

## **SCOPING STUDY DISCLAIMER**

The Scoping Study referred to in this announcement is a preliminary technical and economic investigation of the potential viability of developing the Cabinda Phosphate Project by constructing an open-pit mine and granulation plant to produce Enhanced Phosphate Rock to supply local agriculture users and Nitrogen/Phosphate/Potassium (NPK) blenders.

It is based on lower level technical and preliminary economic assessments and is insufficient at this stage to support estimation of Ore Reserves, to provide assurance of an economic development case, or to provide certainty that the conclusions of the Study will be realised. The Scoping Study is based on the material assumptions outlined in this report.

The Company believes it has reasonable grounds for disclosing a Production Target given 100% of plant feed mined from the first five years is in the Indicated Resource category and for the Life-of-Mine (LOM), 24% is obtained from Mineral Resource material classified as Measured and 76% as Indicated – there is no Inferred material in the current pit design.

The Scoping Study is based on material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the potential mine development outcomes indicated in the Scoping Study, funding of at least US\$22 million will likely be required. Investors should note that there is no certainty that the Company will be able to raise funding when needed, however the Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the Project. It is also possible that such funding may only be available on terms that may be dilutive to, or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other strategies to provide alternative funding options. However, the Scoping Study is a project level study and consequently the sources, forms and costs of the capital required to develop the mine have not been accounted for in calculating the financial returns demonstrated by the Scoping Study.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study. For further details relating to the Scoping Study please refer to ASX release 'Cabinda Phosphate Project Scoping Study' dated 26 August 2020.



# **COMPANY ASX: MNB**

#### **CURRENT CAPITAL STRUCTURE**

Shares on Issue (million) 6,503m
Share Price cps 0.2cps
Market Cap \$Am A\$13m

#### POST CONSOLIDATION CAPITAL STRUCTURE

Shares on Issue\* 358m
Cash post capital raise ~A\$2m

#### **TOP 10 SHAREHOLDERS**

J P MORGAN NOMINEES AUSTRALIA PTY LIMITED	33.0%
MRS ELEANOR JEAN REEVES <elanwi a="" c=""></elanwi>	3.3%
BRIJOHN NOMINEES PTY LTD < NELSONIO A/C>	2.7%
SUNSET CAPITAL MANAGEMENT PTY LTD <sunset a="" c="" superfund=""></sunset>	2.5%
MR PETER CHRISTOPHER WALL & MRS TANYA-LEE WALL	2.3%
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HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	2.2%
CITICORP NOMINEES PTY LIMITED	2.1%
MR LINDSAY GEORGE REED <the a="" c="" family="" reed=""></the>	1.5%
MR LINDSAY REED & MRS JENNIE REED <reed a="" c="" fund="" super=""></reed>	1.3%
ANDROLYN PTY LTD <a &="" a="" c="" fund="" hector="" super=""></a>	1.2%
	52.0%



<sup>\*</sup>Subject to shareholder approval (3 November 2020)

# **SCOPING STUDY RESULTS**

## **ASSET OVERVIEW**

**Ownership** Minbos 85%, Local Partner 15%% carried.

Cácata Phosphate Project **Project** Location Cabinda Province, Angola

Commodity Enhanced Phosphate Rock (EPR)

Infrastructure Gas, Power, Roads and Regional Port

Mining Target (M&I) 6.5Mt @ 30.2%  $P_2O_5$  21 year mine life<sup>1</sup>

## **STUDY RESULTS**

**Production Capacity** 150ktpa commissioning at 50ktpa, with

plans to add two more granulation circuits

taking capacity to 450ktpa

Currently imports around 50,000tpa of P<sub>2</sub>O<sub>5</sub> **Angolan Market** 

Price US\$222 – 290 per tonne

US\$121 - 141 per tonne (LOM) **Manufacturing Costs** 

**Pre production Capex** US\$22.4 – 27.9 million

**After Tax NPV** US\$159 - 260 million

After Tax IRR 40 - 58%

**Payback** Three years



## WHY ENHANCED PHOSPHATE ROCK?

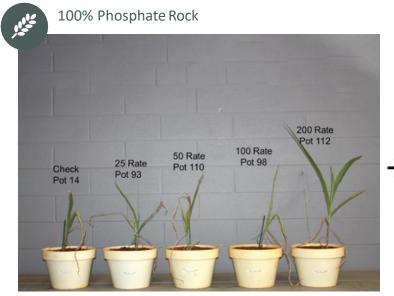
AG-TECH, DESIGNED FOR AFRICAN CONDITIONS, DEVELOPED BY THE IFDC.

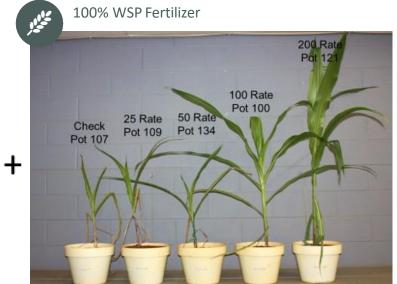
## **RAW CABINDA** PHOSPHATE ROCK

- Raw phosphate rock
- Unsuitable for use in Angola or wider Congo Basin
- Low-cost
- Low-solubility
- **Export-only**

## **IMPORTED** WSP FERTILIZER

- 100% water soluble phosphate fertilizer
- Fast-release phosphate
- High-cost
- High-solubility

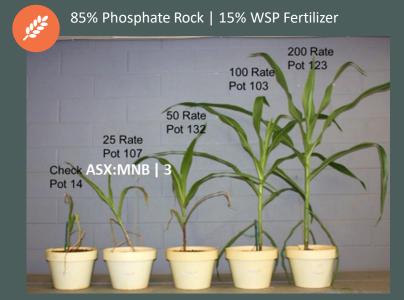






## **ENHANCED CABINDA** PHOSPHATE ROCK

- √ 85% local phosphate rock/15% water soluble phosphate blend
- ✓ Low-cost
- ✓ High-solubility
- ✓ Suitable for Angola and wider Congo Basin
- ✓ Combines fast release WSP which solubilises slow-release phosphate rock



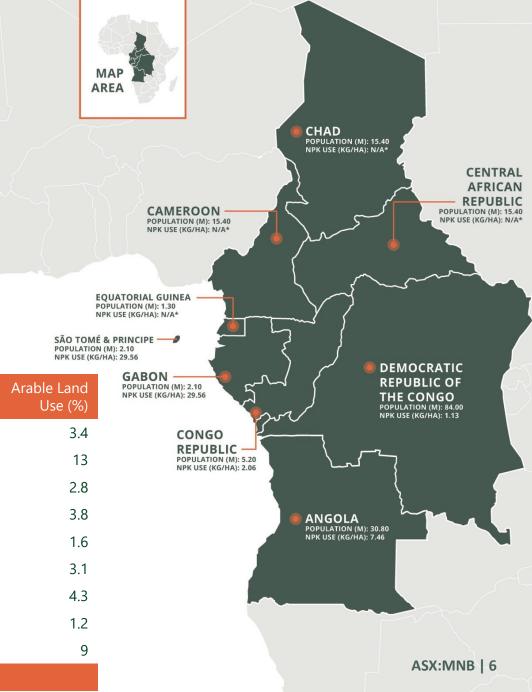
# THE OPPORTUNITY

Middle Africa as a percentage of Sub Saharan Africa:

- comprises 16% of the population;
- hosts 22% of the Potential Arable Land, but
- uses only 3% of the nutrients.

#### Potential Arable Land in Middle Africa

Country	Land Area (ha)	Potential Arable Land (ha)	Potential Arable Land %	Arable Land Use (%)
Angola	124,670,000	64,380,100	52	3.4
Cameroon	47,544,000	7,125,000	15	13
Central African Republic	62,298,000	20,766,000	33	2.8
Chad	128,400,000	42,800,000	33	3.8
Congo Republic - Brazzaville	34,200,000	10,000,000	29	1.6
Democratic Republic of Congo	234,486,000	80,000,000	34	3.1
Equatorial Guinea	2,805,000	850,000	30	4.3
Gabon	26,767,000	1,000,000	4	1.2
São Tomé & Principe	96,000	48,700	51	9
	661,266,000	226,969,800		



# **FAST TRACK SCHEDULE**



	Q2 - CY20		Q3 - CY20		Q4 -CY20			Q1 -CY21			Q2 -CY21			Q3 - CY21			
	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
CORPORATE																	
Investment Contract						-0											
DFS Capital Raising						-											
Construction Raising														-			
TECHNICAL																	
Mining Reserves	_	_				$\rightarrow$											
Granulation Design								<b>→</b>									
Updated DFS			_								$\longrightarrow$						
Long Lead Items																	-
COMMERCIAL - LEGAL																	
Approvals															<b>—</b>		
Offtake & Op Contracts					-							•					
Debt Drawdown															-		
CONSTRUCTION																	

# **DFS KEY ACTIVITIES**

#### CAIO GRANULATION PLANT

The IFDC granulation team and FEECO are working together to provide a quotation for a standard 20tph plant. It is the long lead item and will provide a budget estimate and delivery date to finalise our DFS and funding timeline.

#### MINING AND ROAD TRANSPORT

Orelogy has generated a mining production target and 21 year mine plan. Budget costings from five contractors are being evaluated as part of the DFS and to short list contractors for the final tenders.

#### **APPROVALS**

Base line studies for a larger mining operation were completed in 2012 and again in 2017. Angola has recently amended its Environmental legislation and regulations to streamline approval processes. Grupo Simples and HCV Africa have been appointed to prepare the EIA and ESIA submissions for the Cacata Mine and Caio Granulation Plant.

#### SIMPLE SCOPE

Contract mining and haulage with no requirement for beneficiation, tailings dam or long term waste stockpiles. Granulation plant will be constructed in an existing industrial zone with services and infrastructure installed.

#### **BASIS OF PREPARATION**

DRA Global has been appointed as engineer for the DFS. Capital costs will be compiled by firm quotations from OEM's and principal contractors. Operating costs will be compiled from principal contractors bids and infrastructure service agreements. It is estimated these items will constitute 90% of the capital and operating expenditure.



# **FUNDING**

#### **DFS CAPITAL RAISING**

- Minbos is marketing for the first time with 85% ownership of the Cabinda Phosphate Project.
- The Company has raised \$2M to initiate the key DFS activities and fast track the project to production.

#### PROJECT DEVELOPMENT FINANCE

- Construction of the Cabinda Phosphate Project is targeted to commence in 2021
- Alphier UK mandate has been signed for raising debt for Angola.
- Inbound interest from funds with a focus on food security rather than mining.
- Debt Process will take about 6 months for drawdown mid 2021.



# **OUR PEOPLE**



## **BOARD & ADMINISTRATION**

- Peter Wall Chairman, Corporate Law Partner at Steinepreis Paganin.
- Damian Black Corporate Advisor, Aesir Capital, resources and technology.
- Bill Oliver Geologist and Mine Development in Australia, Africa and Portugal.
- Dganit Baldar Lawyer, with ten years experience in Angola.
- Planning new appointments of suitably qualified directors.



#### **MANAGEMENT**

- Lindsay Reed - CEO, Mining Engineer, Equity Markets, Industrial Minerals

- Camache Caturichi - Country Manager and local Partner. Lawyer in Angola.

 Steve Abbott – Study Manager, Metallurgical Engineering, projects and production.



## **CONSULTANTS & INDUSTRY PARTNERS**

- IFDC – Not for Profit, Fertilizer product development and agricultural markets.

- FEECO OEM, Fertilizer plant design and fabrication.
- Field Trials Dr Luis Prochnow, NPCT Brasil, specialist in enhanced Phosphate Rock.
- Micronutrients Richard Emery, previous CEO of Stoller Australia.
- Logistics, Thomas Brueckner, previous COO of Porto de Caio, Angola.
- Orelogy, Mining Production Target and Ore Reserves.
- Grupo Simples and HCV Africa appointed for Environmental and Social Studies.
- DRA Global appointed as Engineer for the DFS.



## **AGRICULTURAL TRIALS**

#### **GREENHOUSE TRIALS CONDUCTED BY THE IFDC**

have compared Cabinda Blend pots against fresh MAP pots in winter wheat and sorghum crops grown to maturity that confirm the blend almost matches the MAP relative agronomic effectiveness. Comparisons in residual greenhouse crops suggest the economic benefit of Cabinda blend will extend into the 2nd and 3rd seasons.

**FIELD TRIALS IN HUAMBO** testing the blend in Angolan conditions with maize and legumes have been harvested with positive results and further field trials are being planned for the 20/21 field season to demonstrate performance against commercial fertilizers.

**GRANULATION TRIALS** at IFDC's world renowned pilot plant facility have tested Cacata Phosphate Rock with MAP and all the engineering data required to design a granulation facility has been supplied to FEECO the world pre-eminent OEM for granulation plants.

**RESULTS CONFIRM** Cabinda Enhanced Phosphate Rock is best suited to acidic soils, high rainfall and specific crops such as maize, legumes, and soybean; all conditions that are prevalent in Middle Africa.



## **AFRICAN AGRICULTURE**

#### YIELDS NEED TO RISE AND FERTILIZER IS THE KEY

- Fertilizer consumption on the African continent to reach 13.6 million tonnes by 2030 compared to 7.6 million tonnes currently<sup>1</sup>
- Food demand value ~\$313 billion and growing
- Average maize yield is roughly 3x lower than the yield potential for short-maturity maize<sup>2</sup>
- Africa could increase agricultural productivity 155%<sup>3</sup>
- Sub-Saharan Africa will need eight times more fertilizer
- Governments are seeking to reduce reliance on imported food
- NGO's are promoting modern agricultural inputs (Fertilizers)
- International companies have recognized the incredible growth and population trajectory of Africa. In Nigeria, Indorama has built a US\$1.5 billion fertilizer plant, OCP has built a US\$2.4 billion fertilizer plant in Ethiopia, Toyota Tsusho commissioned a new large-scale fertilizer blending plant in Kenya and in Tanzania.

1 CRU Group, Fertilizer Market Outlooks, 2019
2 Africa Status Report 2016, FAO
https://reliefweb.int/sites/reliefweb.int/files/resources/assr.pdf
3 One Acre Fund, Climate and Soils,
https://oneacrefund.org/impact/climate-and-soils/
4 "Winning in Africa's Agricultural Market." McKinsey & Company, February 2019
www.mckinsey.com/industries/agriculture/our-insights/winning-in-africas-agricultural-market

Minbos Resources CEREAL AND COARSE-GRAIN PRODUCTION POTENTIAL, AFRICA, MILLIONS OF TONS4 Postharvest loss improvement Current production ASX:MNB | 13

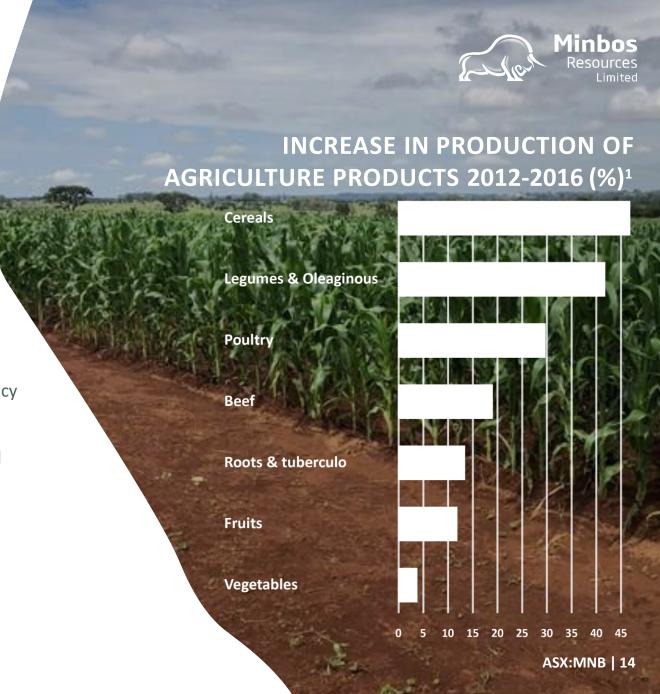
# **ANGOLA**

#### **ECONOMY & POPULATION**

- Population 30.8 million
- Third largest economy and population growth in Africa
- 2019 real GDP 2019 grew 1.2% projected 3.2% in 2020
- Poverty incidence fell from 68% in 2000 to 37% in 2018
- Spending on food and non-alcoholic beverages expected to increase from US\$15 billion in 2017 to US\$21 billion by 2021

#### **GOVERNMENT REFORMS & INITIATIVES**

- Wind up of Ferangol and establishment of New Mining Licenses Agency
- Joined the African Free Trade Initiative
- Cabinet approval pending for International Arbitration Convention
- Focus on Agriculture to diversify economy, promote food security and alleviate poverty



## **COMPETENT PERSONS STATEMENTS**

The Competent Person with responsibility for the total Mineral Resources of this report is Mrs Kathleen Body, Pr. Sci. Nat, who is an employee of Red Bush Analytics. Mrs Body was a full time employee of Coffey Mining at the time the original Mineral Resource estimation was completed in 2013. Mrs Body has 25 years' experience in the mining industry and has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which she 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 Mineral Reserves. Kathleen Body consents to the inclusion in the report of the matters based on his/her information in the form and context in which it appears.

The information in this announcement that relates to the Mineral Resources contained within the Production Target, complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled, and assessed by Mr Ross Cheyne BEng (Hons), Mining, a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM) and Technical Director at Orelogy Mine Consulting Pty Ltd, consultants to the Company. Mr Cheyne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Cheyne is the competent person for the Mineral Resources contained within the Production Target and the Production Target itself and has relied on provided information and data from the Company, including but not limited to the Resource model and database. Mr Cheyne consents to the inclusion in this announcement of matters based on his information in the form and context in which it appears.

#### **DISCLAIMER**

Some of the statements appearing in this announcement may be in the nature of forward-looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which Minbos operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or results expressed or implied in any forward-looking statement. No forward-looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside Minbos's control.

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# MINBOS IS FOCUSED ON BRINGING THE CABINDA PHOSPHATE PROJECT INTO PRODUCTION

... uniquely positioned to address the exponential agricultural growth in Middle Africa.