

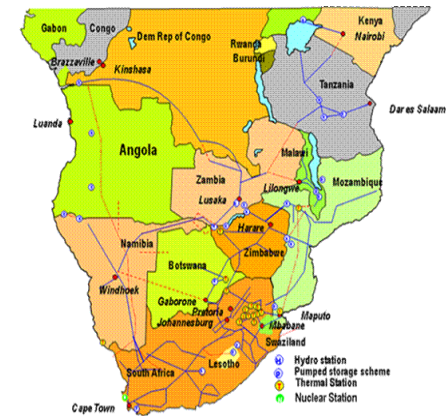


Energy in Southern Africa: Trends, challenges, and developments

By Omar Vajeth

Gold Key Energy

Date: 04 November 2015

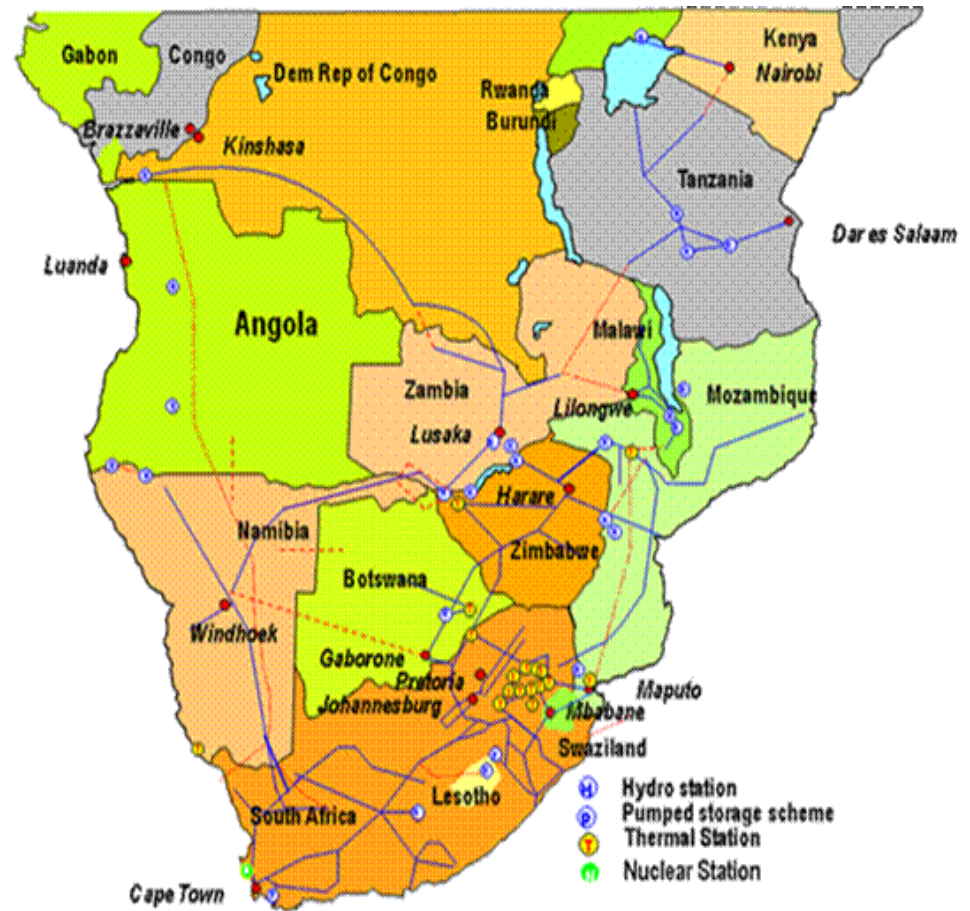




The problems for the region are well known

- New planned transmission lines are taking long to develop
- Region has power shortages
- Electrification rates are low
- Eskom problems will continue for a long while – Eskom needs to refurbish/maintain old plant

This presentation focuses on some of the positive developments in the sector.





Objectives

- Share some of the developments in South Africa in terms of power programs attracting private participation
- Highlight some of the success stories in a few countries
- Note some of the challenges that exist, and
- Highlight some of the trends we are seeing in the region

The South African IPP solicitation is split into various Programs

SA REIPPP

- Competition has driven down tariffs
- South African banks are highly competitive in the environment
- The speed for projects reaching commercial close is more in line with international practice - can close within a year
- Expecting greater South African and BEE requirements in line with other programs
- 6321 MW over four rounds – more than ZAR 200bn in private sector funding

Coal IPP

- 2500 MW allocated
- 02 November 1 st round bids
- 2 bids submitted
- Total allocated for the first was 1000 MW

Gas IPP

- Around 3200 MW allocated
- Possibility of three important sites
- Great deal of discussion regarding gas supply
- Bankability issues current being addressed

Hydro IPP

- 2690 MW allocated
- Possibility of imports

Small scale renewable energy

- A total of 100 MW allocated
- 1 – 5 MW projects considered eligible
- Funding has been problematic given the small size of these projects. Project finance is difficult to raise

There many reasons for the successful REIPPP program



- The Government ensured that the program was **bankable from the start**
 - Engaged with advisors and banks to ensure that the PPA, the IA and the government support package for Eskom was acceptable to the market
- The move from a **FIT to an auction program** (with limited allocation per round) was critical
 - This forced utilities to compete but within a well understood framework
 - The **competitiveness** has driven tariffs to below coal baseload tariffs and with self dispatch the program has become economically sustainable
 - Lowest wind tariff at ZAR 62 c/kWhr vs a baseload coal cap for the first round of ZAR 82 c/kWhr
- **Funding for renewable energy** is available from many institutional investors in addition to banks
- **The program has scale** with the promise of 17000 MW to be allocated
 - Allows for the establishment of local business and hiring of local staff
 - The next phases will see increase local participation in EPC and manufacturing
 - Solar manufacturing and Wind turbine tower manufacturing started

There are successful projects across the continent



Closer to home these are a few:

- **Zambia:**

- **Itezhi Tezhi** – 120 MW hydro project reached financial close this year
 - Equity partnership between Zesco and Tata
 - Project took years to reach this point
 - Fully DFI funded -
 - Total project cost - EUR 255 m
 - Zesco offtake with ringfenced receivables
- **Maamba Power station** – 300 MW coal fired power closed this year
 - Equity partnership between ZCCM and Nava Bharat
 - The project took around 4 years to reach close
 - In parallel the sponsors decided to continue to construction on equity risk
 - Mainly Chinese bank funding with Sinasure cover and DBSA/IDC– first time in Africa for a project finance structure
 - Total project cost – USD 830m
 - Zesco offtake with ringfenced receivables

Some success factors

- Government support via the concession agreement
- USD offtake attract many funders
- No standardised PPA and power procurement structure
- Partnership with Local government entities does result in funding discussion for equity participation

Mozambique is progressing many projects:



CTRG – 175 MW gas to power project

- Equity partnership with Sasol and EDM
- EDM is the offtaker
- Concession agreement with Government allows for
- Project not closed yet but lenders will include DFI's and commercial banks with MIGA cover
- Construction almost complete with Sasol funding
- Total Project cost – USD 275m

Gigawatt – 100 MW gas to power project

- Equity partnership between Old Mutual, Gigawatt, and WBHO
- Commercial bank lender/underwriter – Standard bank
- Total Project cost – USD 230m
- Offtaker EDM
- First closed power project financing in Mozambique

Interesting aspects on Mozambican projects:

- EDM is the “single buyer”
- The projects connect to the Motraco lines which allows for trading power into the region where the demand does exist
- This will generate significant revenues for Mozambique either through SAPP (STEM) or through longer term offtake agreements with SAPP connected counties
- The concession agreement provides for government support for EDM



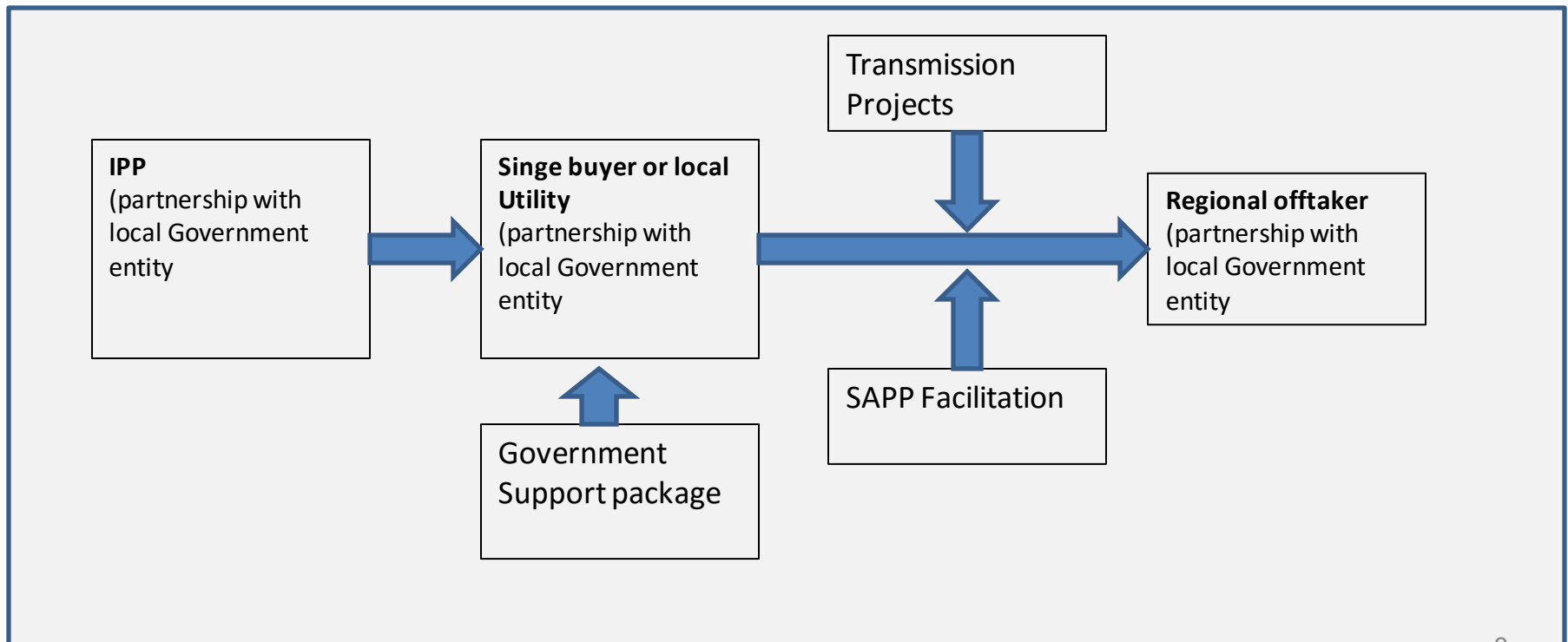
A few key challenges in the region

- In South Africa the IPP program is **proven and well supported/funded** (via development fees), however the following is being considered amongst others:
 - with ZAR offtake PPA's, bank liquidity is becoming constrained for larger projects. The coal projects experienced this for the first time in the IPP program. This results in increased cost of funding.
 - the gas program requires careful consideration - LNG supplies are in USD. The mismatch will need to be hedged.
 - Transmission constraints need to be resolved
 - Eskom compensation for grid expansion to be resolved
- In most other countries the **scale of the programs** do not allow for a long term program
- The lack of **standardised agreements** that are supported by banks creates a great deal of time lag as negotiations can be lengthy
- Procurement programs supported by a **government support framework** through concession agreement or implementation agreements need to become consistent. Governments are weary of over extending their balance sheets by providing guarantees.
- **Credit enhancement has been a key requirement in unlocking regional projects.** via commercial PRI, DFI's, or ECA will attract more commercial lenders. Products include the IBRD PRG, MIGA, AFDB PRG, ATI insurance



Trends for regional projects

- Scale can be achieved if a regional perspective is taken
- Renewable energy including hydro is driven by access to funding but thermal power will have a role to play as baseload power
- SAPP support for projects – World bank funding received for project preparation and development. Standardised PPA's, implementation agreement, concession agreement across the region
- A structure that is evolving in the region:





Conclusions and Implications

- There are project structures that are working
- There is room to improve, however starting with proven concepts will progress projects faster
- Regional cooperation is recognised to be an important element in the sector
- The region now has a significant resource pool with experience in independent power projects. This will lead to more activity in the sector as utilities and investors look for opportunities

