

# Developing Power Projects in Southern Africa

Cape Town Presentation 8th February 2016

## Company Highlights



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

- Completion of initial Sese investment by First Quantum Minerals Ltd (FQM) in January 2015
- Progression of technical, commercial and permitting programs at Sese JV by FQM
- Re-alignment of Mmamabula West as a power project and funding for AFR to progress rapid development of this project
- Share Sale Agreement for Mmamantswe project to South African developer for US\$20M
- Balance sheet strengthened through repayment of all debt, reduction in corporate costs and a healthy residual cash position (~AUD \$7M)
- AUD \$1M share buy-back commenced in November 2015



## Regional Power Hub



## Positioning the Company to focus on regional power demand

# Surrounded by robust demand for power: every country in SADC is chronically short of reliable, affordable base-load power

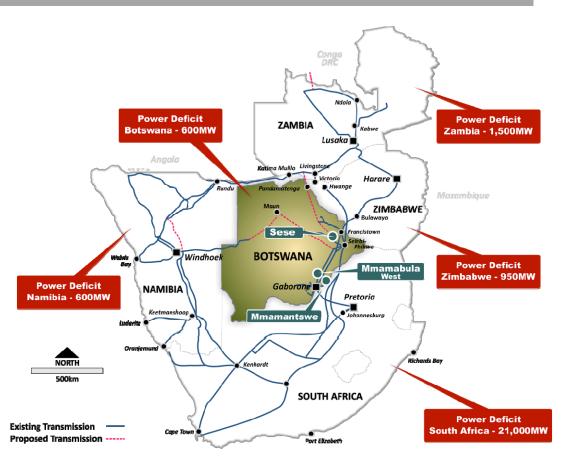
**Regional hub**: AFR's projects are centrally located within the SAPP transmission grid

#### Easy access to core infrastructure:

AFR's projects in close proximity to grid connection

#### Stable business environment:

Botswana provides the most secure and stable fiscal and political setting in southern Africa



## Power sector fundamentals in southern Africa



#### State-owned utilities unable to fund new supply to meet current + forecast demand

#### SOUTH AFRICA

- •New Eskom mega-stations behind schedule, over budget
- •Renewable projects are all small, represent <10% of total supply and not base-load
- •Dept. of Energy seeking tenders from IPP's for coal-fired base-load projects
- •IPP projects up to 600MW (domestic and cross-border) will be considered by DoE

#### **7AMBIA**

- •Over-reliance on hydro schemes, massively impacted by current drought
- •Severe supply side constraints leading to mine capacity reductions
- •Currently importing power and using diesel/HFO at 15-18c per kWh
- •Limited new supply, severely constrained supply until well beyond 2020

#### **BOTSWANA**

- •Morupule-B still underperforming, Morupule-A refurbishment likely to be expensive
- •300MW brownfield project unlikely to be on grid until 2020
- •Still reliant on ~200MW expensive diesel power for base-load
- •Needs a further 300MW to become fully self-sufficient at affordable base-load rates

#### **NAMIBIA**

- •Kudu gas project delayed again due to cost concerns
- •250MW gas project not yet finalised
- Net importer of power
- Opportunity for cross-border IPP sales from new supply

## AFR's Power Generation Development Portfolio



## Sese JV

- · Advanced project
- Measured resource\*
- Approved EIA for 300MW
- Water allocation approved
- Land Lease Agreement signed giving Surface Rights for 50 years
- First Quantum Minerals earning up to 75% interest
- AFR's 25% interest loan carried to commercial operation of power station

#### Mmamabula West

- Indicated/inferred resource\*
- Good quality thermal coal suitable for power generation and export
- EIA being amended to include 300MW + 300MW
- Project being developed for submission in RSA coal-fired IPP procurement program
- AFR discussing partnership opportunities with several developers

#### **M**mamantswe

- Advanced project
- Measured resource\*
- Approved EIA for 2,000MW
- Water source registered
- Project consortium to submit bid into South Africa's coal-fired IPP procurement program
- AFR has agreed to sell project for US\$20M to the consortium if project bid is shortlisted and/or project is taken to financial close

<sup>\*</sup> Refer to resource table in Appendix 1



#### First Quantum Minerals Limited will invest up to \$20M in the Sese JV

- AUD \$8M invested by FQM to take a 51% interest and management of the JV
- FQM sole funding the next AUD \$12M to increase interest to 75%
- This funding is being used to investigate the development of a fully integrated coal mine and mine-mouth power station
- FQM are responsible for sourcing all additional funding beyond the initial \$20M investment
- AFR's 25% share of additional funding will be loaned to it by FQM, and carried to commercial production
- Technical, permitting and commercial programs making good progress



## The Sese JV: Project Development Plan



#### Sese JV - project development tasks underway

**TECHNICAL** Transmission study on existing Tx options between Botswana and Zambia

Confirmation of critical power plant (boiler) technology, unit size and layout

Coal combustion test-work to finalise fuel specification

**PERMITTING** Land Lease Agreement (surface rights for 50 years) was recently executed

Complete and execute Water Supply Agreement (2.8 GL p.a. water allocation approved)

Complete Coal Supply Agreement and submit ML application

**COMMERCIAL** Prepare and submit Manufacturing Development Approval Order

Confirm design and cost estimate for fully integrated power project

## **Mmamabula West: Power Development Opportunity**



#### Mmamabula provides an immediate development opportunity for power generation

- 2.43 billion tonnes in two main coal seams, each ~5m thick, 100-130m deep
- Geometry and coal quality provides multiple development options for power generation and/or coal export
- AFR has re-aligned this project to bid into South Africa's IPP procurement program
- Work program underway to reduce development risk of power generation at this project
- Surface rights submission being prepared, water supply options under evaluation, EIA being amended, grid connection study to commence in Q1 2016



## Mmamabula West: Fuel Specification Program



## Large diameter drilling cores from which a power station fuel specification will be derived

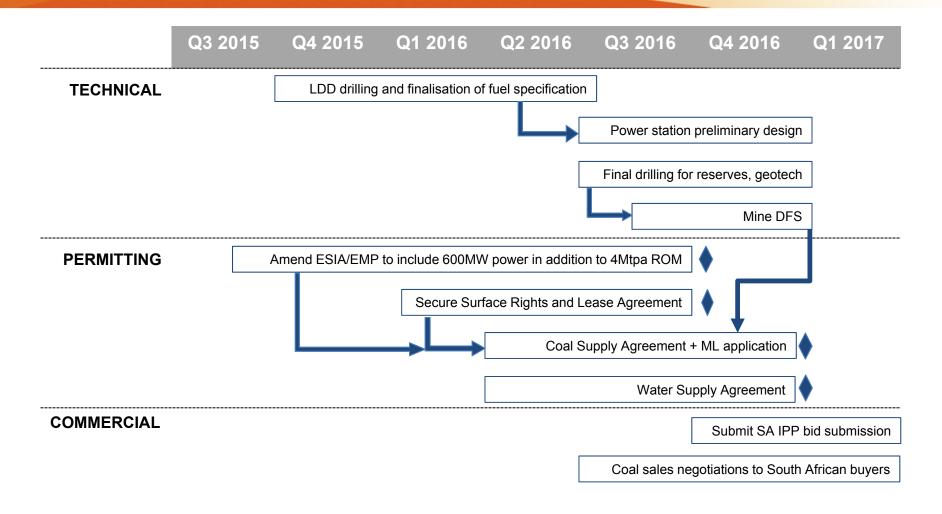






## **Mmamabula West: Indicative Development Plan**



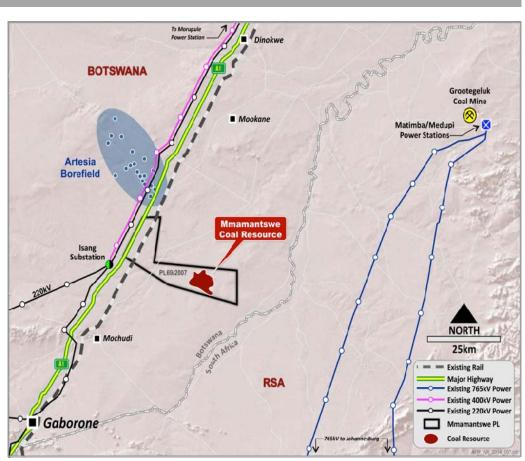


## Mmamantswe - \$20M Share Sale Agreement



## South Africa is seeking 600MW of cross-border, coal-fired baseload IPP

- Very few bids shortlisted for the domestic portion of SA's 2,500MW IPP program
- Cross-border IPP proposals thus likely to receive close attention
- Binding agreement executed to sell Mmamantswe to an experienced SA developer who intends to submit a bid:
  - Qualifying criteria and the documentation (RFP) for cross-border projects to be released early 2016
  - Developer has formed a bid consortium which will sole fund bid preparation and submission, and keep tenement in good standing – no further AFR funding required
  - Subject to necessary approvals, AFR will sell the project company to the development consortium for USD \$20M if the consortium wins the tender and is able to achieve financial close



## Summary – Project Pipeline



Sese JV

FQM evaluating the development of an integrated mine and power station

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

Mmamabula

Multiple power project potential with future coal export potential

AFR sole funding pre-development activities prior to introducing partner

**M**mamantswe

Binding agreement for a Share Sale to a South African developer

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

# **Corporate Summary**



Nil First Quantum Minerals 11% Management 11%

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# Appendix 1: Global AFR Coal Resource Table



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

Sese Coal & Power Project: Resource Summary (Raw coal on an air-dried basis), FQM 53%, AFR 47%								
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
TOTAL	2,517 Mt		•					

Sese West Project: Resource Summary (Raw coal on an air-dried basis) FQM 53%, AFR 47%								
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
TOTAL	2.501Mt							

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
TOTAL	2,433 Mt	•						

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							
TOTAL	1,243 Mt							

<sup>\*</sup> 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

