

## **Welcome Address**

**Minister of Energy Honourable Jeff Radebe, MP**

**Africa Utility Week and Powergen Africa 2019**

**14 May 2019**

State Secretary, His Excellency Niklas Johansson from Ministry of Foreign Affairs of Sweden,

Her Excellency Sandra McCardell, High Commissioner, Canada,

Mr. Phakamani Hadebe, Eskom CEO,

Mr. David Ashdown, MD of Spintelligent,

Distinguished Guests,

Members of the Media,

Ladies and Gentlemen.

Let me start by wishing you a hearty welcome to this edition of Africa Utility Week and Powergen Africa 2019, hosted in the City of Cape Town. Our sincere gratitude to Spintelligent for this well-timed conference, as it happens a few days after the conclusion of our national elections. It would be remiss of me if I didn't also take the opportunity to congratulate and thank South Africans for another

peaceful and credible elections. For South Africans who have been brought to joyous tears by the election results, then also, it has probably made you laugh with all the antics of some not-to-be-named political parties. For us who have received clear ratification of our manifesto and programme of action, we are not taking this for granted, and to demonstrate our sense of urgency, we have already bolted out of the implementation starting blocks.

So this conference is indeed timely, as it gives us the earliest chance to once again think over and share our vision regarding South Africa's energy future, in the presence of utility experts, operators, customers, academia, investors and business persons.

To recap, we have always indicated that our objectives are premised on Improved Energy Security, the diversification of our Energy Mix including Regional Integration, increasing Access to modern energy carriers, reducing our Greenhouse Gas Emissions, reducing our Water usage, developing the Skills necessary for Job Creation, improving our Energy Efficiency and lowering the Cost of Energy.

Since the advent of democracy in 1994 we increased the usage of electricity, especially in the residential sector through the proliferation of appliances as the standard of living gradually improved. We are still amongst the highest per capita users of electricity around the world; notwithstanding that there are still around 3-million households without access to a modern energy carrier.

Over the past few years, there has been enormous upward pressure on electricity tariffs as we embarked upon an intensive capital investment cycle in the power sector. The extent to which tariffs can continue to rise is constrained by considerations relating to affordability, competitiveness and economic impact. Energy is a critical input cost into any economy, and unaffordable energy in a mineral energy industrial complex like South Africa can only frustrate our industrialization programme.

As a developing economy, plagued by high poverty and unemployment levels, the quest for reliable and affordable energy is therefore critical because we understand the adverse impact of unreliable or unaffordable energy on value-creating industries which contribute to economic development.

Our energy programme is accordingly designed to achieve our objectives. We apply a legislated doctrine that cuts across all sectors in our economy, which is based on black economic empowerment. Basically, we seek to achieve skills transfer, community upliftment and local procurement from and support for small local enterprises in our infrastructure development programme.

South Africa's Gini Coefficient is the highest in the world at around 0.62. This is the most unequal society that one could live in, with a racial bias in the characterization of our inequality. That is our stark reality.

## **Investment Drive and Regional Collaboration**

To tackle this reality, in 2018 President Cyril Ramaphosa set a target to lure investments of \$100bn by 2023, intended to stimulate economic growth, which has been falling far short of the 5.4% annual target set in our National Development Plan. Energy infrastructure projects are therefore regarded at the highest level of government as key to attracting investments into our country and growing the economy.

We rally behind our President's call by identifying and supporting those projects and initiatives that would help us achieve the target that has been set, in the respective sectors we come from.

Through the Renewable Energy Independent Power Producer (REIPP) programme, the Department of Energy has sent out strong signals with regard to South Africa as an investment destination for energy infrastructure development. We have successfully implemented bidding rounds to which the response has been over R250 billion in investment to date.

The financing of economic infrastructure is becoming an uphill battle for emerging economies, especially given the impact of the stand-off on trade between China and the United States. Notwithstanding that the current credit situation remains tight, we intend to find ways, with your collaboration, to increase financing for energy infrastructure – especially financing that supports small and medium enterprises which can create the jobs we need.

We have identified regional interconnection and integration within the Southern African Development Community (or SADC) as an appropriate strategy for increasing energy trade within our region. Failure to aggregate our efforts will put unnecessary pressure on our meagre resources and hamper the achievement of the SDG 7 goal by 2030, for affordable and clean energy – we cannot compromise the possibility of uplifting the over 150 million rural poor in SADC, especially women and youth.

Our energy security can be greatly enhanced through regional development and integration. South Africa works closely with partner countries, both at the bilateral and multilateral levels, to ensure that the region develops secure, reliable and affordable energy carriers that would assist in unleashing the region's economic potential.

As you may be aware, the SADC region is well endowed in natural resources that, if well harnessed could potentially eradicate energy poverty, thus uplifting the standard of living of our respective citizens.

Several undertakings have been made in this regard, both at the regional and national levels. Proposed projects include, amongst others, various interconnecting transmission grids, hydropower, gas, thermal, wind and solar power projects.

### **Integrated Resource Plan Update**

The Integrated Resource Plan will reflect our policy blueprint for the power sector, and its update will be concluded imminently.

We are still engaging the social partners at NEDLAC. Cabinet approval of the IRP for South Africa will define a tangible plan for energy security that also enables the participation of Independent Power Producers (IPP) side by side with Eskom and municipalities. I am on record as having indicated that Eskom alone cannot meet our power capacity requirements, because we estimate that the capacity extension under the IRP will cost in excess of R1 trillion in the period up to 2030, including the new power plants plus the requisite transmission and distribution infrastructure.

With regard to our energy mix, we cannot ignore the fact that we have abundant coal reserves in South Africa, and the price of local coal

remains relatively low. However this is counter-balanced by the high carbon content that coal has, and this cost was internalised when we analysed policy options where emissions reduction targets and carbon taxes are introduced.

The energy sector alone, contributes close to 80% towards total emissions of which 50% are from electricity generation and liquid fuel production alone. While a paradigm shift is required for these emission reduction targets to be realized, as government we cannot do this in a manner that is unjust relative to those that would be negatively affected by these adjustments. Our vast coal deposits cannot be sterilized simply because we cannot explore technological innovations to exploit the coal. The timing of the transition to a low carbon economy, in line with our accession to the Paris Agreement, must be in a manner that is not insensitive to the potential impacts on jobs and local economies.

Carbon capture and storage, underground coal gasification, coal to liquids and other clean coal technologies are critical considerations that will enable us to continue using our coal resources in an environmentally responsible way.

With the increased penetration of renewable energy technologies, particularly wind and solar, the need for gas infrastructure has

become critical. Southern Africa we will be able to expand electricity generation through the use of gas given the huge potential and opportunity in this regard. For South Africa, we were excited a few weeks ago when Total announced the Brulpadda resource discovery in the Outeniqua Basin.

Imported liquefied natural gas (or LNG), piped natural gas, imported liquefied petroleum gas (or LPG), indigenous gas like coal-bed methane and ultimately shale gas, are part of our strategy for regional economic integration within the SADC, in order to provide the energy infrastructure to support economic growth.

Energy Ministers in SADC have recognized the strategic need for a regional Gas Master Plan, given the recent gas discoveries in the region. Mozambique and Tanzania gas resources in particular, are well positioned for cross-boundary development of gas pipeline infrastructure. It is important that gas demand in the region is serviced from regional gas resources, so as to increase the opportunity for intra-African trade and economic collaboration. The planned gas pipeline from Rovuma Basin in Mozambique through South Africa and possibly beyond, fits into this strategy.

Interconnection with our neighbouring countries also gives us an opportunity not only to improve our energy mix by harnessing the hydro-potential in these countries, but it also bodes well for economic



collaboration in SADC as a whole. As you might be aware, South Africa is leading discussions with our regional neighbours on hydroelectricity, notably from the Democratic Republic of the Congo (DRC) in terms of the Treaty on the Grand Inga Hydropower Project.

## **Partnerships**

Ladies and Gentlemen, under section 34 of the Electricity Regulation Act, the Minister of Energy has powers to determine, through a Notice, that new generation capacity is required, including the power to determine that the electricity thus produced must be purchased by Eskom or any other licensee. This mechanism makes it clear that the Minister of Energy carries the energy security mandate.

A deteriorating Eskom plant performance propelled by old generation infrastructure, suggests that we are now in need of more investment in new generation capacity to replace the old power plants. The draft IRP confirms that the decade starting in 2030 will require significant commissioning of new generation capacity. This happens at a time when Eskom's balance sheet is at its weakest in a long time.

We need to arrest the steady decline in economic activity coupled with rising electricity tariffs that has tended to put Eskom in an untenable situation, characterized by increasing debt and increasing tariffs. We need to address these issues so as to build infrastructure

timeously to meet the energy demands required for our industrialization.

Partnerships between the private sector and government need to be intensified as a necessity. With respect to the South African example, we might have attained some success in public-private partnerships in the renewable energy sector, yet there is still opportunity to be innovative in other areas like energy research, localization of value chains, and financing.

### **Future Utility Model**

As government we are forced to recognize and anticipate the risks posed by distributed generation and smart grid systems, as they upset our traditional power delivery model to municipalities and other key industrial customers. Today we have technological developments relating to Energy Storage, Small Scale Embedded Generation and Smart Grid systems. It is important to realize that the various energy carriers complement each other, and our challenge is to optimize the supply of secondary energy carriers, be it electricity, liquid fuels, or gas to meet the same energy demand.

Schedule 4B of the Constitution of South Africa gives the mandate to municipalities to undertake electricity reticulation, and municipalities are also keen to generate their own power for various reasons. To date residents have installed approximately 150 MW of rooftop photo-

voltaic (PV) systems in various municipalities. As Eskom electricity tariffs rise, we can expect more rooftop PV systems to be installed.

Embedded generation systems based on solar and wind technologies are tricky to manage in a power system, given the variability of their energy production. Insofar as the legislative and regulatory frameworks that enable embedded generation technology options we have outlined, we have developed a framework under various amendments to Schedule 2 of the Electricity Regulation Act, relating to circumstances under which a generation licence may not be required. The energy regulator NERSA has called for public comments prior to concurring to our proposals.

The Schedule 2 amendments will address the constraints related to licensing potentially hundreds of thousands of rooftop PV systems, biogas and other small scale embedded generators smaller than 1 mega-Watt, and unlock investment in that space.

The orderly evolution of the electricity supply sector remains a key consideration in our policy making. Small scale embedded generation through biomass, biogas and municipal waste hold great potential for improving municipal revenues, and we expect to see increasing investment in that space. All municipalities have sites for processing waste; they also have sewer outfall sites. Technologies are available

for these resources to be added to the generation mix at small sub-utility scale.

The so-called last mile for the delivery of electricity occurs at municipalities. The municipal electricity business model has invariably come under severe financial pressure as wholesale tariffs increase, as residents fail to pay for services, and as municipal revenue collection systems prove even more inadequate. Unless the problem relating to municipal financial viability is arrested, we run the risk of more and more municipalities failing to execute their responsibilities under the Constitution.

Most municipalities struggle to keep up with their payments for bulk electricity purchases from Eskom, and have become financially unsustainable. Small Scale Embedded Generation will tend to aggravate this situation for municipalities, yet in contrast the end-user would rather generate their own electricity to the extent that this is a cheaper alternative. This phenomenon is unfolding at a rapid pace at the residential level.

The adoption of renewable energy technologies coupled with storage in a smart grid system, will make this combination a viable and mutually beneficial option for municipalities and residential customers going into the future. For energy storage to be feasible in this context, it must at least match or lower the prevailing energy charges levied by municipalities.

We are fortunate to have all the requisite primary energy resources for the evolving utility business model. We are therefore bullish about the positive outlook for our youth, who need the requisite skills development to meaningfully participate in the future energy economy.

### **Fourth Industrial Revolution**

This brings me to the subject of the 4th Industrial Revolution. It is inevitable that more and more, the traditional energy delivery system will not be insulated from technological disruptions. Instead of resisting this change and engaging on the basis of fear, we have taken the opportunity to prepare our youth for this future. President Ramaphosa recently appointed a panel of eminent scholars and business persons to the Presidential Commission on the Fourth Industrial Revolution, to demonstrate seriousness about our preparedness.

The training of African human capital is a big opportunity, given our demographics. We are the youngest continent, in terms of the median age of our population. We want to turn this to our advantage, by preparing our youth to become active participants in the future world economy.

## **Conclusion**

In conclusion, Africa Utility Week and Powergen Africa 2019 is an appropriate platform for all role-players to deliberate on the best modalities for providing reliable, efficient and continuous supply of electricity to our economies. Sub-Saharan Africa is home to several of the world's fastest growing economies, including the Top 10. As SADC we want to emulate the examples of Ethiopia, Rwanda, Ghana, Kenya, Senegal amongst others, and the resolution of SADC electricity challenges will prod even faster development in our region.

I wish you well in your conference deliberations.

I thank you.