Electricity Supply Industry (ESI) Structural Reform in SA – an overview and prognosis

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INTRODUCTION

The intention of the presentation is to cover the following:

- A brief overview and brief prognosis on structural reform of the ESI in SA
- Create a basis for discussion on the topic by participants in the breakfast session
- Overall bias of the presentation is on private sector participation in the course of structural reform of the ESI
- Areas to be covered:
  - ✓ Background
  - ✓ An overview of current developments
  - ✓ Context – a case for overall restructuring of the electricity sector
  - ✓ Challenges
  - ✓ Future framework for IPP's and prognosis
  - ✓ Conclusion

BACKGROUND

The South African electricity demand for 2014 is currently below the demand levels of 2007, **YET** Eskom is struggling to meet this demand. This is evidenced by the requests by Eskom to industry to reduce their demand by 10% as well as the frequent declaration of emergency conditions by Eskom coupled with the load shedding incident of 6 March 2014.

Even though the current demand is at 2006 levels, Eskom added more than 3500MW from the Return to Services power stations, namely; Grootvlei, Komati and Camden between 2007 and 2011. The main reasons for this shortage of supply is not the lack of generation capacity but rather the unavailability of the generation fleet due to unit breakdowns, extended maintenance and non-completion of the units under construction (i.e. Medupi, Kusile & Ingula).

Eskom's business decisions (largely investment decisions and technology choices) and performance therefore have a significant The efficiency and performance of the electricity supply industry and, by implication, of the energy regulator, the National Energy Regulator of South Africa (NERSA), has a significant impact on the success of other economic policies and therefore on the country's economic growth and development[1]

The ESI in South Africa is a complex interaction of institutional and regulatory frameworks, the development of which has been partly shaped by political power relations and competing interests over the decade which ultimately impact on the ESI and on the cost and availability of electricity in the country.

BACKGROUND – POLICY, REGULATORY AND INSTITUTIONAL FRAMEWORK

Where did it all start?

The evolution of the current ESI configuration dates as far back as the 1998 Energy White Paper which focused on outlining the restructuring framework of the Energy Sector. Below are highlights the genesis of the ESI in the current dispensation.

According to the Energy White Paper, the success of the electricity supply industry as a whole will be ensured by the following developments:

- Affording customers the right to choose their electricity supplier
- Introduction of competition, especially in the generation sector
- Open and non-discriminatory access to the transmission network
- Encouraging private sector participation in the industry.

The approval of the Blueprint Report by Cabinet included

  - Restructuring of the electricity distribution
  - Establishment of RED 1
- The repeal of the Electricity Act in 2003 was anchored around the
  - Multi-market model which was proposed to allow for competition in electricity generation
  - Need for alignment of the Act with the Energy White Paper
  - Restructuring of Eskom generation to allow for competition in electricity generation

NOTE:

[1] Review of Regulation in the Electricity Supply Industry - Trade and Industrial Policy Strategies (TIPS) - Reena das Nair, Gaylor Montmasson-Clair & Georgina Ryan – 11 April 2014

- There was resistance to such proposal
- The Multi market model was removed from the Bill because it was dependent on the restructuring of Eskom generation

REGULATORY CONSIDERATIONS

- The regulation of the ESI is instrumental in establishing an effective electricity market in South Africa.
- Government's primary task is to design and implement robust institutional arrangements, well-designed policy frameworks and an independent regulator, including policies and directives stipulating how IPPs, Eskom and municipal distributors should be governed and also how they will account to the government[2]

Key Players in the ESI are:

- ✓ Eskom
- ✓ Municipalities
- ✓ Independent Power Producers (IPPs)

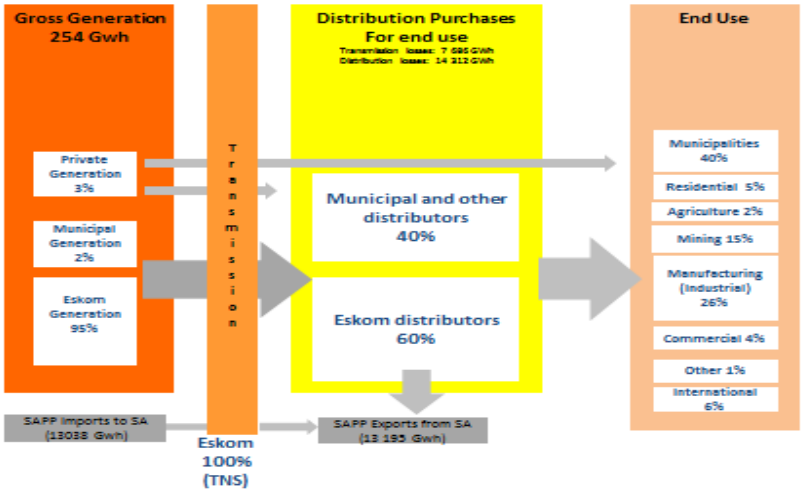
The current institutional stakeholders of the ESI include the:

- ✓ Department of Energy (DoE),
- ✓ Department of Public Enterprises (DPE),
- ✓ National Treasury (NT) and
- ✓ National Energy Regulator of South Africa (NERSA)

The regulatory framework of South Africa's electricity sector comprises a wide array of stakeholders, from government departments, to the independent regulator, to regulated entities and end-user consumers.
While not central to the direct regulation of the sector, economic ministries, such as the National Planning Commission (NPC), the Department of Trade and Industry (**the dti**) and the EDD, provide the overall framework in which the electricity sector is to operate.

[2] Newberry and Eberhard, 2008

ESI Market Structure[3]



Private sector participation

Although some of the developments have not yet been realised, significant strides have been made towards the introduction of private sector and the opening up of the transmission network. Further, introduction of competition in the generation sector will be kick-started by the announcement by the Department of Energy of a determination to procure additional power generation capacity from the private sector, with the following allocations:

(i) 2500MW from conventional coal sources
(ii) 800MW from co-generation
(iii) 3126MW from various gas sources

Renewable Energy Independent Power Producer Procurement Programme (REIPPPP)

The uptake and enthusiasm shown by the private sector in the Renewable Energy Independent Power Producer Procurement Program (REIPPPP) bears testimony to the willingness and readiness of the private sector to participate in the electricity supply industry. Similar interest has been shown by the private sector when the Department of Energy advertised for Request for Registration Information (RfRI) for the conventional power plants (i.e. coal fired generation). This indicates that the private sector is

[3] *Source: TIPS, updated from Steyn 2012 based on NER sources, using 2012 data*

ready and willing to invest in other forms of technology the power generation sector. The next step is to issue a Request for Proposals (RfP) in order to allow for the private sector participation and there is no evidence to suggest that the private sector will not show the same enthusiasm they showed in the REIPPPP.

Framework for IPP's

The regulatory framework for the REIPPPP has proven to be successful overall with minor changes required going forward. As learnt from the REIPPPP, there is a need to have a transparent and well defined structure with a certain level of flexibility in the procurement program in order to encourage vibrant competition which should hopefully result in lower tariffs.

Some of the major differences between the REIPPPP and the base-load conventional power program will be the dispatch aspect, higher financial requirements and higher risk of rent-seeking (i.e. spending resources on political lobbying to increase one's share without creating more value). Therefore the structuring of the power purchase agreements (PPA's) will be critical and key to the viability of the program. In particular, the arrangement between the system operator and the Independent Power Producer (IPP) with respect to dispatch will be one of the key areas to be clearly defined upfront.

AN OVERVIEW OF CURRENT DEVELOPMENTS

Current developments in South Africa for IPP's

As indicated earlier, the next step after the issuing of the RfFI in line with the determination to procure an additional 2500MW from conventional coal is the RfP. Unfortunately there is no clear indication regarding the date or period when the RfP will be issued. There is no publicly available information regarding the readiness of the RfP documentation.

The current financial state of dedicated buyer Eskom presents some level of risk to investors and the base-load procurement program. Investors are likely going to be concerned with the Buyer's (Eskom) ability to honour the PPA's and thus further demand additional guarantees from the shareholder (i.e.

government). Therefore further deterioration of Eskom's financial state is not desirable as it will increase the costs of the transactions.

Other developments in the electricity supply industry

There is also an emerging trend of increased distributed or embedded generation and mini-grids in the electricity supply industry (ESI) internationally. The ESI is facing a similar challenge that was faced by the landline telephony industry 20 years ago at the advent of wireless telephony. In the extreme case, the traditional utilities as we know them may very well be reduced to suppliers of back-up power for instances where the embedded generation is not producing power. However, this extreme state may not be likely to fully material in less than 10 years, but it's a reality that must be faced. It is therefore likely that investors who have an eye on this extreme case may require quicker pay-back periods and more risk-averse PPA's.

For example, in affluent areas of South Africa, such as Cape Town's (affluent) suburbs, there is a significant reduction in electricity consumption during the day, due to embedded generation (i.e. mainly solar photovoltaic (PV)). Across the country various companies, mainly banks, are reducing the power consumption from the grid by having embedded generation (e.g. MTN SA in Johannesburg has installed solar PV that will power their air-conditioning and thereby reduce their consumption from the grid).

In the meantime, additional generation capacity is required for the growth of the South African economy and Eskom's ability to provide the additional generation capacity is severely constrained. Therefore, the private sector is, now more than ever, best positioned to meaningfully participate in the power generation sector and help grow the economy.

CONTEXT:

A CASE FOR OVERALL RESTRUCTURING OF THE ELECTRICITY SECTOR

- Recommendation from the 2011/12 BRRR[4] in Parliament included "Restructuring of the electricity industry"
- Potential impact of the restructuring the electricity sector on the socio-economic well being of SA society is fairly high

[4] BRRR = Budgetary Review and Recommendation Report

ISMO BILL PACKAGE

Over and above processing of the bill the following recommendations were made by the Portfolio Committee on Energy:

The 5th Parliament ensures that the Minister of Energy:

a) Conducts a due diligence study in order to determine the feasibility and implications of the transfer of transmission assets and to submit a final report to the National Assembly
b) Conducts a cost benefit analysis of the possibility of incorporating the transmission assets into the Independent System and Market Operator (ISMO)
c) Further conducts a cost benefit analysis of establishing a Transmission System Operator (TSO), or any other arrangement suitable to the South African situation.
d) Ensures that the restructuring of the entire electricity sector be addressed as matter of urgency.

Particular emphasis was on the articulation of the end-state for each of the sub-industries in the electricity sector. The 5th Parliament is expected to ensure a comparative analysis including drawing lessons from other countries through, inter alia, study tours, workshops, etc., be facilitated for the future Portfolio Committee on Energy.

CHALLENGES

- Policy uncertainty and related issues in the regulatory framework of the ESI have resulted in certain detrimental impacts on the sector and the economy as a whole, particularly during the 2008 load-shedding crises.

- The unstable policy environment further complicates Eskom's financial planning, in turn increasing its risk profile and access to affordable finance for new build, and ultimately increasing electricity prices.

- In addition to the lack of capacity and unclear responsibilities of the Department of Energy (DoE) and NERSA, there is information asymmetry clearly in favour of Eskom which makes regulation even more challenging.

- Political decisions to supress electricity prices in the 1990s meant that the price path of electricity historically was not in line with the cost of producing electricity – hence the clamour for cost reflective pricing

- Arguably more devastating to the economy, have been the problems related to electricity supply with periods of severe shortages and load shedding in 2008 during which a number of industries were forced to shut down or scale back production

FUTURE FRAMEWORK FOR IPP'S AND PROGNOSIS

The future framework for the operation of IPP's as well as its prognosis entail:

- Private sector participation is provided in the energy policy as a 30% allocation
- REIPPPP
- ISMO
- IRP
- IEP
- Guidance by the ANC Election Manifesto and the President's SONA 2014

Marching into the future, successful participation of IPP's in the ESI aught to integrate the following:

- Reviewal and refinement of policy, laws, and regulation
- Current challenges warrant comprehensive stakeholder cooperation

CONCLUSION

In a briefing to the Portfolio Committee on Energy in 27 February 2013 regarding the ISMO Bill the Department of Energy stated that IPP's have not been forthcoming in significant volumes due to:

- Perceptions of conflict of interests in vertically integrated Eskom
- Perceptions that government is not serious about reforming the industry
- Perceptions about long-term viability of present electricity supply industry (ESI)
- structure
  Lack of clear policy specifically aimed at IPP's
- Lack of enabling legal/ regulatory framework to facilitate IPP's.

The ISMO BILL PACKAGE highlights:

- ➢ Multi-pronged strategy i.e. ISMO Bill plus the recommendations to address issues linked to the legislation particularly the:
- ❖ Future of the transmission
- ❖ Overall restructuring of the electricity sector

SOME OF THE WAY FORWARD

- ESI can only be effectively reformed when electricity sector restructures i.e. ESI, TRANSMISSION, EDI, REGULATION, PRICING, SKILLS DEVELOPMENT, PLANNING – IRP & IEP, REGIONAL CONSIDERATIONS, ENVIRONMENTAL ISSUES/CLIMATE CHANGE, SOCIO-ECONOMIC CONSIDERATIONS – FBE &FBAE, R&D – NEW TECHNOLOGIES, ETC.
- Note: challenges in Electricity Distribution Industry – EDI have an influence on ESi
- The dilemma of transmission, vis-a-vis access for IPP's, is not about to simply disappear unless handled assertively
- The dilemma of fast-deteriorating electricity infrastructure especially under ownership of local government vis-a-vis ADAM[5]
- The pricing of electricity including the fragmented tariff dilemma i.e. ESKOM vs municipalities cannot be overlooked nor delayed in resolving it
- Policy, legislative and regulatory refinement as a part of the restructuring package is paramount
- Working together we can do better and more viz.:

In a preliminary report of the Portfolio Committee on Trade and Industry on the implementation of the Industrial Policy Action Plan with specific reference to the state of the manufacturing sector, dated 29 November 2012, one of emerging issues on electricity tariffs were the perceived negative impact of Eskom's transition to a cost reflective pricing regime on the economy despite Eskom's efforts to increase tariffs at a lower rate than initially indicated.

Acknowledgements:

- Review of Regulation in the Electricity Supply Industry - Trade and Industrial Policy Strategies (TIPS) - Reena das Nair, Gaylor Montmasson-Clair & Georgina Ryan – 11 April 2014
- Minutes of the Portfolio Committee on Energy
- SA Parliament - Presentations on the ISMO Bill
- Newberry and Eberhard, 2008
- ESI Market Structure - Source: TIPS, updated from Steyn 2012 based on NER sources, using 2012 data

[5] ADAM = Approach to Distribution Asset Management