OUR ENERGY SHORTAGE…..

Regulatory Imperatives to stimulate competition and market entry

Ameu Convention- Buffalo City – Oct 2008

AJ van der Merwe
Business calls for alternative power sources
Current situation
Current situation

- Higher demand growth & limited investment in new generation infrastructure over the last 15 years,
- Eskom’s generation reserve margin has fallen below 10%.
- Eskom plans to restore generation reserve margins
  - 15% in the medium term and
  - 19% on a long term basis.
Energy White Paper (EWP) of 1998

- Introducing *competition* into the industry,
- Permitting *open, non-discriminatory* access to the transmission system;
- Future *market structures* for the SA electricity supply industry;
- *Independent Power Producers* (IPP) will be allowed in the SA electricity market and
- Generation capacity will be divided between Eskom (70 %) & IPP’s (30 %).
Governments current approach to IPP’s
Issues

- Cabinet decided that Eskom will be the *single buyer* of all the power produced by IPP’s.
  - Buy the capacity from the IPP and the latter will be the seller
  - Terms & conditions of the PPA will be typical 15 years
- The parties to the transmission agreement will be ESKOM and the IPP
  - **Connection agreement** dealing with Eskom’s obligations to design and construct the interconnection of the IPP and the payment of the connection charges by the IPP;
  - **Operating agreement** dealing with the requirements of operation as set out in the Grid Code and
  - **System agreements** dealing with payments
- **Embedded**: Local selling to communities, industries via the distribution system.
Single Buyer Model

Eskom Holdings

Eskom Generation

Imports

Internal pool

Eskom Transmission

IPP

RED₁, RED₂, ..., REDₙ

Customers

Eskom Enterprises

Special customers
1) Support for open market access  
2) Clear regulatory support  
3) Political drive to expand energy sector
Modelling for the future
Methodology in developing the FRP

**Demand forecast**

**Generation plan**

**Assumptions**

**TX & DX requirements**

**Investments**

**Tanesco OPEX**

**FRP**

**Deliverables**

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**Notes:**
- 5% annual Tariff Increase (2006 as from Jul, 2007 - 2010 as from Jan)
- 10% Fuel Surcharge as from Jul 06 (the 2006 Fuel surcharge added as tariff increase) to Dec 2010
- IPTL Bought by Jan 2007
- Only 2006 Capital included
TANESCO
Generation Contribution

- Thermal Coal
- Thermal Gas
- Thermal Fuel
- Hydro

TANESCO
Generation Cost

- LRMC
Lessons from SSA

- *Long term capacity planning* and supporting revenues,
- A *well planned generation mix* is essential to hedge against droughts, rising oil prices and coal supplies (and other thermal fuel sources),
- *Non discriminatory market entry* rules for IPP’s,
- *Market transparency* of long run marginal cost for IPP’s and
- *Ringfenced costs between national system requirement* and those of IPP’s
Imperatives for SA’s Power future
NER guidelines for IPP’s (2002)

- Additional capacity
- Introduce foreign capital
- Exploit Private Sector know how
- Improve system reliability
- Reduce public spending
- Technology transfer

IPP benefits for SA
GX cost outlook -2007

Past Gx costs* 13 c/kWh

New Participants* 25c/kWh

Expected price increase

2008 = 14.2% + 27.2%
2009 - 2010 = 20-25%**

*DME reports

** NERSA
GX cost outlook
2008 and beyond...

Current Average
WEPS ~35c/kWh

Future Base cost
60c/kWh+CPIX load ~2017

MTPPP
IPP
<65c/kWh

65-105c/kWh

>105c/kWh

Pool

65c/kWh LRMC
## Regulatory Blockages/difficulties

### ESKOM
- Return on work under construction (WOC)
- Recover some R&D
- Networks where Eskom connect owned by Esk Tx+Gx
- Pass through on purchase & construction
- All connections via Eskom grid if not local

### IPP’s
- Not normally luxury for IPP
- New & smaller entrant not this source of funding
- Non Eskom Gx need to enter into wheeling agreements
- Not in ambient of normal IPP
- Needs to negotiate connection. Eskom supply 95% of end energy of end customers – pool cost
Other cost elements

- **Duos** is currently 100% covered in tariff – **IPP should not pay this again**
- **Tx of system** cost is covered 50:50 between end loads and Gx as per the WEPS – **IPP should not pay again**
- Embedded Gx reduce some Tx & Dx **local network losses** in local area
- Embedded Gx **add energy** requirement **without loading** Tx and some Dx networks as national Gx
New Market structure

SA Power Shortage
Money
Global demand
New Market structure

- Vertical Integration
  - State Utility
  - Distribution Companies
- Single Buyer Model
  - IPPs
  - State Utility
- Fully Restructured Market
  - IPPs
  - State Utility
  - Distribution Companies

South Africa
Issues to be considered

**HOW?**

- Ensure *non-discriminatory access* to the Tx network?
- Ensure the new IPPs will be able to *raise adequate financing*?
- Determine the *fuel-mix* of such plants?
- Encourage *renewable* IPPs?
- *Sustain* these type of *investments*?
- How to protect the consumers’ interests while assuring quality of supply?
- Will *decentralized generation* development be coordinated with overall *Resource Planning*?
Thank you for the opportunity