



# **Wonarah Project**

November 2021

**ASX: AEV** 

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Information in this document relating to Exploration Results or estimates of Mineral Resources or Ore Reserves has been extracted from the reports listed below. The reports are available to be viewed on the company website at: www.avenira.com

#### Wonarah Project

15 March 2013: Technical Report Mineral Resource Estimation for the Wonarah Phosphate Project, Northern Territory, Australia 30 April 2014: Quarterly activities report

Avenira confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Avenira confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

### **Wonarah Project**

- Largest premium grade phosphate deposit in Australia
- 100%-owned by Avenira
- Existing JORC 2012 resource with additional upside
- Scoping study for phosphoric acid underway with GR Engineering Services
- Excellent infrastructure including nearby road, rail, gas, and water
- Strategic review underway into supply/demand from:
  - Lithium ferro phosphate (LiFePO4) cathode market (growing strongly)
  - Fertilizer market (typically seasonal)
- Ongoing discussions with downstream industry participants

Avenira and Wonarah positioned to leverage strong phosphate demand growth in Agriculture and Electric Vehicles



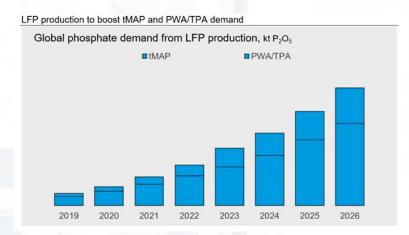


### **Phosphate Market - Batteries**

Lithium Ferro Phosphate (LFP) batteries are growing in popularity for electric vehicles and static storage due to:

- Low cost, effective
- Safe, low toxicity
- Reliable, well-defined performance, longer life cycle
- Long-term performance stability and thermal stability
- Nickel and cobalt-free recycling friendly
- Good potential replacement for lead-acid batteries
- Leading vehicle manufacturers switching to LFP
- Korean battery producers now moving towards LFP

Lithium Ferro Phosphate batteries are the fastest growing segment of the battery industry



Source CRU: No Y Axis scale supplied, but demand is predicted to be three fold by 2026. tMAP is technical mono ammonium phosphate or purified phosphoric acid about 61%  $P_2O_5$  and PWA/TPA is purified wet acid approximately 60%  $P_2O_5$ 

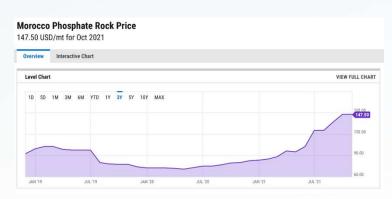


# **Phosphate Market - Fertilizers**

#### Fertilizer demand is continuing to improve:

- 70% higher food demand predicted by 2050
- Phosphate is a vital ingredient for NPK fertilisers
- Depleted soil nutrients require replenishment
- Phosphate rock, DAP/ MAP (phosphoric acid) markets have improved substantially
- Strong price performance with more than doubling of phosphate rock and DAP/MAP prices in last 12 months

Phosphate demand is continuing with rock and DAP/MAP with corresponding phosphate price increases.



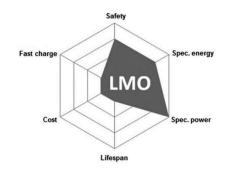
Source: Y Charts, 3 year chart Morocco Phosphate Price



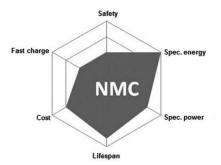
#### Rise of LiFePO<sub>4</sub> Batteries

AVENIRA P

- LiFePO4 (LFP) batteries are growing in popularity for a variety of applications
- They are typically less energy dense than Lithium-ion batteries but much longer lived, cheaper, and more easily recycled
- Tesla recently announced in its 3Q investor deck that it would be changing the battery in its standard range vehicles to LFP
- With electric cars growing in popularity worldwide, switching to LFP batteries can potentially reduce the cost of an electric car by 20-25%
- Electric vehicles will become cheaper than internal combustion vehicles within 3 -4 years according to Tritium, global vehicle charging designer, developer, operator











**Source: BCG, Spider diagram** showing advantages of LFP batteries, e.g. larger grey area = better all-round performance in Safety, Energy, Power, Lifespan and fast charging compared to other batteries. LMO = Lithium Manganese Oxide, NCA = Lithium Nickel Cobalt Aluminum, NMC = Lithium Nickel Manganese Cobalt, LFMP = Lithium Iron Manganese Phosphate

## **Wonarah Project: Specifics**

- Largest premium grade phosphate resource (15% P2O5 cutoff) in Australia:
  - Measured Resource of 64.9 Mt @ 22.4% P2O5
  - Indicated Resource of 133 Mt @ 21.1% P2O5
  - Inferred Resource of 352 Mt @ 21% P2O5
- 111 Mt at 24.5% P2O5 Measured and Indicated Resource (20% P2O5 cutoff)
- Definitive feasibility study completed for a DSO operation by AMC Mining Consultants and Lycopodium
- Seed investment in alternative Phosphoric Acid technology company Novaphos Inc in 2010
- Infrastructure in place
  - Sealed road, rail to Darwin Port nearby
  - Northern Gas Pipeline runs through the project area.
  - Near potable quality water close to leases
- Northern Territory EPA has approved Mine Management Plan assessment process for Novaphos operations
- Scoping study being finalised to supply Battery and Fertiliser industries



## **Wonarah Project: Next Steps**



Near term activities



Scoping study update to focus on high value Phosphoric Acid product for LFP battery metals and fertilizers

Continue strategic review of phosphate markets (batteries and fertilizer)

Discussions with potential strategic partners

Commence feasibility studies to develop a pathway to production



### **Corporate Overview**

# AVENIRA \$

#### **Corporate and Technical Team**



Brett Clark
Executive Chairman

Engineer and Investment Banker with +30 years of Board and Senior Management/ Executive experience.

Extensive exposure to financial/capital markets, project development and operations having previously worked in senior management with St Ives Gold (WMC) and with one of the worlds largest gold / copper discoveries Reko Dig (Barrick Gold/ Antofagasta)



Kevin Dundo
Non-Executive Director

Experienced corporate lawyer with +20 years gold sector experience. Chairman of Red 5 Limited (ASX:RED) and NED of Imdex Ltd.



Australian qualified lawyer and a CPA. Established history of engagement between China based entities and Australian mining projects. Currently NED of Vonex Limited.



Dr Geoffrey Xue
Non-Executive Director

PhD & Masters in Economic Geology. Experienced mining and investment banker in Australia, Significant experience in gold project development. Currently the Project Manager at Anova Metals Ltd.



#### Roger Harris Non-Executive Director

Winnie Lai Hadad

Non-Executive Director

B App Science. Founding director / owner of a large service-based company with branches in Western Australia and SE Asia . Operates a family office for 30 years investing in the natural resources sector.



Stephen Harrison Chief Geologist

A senior geologist previously responsible for exploration programs in the Yandal Greenstone Belt, including at the Jundee Gold Mine.



#### Graeme Smith CFO and Company Secretary

Mr Smith is the principal of Wembley Corporate Services which provide corporate secretarial, CFO and governance services. Mr Smith has over 25 years' experience in company secretarial work and CFO roles in listed companies.





Capital Structure	
Shares on issue (ASX:AEV)	862.9M
Unlisted Options	60.oM
Top 20 Shareholders 23 March 2021	~38%
Market Capitalisation 5 November 2021	A\$21.6M
Cash (@ 30 September 2021)	A\$1.09M
Debt	\$3m

# **Wonarah Project: Conclusion**

- · Worldwide demand for phosphate is growing
  - Lithium Iron Phosphate Batteries
  - Rock phosphate, DAP/MAP
- Wonarah is the largest premium grade undeveloped phosphate project in Australia
- · World class infrastructure adjacent to project
- 100% owned by Avenira
- · Scoping study update soon with battery and fertiliser market optionality
- Strategic partnerships possible in both battery and fertilizer investor markets





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