

17 October 2017

BAOBAB EXPANSION AND UPGRADE PROJECT UPDATE

HIGHLIGHTS

- **Positive engineering studies conducted by Hatch on Baobab expansion and upgrade project opportunity**
- **Upgraded plant expected to be capable of producing a high-grade phosphate rock concentrate, which should attract a premium to benchmark prices**
- **Upfront processing plant capital expenditure currently estimated at US\$53.4 million (to ± 30% accuracy), with Avenirira's 80% share US\$42.7 million**
- **Post-investment, quality-adjusted unit cash operating costs projected to be highly competitive relative to other phosphate rock production globally**
- **Cash margins expected to be strong, even at current down-cycle phosphate rock prices**
- **Definitive Feasibility Study, approvals, off-take and financing are progressing, with Final Investment Decision targeted for 2Q 2018**

Avenirira Limited ("Avenirira" or the "Company") is pleased to advise it has received positive conceptual engineering study (FEL1 Level) results, paving the way for a major expansion and upgrade of the processing plant at its 80%-owned Baobab Phosphate Project ("Baobab" or the "Project") in the Republic of Senegal.

The engineering study, conducted by leading engineering firm, Hatch, concluded that upgrading the processing plant, and increasing its nameplate capacity to 1 Mtpa of high-grade phosphate rock concentrate, could be undertaken for a total upfront capital expenditure of approximately US\$53.4 million (to ± 30% accuracy)¹. This expansion should significantly improve product specifications and place the Project in a globally competitive unit operating cost position, on a quality adjusted basis.

Key benefits from the expanded and upgraded plant are expected to include:

- Year-round production with nameplate capacity doubled to approximately 1 Mtpa of phosphate rock product, at a controlled 3% moisture level;
- A plant capable of producing a higher grade product (~ 35% P₂O₅) with low CaO:P₂O₅ ratio (< 1.4), delivering lower sulfuric acid consumption and lower gypsum by-production to phosphoric acid manufacturers, expected to attract a premium price to the benchmark;

¹ The estimated capital cost of US\$53.4 million (on a ± 30% basis) is subject to the assumptions detailed below.

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- The product should also have a competitive silica assay and continue to feature low organic carbon and carbonate content, thereby minimizing detrimental foaming in phosphoric acid reaction systems;
- Reduced unit operating costs expected from increased phosphate recovery at approximately 70% (versus approximately 50% currently), in addition to economies of scale;
- Before quality adjustments, projected post-investment unit cash operating costs are estimated at approximately US\$56/t, FOB vessel in a contract-mining scenario. Owner-mining could further reduce unit cash operating costs by approximately US\$10/t, at an estimated upfront mobile fleet capital cost of approximately US\$40 million;
- Expected quality specifications may add a further at least US\$10/t premium to cash operating margins, based on CRU's quality adjustment methodology², leading to a "business cost" (as defined by CRU, i.e. including quality adjustments) of approximately US\$46/t for contract-mining and approximately US\$36/t for owner-mining, placing Baobab well into the bottom half (and potentially in the lowest quartile in an owner-mining scenario) of CRU's 2017 "business cost" curve (see further below); and
- Potential cash operating margins (before capital, financing and tax), based on the current down-cycle price of benchmark phosphate rock (31% P₂O₅) of approximately US\$80/t, would therefore be approximately US\$34/t for contract-mining and approximately US\$44/t for owner-mining.

Background

Avenira's 80%-owned Baobab Phosphate Project is located just 145 km east of the Port of Dakar and currently comprises Indicated Resources of 34.9 Mt at 20.7% P₂O₅ and Inferred Resources of 156 Mt at 18% P₂O₅ (both at 15% P₂O₅ cut-off: see the Company's announcement dated 12 October 2017 for further detail relating to this Resource estimate).

A 500 ktpa nameplate capacity processing plant was commissioned in August 2016, and two full cargoes have been sold and shipped since commissioning. Operating during 2016 and 2017 has extensively de-risked the Project through the real-life experience of running the mine and shipping logistics. However, the current processing plant design is sub-optimal because of the simple wet-screening technique employed. This has resulted in low product recovery and therefore high unit operating costs, making the existing operation financially unsustainable in the current down-cycle phosphate rock price environment.

A strategic review undertaken earlier this year proposed a significant plant expansion and upgrade to overcome the existing processing plant's shortcomings and allow Baobab to become a key

² The estimated capital cost of US\$53.4 million (on a ± 30% basis) is subject to the assumptions detailed below.



phosphate rock concentrate supplier to the industry. The expanded and upgraded plant is projected to include new crushing and milling stages, flotation units, magnetic separation and drying steps, and a covered storage area.

The Company's current operational priority is to complete engineering and feasibility studies, whilst also securing off-take, approvals and financing for what it considers to be a compelling investment opportunity. Until the upgraded facility is commissioned, production activities at Baobab will be restricted to cash generating and value-creating steps.

Managing Director and Chief Executive Officer Mr Louis Calvarin said: *"Now that we have seen the conceptual engineering study results, I am confident that our strategic plan will put Avenira's Baobab Phosphate Project on a solid, long-term sustainable footing."*

The Company anticipates using a combination of debt and equity, supported by off-take agreements, to finance and implement the expansion and upgrade project. Private equity, off-takers and other strategic investors (including the Company's existing shareholders) will be targeted to cornerstone the equity component. For the debt, the Company has received preliminary interest from local and international banks and development finance institutions. A decision will be made on contract- versus owner-mining based on funding offers received and the relative economics of the two options.

Processing Plant Capital Cost Estimate

Based on the concept level engineering work undertaken by Hatch to-date, the capital cost estimate for the expansion and upgrade of the processing plant is US\$53.4 million (on a $\pm 30\%$ basis), including direct costs of US\$28.9 million, indirect costs of US\$13.8 million and a contingency of US\$10.7 million³. Avenira's 80% share is estimated at US\$42.7 million. While the engineering work provides an estimated capital cost range, the Company does not anticipate capital costs being less than US\$53.4 million. Further work to refine this estimate will be undertaken in the next phase of study.

The beneficiation process is designed to separate silica and any clays present in the ore from the phosphate mineral. The plant has been designed to process approximately 2.4 Mtpa of feed with a nominal grade of 20.6% P_2O_5 to recover approximately 1.0 Mtpa of concentrate with an approximate grade of 35% P_2O_5 . The process steps including primary and secondary crushing,

³ The estimated capital cost of US\$53.4 million (on a $\pm 30\%$ basis) is subject to the assumptions detailed below.



scrubbing, desliming, sizing, reverse flotation, magnetic separation, dewatering, drying and product storage.

The processing plant capital cost estimate currently excludes any mobile equipment, mine infrastructure, site buildings or camp, site security and site communication systems. It also assumes that the existing water supply is sufficient for plant demand, the existing tailings impoundment area is sufficient for the life of mine and there are no incremental capital costs associated with securing the necessary electrical power supply from the local authority. Further work will be undertaken in the next phase of study to refine these assumptions.

Should the Company elect to owner-mine (as opposed to contract-mine) at Baobab, management's estimate, which has been reviewed by Hatch, is that the mobile fleet required would have an upfront capital cost of an additional approximately US\$40 million.

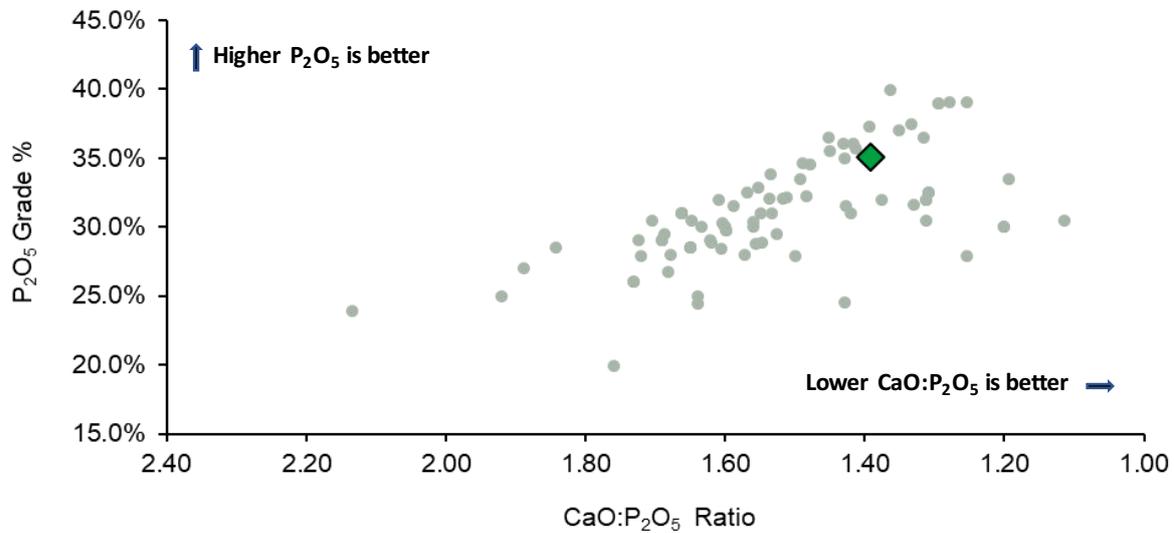
Product Specifications and Quality Adjustment

Unlike other commodities, there is no standard international quality specification for phosphate rock. Differences in quality can impact both the manufacturing costs of downstream products and the value of the downstream products themselves. Consequently impurities and specifications can materially impact the price received for the relevant product. The most important characteristics are P_2O_5 content (higher is better) and $CaO:P_2O_5$ ratio (lower is better). Other important specifications include MER (Minor Elements Ratio, defined as $Al_2O_3 + Fe_2O_3 + MgO / P_2O_5$), silica, organic content and corrosivity.

Following completion of the expansion and upgrade project, the plant should be capable of producing a high quality product, including:

- 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

The chart below benchmarks the expected P_2O_5 content and $CaO:P_2O_5$ ratio of the Company's Gadde Bissik product against other phosphate rock products globally.



In its recently published 2017 Phosphate Rock Cost Report, CRU sets out a methodology for calculating the approximate quality adjustment in US\$/t terms relative to a benchmark of Moroccan K09 phosphate rock (31% P₂O₅ and 1.6 CaO:P₂O₅), which is produced by the largest phosphate rock producer globally, OCP Group. This methodology indicates a potential premium for the Gadde Bissik product (after completion of the expansion and upgrade project) of at least US\$10/t relative to the benchmark price. It is important to note that the ultimate premium realised by Avenira for the Gadde Bissik product will also depend on the terms negotiated with individual off-take partners, and that new-entrant discounts may apply initially.

Cash Unit Operating Cost Estimate

Based on the conceptual engineering work undertaken by Hatch to-date, estimated unit cash operating costs following completion of the expansion and upgrade projects (on a FOB vessel basis and unadjusted for quality) are as set out in the table below:

US\$/t, FOB vessel	Contract-mining	Owner-mining
Mining	22	12
Processing Plant	14	14
Transport, Logistics and Royalties	20	20
Total	US\$56	US\$46

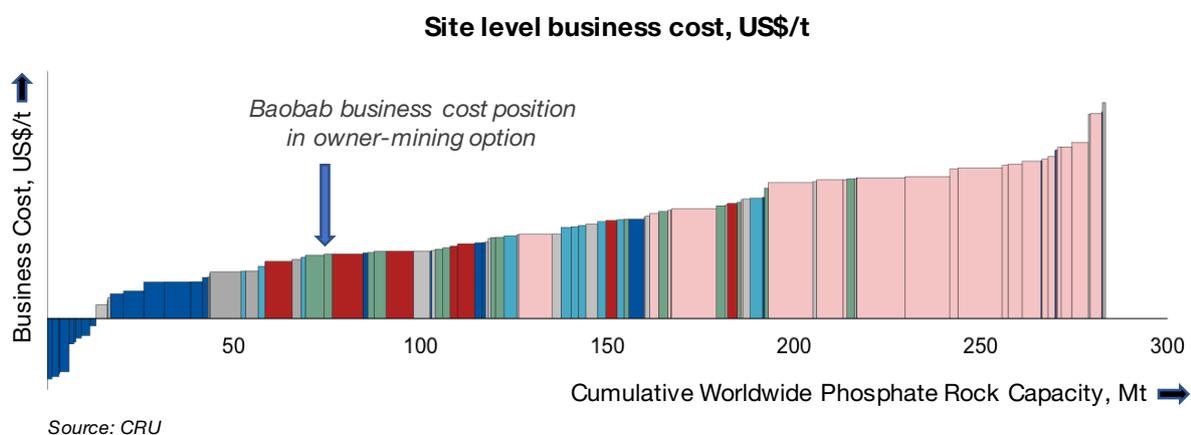
Mining costs have been estimated by the Company and reviewed by Hatch. Processing costs have been estimated by Hatch in conjunction with the Company. Other costs are based on quotes, Company estimates and royalty rates. The Company's experience operating the mine over the past



~12 months gives it additional confidence that these estimates are likely to be within a reasonable level of accuracy. Further work refining the estimates will be undertaken in the next phase of study.

“Business Cost” Comparison

In its recently published 2017 Phosphate Rock Cost Report, CRU has generated a cost-curve for phosphate rock production that represents the “business cost” for each producer, being the aggregate of site-based costs, transport costs and location adjustments, plus quality adjustments (see chart below).



Taking into account the estimated quality adjustment described above of US\$10/t, the “business cost” estimate for Baobab is US\$46/t for contract-mining and US\$36/t for owner-mining: in both cases, Baobab would lie in a competitive cost position relative to the global market, including potentially in the lowest quartile in the owner-mining scenario.

Forward Work Program

Following completion of the upcoming capital raising, the Company plans to expedite the remaining activities required to facilitate funding and make a Final Investment Decision on the expansion and upgrade project during Q2 2018. Though subject to change, this includes the following current targeted milestones:

Completion of Ore Reserve estimate	Q4 2017
Award of Large Mine Concession (Exploitation Permit)	Q1 2018
Engineering & Full Feasibility Study	Q1 2018
Offtake Agreement(s)	Q1 2018
Funding and Final Investment Decision	Q2 2018



Long-Term Strategy

Avenira's long-term strategy is to use the Baobab Phosphate Project as the foundation for an integrated downstream development to produce higher-value phosphoric acid, the key feedstock to the phosphate fertilizer industry. Avenira considers Africa to be an attractive market for phosphate fertilizers because of population growth, current low fertilizer applications rates and urbanisation.

Methodology, estimation and assumptions

The engineering study referred to in this announcement has been undertaken by Hatch according to industry standard methodologies and calculations, and interpreted by Avenira. It is a preliminary economic study of the estimated capital and operational expenditure of the Baobab Phosphate Project and is an assessment of technical and economic information known to Avenira and Hatch as of the current date, Hatch has estimated the capital expenditure for the expansion and upgrade of the processing plant based on industry standard methodologies and calculations, while operational expenditures have been derived from quotes and estimations prepared by the management of Avenira and reviewed by Hatch.

Additional evaluation work and appropriate studies will be conducted to further refine the estimated capital and operational expenditure required. Accordingly, the estimates contained in this announcement may be affected by inaccurate assumptions, known or unknown risks and uncertainties and may be materially different from actual costs which may be incurred in connection with the development of the Baobab Phosphate Project in the future.

Louis Calvarin

Managing Director and CEO



Compliance Statement

Information in this report relating to estimates of Mineral Resources is extracted from the report entitled “Mineral Resource Increase at Baobab Phosphate Project” created on the twelfth of October 2017 and is available to view on www.avenira.com. The company 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. The company 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.

Cautionary Statement Regarding Forward-Looking Information

All statements, trend analysis and other information contained in this document relative to markets for Avenira trends in resources, recoveries, production and anticipated expense levels, as well as other statements about anticipated future events or results constitute forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as “seek”, “anticipate”, “believe”, “plan”, “estimate”, “expect” and “intend” and statements that an event or result “may”, “will”, “should”, “could” or “might” occur or be achieved and other similar expressions. Forward-looking statements are subject to business and economic risks and uncertainties and other factors that could cause actual results of operations to differ materially from those contained in the forward-looking statements. Forward-looking statements are based on estimates and opinions of management at the date the statements are made. Avenira does not undertake any obligation to update forward-looking statements even if circumstances or management’s estimates or opinions should change. Investors should not place undue reliance on forward-looking statements.