

## AGM Presentation

ASX: AEV ♦ ABN 48 116 296 541



NOVEMBER 2017

## **Disclaimer**

This document has been independently prepared by Avenira Limited (**Avenira or the Company**) and is provided for informational purposes only. This document does not constitute or contain an offer, invitation, solicitation or recommendation with respect to the purchase or sale of any security in Avenira. This document does not constitute an offer to sell, or a solicitation of an offer to buy, any securities in any jurisdiction (in particular, the United States), or a securities recommendation. This document is not a prospectus, product disclosure statement or other offering document under Australian law or any other law, and will not be lodged with the Australian Securities and Investments Commission.

## **Summary information**

This document contains a summary of information about Avenira and its activities that is current as at the date of this document. The information in this document is general in nature and does not purport to be complete or to contain all the information which a prospective investor may require in evaluating a possible investment in Avenira or that would be required in a prospectus or a product disclosure statement prepared in accordance with the Corporations Act 2001 (Cth) (**Corporations Act**).

## **No liability**

The information contained in this document has been prepared in good faith by Avenira, however no guarantee representation or warranty expressed or implied is or will be made by any person (including Avenira and its affiliates and their directors, officers, employees, associates, advisers and agents) as to the accuracy, reliability, correctness, completeness or adequacy of any statements, estimates, options, conclusions or other information contained in this document.

To the maximum extent permitted by law, Avenira and its affiliates and their directors, officers employees, associates, advisers and agents each expressly disclaims any and all liability, including, without limitation, any liability arising out of fault or negligence, for any loss arising from the use of or reliance on information contained in this document including representations or warranties or in relation to the accuracy or completeness of the information, statements, opinions, forecasts, reports or other matters, express or implied, contained in, arising out of or derived from, or for omissions from, this document including, without limitation, any financial information, any estimates or projections and any other financial information derived therefrom.

Statements in this document are made only as of the date of this document unless otherwise stated and the information in this document remains subject to change without notice. No responsibility or liability is assumed by Avenira or any of its affiliates for updating any information in this document or to inform any recipient of any new or more accurate information or any errors or mis-descriptions of which Avenira and any of its affiliates or advisers may become aware.

## **Cautionary Statement Regarding Forward looking information**

Certain information in this document refers to the intentions of Avenira, but these are not intended to be forecasts, forward looking statements or statements about the future matters for the purposes of the Corporations Act or any other applicable law. The occurrence of the events in the future are subject to risk, uncertainties and other actions that may cause Avenira's actual results, performance or achievements to differ from those referred to in this document. Accordingly Avenira and its affiliates and their directors, officers, employees and agents do not give any assurance or guarantee that the occurrence of these events referred to in the document will actually occur as contemplated.

Statements contained in this document, including but not limited to those regarding the possible or assumed future costs, the global economic climate, commodity prices, environmental risks, performance, dividends, returns, revenue, exchange rates, potential growth of Avenira, industry growth or other projections and any estimated company earnings are or may be forward looking statements. Forward-looking statements can generally be identified by the use of words such as 'project', 'foresee', 'plan', 'expect', 'aim', 'intend', 'anticipate', 'believe', 'estimate', 'may', 'should', 'will' or similar expressions. These statements relate to future events and expectations and as such involve known and unknown risks and significant uncertainties, many of which are outside the control of Avenira. Actual results, performance, actions and developments of Avenira may differ materially from those expressed or implied by the forward-looking statements in this document.

Such forward-looking statements speak only as of the date of this document. There can be no assurance that actual outcomes will not differ materially from these statements. To the maximum extent permitted by law, Avenira and any of its affiliates and their directors, officers, employees, agents, associates and advisers:

- disclaim any obligations or undertaking to release any updates or revisions to the information to reflect any change in expectations or assumptions;
- do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and
- disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence).

## **Not financial product advice**

This document does not constitute financial product advice or take into account your investment objectives, taxation situation, financial situation or needs. This document consists purely of factual information and does not involve or imply a recommendation of a statement of opinion in respect of whether to buy, sell or hold a financial product.

An investment in Avenira is considered to be speculative in nature. Before making any investment decision in connection with any acquisition of securities, investors should consult their own legal, tax and/or financial advisers in relation to the information in, and action taken on the basis of, this document.

## **Information in this document is confidential**

This document and the information contained within it are strictly confidential and are intended for the exclusive benefit of the persons to whom it is given. It may not be reproduced, disseminated, quoted or referred to, in whole or in part, without the express consent of Avenira. By receiving this document, you agree to keep the information confidential, not to disclose any of the information contained in this document to any other person and not to copy, use, publish, record or reproduce the information in this document without the prior written consent of Avenira, which may be withheld in its absolute discretion.

## **Acceptance**

By attending an investor presentation or briefing, or accepting, accessing or reviewing this document you acknowledge and agree to the "Disclaimers" as set out above.

## **Compliance Statement**

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](http://www.avenira.com)

### **Baobab Project**

21 January 2016: Technical Report Mineral Resource Estimation for the Gadde Bissik Phosphate Deposit, Republic of Senegal

28 October 2016: September 2016 Quarterly Activities Report

23 February 2017: Baobab Exploration Results Update

2 March 2017: Significant Increase to Indicated Mineral Resource at Baobab Phosphate Project

9 June 2017: Company Update (Strategic Plan)

31 July 2017: June 2017 Quarterly Activities Report

11 September 2017: Baobab Exploration Results Update

12 October 2017: Mineral Resource increase at Baobab Phosphate Project

### **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.

*Avenira is a phosphate rock mining company. Our flagship asset, the 80%-owned Baobab mine in Senegal, is being positioned for a major capacity expansion.*

## Avenira owns a producing phosphate rock mine in Senegal

- Senegal is a stable and mining-friendly West African country
- Indicated Resource of 34.9 Mt @ 20.7%  $P_2O_5$ , Inferred Resource of 156 Mt @ 18%  $P_2O_5$ <sup>1</sup>
- Processing-friendly deposit – free dig, well-defined silica and apatite grains
- Well located relative to key infrastructure
- Started production in 2016, with 2 cargoes already shipped

## 1 Mtpa expansion project to be progressed in the near-term<sup>2</sup>

- Targeting increased production and enhanced recoveries, to improve product quality and reduce operating costs to a competitive position on the cost-curve<sup>3</sup>
- Only requires well-understood crushing, flotation, magnetic separation and drying technologies
- High-grade product (~ 35%  $P_2O_5$ ) expected, aiming to attract prices at a premium to benchmark
- Existing operations extensively de-risk expansion plans
- Hatch upfront capital estimate of US\$53m (to ± 30% accuracy, assuming contract mining), Avenira's 80% share US\$43m<sup>4</sup>

## Refreshed Board and management

- Key personnel have deep experience in the phosphate, mining and operating in Africa

## Strong and supportive shareholders

- Largest shareholders are Agrifos (currently 24.7%, incl. associates) and Mimran Group (currently 17.4%)
- Agrifos is a privately owned fertilizer development company
- Mimran Group is the largest private-sector employer in Senegal, with interests in sugar refining, agribusiness and mining

**Note 1:** Refer to the 'Mineral Resource at Baobab Phosphate Project' announcement on the ASX dated 12<sup>th</sup> October 2017, and the Compliance Statement of page 2 of this presentation.

**Note 2:** Subject to completion of studies, internal and Government approvals and financing.

**Note 3:** On a quality-adjusted basis and relative to CRU 2017 estimates for other operations. See further slide 13.

**Note 4:** Based on initial estimate to +/- 30% accuracy from Hatch conceptual engineering study of US\$53.4m.

**Source:** CRU Phosphate Rock Cost Report (2017), Profercy Phosphates (12 October 2017).

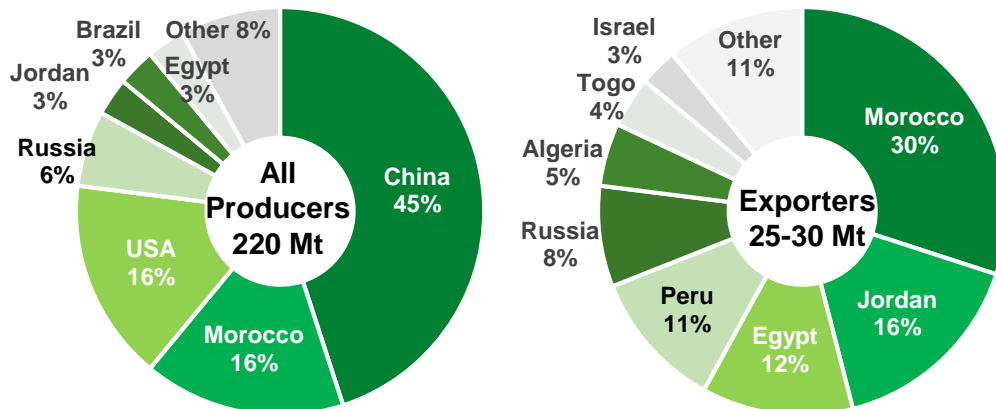


# Phosphate Market

*Phosphate is a key ingredient in fertilisers, which provide essential nutrients to soils, livestock & people, resulting in more food, better nutrition and healthier lives.*

## PHOSPHATE OVERVIEW

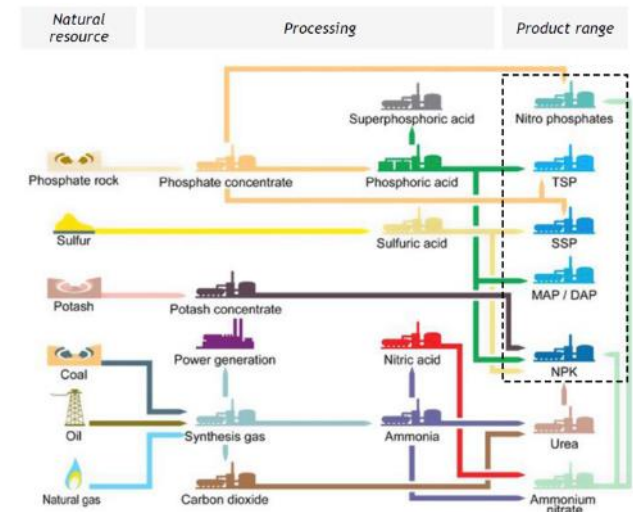
- Phosphate rock is mined from igneous apatites, sedimentary phosphates, or guano deposits
  - It is the ingredient for essentially all phosphate products
  - > 90% of global demand is in fertilisers
- High incidence of vertical integration: only ~ 12-15% of annual global phosphate rock demand is traded
- Sector currently at a cyclical low
- Demand expected to continue growing as world population grows and standards of living improve
- Demand from Africa expected to rise with significant population growth and urbanization driving food production



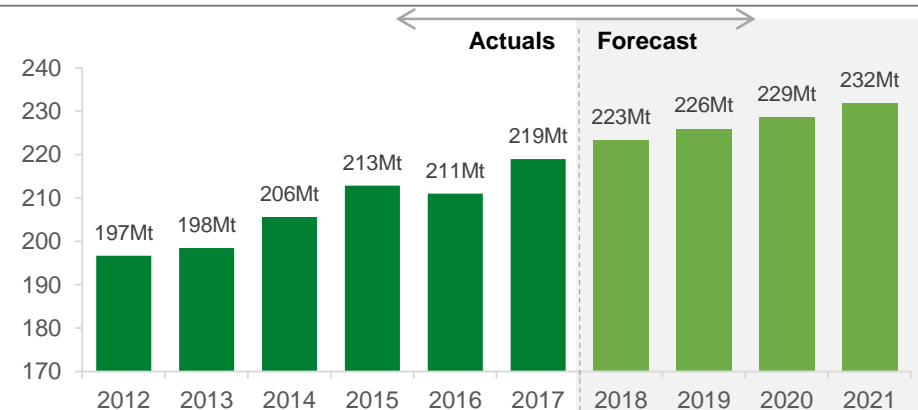
Source: CRU – Phosphate Rock Market Outlook February 2017, IFA, Argus FMB

## DEMAND DRIVERS & PRODUCT RANGE

- ✓ **Population growth and food demand**
- ✓ **Declining arable land per capita**
- ✓ **Increasing farming intensity**
- ✓ **Lack of substitutes**
- ✓ **Undernutrition** (over 2 billion people)



## PHOSPHATE ROCK DEMAND FORECAST



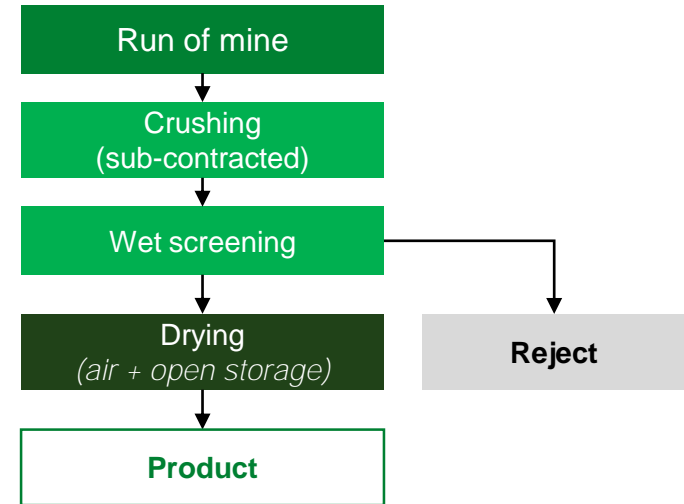
## EXPANSION OVERVIEW

- Current plant sub-optimal due to simple washing technique being used
  - Low product recovery and production volumes, resulting in high unit costs and sub-optimal product quality
- Major plant upgrade planned, including **new crushing plant, flotation unit, magnetic separation, drying and covered staging storage**
- Plant designed to process approximately 2.4 Mtpa of nominal grade 20.6%  $P_2O_5$  feed to produce approximately 1.0 Mtpa with product grade of ~ 35%  $P_2O_5$**
- Mining concession to be expanded to targeted 75 km<sup>2</sup> (upon grant of LMP) – all permits and applications lodged for Large Mine Permit (LMP), which is expected to be granted by Q1 CY18

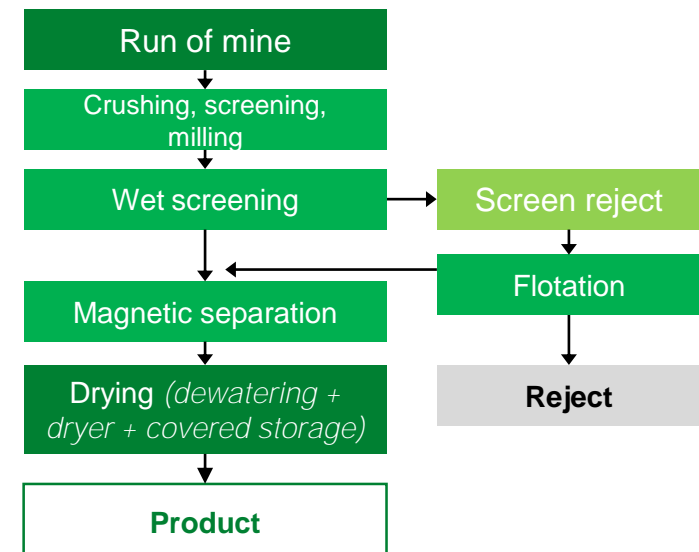
## TARGETED EXPANSION OUTCOMES

- Targeting year round production with capacity of ~ 1 Mtpa
- Targeting an increase in phosphate recovery from ~ 50% to ~ 70%
- Targeting significantly improved product specifications to attract a higher price
- Seeking to reduce moisture from 4% to 3% and to achieve a competitive MER and silica assay
- Seeking to produce higher grade (~ 35%  $P_2O_5$ ) product with a low CaO: $P_2O_5$  ratio (< 1.4)

## CURRENT FLOW SHEET



## IMPROVED FLOW SHEET



## CAPITAL COST ESTIMATES

- Concept level engineering work undertaken by Hatch indicates a **capital cost estimate of US\$53.4 million for the expansion and upgrade of the processing plant ( $\pm 30\%$  basis, assuming contractor mining)**
  - Includes direct costs of US\$28.9 million, indirect costs of US\$13.8 million and a contingency of US\$10.7 million
  - **Avenira's 80% share estimated at US\$42.7 million**
- Excludes mobile equipment, mine infrastructure, site buildings or camp, site security and site communication systems
- Key engineering scope assumptions:
  - Existing water supply is sufficient for plant demand
  - Existing tailings impoundment area is sufficient for life of mine
  - No incremental capital costs associated with securing increased electrical power requirements
- Mobile fleet required for owner-mining estimated upfront capital cost of approximately US\$40 million (reviewed by Hatch)



### Notes:

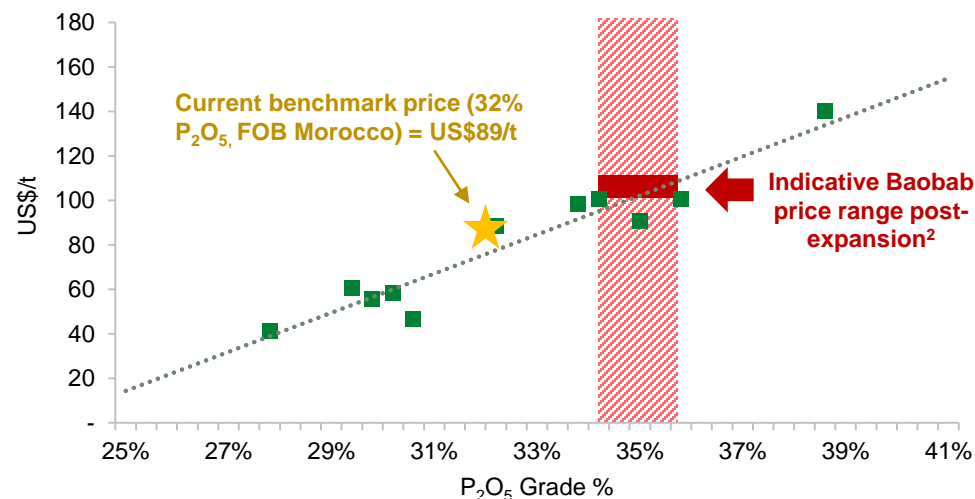
1. The Company does not anticipate capital costs being less than US\$53.4m. Further work to refine this estimate will be undertaken in the next phase of study.

## POST EXPANSION PRODUCT SPECIFICATIONS

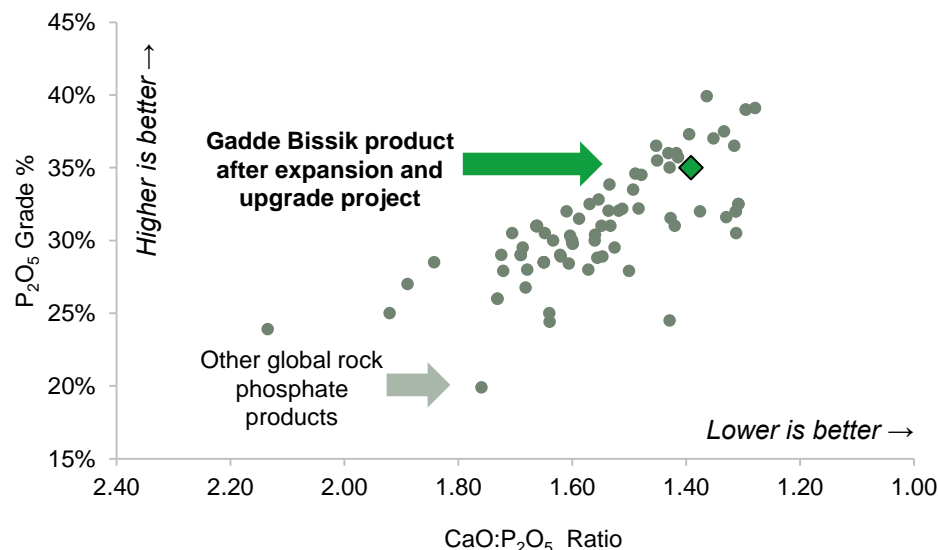
- Most important characteristics for phosphate rock are:
  - $P_2O_5$  content (higher is better)
  - $CaO:P_2O_5$  ratio (lower is better)
  - Minor Elements Ratio, or MER (lower is better)
- Differences in quality can impact manufacturing costs of downstream products, and value of downstream products themselves
- Following expansion and upgrade project, the plant should be capable of producing phosphate rock concentrate with the following specifications:
  - High  $P_2O_5$  content of ~ 35%
  - Low  $CaO:P_2O_5$  ratio of < 1.4
  - Low organic content and corrosivity
  - Competitive MER and silica content
- Based on CRU methodology set out in CRU Phosphate Rock Cost Report, these improved specifications could potentially attract a ~ US\$10/t premium to the current Moroccan 31%  $P_2O_5$  FOB price of ~ US\$ 80/t<sup>1,2</sup>
  - Premium will ultimately depend on terms negotiated with off-take partners, and new entrant discounts may apply initially

**Note 1:** Price relationship as at 12 October 2017, as per the Profercy Phosphates Report.  
**Note 2:** CRU Phosphate Rock Cost Report (2017), CRU Phosphate Rock Outlook (August 2017).

## PRICES VS. $P_2O_5$ CONTENT<sup>1</sup>



## $P_2O_5$ GRADE VS. $CaO:P_2O_5$ RATIO





## EXPANSION ESTIMATES

- The expansion and upgrade project aims to place the Baobab mine in a globally competitive unit operating cost position
- Hatch's engineering estimates (based on mining experience, contractor quotes and engineering projections) indicate **FOB cash operating costs** in the range of **US\$46-56/tonne**
  - Low-end assumes owner-mining, high-end assumes contractor mining
  - Processing costs estimated by Hatch and Avenira
  - Other costs based on refreshed quotes and company estimates for country-specific input costs (based on existing operations) and royalty rates
  - Avenira's experience operating the mine gives additional confidence to these estimates

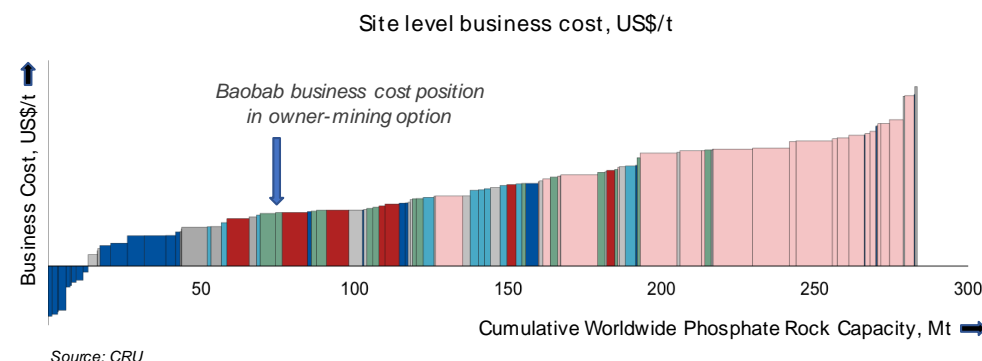
## CASH UNIT OPERATING COST ESTIMATES

US\$/t, FOB vessel & before quality adjustments	Contract-mining	Owner-mining
Mining	22	12
Processing Plant	14	14
Transport, Logistics & Royalties	20	20
<b>Total</b>	<b>US\$56/t</b>	<b>US\$46/t</b>

## BUSINESS COST COMPARISON

- CRU estimated 'business cost' curve for phosphate rock production includes site-based costs, transport costs and location and quality adjustments
- Baobab Project to potentially be in the lowest quartile of CRU's 2017 "business cost" curve (in an owner-mining scenario)
  - Includes US\$10/t quality adjustment described on page 12
- Baobab would lie in a competitive cost position post expansion and upgrade relative to the global market

## CRU QUALITY-ADJUSTED COST-CURVE (US\$/t)



## DOWNSTREAM PROCESSING CAPACITY

- Ultimate goal of Baobab project is to have downstream capacity in addition to phosphate rock mining
  - Feasibility studies will be commenced in the medium term to support the expansion
- Phosphoric acid capacity – likely using the IHP technology (if successfully commercialised) to which Avenira has exclusive rights for Senegal and Australia
- Fertilizer capacity will be studied in detail as soon practically possible
- Expansion project is consistent with and sets the stage for this longer term downstream plan
- Africa is a key development continent for fertilizers
  - Population growth, current low application rates, urbanization
  - Downstream manufacturing capacity will open this domestic market to Avenira

## POTENTIAL PARTNERS AND ATTRACTIVENESS

Non-integrated fertilizer producers needing rock or processed fertilizers in their systems are potential partners in the project through

- Long-term offtake commitments
- Equity share in the project

**The Baobab Project is of world scale  
and provides a strong foundation for such  
downstream development**



## Now

### Entitlement and Placement Offers

- Entitlement offer and placement offer to raise between A\$13-15 million (before costs)
- 9-for-20 at a price of 4.8 cents / share
- Foster Stockbroking Pty Ltd appointed as lead manager

### Support from Existing Shareholders

- Close to fully underwritten, with commitments from existing shareholders of ~ A\$12.34m including;
  - Tablo (affiliate of Groupe Mimran) – A\$4.20m (incl. underwriting of A\$1.94m<sup>1</sup>)
  - Agrifos – A\$2.80m
  - Agrifields – A\$5.14m (incl. underwriting of A\$4.65m), and with a minimum commitment of A\$2.49m

### Use of Funds<sup>1</sup>

- Repayment of shareholder loans (A\$6.4 million)
- Completion of engineering studies for expansion / optimisation
- Finalisation of Large Mine Permit application
- Potential lease down payment at new Bargny Port
- Working capital and costs of raising

## Next 6 – 12 Months: Expansion & Upgrade Project

### Expansion Funding

- Combination of debt and equity, supported by off-take agreements
- Debt – preliminary interest from local and international banks, and DFIs to-date
- Equity – targeting private equity, off-takers and other strategic investors to cornerstone equity component

*Avenira holds 100% of the Wonarah concession – a phosphate deposit in the Northern Territory. It also owns a 7% stake in JDC Phosphate, and has the exclusive rights to use its IHP technology in Senegal and Australia.*

## WONARAH PROJECT

- 100% owned by Avenira, and one of the largest phosphate deposits in Australia
- Measured Resource of 65 Mt @ 22.4%  $P_2O_5$ , Indicated Resource of 133 Mt @ 21.1%  $P_2O_5$ , Inferred Resource of 352 Mt @ 21 %  $P_2O_5$  (15% cut-off)
- Requires JDCP's IHP process (if successfully commercialised) to make mine economically attractive
- Infrastructure in place, including road, rail and gas pipeline



## JDC PHOSPHATE

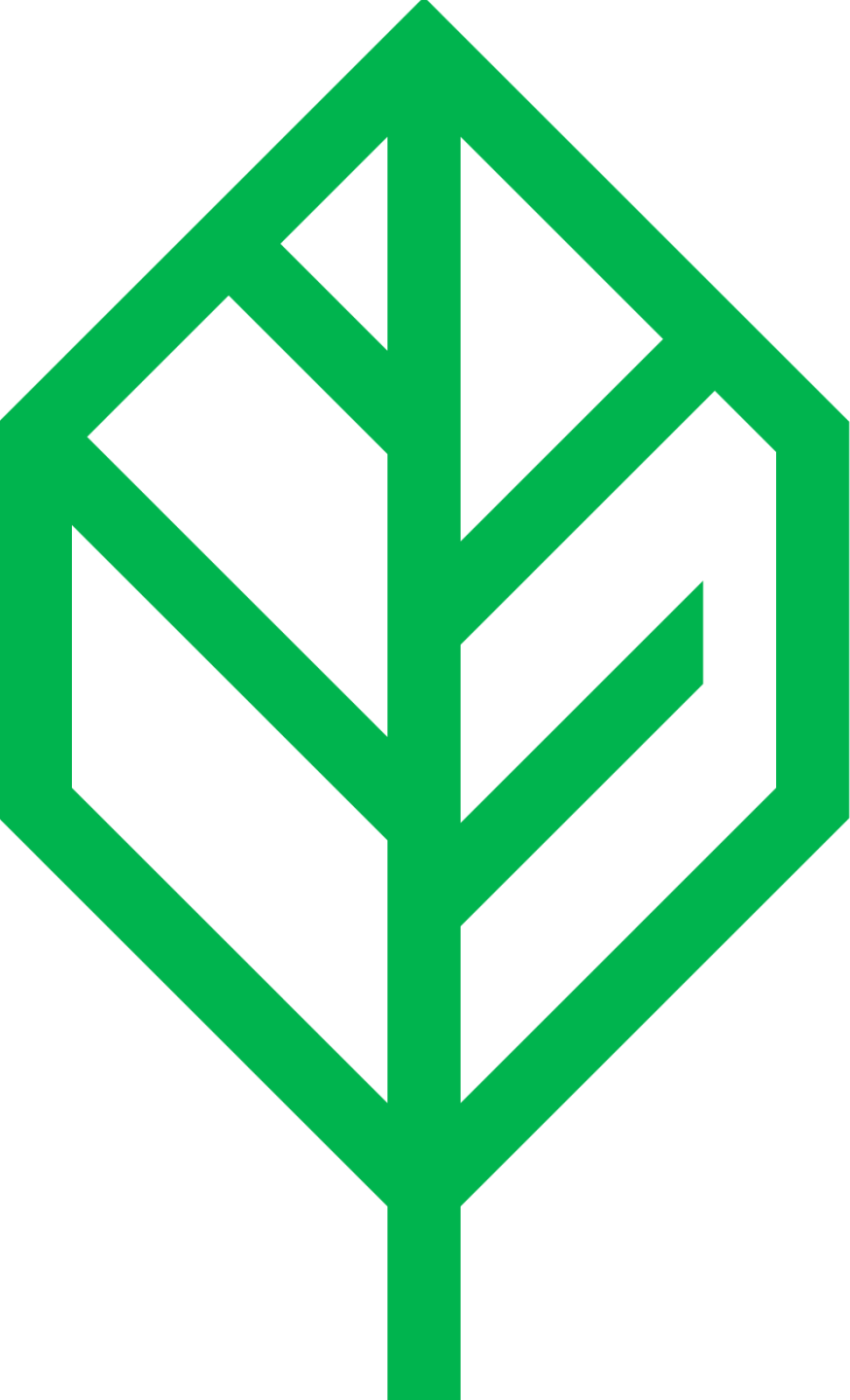
- Progressing “Improved Hard Process” technology for superphosphoric acid production
- Has potential to provide a number of advantages across the value chain relative to existing technology
- JDCP recently announced that it had secured funding to accelerate the next step to commercialize IHP technology
  - Expect to complete plant modifications by early 2018



JDC Phosphate plant in Florida

### Notes:

1. As at 30 June 2017 - refer to the Avenira 2017 Annual Report on the ASX dated 2<sup>nd</sup> October 2017, and the Compliance Statement of page 2 of this presentation.



**Avenira Limited**

ABN 48 116 296 541

[www.avenira.com](http://www.avenira.com)

Suite 19, 100 Hay Street  
Subiaco, Western Australia 6008  
AUSTRALIA

PO Box 1704  
West Perth WA 6872  
AUSTRALIA

+61 8 9264 7000  
[frontdesk@avenira.com](mailto:frontdesk@avenira.com)