# Investor Presentation

December 2015



ASX: AEV • ABN 48 116 296 541

# Important information



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#### **Competent Person's and Qualified Person's Statement**

The scientific and technical information in this document is based on, and fairly represents, information and supporting documentation prepared by Russell Fulton, who is the Geological Manager of the Company and a Member of the Australian Institute of Geoscientists, and who has reviewed and approved the scientific and technical information in this document. Mr Fulton has sufficient experience deemed relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' and a 'Qualified Person' as defined in National Instrument 43-101 – Standards of Disclosure for Mineral Projects. Mr Fulton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

For further information on the Senegal Phosphate Project please refer to Avenira's market announcements dated 11 May 2015, 27 April 2015, 22 September 2015 and 7 December 2015 ("Prior Announcements") and the NI43-101 technical report entitled "Technical Report Mineral Resource Estimation for the Gadde Bissik Phosphate Deposit, Republic of Senegal" dated 9 June, 2015 and available on SEDAR at <a href="www.sedar.com">www.sedar.com</a>. Avenira is not aware of any new information or data that materially affects the information included in those Prior Announcements. For further information on Wonarah, please refer to Avenira's NI43-101 technical report entitled "Technical Report Mineral Resource Estimation for the Wonarah Phosphate Project, Northern Territory, Australia", dated March 2013 and available on SEDAR at <a href="www.sedar.com">www.sedar.com</a> and to Avenira's market announcement dated 30/04/2014.

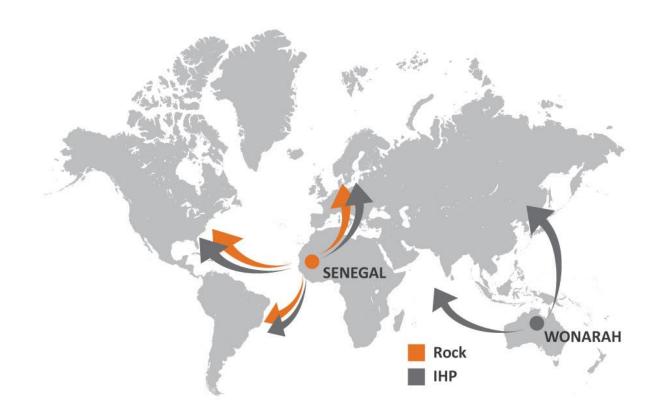
#### **Cautionary Statement Regarding Forward-Looking Information**

All statements, trend analysis and other information contained in this document relative to markets for Avenira's trends in resources, recoveries, production and anticipated expense levels, as well as other statements about anticipated future events or results constitute forward-looking information. 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 information is 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. Such factors include, among other things, risks relating to property interests, the global economic climate, commodity prices and environmental risks. 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.

# **Corporate Strategy**



To become a major contributor to the world nutrient market through the development of a carefully selected portfolio of valuable phosphate and other nutrient projects.



### **Investment Thesis**



### **Near Term – Baobab Phosphate Project**

- ✓ Permitted for small mine
- ✓ Environmental approvals granted
- ✓ Financed to production
- ✓ Senegal IHP license grows the future IHP offering to Atlantic basin and Pacific basin.

### The Baobab Phosphate Project is:

- Low capex; low opex; simple mining; available infrastructure
- Significant exploration potential to expand resource
- First production planned for 2<sup>nd</sup> half of 2016

### **Long Term – Wonarah Phosphate Project**

✓ Long term opportunity to commercialise Wonarah project through IHP technology

## Phosphate: In Use



The majority of phosphate production is used for fertiliser:

### Fertiliser (85%)

- Assists with seed formation
- Hastens plant maturity
- Reduces water requirements
- Improves crop quality
- Critical to the initial phase of growth, involving photosynthesis, cell division and cell enlargement
- Improves root formation and growth

Without phosphatebased fertilisers

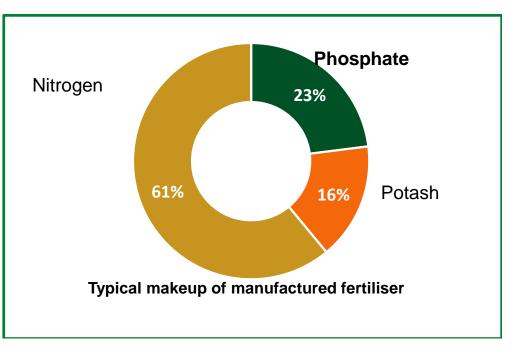
With phosphatebased fertilisers

### **Technical Phosphates (9%)**

- Synthetic detergents
- Metal treatment
- Water treatment
- Lithium phosphate for hybrid and electric vehicles batteries
- Personal care products
- Cheese / Processed meat
- Soft drinks

### **Animal Feed (6%)**

- Major structural component of bones and teeth
- Essential for transfer and utilization of energy in body cells
- Important for lactating animals

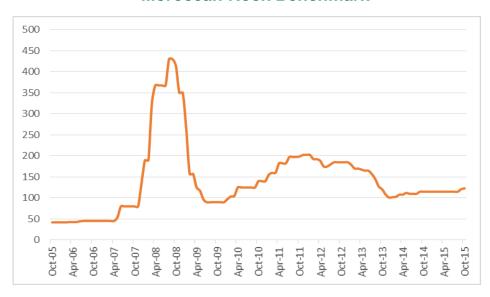


### **Phosphate: Strong Fundamentals**

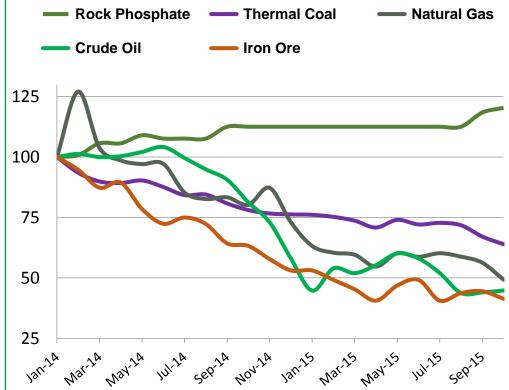


- Global fertiliser market expected to be worth US\$172 billion during 2015
- 5 year average of US\$150/tonne
- Long term price forecasts of US\$130/tonne

### Rock Phosphate Price (USD/tonne) Moroccan Rock Benchmark



 Rock phosphate has performed strongly against a number of other commodities over the last 18 months

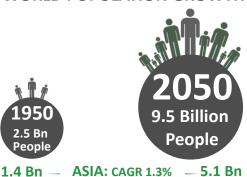


# **Food & Nutrition Security**

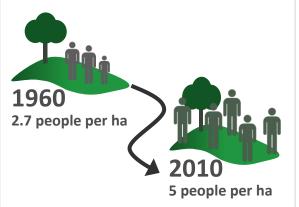


Fertilisers provide essential nutrients to soils, livestock & people resulting in more food, better nutrition and healthier lives.

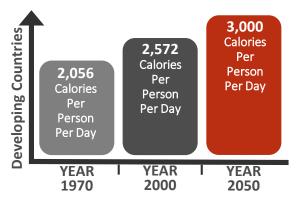
#### **WORLD POPULATION GROWTH**



#### ARABLE LAND DECLINE PER CAPITA



#### INCREASED PER CAPITA CONSUMPTION

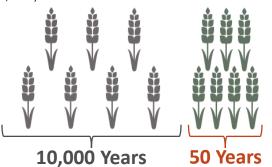


#### **DEMAND ON FARMERS**

0.2 Bn — AFRICA: CAGR 2.5% — 2.4 Bn

0.9 Bn — REST: CAGR 0.9% — 2.0 Bn

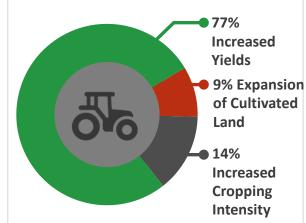
Over the next 50 years, farmers will have to produce as much food as they produced in the last 10,000 years...



... achieving this while mitigating the effects of climate change.

#### **SOURCE OF FUTURE SUPPLY**

Most of this increase in output will need to come from existing farmland.



3 FAO

#### IMPORTANCE OF NUTRITION SECURITY

2 billion people currently lack the daily nutrients they require...



... undernutrition accounts for 11% of the global burden of disease and is considered the No.1 health risk worldwide.

Source: <sup>1</sup> Department of Economic and Social Affairs, UN

<sup>&</sup>lt;sup>4</sup> Roots for Growth, IFA

<sup>&</sup>lt;sup>2</sup> World Bank

<sup>5</sup> FAO

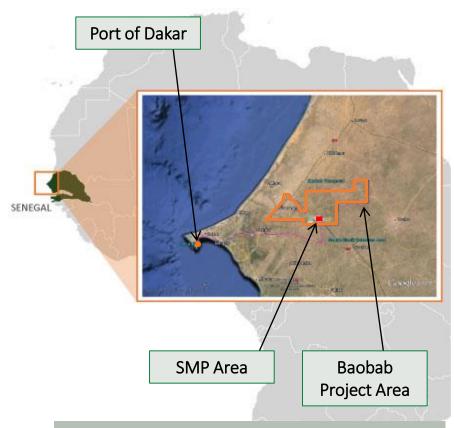
<sup>&</sup>lt;sup>6</sup> Global Alliance for Improved Nutrition

## **Baobab Phosphate Project**



- Single exploration permit area of 1,553km<sup>2</sup>
- Small Mine Permit (SMP) granted over 5km<sup>2</sup>, allowing for unlimited production from the Gadde Bissik prospect
- Sedimentary rock phosphate mineralisation
- Indicated Resource announced 7<sup>th</sup> December 2015
- Expected to be open pit, free dig unconsolidated sand
- Simple and low-cost wet screening process to significantly upgrade product – confirmed by ongoing metallurgical test work
- Targeting first production 2<sup>nd</sup> half 2016





### **Strategic Location**

- 145km East of the Port of Dakar
- Existing road network, 20km from a sealed national highway with upgrade due for completion in 2018
- MOU with Port of Dakar

### **Baobab Project Financial & Commercial**





### The Baobab Phosphate Project is financed to production:

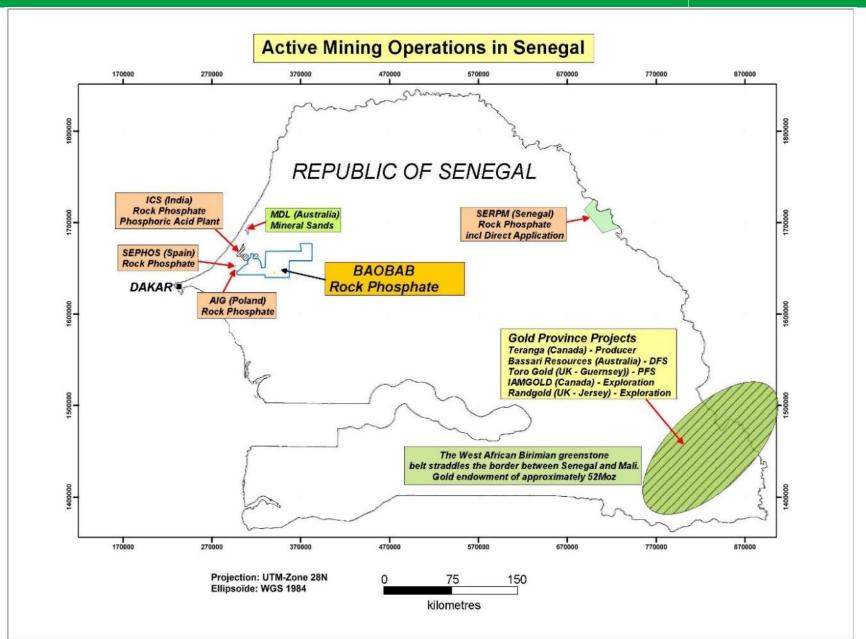
- Existing Avenira cash of \$13.6m as at 30 September 2015
- J.P. Morgan Placement raising 3.1m ASX announcement 03/11/15
- Non-binding Memorandum of Understanding with Mimran Natural Resources – ASX announcement 04/11/15
- Contingency funding plans as required
- Local borrowings where appropriate

### **Progress on Offtake Agreements:**

- ✓ Non-binding MoU's exceeding planned annual production have been agreed
- ✓ MoU's will be finalized closer to production

### Location of Project and Port of Dakar





### **Indicated Resource**



### **Updated Mineral Resource estimates released on 7 December 2015**

- Maiden Indicated Mineral Resource within SMP of 12.6 Mt at 21.0% P<sub>2</sub>O<sub>5</sub>
- Inferred Mineral Resource within SMP of 16Mt at 20% P<sub>2</sub>O<sub>5</sub>
- Inferred Mineral Resource outside SMP of 64Mt @ 19% P<sub>2</sub>O<sub>5</sub>
- Only 40% of SMP currently drilled out sufficiently to support estimation of an Indicated Mineral Resource.
- The Indicated Mineral Resource provides a basis for publication of mine planning and project economic evaluation.

GADDE BISSIK MINERAL RESOURCE TABLE – EFFECTIVE DATE 7/12/2015										
PROSPECT		CATEGORY	TONNES	P2O5	CaO	MgO	Al2O3	Fe2O3	SiO2	
			(Million)	%	%	%	%	%	%	
Gadde Bissik East	Within SMP area	Indicated	12.6	21.0	28.8	0.08	2.05	3.30	41.3	
	Within SMP area	Inferred	16	20	28	0.13	2.2	3.9	42	
	Outside SMP area	Inferred	64	19	26	0.12	2.8	4.0	43	
	Combined	Inferred	80	19	26	0.12	2.7	4.0	43	
Gadde Bissik West		Inferred	7	18	24	0.17	4.8	6.3	40	
Total Gadde Bissik		Indicated	12.6	21.0	28.8	0.08	2.05	3.30	41.3	
Total Gadde Bissik		Inferred	87	19	26	0.13	2.9	4.2	43	

# The Republic of Senegal



#### **Overview**

- One of Africa's most stable and successful democracies (IMF 2010) with a stable and investor friendly social and political environment
- Population of circa 14.6 million (2014 estimate)
- Substantial progress in combating poverty, improving social infrastructure and advancing its economic emergence (IMF)
- GDP of US\$15.5 billion (World Bank 2014)



### **Mining friendly location**

- Established mining industry with phosphates as primary exports
- Mining code implemented in 2003, administered by Ministry of Mines
- State involvement constructive and transparent
- Good connected infrastructure and qualified workforce
- Several ASX and TSX companies are in successful development and operations in Senegal
- Effective Senegalese Chamber of Mines



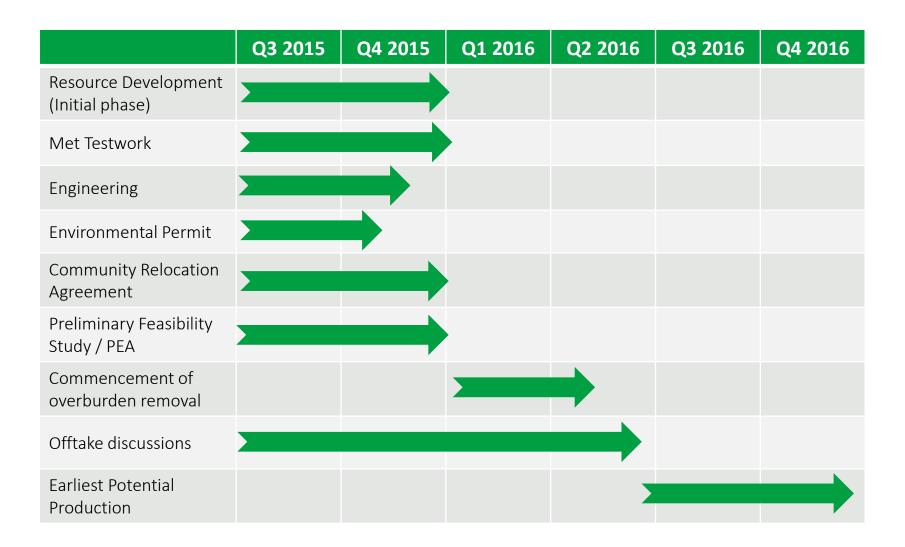
# **Baobab Project Progress**



	Task	Status		
0501007	Inferred Resource	Complete		
GEOLOGY	Indicated Resource	Initial Phase Complete		
	Contract mining and crushing	MOU established		
PROJECT	Wet screening	Design and Engineering Complete Long Lead Capital Items Ordered		
	Transport	MOU established		
	Port	MOU established		
	Small Mine Permit (SMP)	Complete		
SENEGALESE GOVERNMENT APPROVALS	Environmental Impact Statement	Complete		
	Community Relocation and Compensation Plan	Near Completion		
OFFTAKE	Domestic & Export	Ongoing Discussions		

# Baobab Milestones: 2015-2016





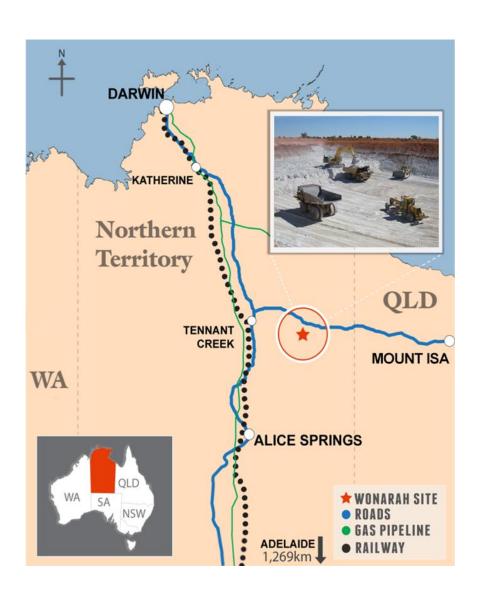
## **4 Stage Growth Strategy**



Stage 1	<ul> <li>Focus on production from Small Mine Plan (SMP) area</li> <li>Permitted</li> <li>Environmental approval secured</li> <li>Targeting 500,000t pa</li> </ul>	
Stage 2	<ul> <li>Progress high priority infill drill targets proximal to SMP</li> <li>Targeting thicker, high grade mineralisation</li> </ul>	
Stage 3	<ul> <li>Drilling in 2014 indicates mineralisation up to 30km east of SMP area</li> <li>High priority broad-based regional drill targeting</li> <li>Move to full mine plan</li> </ul>	
Stage 4	<ul> <li>Leverage IHP technology to produce downstream, high margin SPA product to improve profitability</li> <li>Applications for both Baobab and Wonarah Projects</li> </ul>	

### **Wonarah Project – Northern Territory**





- Project 100% owned by Avenira
- One of Australia's largest JORC and NI43-101 compliant phosphate resource
  - Measured + Indicated Resource 300Mt @ 18.3%
     P<sub>2</sub>O<sub>5</sub> (10% cut-off)
  - Inferred Resource 542Mt @ 18% P<sub>2</sub>O<sub>5</sub> (10% cutoff)
- Excellent installed infrastructure including road, rail and gas pipeline
- All approvals in place, Mining licence approved

#### **Current Status**

- Development is subject to commercialisation of IHP, currently in development by JDCPhosphate
- Low holding costs allow project to be maintained until commercialisation is possible
- Plan to right size Wonarah for IHP production during 2016

### **Improved Hard Process (IHP)**



IHP is an advanced downstream process aimed at transforming low grade rock phosphate into high value superphosphoric acid (SPA), which is a key feedstock into the commercial fertiliser market.

IHP offers significant benefits over the traditional wet-acid process

- ✓ Substantial cost benefits
- ✓ Improved environmental outcomes

Technology is currently under development by Florida based JDCPhosphate Inc.

- Avenira owns c8.0% of JDCPhosphate
- Avenira has sole licence to use IHP in Australia and Senegal



**JDCPhosphate IHP Demonstration Plant - Florida** 

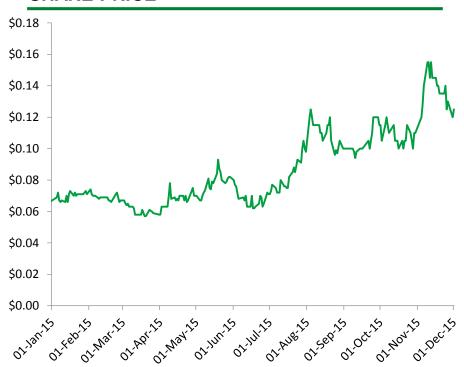
### **Corporate Snapshot**



#### **KEY STATISTICS**

Ordinary shares on issue	415m
Share price (VWAP)	A\$0.12
Market Capitalisation	A\$50m
Debt	Nil
Cash – 30 <sup>th</sup> September 2015	A\$13.6m

#### **SHARE PRICE**



#### **ASSETS**

### AVENIRA\$

#### Baobab Project- 100% holding

- Located in Senegal
- Substantial phosphate opportunity

Baobab Mining & Chemicals Corporation

•Progressing towards near-term production

#### Wonarah Phosphate - 100% holding



Wonarah Phosphate

- Northern Territory, Australia
- Major phosphate resource
- Mining DFS completed in 2010
- · Awaiting enabling technology



#### JDCPhosphate – c.8% holding

- Florida, USA
- Disruptive phosphate technology
- Demonstration plant completed
- Undergoing validation

#### SIGNIFICANT SHAREHOLDERS

Agrifos & Associates
J.P. Morgan UK

37.1%

7.4%

#### STOCK EXCHANGE LISTINGS



ASX Code: AEV

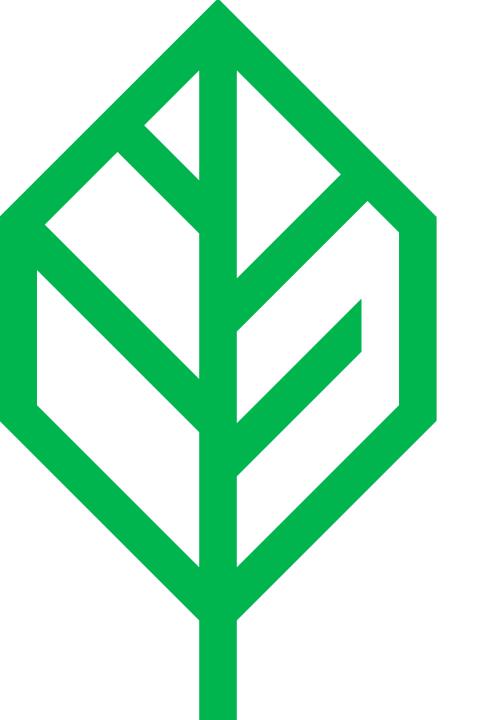


TSX Code: MAK

# **Summary**



- ✓ Development of the Baobab Phosphate Project is Avenira's priority
  - Potential for near-term rock phosphate production and cash flow
  - Strong strategic fit to Avenira's focus in the nutrient space
  - Financed to production
  - Ability to leverage significant existing Senegalese expertise and track record
- ✓ Investment in IHP Technology provides potential to extract additional value via downstream processing
- ✓ Wonarah Project remains a long-term opportunity pending commercialisation of IHP technology



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