



energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

Ministers Speech for 24th AMEU Technical Convention 7 October 2013

President of AMEU, Mr Hannes Roos;

Cllr Nxumalo, MMC of Ekurhuleni Metro Municipality;

Ms Phindile Baleni, CEO of NERSA;

Cllrs of Buffalo City and other Metros and Municipalities;

AMEU Executive members;

Technical and Electricity Directors and staff of Metros and Municipalities;

Affiliate members;

Exhibitors;

Spouses of delegates;

Ladies and Gentlemen;

Firstly, apologies from Hon Minister Martins, he was informed on Thursday last week that he has to facilitate in a very serious energy session today.

I was asked to deliver the speech on his behalf.

I want to express my appreciation to AMEU for inviting the Department of Energy to deliver the keynote address at the 24th AMEU Technical Convention.

The good working relationship that has been established between DOE and the AMEU, and this longstanding relationship is appreciated. The important role that AMEU is playing, not only in keeping the lights on at a municipal level, but also as a professional Association that is operating on different levels within the Energy environment, is recognized and valued. This is reflected in the fact that you are not rendering assistance at a political/governance Municipal level with service delivery aspects, but also to be a resource basic for influencing National standards, Policies and Strategies. Which is not an easy task given the ever changing environment; either it's been political, technical, as well as structural challenges that are inherent within all spheres of Government and the Energy environment?

This Convention is a Technical of nature and it is interesting to note the various themes to be deliberated upon during the next three days. It indicates the changes and challenges that are faced by the electricity distributors in the country and globally. The theme of “**Supporting Infrastructure and Service Delivery Objectives**” is very relevant and it is good to see that AMEU is after 98 years still as relevant and directional as the Association as it was when it was established. The keynote address will focus on some aspects that I noticed will be covered by experts in the respective fields.

IEP

Programme Director, firstly I would like to share the background view on the issue of future energy planning in South Africa.

Energy is one of the key elements in production processes. A lack or shortage of energy has a serious effect on the economy and gross domestic growth. By virtue of its size and economic importance, the energy sector periodically requires considerable investments in new and replacement supply capacity. Historically, such decisions were primarily driven by

concerns regarding maintaining supply security, without giving full consideration to the economic, environmental and social impacts of all alternatives. As a consequence, the tendency has been towards the construction of large-scale capital-intensive supply facilities and the neglect of alternatives that might have been more cost effective in the long term, and had greater employment benefits and more favourable environmental impacts.

Over the recent years, the contribution of different sectors to the country's Gross Domestic Product has changed significantly. In the past few years the industrial policy has shifted towards a greater focus on knowledge-intensive sectors and human resource development, placing less emphasis on comparative advantage based on natural endowments. Primary production like agriculture and mining now contribute less to the economy than the tertiary or services sector. The tertiary sector now contributes almost two-thirds of our gross domestic product. This implies a lowering of overall energy intensity, as generally the energy required per unit product (measured in Rands) is less for the tertiary sector compared with the primary sector. This shift is similar to what has occurred in most industrialising nations. This does not mean that agriculture and mining are becoming unimportant, but that the energy sector may re-focus efforts on how to further exploit South Africa's endowments. Such re-focusing may be based on integrated energy planning.

The development of a National Integrated Energy Plan (IEP) was envisaged in the White Paper on the Energy Policy of the Republic of South Africa of 1998 and, in terms of the National Energy Act, 2008 (Act No. 34 of 2008), the Minister of Energy is mandated to develop and, on an annual basis, review and publish the IEP in the Government Gazette. The purpose of the IEP is to provide a roadmap of the future energy landscape for South Africa

which guides future energy infrastructure investments and policy development

Integrated Energy Planning entails understanding the current and future energy requirements of different types of consumers (e.g. industry, commerce, mining, agriculture, households, etc.) and then determining the most optimal mix of energy sources and technologies to meet those energy needs in the most cost-effective, efficient, socially beneficial and environmentally responsible manner. Delivering energy to end users requires multiple processes (production, conversion, transmission and distribution) and involves many participants, from both the public and private sectors. Today's choices about how energy is extracted, harnessed and used will determine the sustainability of the energy system in the future and thereby influence the extent of socio-economic development.

This is the background to the development of the Integrated Energy Plan (IEP) that was approved by Cabinet in June 2013 to be discussed with all roll-players in the energy environment. The first workshop was 10 days ago in Jhb, but we have 2 more workshop been planned for 24/25 Oct in CT and 30/31 Oct in Durban. I want to invite AMEU and its members to actively participate in this process. This is the first policy paper to obtain a balanced view of supply and demand balance wrt the diverse energy environment in SA.

With the IEP been out for public comments, it is also important to note that AMEU should start considering the “**E**” in AMEU to become **Energy**. The challenge for local authorities are not only limited to the supply of electricity, you have to become more involved in Energy supplies. This is also been foreseen in the Constitution wrt the supply of gas.

IRP and future generation projects

Programme Director, as one of the pillars of this IEP will be the IRP, which is focusing on the electricity supply options and direction to be taken wrt future technology options and timeframes.

Government has embarked on an electricity infrastructure capacity path to ensure security of electricity supply, and pursuing at energy to meet the needs of our fast growing economy without compromising our commitment to sustainable development by utilizing our fossil resources responsibly.

The IRP2010, as promulgated in May 2011, proposed various technology options that address the additional capacity of 42 000 mega-watts requirement by 2030.

▪ Wind	8400 mega-watts (MW)
▪ Solar PV	8400 MW
▪ Concentrating Solar Power	1000 MW
▪ Open Cycle Gas Turbine	3900 MW
▪ Gas Closed Cycle Gas Turbine	2400 MW
▪ Import Hydro	2600 MW
▪ Nuclear	9600 MW
▪ Coal	6300 MW

It has the effect that about 18 000 MW of the new build generation will be regarded as RE, which results in about 42% all new build will come from RE sources.

In converting the IRP as a plan, into action, one of the first actions taken by the Department of Energy was to initiate a process to allocate 3 725 MW Renewable Energy resources by 2016 to Independent Power Producers. The first and second “window” of successful bidders resulted in over 2600 MW been allocated to various Renewable Energy resources in December 2011 and May 2013 respectively. The overall foreign direct investment into

the Renewable Energy generation will be over R70 billion by 47 IPPs. The third Window has been closed a few weeks ago at the end of August.

The current reality is that more than 65% of South Africa's total energy needs are met through coal as the primary energy source. This is followed by crude oil at around 22%, while the remaining 13% of our energy needs are met by gas, nuclear, hydro and renewable energy sources combined. Coal therefore plays the dominant role in our supply of energy, especially in the electricity sector where approximately 90% of the country's electricity is produced in coal-fired power stations, the country's biggest source of greenhouse gas emissions, while nuclear, gas, hydro and renewable energy sources make up the remaining 10%. We cannot, however ignore the fact that we are a coal-rich economy, nor can we ignore the significant contribution of the coal mining industry towards the economy. In 2010 South Africa had an estimated 32 billion tonnes of coal reserves (which at current local consumptions rates can last us more than 100 years to come).

Irrespective of the fact that we are a coal-rich economy, government is committed to have increased focus on the advancement of clean coal technologies through projects such as underground coal gasification, as well as carbon capture and storage (CCS).

If we are serious about diversification towards a low carbon economy, then we cannot ignore the role that natural gas and nuclear power can play as a bridging gap in this transition.

I would like to urge municipalities to become actively involved in the REIPP programme. It can be a benefit to your maximum demand and become an attraction for future investment into your area. Nelson Mandela Bay Metro

(NMBM) has taken the lead in this regard with having the first wind farm that will generate RE by means of wind to be supplied into the grid, and that a distribution grid network of NMBM.

It is important to note that the Minister of Energy has already made another Determination for 3 200 MW RE – which includes CSP, Solar PV, Biomass, Biogas, Landfill Gas, and Hydro by 2020.

Infrastructure development

Programme director this brings me to the issue of infrastructure development. Cabinet adopted the National Infrastructure Plan which intends to transform the South African economic landscape. In the context of the NDP, and with the vision set about through the National Infrastructure Plan, we have set our country on a course towards meaningful and sustainable development.

- Presidential Infrastructure Coordinating Commission (PICC) was established to integrate and coordinate the long term infrastructure build programmes (Infrastructure Plan) over all three spheres of Government.
- Eighteen (18) Strategic Integrated Projects (SIPs) have been developed and approved to support economic development and address service delivery in the poorest provinces.
- The SIPs cover a range of economic and social infrastructure
- All nine provinces are covered, with emphasis on poorer provinces
- The focus of each SIP:
 - Localization
 - Job creation /Skills development
 - Research and Technology development
 - Stimulate Green economy and
 - Empowerment improvement

Some of the SIPs that are central to the Department of Energy's scope of operation and of the AMEU are the following:

- SIP 6 : Integrated Municipal Infrastructure (To address all the maintenance backlogs and upgrades required in water, electricity and sanitation bulk infrastructure in the 24 least resourced district municipalities, covering 23 million people, in a project that is nationally managed but locally delivered)
- SIP 8: Green Energy in support of the South African economy (RE IPPs, SWH, etc)
- SIP 9: Electricity generation to support socio-economic development
- SIP 10: Electricity transmission and distribution for all

A number of Government departments and SOE are currently working on skills plans for all Strategic Integrated Projects (SIPs). Concrete actions are also developed for the use of infrastructure to industrialize South Africa. I know that AMEU has also been request to become involved in the PICC process, and I want to encourage you to participate in this programme to ensure that SA infrastructure is upgraded to support a growing economy. This is in line with the theme of this 24th AMEU Technical Convention.

It is impossible to consider the security of supply situation without critical addressing the problems facing the electricity distribution infrastructure specifically. It won't help the country if the new build programme is ensuring adequate supply of electricity and it cannot effectively and efficiently been distributed to the end-users.

EDI. In parallel, DOE will implement the Approach to Distribution Asset Management (ADAM) programme which from part of SIP 6 and 10, to address the distribution industry infrastructure and resource challenges.

ADAM is in essence a three legged approach:

1. Addressing the infrastructure challenges, which including the financial shortcomings;
2. Manage these challenges by strict programme and support by means of a Project Management practices and
3. Addressing the skill shortage within the EDI.

The ADAM roll-out has been structured into different phases. The first phase is the so-called “mini-ADAM” phase, in which the roll-out will be tested at about 7 different municipalities and two metro. The Steering Committee has made the allocations and currently contracts are been signed between DOE and the respective LA entities.

It needs to be emphasized that this is a once off “mini-ADAM” pilot process to test the ADAM methodology. Currently different financial models are been considered to address the financial challenges in the EDI. I want to emphasize that the assistance has been envisaged through the ADAM process, will not mean that the current backlogs in the EDI will be funded in full or the EDI skills challenges will be resolved by National government. The management of the municipalities and Metros has to be taken up some burden of this challenge. Hence, all spheres of government will have to make a contribution. The ADAM process is not and will not become a hand-out programme, where municipalities will receive funding to solve a very serious problem.

National Treasury is currently busy with legislation with the ringfencing application of administrated allocations, such as tariff allocations that are earmarked for specific applications such as allocation applications by Municipalities for upgrading and maintenance of networks. These

allocations will in future then been managed separately from normal operational revenues.

Ladies and gentlemen, lastly I would like to deal with the Electrification Programme, but specifically with the New Household Electrification Strategy that was approved by Cabinet at the end of June 2013.

Electrification is a cornerstone of social and economic upliftment, and has been proven to positively contribute to South Africa's development goals. Progress to electrify South Africa has so far been good, with more than 5,7 million connections made between 1992 and 2011, confirming South Africa's electrification leadership role in the sub-Saharan region and its positive development path compared to other emerging economies. However, much more is to be done to reach universal access in SA.

There are still 3.2 million households without electricity, despite just over 203 000 new connection been made in the last financial year.

DOE has developed a new implementation strategy to ensure that the rate of delivery will be improved by utilizing the following measures:

- It is recognized that electrification can not only been defined as a grid connection, since it is in some cases just too expensive to build infrastructure for a few households in deep rural areas. It is suggested to implement more non-grid solar systems, but systems with a higher electricity capacity than what is installed currently (50 Watt systems vs 95 Watt DC systems), to address this challenge. Currently about 62 000 solar systems are in use by customers in rural areas (50 Watt systems), where grid is too expensive to reached. This will not only release some electricity from the national grid and generators, but can also increase the electrification rate at which an electricity service can

be delivered, since the non-grid roll-out is cheaper and quicker. We need strong support from AMEU with non-grid programme.

- The future roll-out of the electrification programme will have to be done in accordance with a National Electrification Master plan that will be developed through municipalities IDP inputs and assistance from Eskom. It is foreseen that the first draft will be finalized by end 2013. The respective electrification projects in the country will have to follow this plan. If such a holistic plan is not followed, it will not be possible to reach universal access in the country.
- Improve the inefficiencies in the delivery of the electrification programme by managing Eskom and the Municipalities more tightly. Some success has been obtained by managing the programme holistically; to manage or allow the respective entities to share the internal processes with INEP. In this regard inefficiencies have been identified and highlighted.
- The current electrification programme funding allocations will have to be increased, if the electricity programme delivery rate is to be improved, but the improved INEP programme will first have to be implemented. This can be achieved by International grants which is available for non-grid programme, improved efficiencies which is already resulting in more connections, additional fiscus funding and the top up of funding shortfalls with 'soft loans' in order to prevent the long time it takes to connect house due to slow delivery of important infrastructure projects.
- Considering the above proposals with respect to an improved electrification implementation plan for the future, universal access to all existing households and future households are possible by 2025.

I also want to make use of the opportunity to thank AMEU for their positive contribution in the development of the new implementation strategy over the last four months.

Ladies and Gentlemen, I would like to end off by urging AMEU to keep on fulfilling the positive contribution to the Association has made over years with the Energy environment in general and especially the Electricity industry. In building this professional role out, you must start looking at playing a more constructive role in infrastructure development in the broader Energy sectors, which is challenging the AMEU to spread its wings beyond Electricity.

I would like to end off by wishing the Association a productive and Blessed 24th Technical Convention, this including the Associated entities, as well as the partners that are such an integral part of the AMEU conventions.

I THANK YOU