of an operating LFP manufacturing plant. Avenir wishes to replicate the design and operation in a low risk Australian implementation.

Bechtel was selected due to its expertise in mineral, energy and manufacturing projects. It is one of the largest global engineering and construction companies and has specific experience in phosphate processing, pre-cursor cathode manufacturing, battery cell manufacturing and working with international vendors. Their design teams are based in Melbourne and Brisbane.

**Avenira's Executive Chairman, Mr. Brett Clark commented,**

*"The phosphate and LFP markets have changed considerably in the last 12 months providing a great opportunity to advance Avenira's Tier 1 Wonarah Phosphate Project. It is great to welcome Bechtel as part of the solution team for implementation and realisation of Wonarah's great potential."*

**This announcement has been authorised by the Board of Avenira**

**Brett Clark**

**Executive Chairman**

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## Wonarah Phosphate Project (Avenira 100%)



FIGURE 1: WONARAH PROJECT LOCATION MAP

### Wonarah Project Summary

- High Grade Phosphate Resource of 67Mt @ 30.0% P<sub>2</sub>O<sub>5</sub>, (27% P<sub>2</sub>O<sub>5</sub> cutoff grade).
  - Tier 1 large premium grade phosphate deposit in Australia (15% Cut off grade):
    - Measured Resource of 64.9 Mt @ 22.4% P<sub>2</sub>O<sub>5</sub>;
    - Indicated Resource of 133 Mt @ 21.1% P<sub>2</sub>O<sub>5</sub>;
    - Inferred Resource of 352 Mt @ 21% P<sub>2</sub>O<sub>5</sub>.
    - 100%-owned by Avenira.
  - Scoping study to develop the Tier 1 Wonarah Phosphate Project to produce critical end products for LFP batteries and fertilizer industries near completion with GR Engineering Services.
  - Excellent infrastructure including nearby road, rail, gas, and water.
  - Strategic review underway into supply/demand from:
    - Lithium ferro phosphate (LiFePO<sub>4</sub>) pre cursor cathode market;
    - Fertilizer market.
- Ongoing discussions with strategic downstream industry participants.