



***Delivering **power** to the people***

**ASX RELEASE ASX:AFR**

12 October 2016

## **ROADSHOW PRESENTATION**

African Energy Resources advises that the following presentation providing investors with an update on progress at the Company's power projects in Botswana, shall be presented to various investors and brokers in Australia this week, including at the Canary Stocks to Watch Roadshow in Melbourne on the 12th and Sydney on the 13th.

For any further information, please contact the Company directly on +61 8 6465 5500.



## Developing Multiple Power Projects in southern Africa; Company Update

October 2016



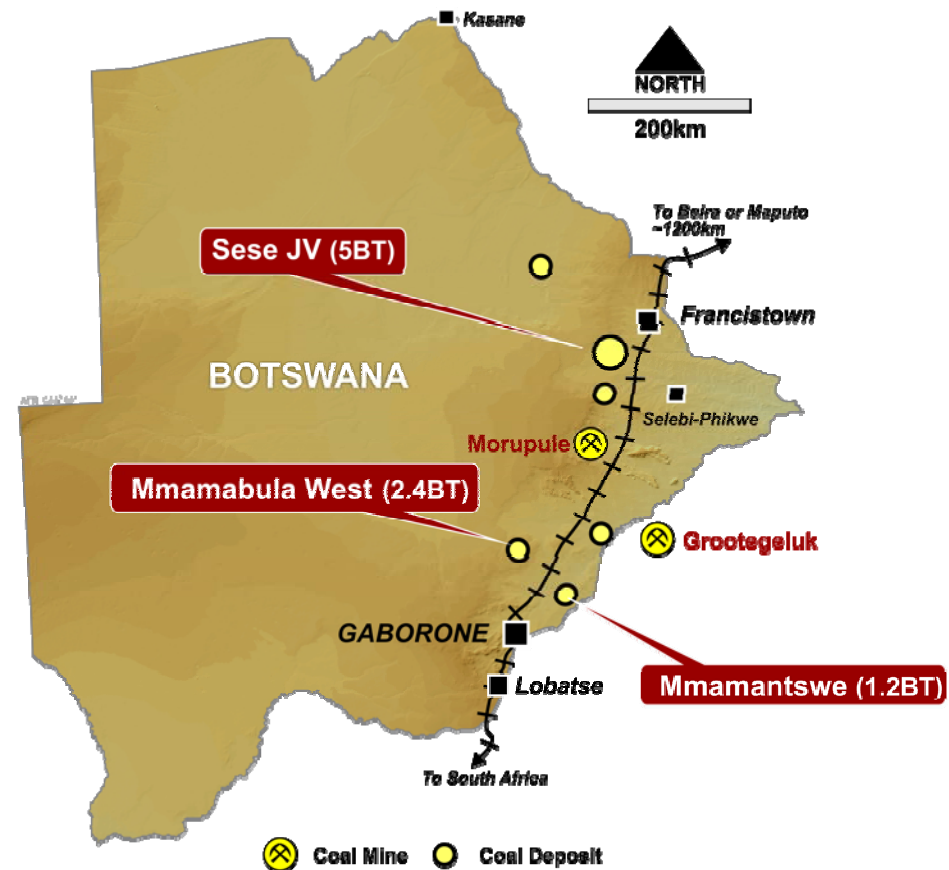
# AFR: Company overview



## AFR is participating in the development of three large-scale power projects in Botswana

- ❖ **African Energy** has built a portfolio comprising over 8.5 billion tonnes of thermal coal\* in three projects in Botswana, the safest and most stable investment destination in Africa
- ❖ All three projects are being developed as 300-600MW fully integrated power projects to supply the chronically power starved SADC region
- ❖ All three projects are to be funded to investment decision point by development partners, minimal cash required from AFR
  - ❖ **Sese JV**: managed by First Quantum Minerals Ltd, targeting power sales to Zambia
  - ❖ **Mmamabula West**: Term sheet executed with a South African developer to enter into a Joint Venture Agreement to rapidly progress a 600MW power project for South Africa
  - ❖ **Mmamantswe**: Agreement to sell project to South African developer (TM Consulting) for US \$20M at financial close

\* Refer to Appendix 1 Resource Statement



# Corporate summary



## Directors and Senior Management

<b>Alasdair Cooke</b>	<b>Executive Chairman</b> , >25 years experience in project development, mining and resource sector
<b>Frazer Tabeart</b>	<b>Managing Director</b> , >25 years experience in international exploration and development projects,
<b>Bill Fry</b>	<b>Executive Director</b> , >25 years experience in finance, funds management and commercial management
<b>Valentine Chitalu</b>	<b>Non-executive Director</b> , >25 years experience in finance and funds management, based in Zambia
<b>Phil Clark</b>	<b>Non-executive Director</b> , >35 years experience in international coal industry, largely with BHP Billiton
<b>Wayne Trumble</b>	<b>Non-executive Director</b> , >35 years experience in power generation and financing, including Bluewaters (WA)
<b>Ian Hume</b>	<b>Non-executive Director</b> , >35 years experience in international finance, one of the founders of Sentient Group
<b>John Dean</b>	<b>Non-executive Director</b> , Commercial Manager at First Quantum's Sentinel copper operation in Zambia
<b>David Walton</b>	<b>Project Manager</b> , >30 years experience with power development, generation and power sales/marketing
<b>Daniel Davis</b>	<b>Company Secretary and Financial Accountant</b> , >12 years experience in accounting and resource sector

<b>ASX Code</b>	<b>AFR</b>
<b>Shares on issue</b>	<b>608 million</b>
<b>Market Cap (@ \$0.04)</b>	<b>AUD \$24M</b>
<b>Cash (30 Sept 2016)</b>	<b>AUD \$5.0M</b>
<b>Debt</b>	<b>Nil</b>

## Major Shareholders

<b>The Sentient Group</b>	<b>23%</b>
<b>First Quantum Minerals</b>	<b>11%</b>
<b>Management</b>	<b>10%</b>
<b>Top 20</b>	<b>62%</b>



# Regional power demand – strong growth forecast



- Sub-Saharan Africa (SSA) has highest forecast population growth globally
- Forecast growth in power demand is linked to population growth and rising living standards
- Population is forecast to double between 2010 to 2050, with energy consumption forecast to double in same period
- This is driving large procurement programs e.g. South Africa's Integrated Resource Plan (IRP)

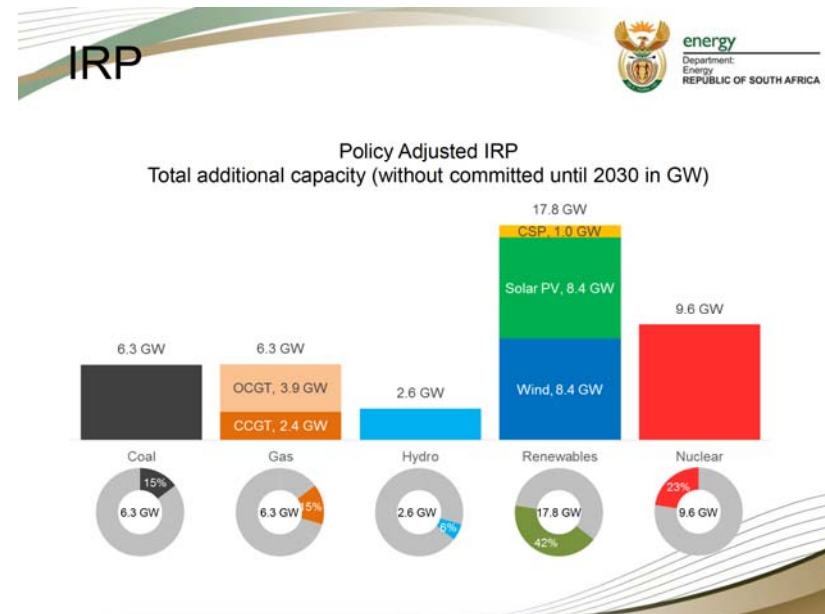
**Although sub-Saharan Africa consumes less electricity than Brazil, by 2040 its demand will reach a level equal to 2010 consumption in Latin America and India combined.**

Electricity consumption 2010,  
terawatt-hours p.a.

Consumption/capita,  
kilowatt-hours

United States	3,962	13,395
China	3,557	2,944
European Union	3,035	6,264
Sub-Saharan Africa 2040	1,570	989
Japan	996	8,394
Latin America	841	1,961
India	760	626
Canada	522	15,137
Brazil	426	2,381
Sub-Saharan Africa	423	514

Source: Key World Energy Statistics, Organisation for Economic Co-operation and Development and the International Energy Agency, 2013, [iea.org](http://iea.org); World Development Indicators, World Bank Group, [worldbank.org](http://worldbank.org)



Source: Department of Energy, South Africa, 2016

## Regional demand for new power supply is strong



**Industrial demand** in the Copperbelt and Bushveld, plus growing population is driving a strong, long-term regional market for new power generation

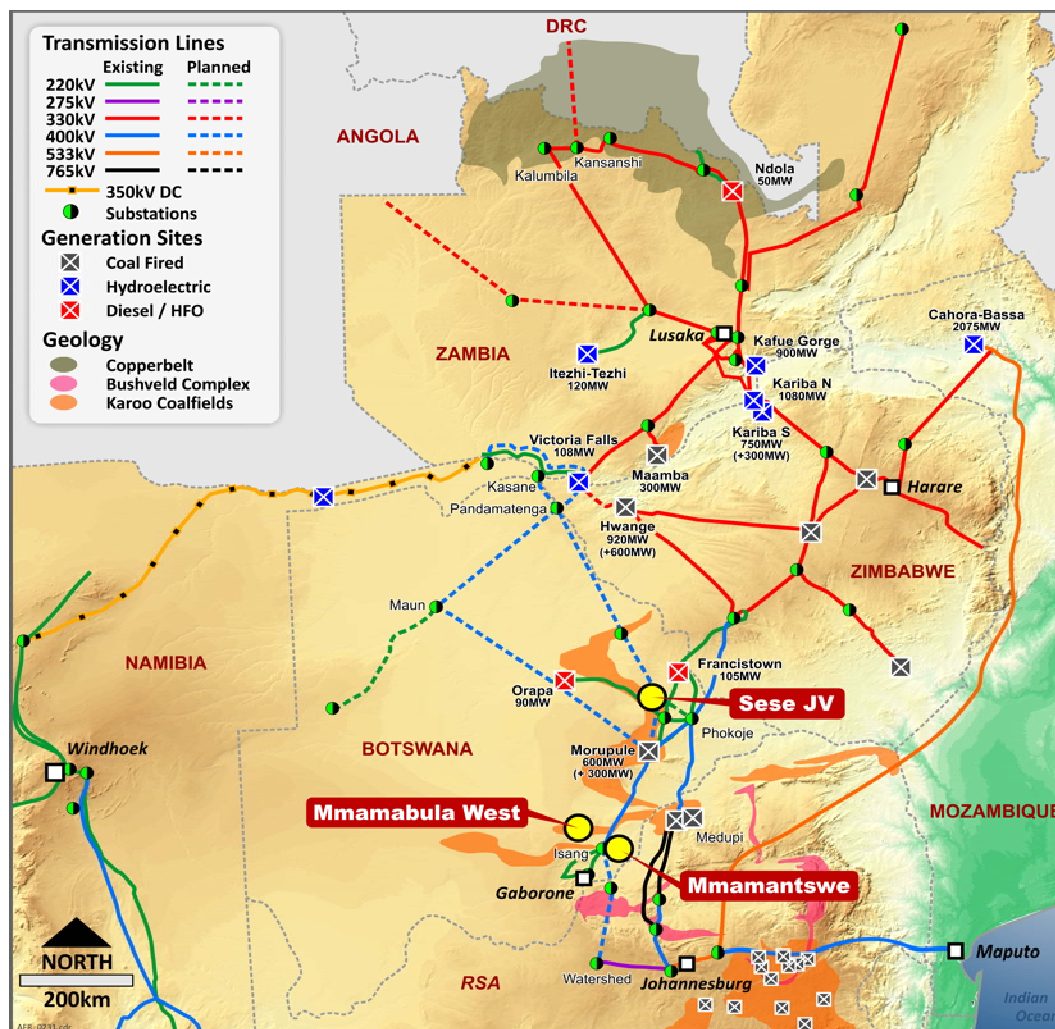
### Limited competition for new base load supply:

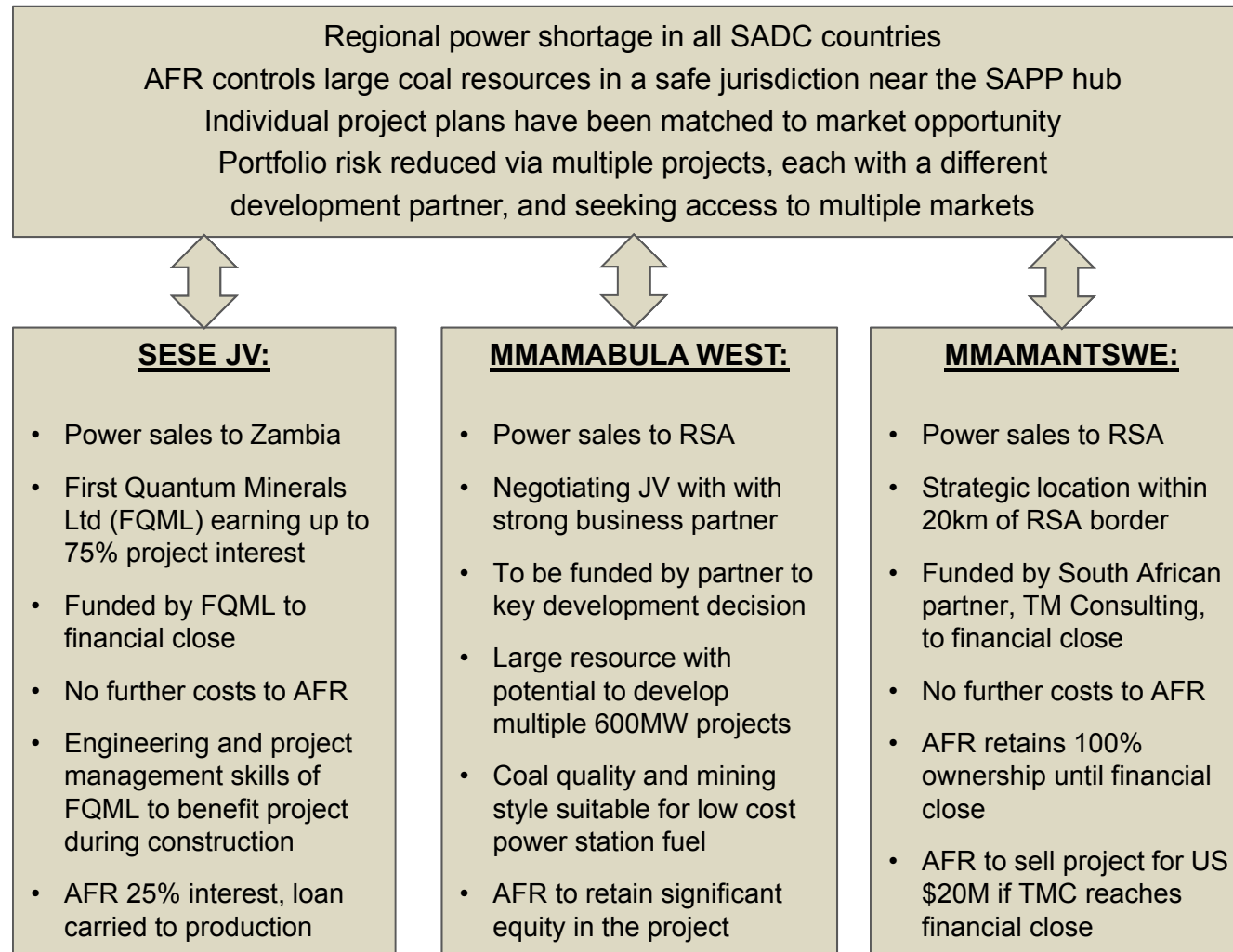
- Zambian hydro-electric projects (comprising ~80% of Zambia's installed base load capacity) are struggling during droughts, very limited alternative fuels for base load power, currently importing expensive diesel generated power
- South Africa formally seeking 3,750MW via cross-border, coal-fired, IPP procurement program
- AFR is well placed to supply these markets due to geographic proximity and abundant low-cost coal which provides fuel security

### Key infrastructure already in place:

well developed regional interconnected transmission grid allows wheeling of power throughout the region via SAPP (Southern Africa Power Pool), with a number of key upgrades already planned

### Land-linked - not stranded assets!





## PORTFOLIO MANAGEMENT

## PROJECT MANAGEMENT



# The Sese JV: Summary



First Quantum Minerals Ltd (FQML) will invest up to A \$20M in the Sese JV

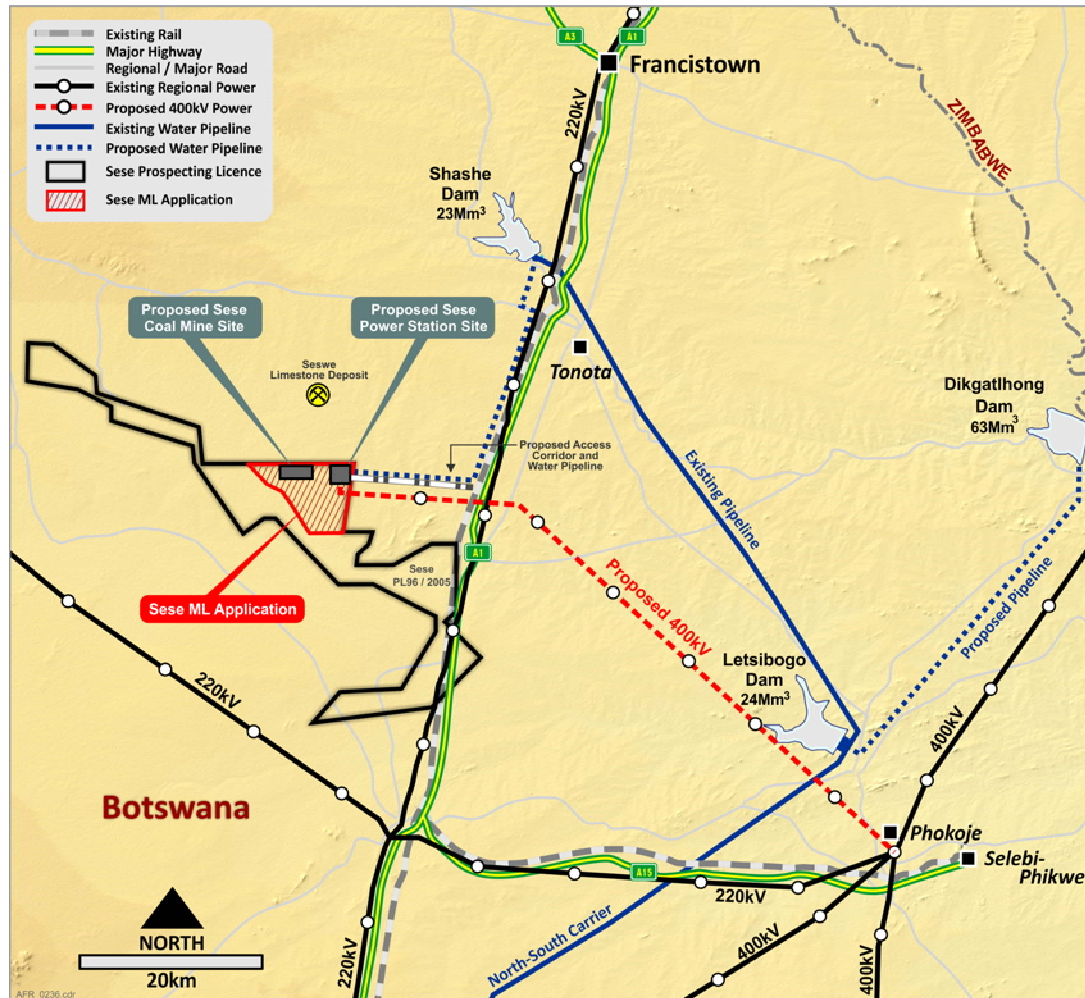
- A \$10M invested to date by FQML to take a 55% interest and management of JV
- FQML sole funding the next A \$10M to increase its interest to 75%
- Funding being used to investigate the development of a fully integrated coal mine and mine-mouth power station
- New \$3M work program commenced in August 2016 to advance technical studies and permitting
- Remaining \$7M to be invested in project by 12<sup>th</sup> July 2017



15,000t bulk sample pit excavated by AFR at the Sese project



# Sese JV: Project overview



- Approved EIA for 300MW of power and associated coal mining
- Approved water allocation from Shashe Dam sufficient for 750MW
- 50-year Land Lease Agreement covering 110km² surface rights area has been signed
- Application submitted for a 51km² Mining Licence
- Enough coal in ML to fuel multiple power projects for >35 yr
- Proposed grid connection to Phokoje sub-station opens up power markets in Botswana, Zambia, South Africa, Namibia
- Transmission studies for power evacuation to Zambia completed

# The Sese JV: Current work program

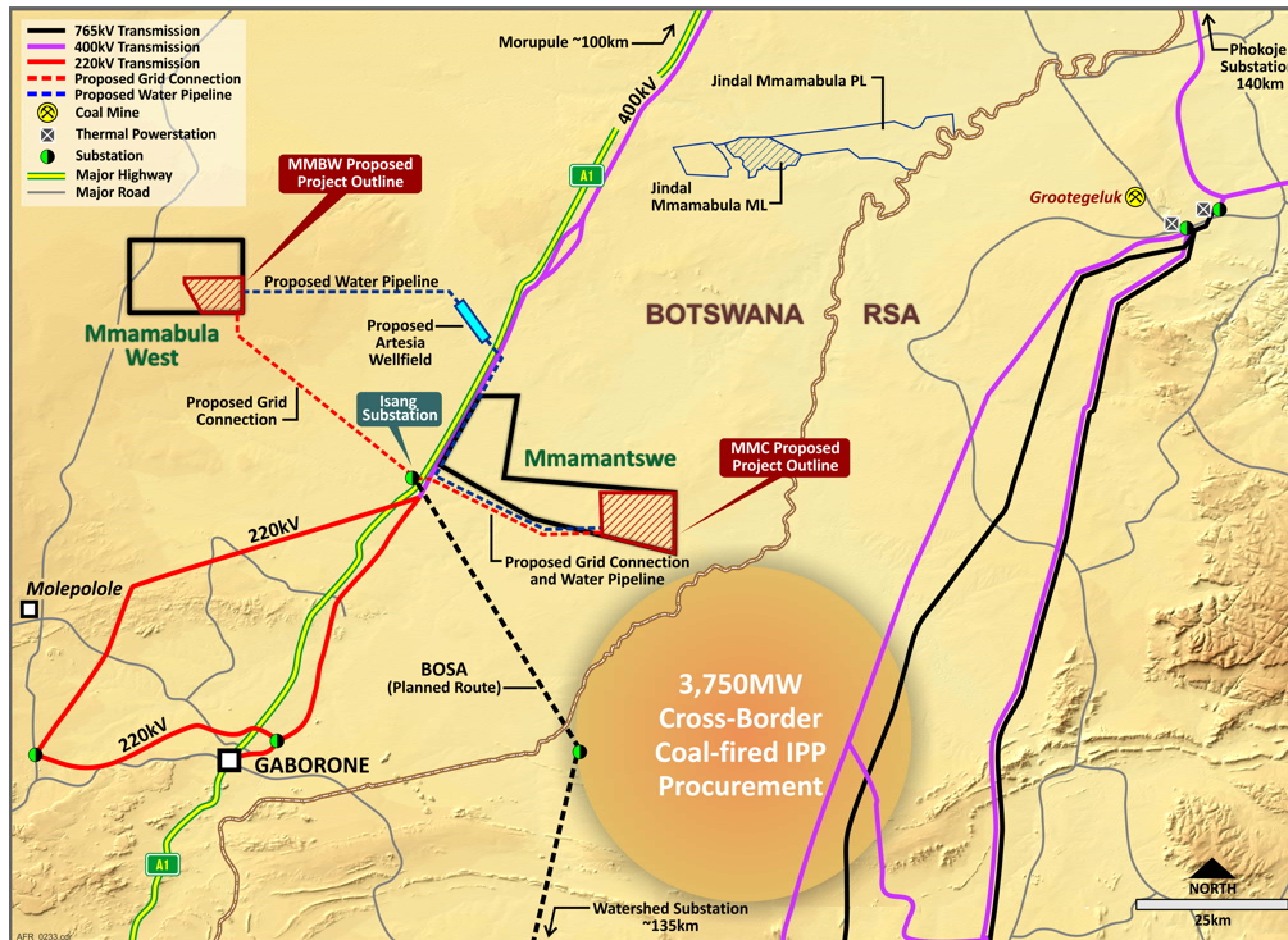


## AUD \$3M commitment to technical, commercial and permitting programs

- Large diameter drilling program has commenced:
  - will collect ~1,000kg coal for combustion testing and physical handling test work
  - will lead to the finalisation of the fuel specification for the proposed power station
- Preliminary power station design and layout will commence later this year
- Preliminary geotechnical evaluations of proposed power station and mine infrastructure sites are underway
- Update to the mining study and mine scheduling to meet the requirements for an expanded 450MW integrated power project (staged development of 2 x 225MW units) will commence later this year
- Hydrogeological studies at the proposed mine site to characterise aquifers for the mining study and environmental management plan will commence later this year
- Commencement of early site works to include upgrading the access road and preliminary siting of camp facilities
- Update the Environmental Approvals and mining operations plan to allow up to 450MW of power generation and associated coal mining and coal processing (from current 300MW approval levels)
- Finalise Water Supply Agreement
- Negotiate power sales agreement, grid connection agreement and power wheeling agreements



## South Africa: the biggest regional market for power sales



**South Africa has announced a 3,750MW** coal-fired, cross-border, base-load IPP procurement program:

- Includes mechanism for direct negotiation with the Dept. of Energy (the “Procurer”) for power sales agreements with Eskom
- Targeting grid connection “ASAP”
- Commitment to additional regional transmission infrastructure such as BOSA

**Projects in Botswana** may account for a significant component of this procurement program due to limited competition from other countries

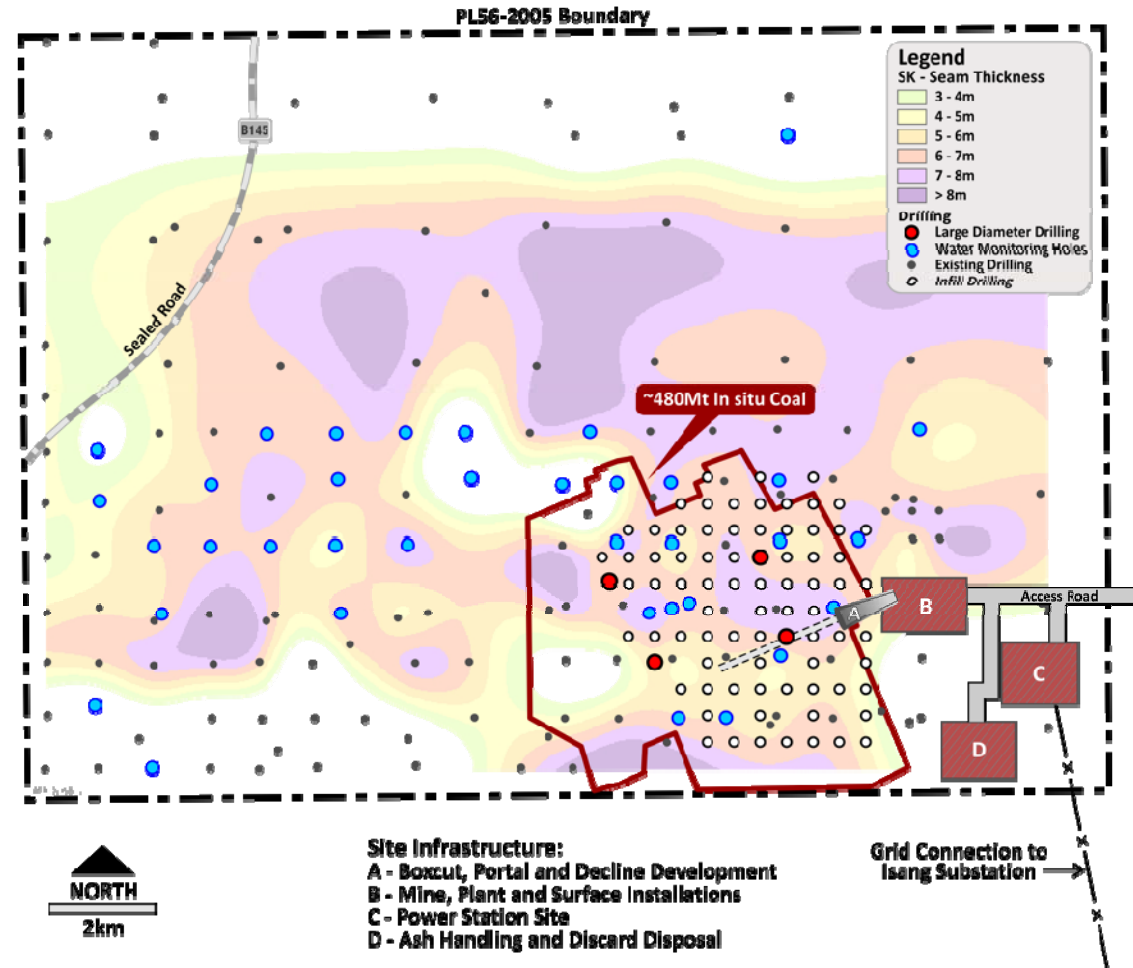
**Mmamabula West and Mmamantswe** are both close to Isang sub-station, and close to main demand centers in the northern Bushveld



# Mmamabula West: 600MW development opportunity



- PFS for an underground coal mine completed in 2014 – potential for low cost ROM coal\*, suitable for use as power station fuel
- Joint Venture Agreement being negotiated with an experienced South African developer
- Coal mining EIA being amended to include 600MW power generation plus associated grid connection
- Surface Rights application to be submitted Q4 2016
- Fuel specification development program close to finalisation
- Hydrogeological baseline studies underway
- Aim to complete all required technical studies and permitting activities to allow formal project submission to South Africa's IPP office in 2017



\* Refer to Prefeasibility Study results announced to ASX in May 2014



## Summary – a strong project pipeline



### Sese JV

FQML evaluating the development of an integrated mine and power station

FQM earning-in, AFR loan carried to production from ~450MW power station

### Mmamabula

Multiple power project potential for submission into South Africa's 3,750MW procurement program

Finalising Joint Venture Agreement for 600MW with South African developer

### Mmamantswe

Agreement to sell Project to a South African developer at financial close

Potential \$20M short-term return, conditional upon SA IPP success



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*Information in this report relating to Exploration results, Mineral Resources or Ore Reserves is based on information compiled by Dr Frazer Tabeart (an employee of African Energy Resources Limited) who is a member of The Australian Institute of Geoscientists. Dr Tabeart has sufficient experience which is 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 under the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Tabeart consents to the inclusion of the data in the form and context in which it appears.*





# Appendix 1: Global AFR Coal Resource Statement



## Global Coal Resources for AFR Limited Coal Projects in Botswana

### Sese Coal & Power Project: Resource Summary (Raw coal on an air-dried basis), FQML 55%, AFR 45%

Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %
MEASURED (Block-C)	333 Mt	17.6	4,200	30.2	7.9	20.6	41.4	2.1
MEASURED (Block-B)	318 Mt	16.0	3,820	34.8	7.4	20.4	37.4	1.7
INDICATED	1,714 Mt	15.3	3,650	38.9	6.6	18.7	35.8	2.0
INFERRED	152 Mt	15.0	3,600	39.1	6.4	19.5	34.9	2.2
<b>TOTAL</b>	<b>2,517 Mt</b>							

### Sese West Project: Resource Summary (Raw coal on an air-dried basis) FQML 55%, AFR 45%

Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %
INFERRED	2,501Mt	14.6	3,500	40.2	6.1	19.8	31.9	2.0
<b>TOTAL</b>	<b>2,501Mt</b>							

### Mmamabula West Project: Resource Summary (Raw coal on an air-dried basis) AFR 100%

Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %
MEASURED	N/A							
INDICATED	892 Mt	20.2	4,825	25.5	6.0	26.0	41.0	1.5
INFERRED	1,541 Mt	20.0	4,775	25.5	5.7	25.9	41.2	1.7
<b>TOTAL</b>	<b>2,433 Mt</b>							

### Mmamantswe Project: Resource Summary (Raw coal on an air-dried basis) AFR 100%

Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %
MEASURED	978 Mt	9.5	2,270	56.5	3.9	15.8	21.8	2.0
INDICATED	265 Mt	7.9	1,890	62.3	3.3	14.2	18.1	2.1
INFERRED	N/A							
<b>TOTAL</b>	<b>1,243 Mt</b>							

\* In-Situ tonnes have been derived by removing volumes for modelled intrusions, burnt coal and weathered coal and then applying geological loss factors to the remaining Gross In-Situ Tonnes