

**Corporate Presentation** 

JULY 2022



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#### **Competent Person Statement**

The Competent Person with responsibility for the total Mineral Resources of this report is Mrs Kathleen Body, Pr. Sci. Nat, who is registered as a Professional Natural Scientist with the South African Council for Natural Scientific Professions ("SACNASP"). She is an Associate Resource Geologist with SRK Consulting (UK) Limited and the Director and a Principal Consultant of Red Bush Analytics. Mrs Body was a fulltime employee of Coffey Mining at the time the original Mineral Resource estimation was completed in 2013. Mrs Body has 26 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 her information in the form and context in which it appears.

#### **Forward Looking Statements**

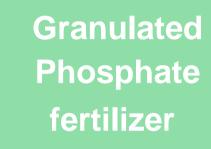
Statements contained in this release, particularly those regarding possible or assumed future performance, revenue, costs, dividends, production levels or rates, prices or potential growth of Minbos Limited, are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.



# **Investment Overview**

Development of food security & clean energy projects in Angola





Green Ammonia The Future



# **Cabinda Phosphate Fertilizer Project**

- ✓ High-grade Resource 8.4MT @ 29.6%
   P<sub>2</sub>O<sub>5</sub> (85% ownership)<sup>1</sup>
- Moving to Production
- Long lead time items ordered
- ✓ Production anticipated in 2023

### Capanda Green Hydrogen-Ammonia Project

- Government support to establish a Green Ammonia Project with land provisionally allocated
- 200MW of baseload zero-carbon hydropower secured<sup>3</sup> at lowest price globally for green energy
- ✓ Green ammonia was expected to achieve cost parity with fossil-based ammonia beyond 2030 Minbos has the potential to achieve this many years in advance
- ✓ No Company globally has access to Green Power at the Minbos concessional price
- Access to local markets to sell Ammoniabased fertilizer and explosives

### **Future Opportunities**

- ✓ NPK Blending and Distribution
- Lime Products
- Nitro Phosphates
- Soil Carbon and carbon credits
- Angola Agriculture

- LFP battery materials

<sup>1.</sup> ASX Announcement - Resource Update for High-Grade Cabinda Phosphate Project (23 Nov 2021).

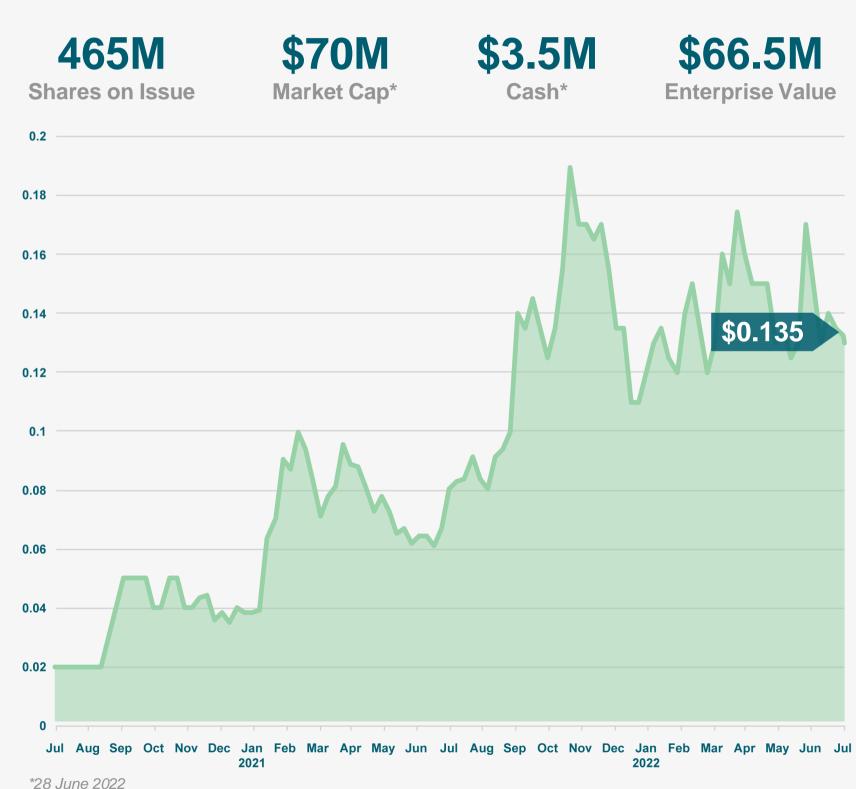
<sup>2.</sup> Profercy Reports – Morocco fob (Phos Rock) and Tampa fob (Tampa fob) - June 2022

<sup>3.</sup> Per ASX Announcement 25th May 2020, power allocation and pricing secured, confirming that we have a resolution from RNT and in process of negotiating the formal, binding MOU

# **Company Overview**



# **Capital Structure**



## **Board & Management**

# **Lindsay Reed**

Chief Executive Officer

A Mining Engineer with 30 years' experience in exploration, development, operations and corporate finance. Lindsay has worked in minerals sands, copper and tin operations obtaining a Mine Managers Certificate.

## **Peter Wall**

Chairman

A corporate lawyer and has been a Partner at Steinepreis Paganin since July 2005. Mr Wall has extensive experience in natural resources and cross border transactions having served as the Chairman of multiple ASX listed companies with international operations. Mr Wall holds a Bachelor of Laws, Bachelor of Commerce (Finance) and a Masters of Applied Finance and Investment.

# **Valentine Chitalu**

Non-Executive Director

Co-founder and Chairman of Phatisa Group, an African-focused private equity fund with ~US400 million funds under management and a well-respected track record of delivering for clients and communities. Phatisa is a proud signatory of the Principles on Responsible Investment which is implemented through a comprehensive ESG framework.

## **Graeme Robertson**

Non-Executive Director

Over 40 years' experience in the resources, energy, and infrastructure sectors as former Managing Director of New Hope Corporation Ltd(ASX:NHC), a director of W H Soul Pattinson & Co Pty Ltd (ASX:SOL) and AfrAsia Bank limited. Presently Chairman of Intra Energy Corporation Ltd (ASX-IEC) and Intrasia Group family office.

# **Paul McKenzie**

Non-Executive Director

Agribusiness consultant with 30 years' experience advising large scale family, institutional and sovereign wealth farming entities. Director Kiland (ASX: KIL) reversion of forestry to grazing estate, Director RLF AgTech (ASX: RLF), Chair Cooperative Research Centre for Honey Bee Products Ltd, Specialist Agri Consultant WA to KPMG.

# **Dganit Baldar**

Non-Executive Director

A qualified Israeli corporate lawyer with approximately 20 years' experience in the legal profession. Until recently, she was the General Counsel for Mitrelli Group, a multinational organization which initiates, executes and manages large turn-key projects in developing countries.

# Strategic Investment to accelerate Angolan Projects

Cornerstoned Placement, Debt Facility and Strategic Cooperation Agreement





\$25M Non-Binding debt Term Sheet Strategic Cooperation Agreement



#### **Cornerstone Placement**

- \$25M equity Placement, of which \$15m is cornerstoned
- 70% of \$15m cornerstone investment from entity controlled by Chairman of the world's largest Battery Anode Producer
- All placement investors to participate on T1-T2 basis
- Funds to be used for CAPEX for the Cabinda
   Phosphate Project (mining and plant) and
   Capanda Green Ammonia Project
- Cornerstone investors granted right to appoint a Board nominee

## **Debt Facility – "Non-Binding Term Sheet"**

- High level non-binding Term Sheet signed with LMC for arrangement of debt facility
- US \$25 million
- 5-year term
- Competitive market interest rates to be agreed, with potential equity participation
- Funds to be used for CAPEX for the Cabinda
   Phosphate Project (mining and plant)
- Long lead items ordered with a number of items ready to be shipped from the US
- Fertilizer plant production to commence in Q2 2023\*

## **Strategic Cooperation Agreement**

Minbos, HongKong Jayson, Hoston Investments (Australia) and Long March Capital to collaborate on:

- Ferro Phosphate and Lithium Ferro Phosphate Projects (LFP Project)
- Large-scale Green Ammonia Project (LSGA Project)

### Parties to work to secure:

- Funding and investment opportunities
- Customer and off-take arrangements
- Technology and service providers
- Contribute to any feasibility studies and evaluation

ASX:MNB | 5

# \$25 million Placement of which \$15m is cornerstoned



Including an investment from an entity controlled by Chairman of US\$18 Billion Shanghai Putailai New Energy

Syndicate of investors led by Mr. LIANG Feng, the Chairman of Shanghai Jayson New Energy Materials (Jayson), seeking exposure to Lithium Ferro Phosphate and large-scale Green Ammonia Projects, backstopped with the world's cheapest green energy, in Angola and through Minbos.

HongKong Jayson Holding Co., Ltd. (HKJYS) (70% of Placement funds)

- HKJYS is a Hong Kong-incorporated holding company substantially held by Mr. LIANG Feng, founder and chairman of Shanghai Jayson New Energy Materials. Jayson mines green energy metals (cobalt, copper and nickel, etc.) across several continents, producing cathode materials for lithium batteries.
- Mr. Liang is also founder and chairman of Shanghai Putailai New Energy Technology (PTL), listed on the Shanghai Stock Exchange with a market capitalization of US\$18 billion, and the world's largest anode materials maker for lithium batteries.

Hoston Investments (Australia) Pty Ltd. (20% of Placement funds)

• A successful Australian-Chinese entrepreneur with manufacturing businesses focused on textiles and garments, real estate development, marine technology and services.

**Longmarch Principal Holding Limited (10% of Placement Funds)** 

• LMC has originated, advised and managed several billion dollars investments of Chinese investors in the resources, infrastructure and energy sectors in Africa, Canada and Australia.

# \$25 million Non-Binding Debt Term Sheet



# Long-lead items ready to be shipped for Cabinda Phosphate Fertilizer Project

### **Non-Binding Term Sheet Details**

- High level Non-Binding Term Sheet signed with Long March Capital for arrangement of debt facility
- US\$25 million in tranches of US\$5 million, available for first drawdown on financial close
- Term 5 years
- Interest Rate competitive market interest rates to be agreed, with potential equity participation
- Use of Proceeds CAPEX for Cabinda Phosphate Project, mining and fertilizer plant
- Conditions completion of due diligence by financiers, execution of definitive agreements, completion of acceptable DFS by Minbos, off-take and supply agreements to be in place and other customary conditions

# Debt to backstop Cabinda Phosphate Project, with DFS due Q3, long-lead items to be shipped and construction expected to begin Q3 2022

### 12-month Expected Newsflow for Cabinda Phosphate Project

- Completion of DFS and Final Investment Decision
- Futila Fertilizer land purchase
- Construction commencement
- Offtake, including IFDC AFFPP
- Large Farm Offtake and Field Trials
- First Fertilizer Production

# **Strategic Cooperation Agreement**



Signed with Cornerstone Investors to develop Lithium Ferro Phosphate and Large-Scale Green Ammonia

# Project development, Offtake and Financing new Battery and Large-scale Ammonia Projects

# Ferro Phosphate and Lithium Ferro Phosphate (LFP Projects)

- Identify, approach and secure appropriate partners, technology and service providers
- Identify, approach and secure appropriate customer investment and offtake partners
- Contribute to project feasibility
- Minbos commits to Long term off-take of 100,000 tonnes per annum of high-grade phosphate rock at agreed market rates

#### **Large-Scale Green Ammonia Project (LSGA Projects)**

- Investigate the availability of up to 500MW hydropower for new large-scale Green Ammonia Projects
- Evaluation and development of potential downstream Ammonia products
- Complete feasibility studies on a large-scale Ammonia Project
- Identify, approach and secure appropriate investment partners, including debt financing sufficient to fund the capital expenditure requirements to construct
  the production facilities
- Assist with identifying and securing suitable land and location for the LSGA Project
- Secure customers and offtake arrangements for the Ammonia products
- Government relations including introductions, referrals and meetings as required for approvals, permits and licenses for the LSGA Project
- Provide phosphate feedstock on competitive market terms under a long-term offtake agreement

# **Angola's Energy Advantage**

large scale hydro the perfect input for Green Ammonia

# Angola's hydropower potential among the highest in Africa

- Top 10 Globally for new installed hydro capacity
- 2nd highest producer of hydropower in Africa
- 1000MW of unutilized hydropower available

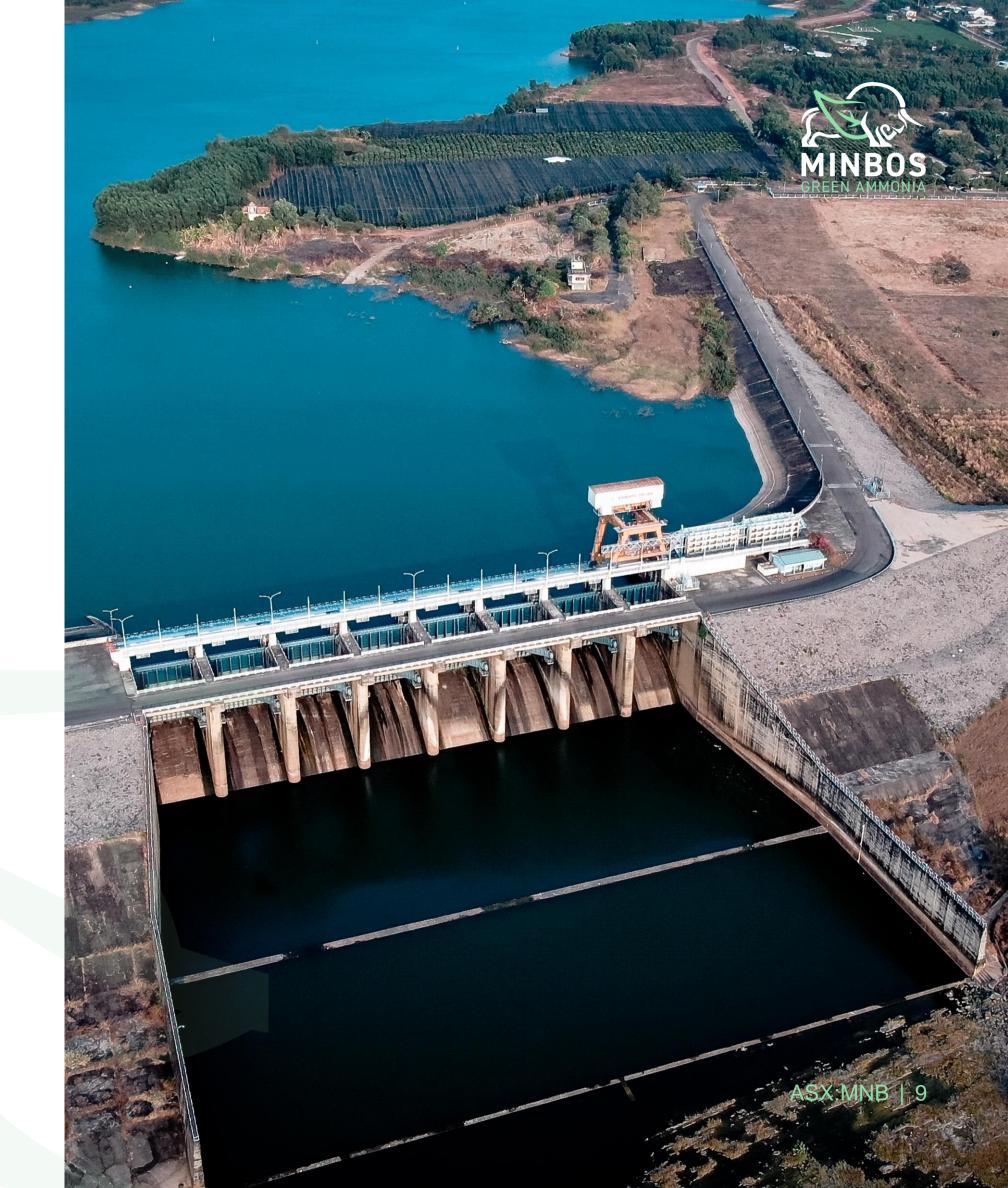
# Minbos Secures 200MW Of The Cheapest, Greenest Power Globally

Formal Resolution from Angolan power authority (RNT-EP) secured 200MW of Zero- Carbon hydroelectrical power:

- Initial 100MW at US 0.4c/kWhr for 5 years, US 0.8c/kWhr for 20 years and subsequent 100MW at US 1.5c/kWhr for 25 years
- Electricity price < US 2.0c/kwh megawatt-hour required for Green Ammonia to be competitive with fossil-based ammonia

Power concession delivers one of the most compelling green projects globally, with other advantages including:

- Long-term power security (25-year offtake) & power price stability (no risk of increased costs associated with potential carbon pricing regimes)
- No upfront capital costs saves billions in CAPEX and a decade of feasibility studies



# **Global Ammonia Market**

Producing Green Ammonia

### **Current Market**

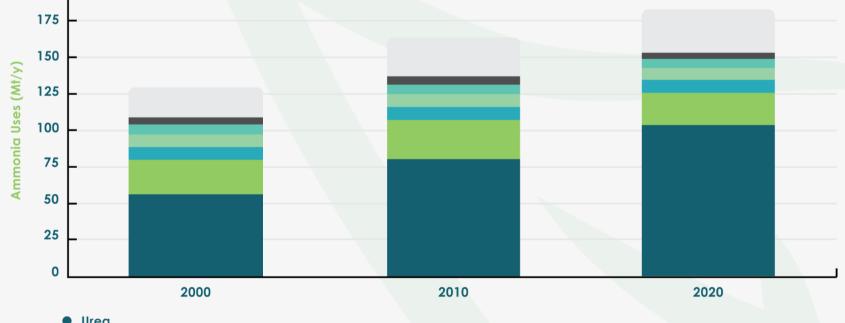
- Global ammonia demand was 183 Mt (2020), 85% used in the fertilizer sector
- There are 120 ports equipped with ammonia terminals
- Between 2000-2020, the market price for ammonia ranged from USD \$100 \$600/t
- In 2021, driven by natural gas shortages, ammonia prices exceeded USD \$1,000/t globally

#### 2050 Outlook

- Global ammonia demand 183 Mt (2020) to grow to 688 Mt by 2050
- fertilizer use to grow to 267 Mt Maritime sector is expected to consume 197 Mt of ammonia as fuel
- Demand for ammonia as a fuel for power generation reaches 30 Mt by 2050, based only on stated policies within Japan
- Market price of ammonia is currently linked to natural gas and remains volatile
- A shift to renewable ammonia would decouple ammonia pricing from natural gas markets







Ammonium nitrateDiammonium phosph

Ammonium sulphateDirect application

Monoanmmonium phosphate

Other markets

Note: Direct applications refers to the use of ammonia as fertiliser. Other markets include the textile industry, the explosives and mining industry, pharmaceuticals production, refrigeration, plastics manufacturing, waste treatment and air treatment, such as nitrogen oxide ( $NO_x$ ) abatement.

Sources: Reproduced from Appl (1999), Brightling (2018), Hatfield (2020) and Smil (2004).

# The Most Compelling Green Hydrogen-Ammonia Project Globally

— Ammonia plant to be located <11km from Capanda hydroelectric dam</p>

# Minbos secures 200MW of zero-carbon hydropower that comes from the Capanda Hydroelectric Dam

Located on the Kwanza River, in the Malange Province of Angola

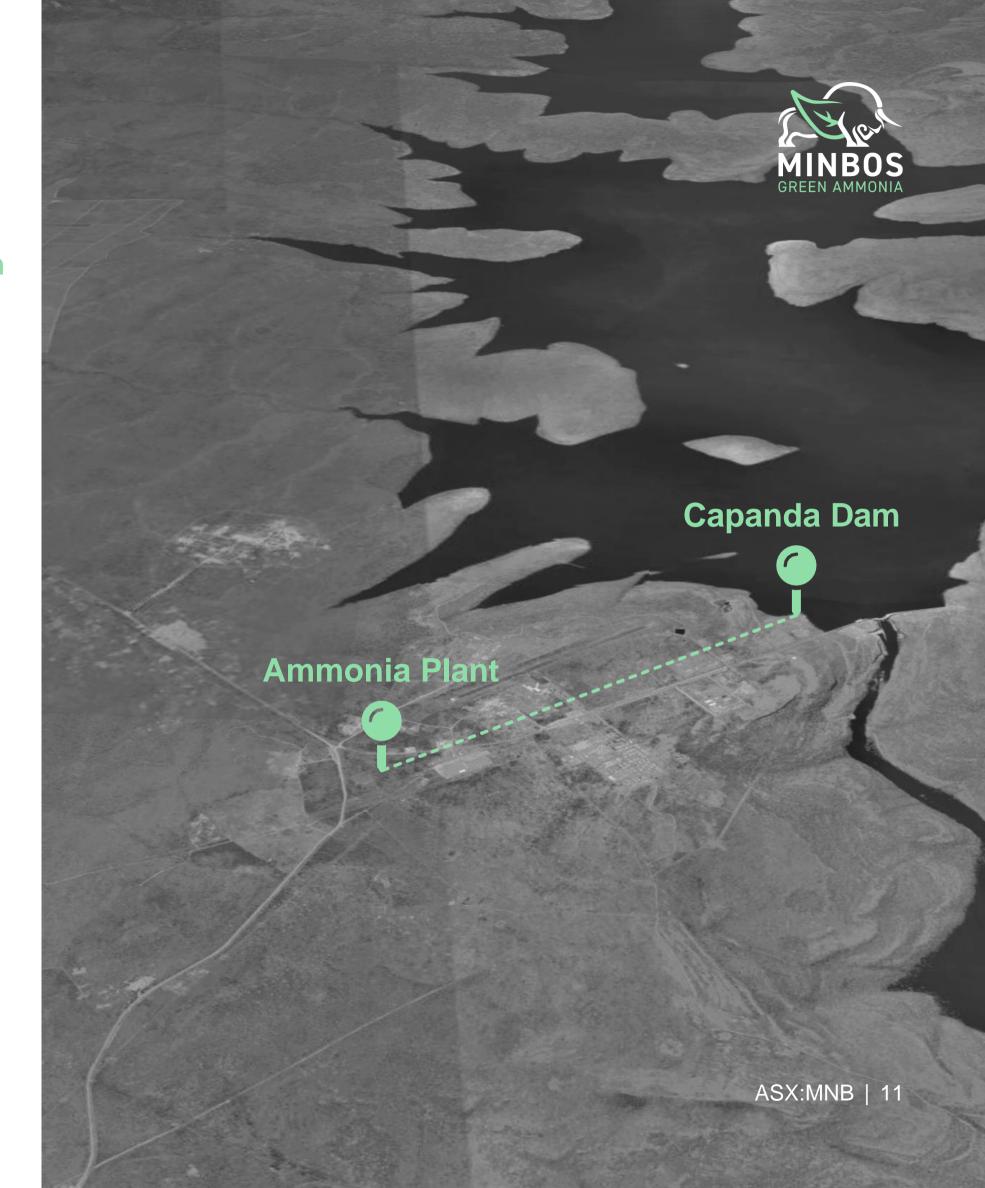
Capanda has installed capacity to 520 MW and generates power by utilising four turbines at 130 MW (170,000 hp) each

Green Ammonia site is:

- located within 11 km of the Capanda Hydroelectric Dam;
- along an existing transmission corridor where the Company plans to its Green Ammonia Plant;

# **Key parameters for a successful Ammonia Plant**

- Availability of electricity
- Electricity price
- Local cost of fertilizer
- Proximity to market
- Economies of scale
- Costs of electrolysers





GROWING SMALL
HOLDER FARMERS WITH
THE POTENTIAL FOR
PHOSPHATE LITHO-ION
BATTERY OFFTAKE



# **Angola's Agricultural Potential**

Vast tracts of unoccupied arable land

31M

**57M** ha

5M ha

**Population** 

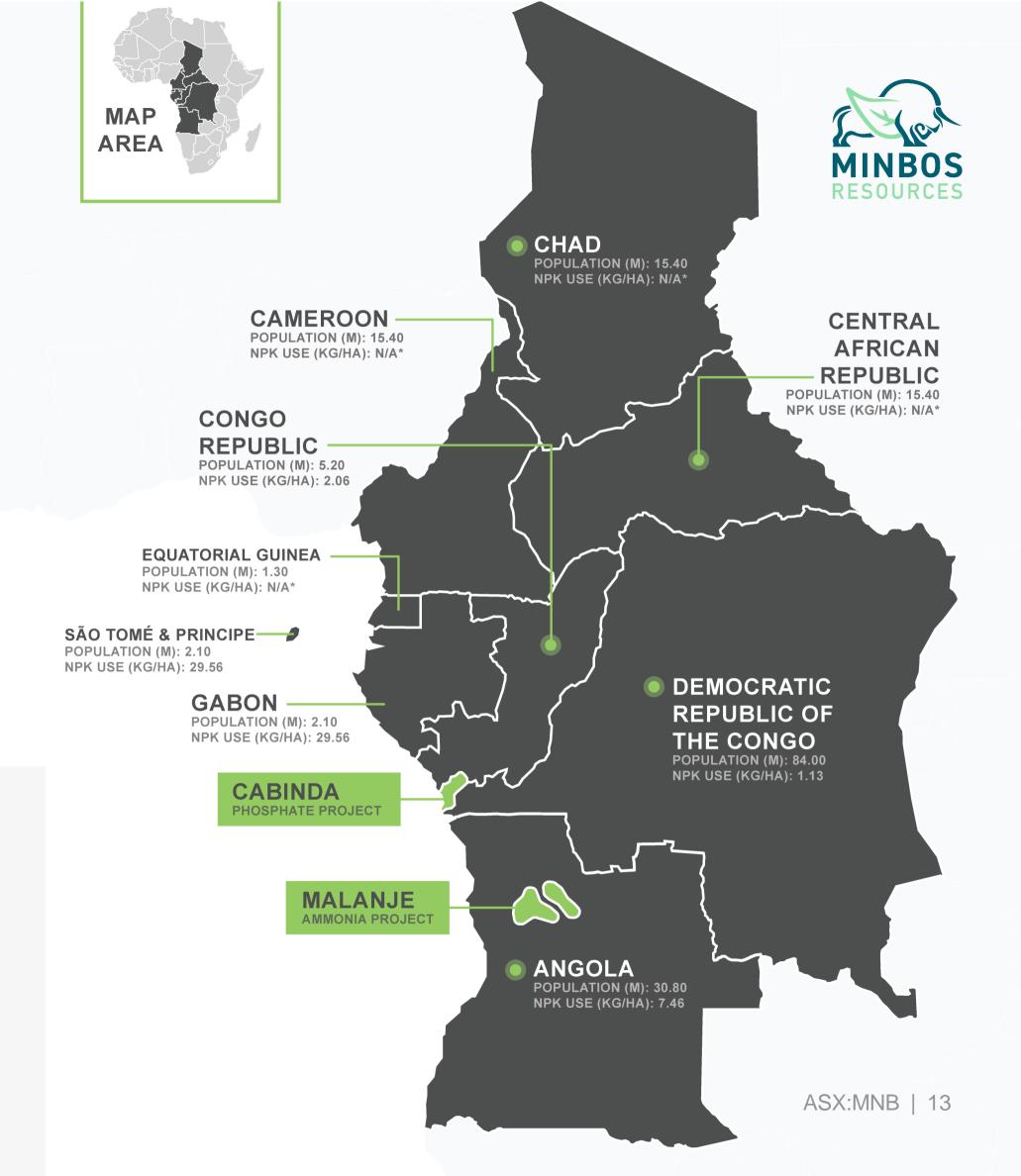
**Arable Land** 

**Cultivated Land** 

- 1000-1500mm of rain per year
- 3 million farm households (~1-2 hectares)
- 95% smallholder farming
- 100% of fertilizers is imported

## ANGOLA WAS ONE OF AFRICA'S LEADING FARMING NATIONS:

- World's fourth largest coffee producer
- Exporter of sisal, sugarcane, banana, cotton
- Self-sufficient in all food crops except wheat



# Cabinda Phosphate Project

- High-grade Phosphate rock fertilizer
- Cácata Phosphate Resource 8.4MT @ 29.6% P<sub>2</sub>O<sub>5</sub>
- Phosphate Rock to be trucked to Futila Granulation Plant
- Futila Industrial Zone has access to stable grid power, the water network, gas & diesel
- Close to the Ports of Caio and Cabinda for regional shipping
- Flexibility to blend Phosphate Rock, WSP,
   Secondary Nutrients, Micronutrients

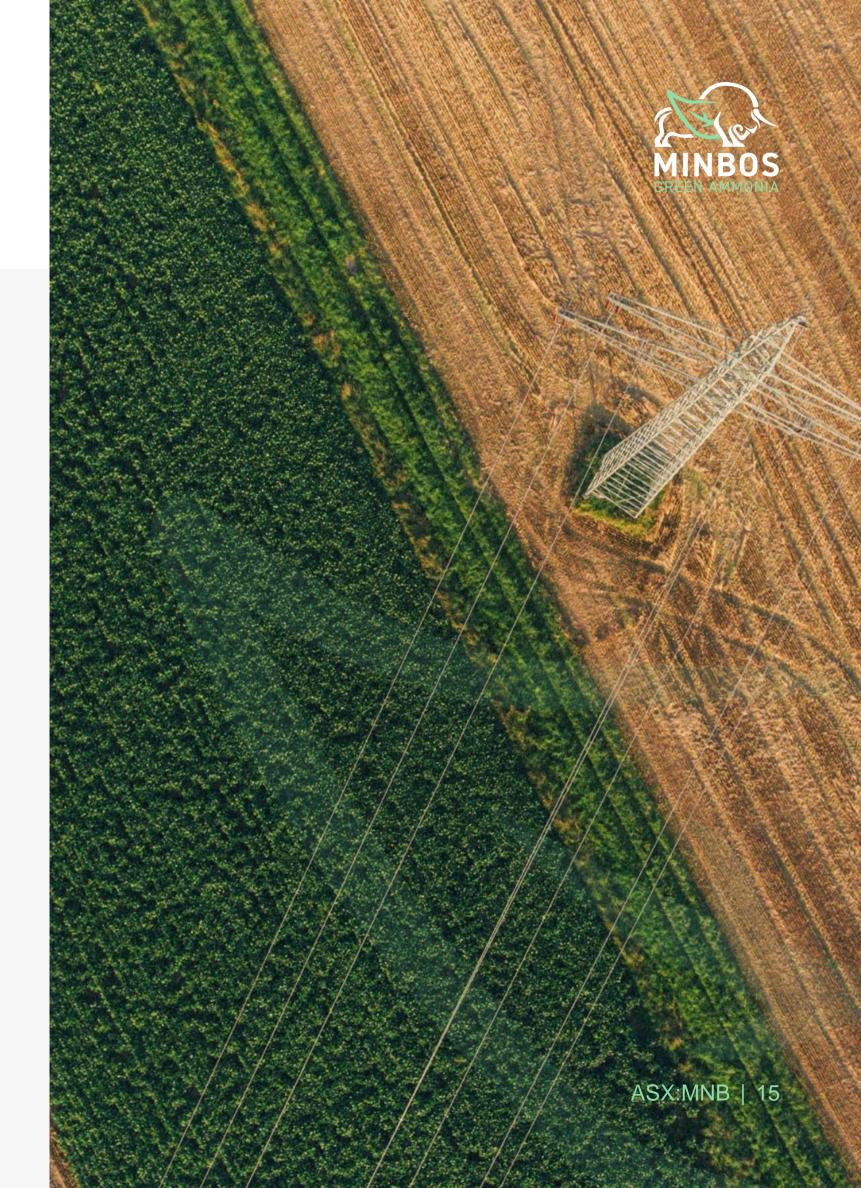


# **Next 12 Months For Green Ammonia**

— Key milestones & studies

# Capanda Green Ammonia Project

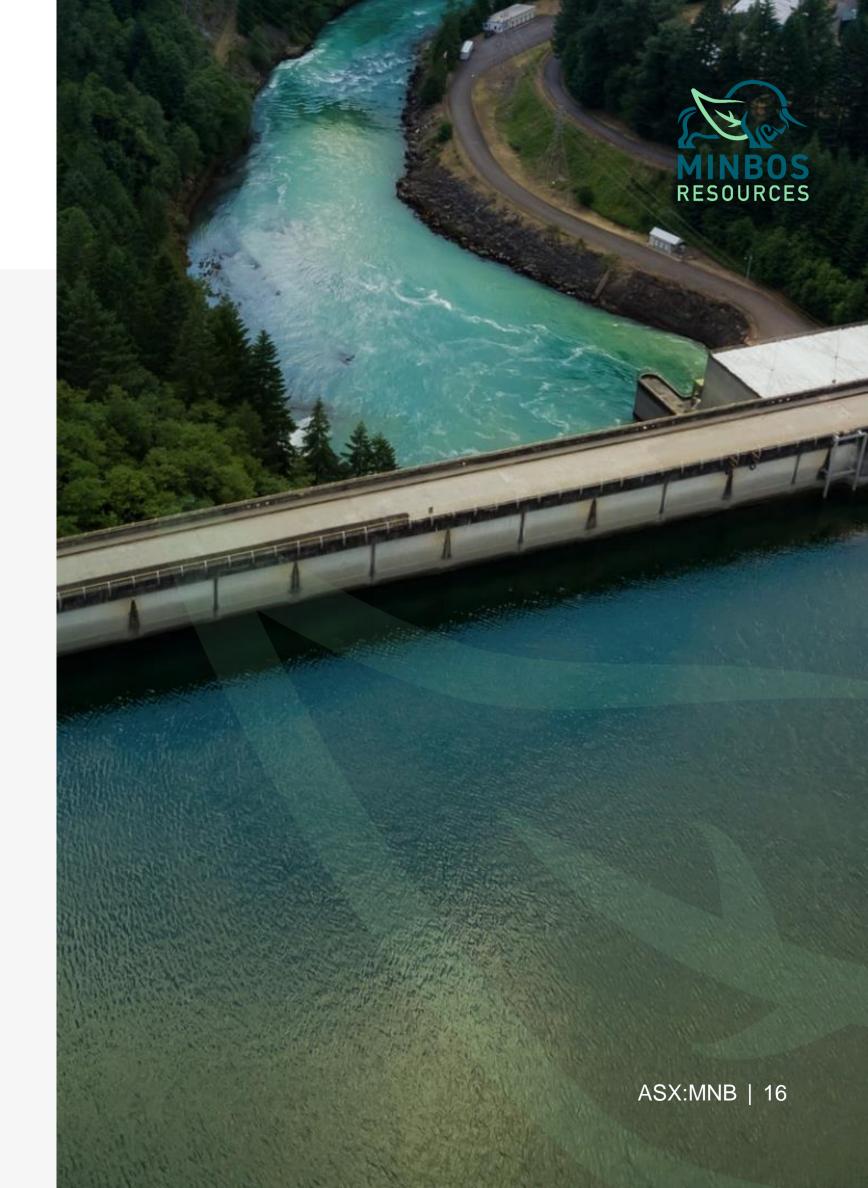
- Budget and first year's timetable for a market assessment study, for the proposed Green Hydrogen-Ammonia Plant
- Technology and Engineering Partnership Agreement to be executed with Stamicarbon
- Scoping Study to be undertaken in consultation with Technology and Engineering Partner
- Transport Logistics Study to analyse the cost of transporting the materials for the Green Hydrogen-Ammonia Plant and the cost of transporting nitrogen fertilizers to the agricultural regions of Angola
- Inventory of Raw Materials of Angolan secondary ingredients for nitrogen fertilizers, including Sulphur, Limestone, Dolomite, Phosphate, Potassium
- Agricultural Stakeholder Consultation with nutrient users, importers, distributors and agronomists
  to identify the most suitable nitrogen fertilizers, climate, soil fertility, available raw materials and
  agricultural production forecast
- Soil Sampling to be carried out in conjunction with the Ministry of Agriculture and covering approximately 10 million hectares of agricultural land
- 500MW of new power for a market assessment study as part of the Large-Scale Green Ammonia Plant



# **Next 12 Months For Cabinda Phosphate Project**

Key milestones & studies to take Cabinda into production

	Q3 2022	Q4 2022	Q1 2023	Q2 2023
	DFS Completed	Phosphate Plant Construction Licence	Relocation Program underway	Commissioning of Granulation Plant
	Long-lead items commence arrival	Mine Construction Licence	Commencement of Mining	First production of Beneficiated Phosphate Rock
	Futila Site Granted	Mining Contractor Appointed		
	Construction of Phosphate Plant			



# **Use of Funds**

**Completion of Definitive Feasibility Study** 

Payment for long-lead items

**Cabinda Phosphate Plant Construction** 

**Green Ammonia Technical and Market Assessment Studies** 

**Working Capital Requirements** 





# **Risk Factors**



#### **Risks with Operating in Angola**

The Company operates out in Angola, a country that has been the subject to civil unrest in the recent past. The Company believes that although tensions have eased considerably, civil and political unrest and an outbreak of hostilities remains a risk in jurisdictions like Angola.

Historically, there has also been a relatively high level of corruption in Angola, especially in the extractive industries. This corruption often influences the awarding of contracts or the granting of licenses. Furthermore, Angola does not have laws that specifically address corruption, bribery and conflict of interest.

Other possible sovereign risks include, without limitation: changes in the terms of the relevant mining statutes and regulations; changes to royalty arrangements; changes to taxation rates and concessions; changes in the ability to enforce legal rights; and expropriation of property rights.

Any of these factors may, in the future, adversely affect the financial performance of the Company and the market price of its shares.

No assurance can be given regarding the future stability in these or any other country in which the Company may have an interest.

#### The Legal Environment in Angola

The Company's projects are located in Angola. Angola is considered to be a developing country and is subject to emerging legal and political systems as compared with the system in place in Australia. This could result in the following risks: political difficulties in obtaining effective legal redress in the courts whether in respect of a breach of law or regulation or in an ownership dispute; a higher degree of discretion held by various government officials or agencies; the lack of political or administrative guidance on implementing applicable rules and regulations, particularly in relation to taxation and property rights; inconsistencies or conflicts between and within various laws, regulations, decrees, orders and resolutions; or relative inexperience of the judiciary and court in matters affecting the Company.

#### **Changes in Government Policy**

Adverse changes in government policies or legislation in Angola and other jurisdictions in which the Company may operate from time to time affecting foreign ownership of mineral interests, taxation, profit repatriation, royalties, land access, labour relations, and mining and exploration activities may affect the operations of the Company. It is possible that the current system of exploration and mine permitting in Angola may change, resulting in impairment of rights and possibly expropriation of the Company's properties without adequate compensation. In addition, there is a possibility that the Company's agreements with governments or joint venture partners may be unenforceable against such parties.

#### **Lack of Specific Infrastructure**

The Company's projects are located in areas of Angola that generally lack some specific infrastructure. The lack of availability of this infrastructure may impact the Company's future operations and feasibility of its projects.

The Company also needs to locate required adequate supplies and obtain necessary approvals from national, provincial and regional governments, none of which can be assured.

#### Workforce and labour risks

The skill base of the local labour force in Angola is extremely limited. There is a severe shortage of workers with good managerial or technical skills.

HIV/AIDS, malaria and other diseases represent a serious threat to maintaining a skilled workforce in the mining industry throughout Africa. HIV/AIDS, malaria and other diseases are a major healthcare challenge faced by the Company's operations in Angola. There can be no assurance that the Company will not lose members of its workforce, workforce man hours or incur increased medical costs which may have a material adverse effect on the Company's operations.

Also given the current high level of activity in the global mining industry, Minbos may be unable to source personnel and equipment to meets its objectives.

#### **Operating Risks**

The operations of the Company may be affected by various factors, including failure to locate or identify mineral deposits, failure to achieve predicted grades in exploration and mining, operational and technical difficulties encountered in mining, difficulties in commissioning and operating plant and

equipment, mechanical failure or plant breakdown, unanticipated metallurgical problems which may affect extraction costs, adverse weather conditions, industrial and environmental accidents, industrial disputes and unexpected shortages or increases in the costs of consumables, spare parts, plant and equipment.

#### **Commodity Price Volatility and Exchange Rate Risks**

If the Company achieves success leading to mineral production, the revenue it will derive through the sale of phosphate rock and potential later sales of other fertilizer products, exposes the potential income of the Company to commodity price and exchange rate risks. Commodity prices fluctuate and are affected by many factors beyond the control of the Company. Such factors include supply and demand fluctuations for fertilizer inputs, technological advancements, forward selling activities and other macro-economic factors.

#### **Environmental Risks**

The operations and proposed activities of the Company are subject to the laws and regulations of Angola concerning the environment. As with most exploration projects and mining operations, the Company's activities are expected to have an impact on the environment, particularly if advanced exploration or mine development proceeds. It is the Company's intention to conduct its activities to the highest standard of environmental obligation, including compliance with all environmental laws.

#### **Construction Costs**

In August 2020, the Company released a Scoping Study for the Cabinda Phosphate Project, which included an estimate for the construction of a Granulation Plant. The Company is currently completing a Definitive Feasibility Study that will revise this estimate. There are risks with all construction projects that material costs will rise. Additionally, it is likely that the COVID-19 (Coronavirus) pandemic will generate new and/or increased costs, such as its impact on global supply chains and on workforce, that will result in higher costs of construction.

#### **Green Ammonia and other new projects**

The Company's proposed green ammonia project is at an early stage of development and consideration by the Company. The ability to commercialise this project (and other new ventures) is subject to the Company's completing feasibility studies, securing finance and obtaining binding agreements/approvals with local companies and government authorities in Angola. There is no guarantee that the Company will be able to adequately execute on these endeavours and, as early stage projects, they carry a considerable amount of risk.

#### **Additional Requirements for Capital**

The Company's capital requirements depend on numerous factors. Depending on the Company's ability to generate income, the Company will require further financing. Any additional equity financing will dilute shareholdings, and debt financing, if available, may involve restrictions on financing and operating activities.

If the Company is unable to obtain additional financing as needed, it may be required to reduce the scope of its operations and scale back its development programmes as the case may be. There is no guarantee that the Company will be able to secure any additional funding or be able to secure funding on terms favourable to the Company.

#### **General Risk Factors**

In addition to the above, the Company is also exposed to general risk factors that apply to nearly all ASX listed entities including share market volatility and other economics factors that are outside the Company's control.

#### **Speculative Investment**

Potential investors should consider that the investment in the Company is speculative and should consult their professional advisers before deciding whether invest.

The above list of risk factors ought not to be taken as exhaustive of the risks faced by the Company or by investors in the Company. The above factors, and others not specifically referred to above, may in the future materially affect the financial performance of the Company and the value of the Company's shares.





# **The Basics**

— The Ammonia Economy

# Ammonia is the second-most-widely produced commodity chemical globally

180 million metric tons (t) of ammonia is produced annually with 120 ports equipped with ammonia terminals

# Key uses:

- Explosives: Ammonium nitrate-based explosives
- fertilizers: Nitrogen and phosphorus fertilizers
- Industrial Chemicals: Nitrogen related industrial chemicals

2000-2020, the market price for ammonia ranged from USD \$100 - \$600/t

2021, driven by natural gas shortages, ammonia prices exceeded USD \$1,000/t

NO1 & No2 Removal NH<sub>3</sub> Transport Power 2 Ammonia **Air Separation Chemical Precursor** NH<sub>3</sub> Synthesis Power 2 Ammonia (Ammonia) H<sub>2</sub>O Electrolysis Power 2 Ammonia Maritime Fuel Methane Reformer **Power Generation** Waste 2 ammonia NH<sub>3</sub> Decomposition Hydrogen **Fuel Cell vehicles** Hydorgen grid Feedstock for **Chemical Company** 

<sup>&</sup>lt;sup>1</sup>Smil, V., "Enriching the Earth – Fritz Haber, Carl Bosch, and the Transformation of World Food Production," The MIT Press, Cambridge, MA (Dec. 2000).

# The Basics

# Producing Green Ammonia

Haber-Bosch process combines hydrogen and nitrogen to form ammonia

Ammonia has the same chemical structure (NH3) whether it is produced from fossil or renewable energy

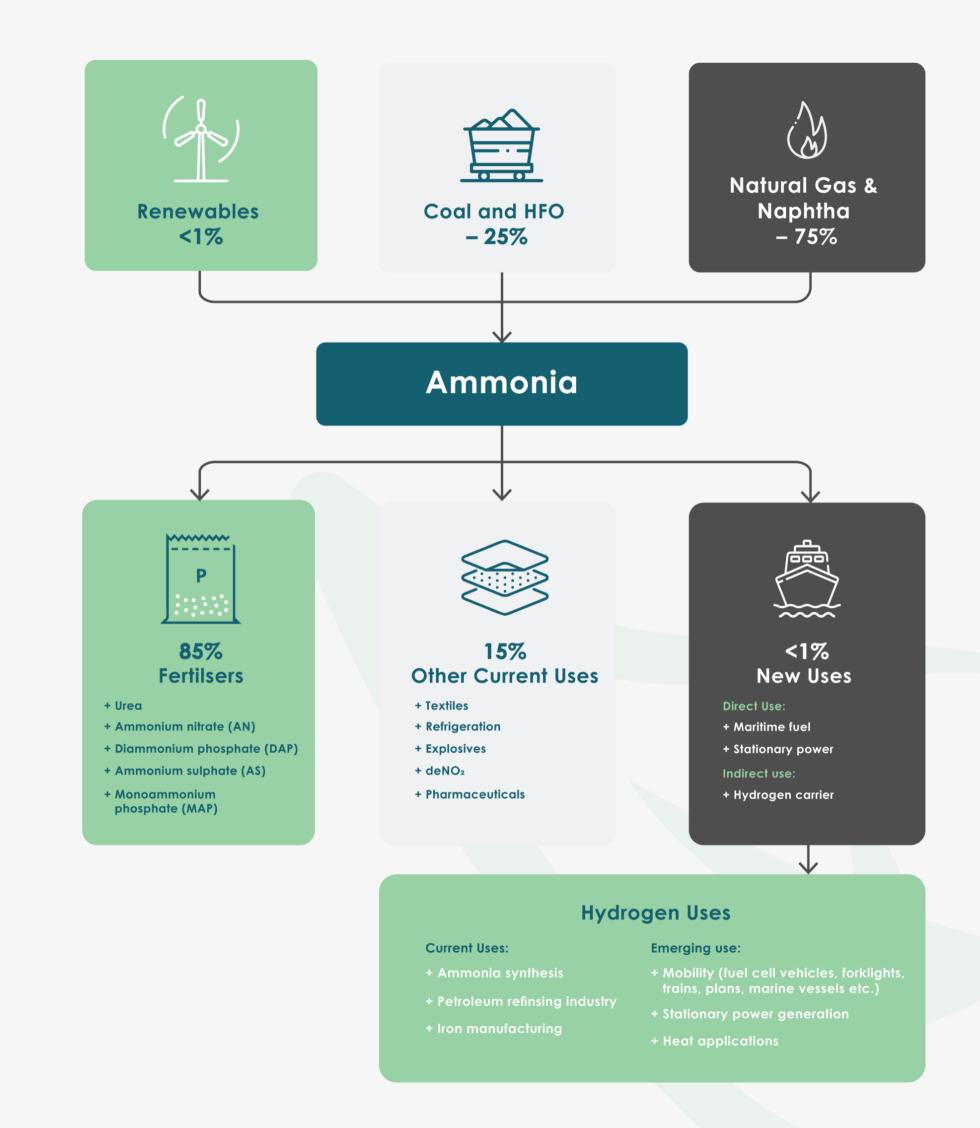
Global ammonia plants:

- 72% use natural gas, emitting on average 1.6-1.8 tonnes of CO2 per tonne of ammonia,
- 22% use coal, emitting on average 4.0 tonnes of CO2 per tonne of ammonia.

Green Ammonia has been produced at an industrial scale since the 1920s, with hydroelectricity powering the Haber-Bosch process with renewable hydrogen in countries including Canada, Egypt, France, Iceland, India, Japan, S. Korea, Norway, Switzerland, USA and Zimbabwe

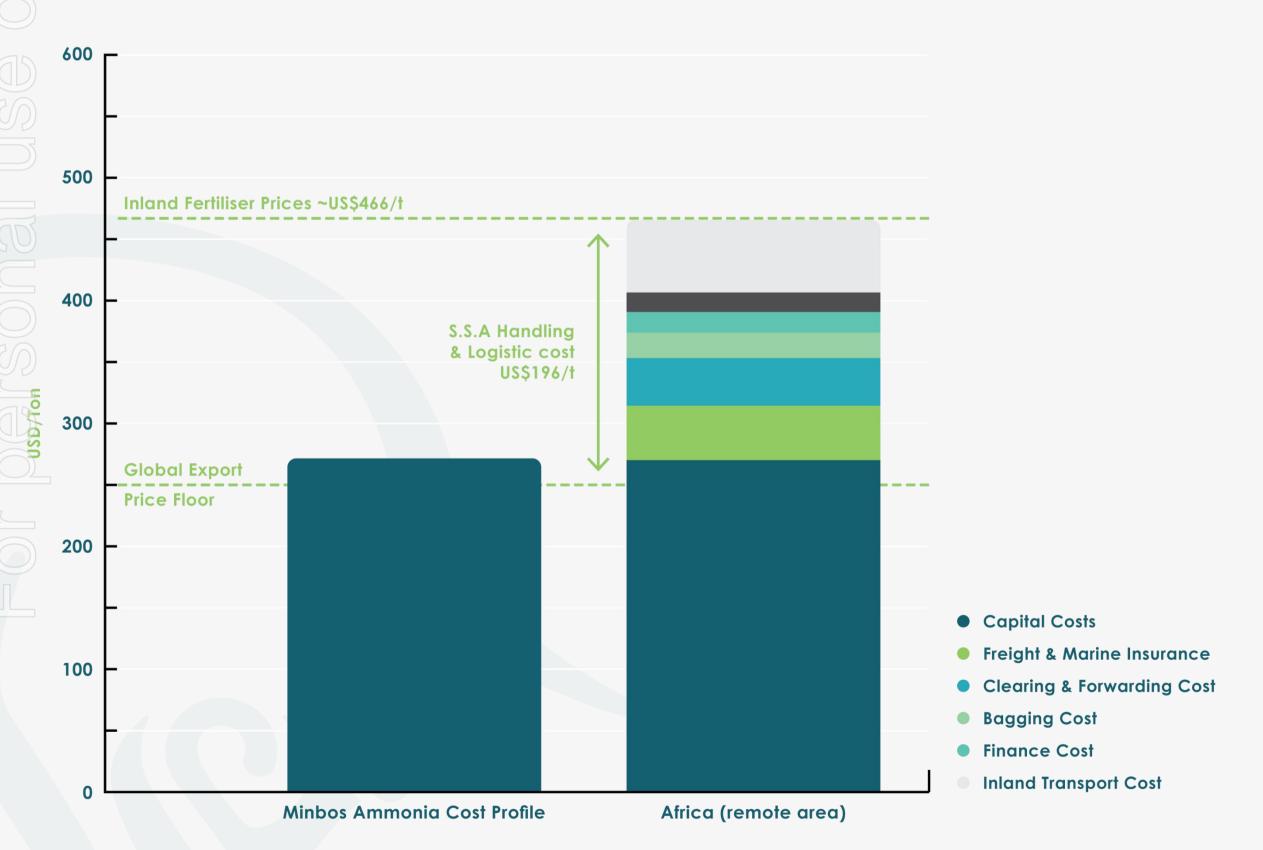
### **Carbon Intensity**

- Ammonia life-cycle emissions amount to 0.5 gigatonnes (Gt) of carbon dioxide (CO2) annually (around 15-20% of total chemical sector emissions and 1% of global greenhouse gas emissions)
- New electrolyser technology continues to develop with more Hydrogen-Ammonia output with less energy intensity (carbon emission)



# Why making Green Ammonia locally matters

Our US\$200/t local for local advantage



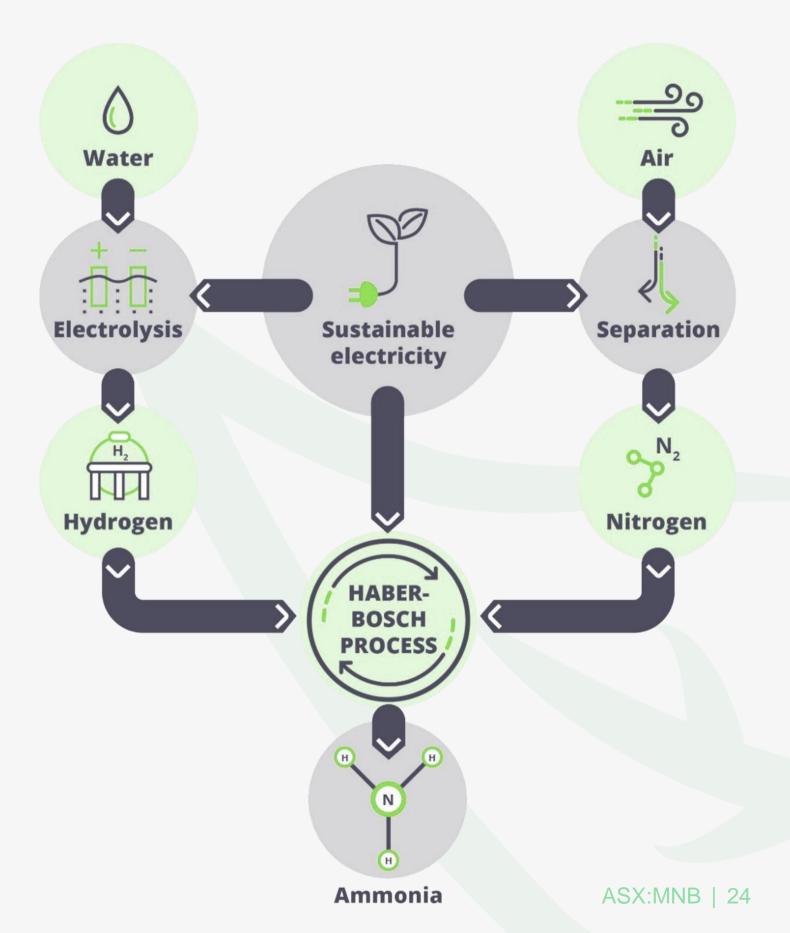


# The Ammonia-Hydrogen Link

Ammonia the central pillar in the hydrogen economy

- Green ammonia is produced from renewable hydrogen, which in turn is produced via water electrolysis using renewable electricity
- Ammonia production accounts for 45% of global hydrogen consumption
- By 2050, ammonia imports as a hydrogen carrier expecting to reach 127 Mt,
   supplying decarbonised feedstock and fuel for the chemical and industrial sectors
- Most hydrogen strategies consider Green Ammonia only as a consumer of hydrogen in the context of fertilizer production, omitting its potential as fuel and hydrogen carrier in its own right
- The International Renewable Energy Agency is advocating that not only is
   Ammonia used as a hydrogen carrier, but a direct substitution for Hydrogen





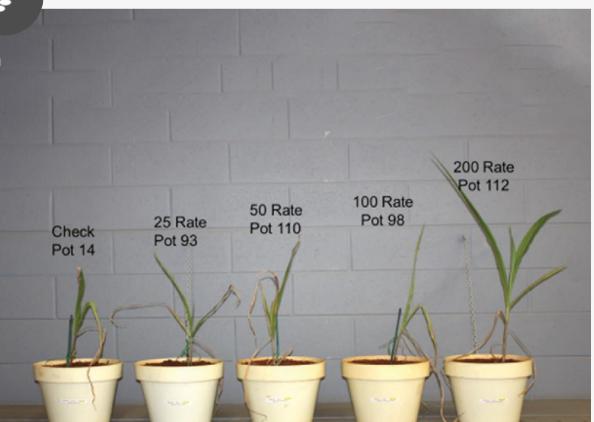
# **Enhanced Phosphate Rock**

The beginning of fertilizer self reliance

Fit for Angola EPR works best in P-deficient acid soils, legume and cereal crops, high rainfall climates.

**AFFPP** program to target 3 million small holder farmers is critical to underpin the Cabinda Phosphate Production.





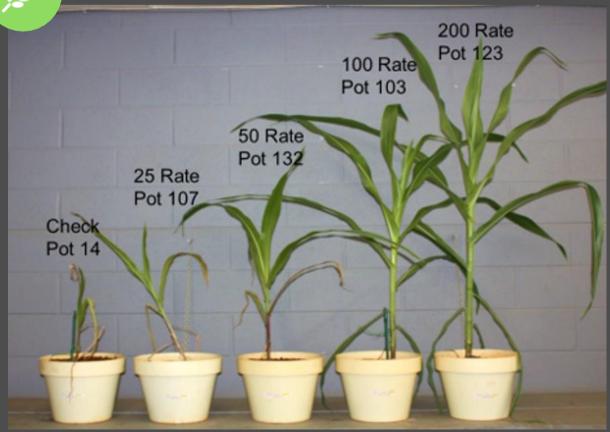




# **ENHANCED CABINDA**PHOSPHATE ROCK

- ✓ 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 solubilizes slow-release phosphate rock





# **ESG FRAMEWORK AND REPORTING**

# Impact corporate governance for the Babinda project

#### - ESG Risk

climate impact, nature loss, and social unrest around inclusion and working conditions.

### - Reporting

Impact monitoring tech platform "Socialsuite" to streamline the outcomes measurement & ongoing ESG reporting process.

#### - Minbos ESG Framework

Minbos has adopted the World Economic Forum ESG framework.

### - Impact Investment

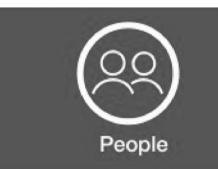
Global sustainable investment now tops \$30 trillion, up 68% since 2014 and tenfold since 2004.



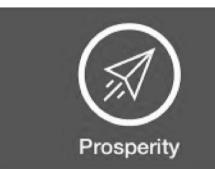
The definition of governance is evolving as organizations are increasingly expected to define and embed their purpose at the centre of their business. But the principles of agency, accountability and stewardship continue to be vital for truly "good governance".



An ambition to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.



An ambition to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.



An ambition to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

