



AFRICAN **INFRASTRUCTURE INVESTMENT** MANAGERS

Licensed financial services provider (FSP Licence Number 4307)

# WEBINAR: STATUS & OPPORTUNITIES FOR SOLAR ENERGY DEVELOPMENT IN BOTSWANA & NAMIBIA

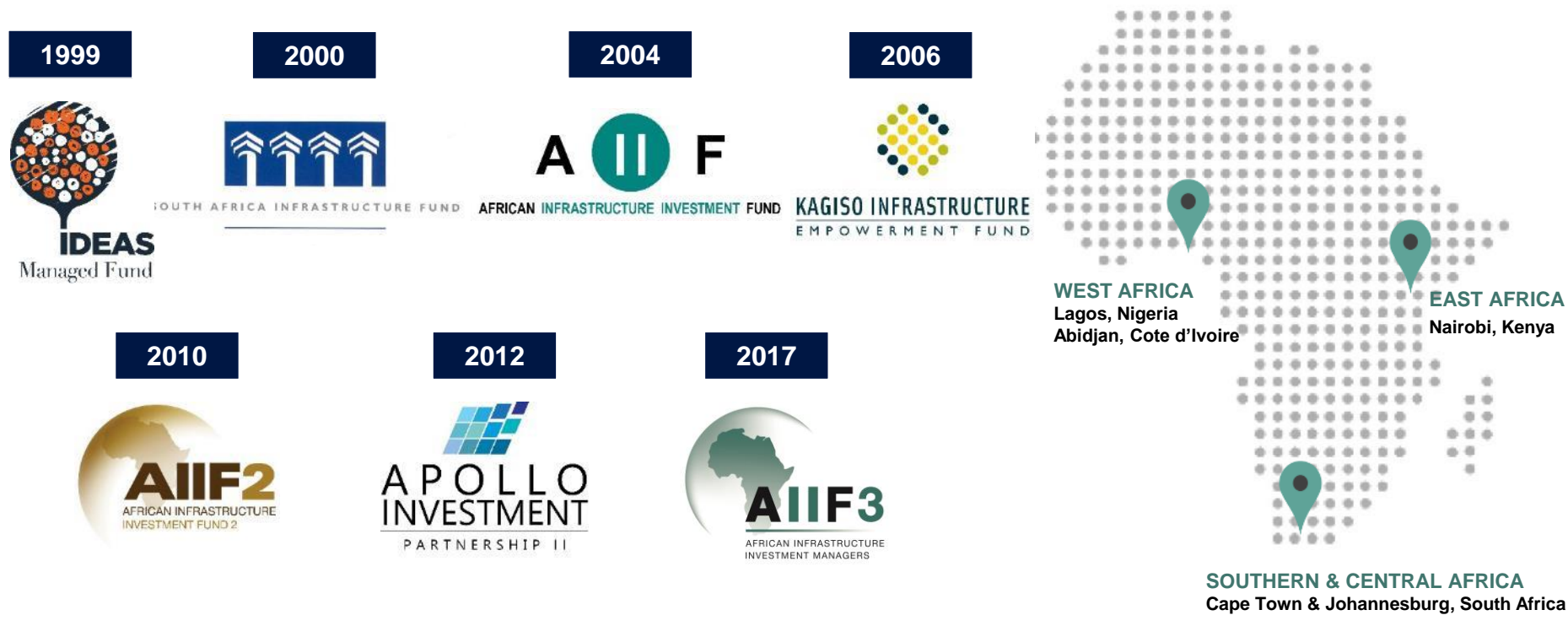
## *AN EQUITY PERSPECTIVE*

29 AUGUST 2018



# 1. OVERVIEW OF AIIM

*AIIM is the most experienced private equity investor in infrastructure in Africa, with circa USD2 billion EUM*



**35**  
member  
investment  
team

**400+**  
collective years  
of investment  
management  
experience

**7**  
infrastructure  
funds<sup>1</sup>, **40**  
investments<sup>2</sup>  
and **13** exits

## EXPERIENCE

- 18 years of unmatched infrastructure investment experience across the African continent
- Senior investment professionals with financial and engineering backgrounds
- AIIM leads investments in groundbreaking projects with great deal structuring acumen

## EXPERTISE

- Provide structuring solutions that generate robust infrastructure investment opportunities
- Deep understanding of the country specific business environments
- Disciplined and focused investment process, that mitigates risks and enhances returns

## RELATIONSHIPS

- AIIM credibly engages with governments regarding best practices, reforms and regulation
- Origination focused on proprietary sourcing and access
- Demonstrated ability to do deals makes AIIM the preferred partner

1. Includes the IDEAS Managed Fund, managed under license by Old Mutual Alternative Investments (Pty) Ltd, a licensed financial services provider (FSP Number 45255)  
2. Total count of AIIM's distinct infrastructure businesses (exited and currently managed) located in sub-Saharan Africa (as at 30 June 2016) held through the AIIM and IDEAS funds.

# 2. NAMIBIA SOLAR ENERGY OPPORTUNITIES

## Power Sector Overview

- **Installed capacity:** c. 480MW capacity (delivering c. 400MW). Peak demand in 2016 was however c. 600MW
- **Source of power:** 63% installed capacity from Ruacana hydropower, 30% from Van Eck coal fired power station, remainder from diesel generation. Large imports from the SAPP to service peak demand. 45MW small solar PV on the grid
- Intention is to increase installed capacity to 600MW over the next few years, and increase rural electrification rate from 34% to 50% by 2020

## Regulatory framework

- *Harambee Prosperity Plan* has an infrastructure pillar which includes the target of increasing installed capacity to 600MW, and increasing rural electrification to 50%, by 2020
- *National Integrated Resource Plan (2016)* forecasts significant growth in power demand, and expects investment of circa N\$97 billion over the next 20 years to meet the demand. Government would not be able to meet the investment requirements alone, and accordingly government is looking to promote private sector investment through IPPs
- *National Renewable Energy Policy* seeks to enable access to clean, sustainable and affordable energy for all Namibians. The objectives of the policy include increasing renewable energy contribution towards the energy mix, promotion of on-grid and off-grid renewable energy development, and boost investor confidence in the sector, amongst other things
- *National Independent Power Producer Policy* lays out the provisions for classifying IPPs into 3 categories (small, medium and large). The small IPPs are being procured via the REFIT scheme, while medium and large IPPs will be procured via an auction process

## Financing of renewables

- Circa N\$55 billion of investment is required in the energy sector until 2020
- Lack of finance has been identified as a barrier to development of further renewable energy projects in Namibia
  - Lack of capital
  - High cost of capital
  - Cost of lender due diligence and structuring may be too great for small renewables projects to carry
- Government is in the process of setting up an Infrastructure Fund at the Development Bank of Namibia to finance priority economic infrastructure investments – debt and equity facilities
- A portion of the capital will be used in support of renewable energy projects in Namibia

## Additional items for consideration

- Namibia has run a number of renewable energy procurement programmes, which have had differing PPA's – there should be some level of consistency between the PPA terms
- Key terms to improve the bankability of PPAs include:
  - The provision for the sale of early operating MWh's
  - Consequences of force majeure events, and protection of the IPP in this instance
  - Liquidated damages payable to Nampower and the associated cap on liabilities
  - Termination provisions and associated termination compensation

# 3. BOTSWANA SOLAR ENERGY OPPORTUNITIES

## Power Sector Overview

- **Installed capacity:** c. 930MW nameplate capacity, effective capacity is c. 530MW (Morupule A under refurbishment, Morupule B underperforming). Peak demand in 2016 was however c. 610MW
- **Source of power:** 80% coal fired power, emergency diesel generation, imported power from the SAPP, 0.1% of power from solar PV (1.3MW PV plant financed by the Japanese), some small off-grid facilities (mostly not working)
- **Regulatory framework:**
  - *National Development Plan 11 (2017-2023)* identifies *inter alia* the development of a renewable energy strategy aimed at facilitating investment in the sector, including the development of a renewable energy feed-in tariff, biomass projects a CSP plant
  - *Botswana Energy Regulatory Authority* responsible for economic regulation of the energy supply and services and is responsible for ensuring financial sustainability in the energy sector. It is also responsible for regulating tariffs, distributing licences and facilitating the entry of the private sector into the market
  - *Electricity Supply Act (1973)* was amended to allow for the introduction of IPPs
  - *Botswana Power Corporation* is the state owned utility operating the generation, transmission and distribution assets. Also selected as implementation agent for 100MW PV IPP project
  - *Rural electrification* has been promoted through the implementation of facilities to ease the upfront grid connection cost for rural communities. Over 72% of rural communities have access to electricity

## PV opportunities in Botswana

- BPC commissioned a grid integration study to identify potential locations for the connection of solar PV to the grid
- Botswana has excellent solar resource potential with global horizontal irradiation (GHI) levels ranging from 2,050 kWh/m<sup>2</sup> in the eastern part of the country, up to 2,300 kWh/m<sup>2</sup> in the western part of the country
- The GHI levels comparable to some of the best solar resource areas in South Africa – a proven solar PV market

## Renewable IPP Processes

- In 2015, Botswana Government ran an EOI process for the 100MW of solar PV for supply of power to mines in the north west of the country
- Significant interest shown by the market. However, no progress was made with EOI
- In 2017, BPC issued an EOI for 100MW (or 2 x 50MW) of solar PV capacity
- Once again, significant interest shown from the market (over 160 submissions received)
- The selection criteria were unclear. 62 companies/consortia were short-listed to proceed to the next phase (RFI)
  - Many of these had little to no track record in the sector
- BPC issued an RFI to the short-listed companies/consortia in late 2017, and have selected a number of parties to participate in the RFP in 2018

## Additional items for consideration

- Cost reflectiveness of the tariff – the tariff is generally considered to not be cost reflective, requiring subsidies
- BPC financial position – BPC is financially constrained, linked to the tariff above, requiring assistance from Government
- Sovereign guarantees – given the poor financial state of BPC, Government support is a requirement for the private sector and commercial banks to participate in IPPs. This requirement has hampered other power sector projects in Botswana





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