

OPENING REMARKS BY THE MINISTER OF ENERGY – MR JEFF RADEBE, MP At the South Africa Renewable Energy and Energy Storage Systems Conference

Cape Town International Convention Centre, Cape Town, Republic of South Africa

25 to 26 February 2019

Programme Director

Distinguished Guests

Representatives from industry, finance, utilities, regulators, government and academia Ladies and Gentlemen

It gives me great pleasure to welcome you here in Cape Town to “The Renewable Energy and Energy Storage Systems Conference” hosted by the World Bank Group. I look forward to a focused symposium, which will cover key topics related to energy storage systems in a future characterized by a rising share of renewable energy. These topics encompass policy, regulatory, financial, business, technological, applications, codes and standards issues that are crucial for the uptake, development and expansion of energy storage in domestic, commercial, industrial, transport, utility and micro-grid applications.

I noted that the theme for this conference is “Batteries, Energy Storage and the Renewable Future – Towards a 100% Dispatchable Renewable Energy System”. This is indeed an important subject as we embark on a just transition toward a more environmentally sustainable, flexible, reliable, secure, affordable and technologically advanced energy system. It is through topical conferences such as this in which we enhance our mutual understanding, form partnerships, strengthen our knowledge and improve cooperation on energy for the greater good of society. This is particularly true for newer technologies set to alter conventional energy systems, markets and producer and consumer behavior. It is also imperative as the 4th industrial revolution transforms our collective economic, developmental, societal, energy and electricity landscapes.

Ladies and gentlemen, the future energy system is being shaped by a virtuous and interrelated cycle of greater decentralization, electrification and digitalization. It is therefore vital for us to remain abreast of disruptive technological, policy, environmental and commercial developments that will shape our electric, social and economic future.

The global energy landscape is changing rapidly towards a more environmentally sustainable energy system in which technically advanced, flexible, cost competitive, distributed and low emissions technologies are increasingly displacing conventional and centralized fossil fuel-based alternatives. The

most prominent of these include renewable energy, especially from solar and wind, and complementary technologies, such as natural gas, energy storage systems, energy efficiency measures, embedded generation, smart- and micro-grid solutions, digital tools and electric vehicles.

South Africa is not isolated from the changing energy landscape. If we do not change with the times, we will be left behind. South Africa's energy transition should be just by balancing social, economic, technological, structural and environmental aspirations. The Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) has been at the forefront of the country's rising share of renewable energy electrical production capacity, but in a manner that also contributes to broader social upliftment. Workers and communities most affected by the necessary structural energy and economic changes must not be left behind. Our collective cooperation in this regard will help to ensure the creation of an inclusive economy, society and partnerships that will bring prosperity to all.

Complicating matters is the fact that electricity load growth has become more uncertain, which has also made long-term and economic electricity sector planning more difficult. This, together with accelerating technological disruption, suggests that electricity planning and infrastructure development should minimize the risk of costly mistakes by allowing for more modular, flexible and lower-cost technologies that improves the overall efficiency, affordability, reliability and resiliency of the electricity system in an uncertain future. In that regard, the least-cost electricity path going forward in South Africa is likely to be centered around an electrical energy mix based on solar, wind and complementary technologies, with the contribution of coal set to decline in a manner that is socially just. Renewable energy and energy storage technologies are a key part of the puzzle to enabling such systems.

Distinguished guests, energy storage systems enable us to convert electrical power into an energy form and store it for later discharge and use by converting it back to electrical energy when needed. The ability to store electrical energy provides flexibility that can support the supply of electricity to equal prevailing demand at any given time, thereby improving the overall efficiency and security of the electrical power system. In particular, the ability to store electrical energy helps us to overcome the variability and intermittency associated with solar and wind technologies, as well as the stability issues this can cause throughout the electric grid. It can enable us to avoid or defer investments in electricity production and supply infrastructure and alleviate congestion in transmission and distribution lines. It can be implemented in front of the meter at the utility-scale and behind the meter at the residential and commercial scale to improve electricity self-sufficiency and affordability. It can be implemented as standalone systems or be coupled with renewable energy plants for improved dispatchability. Energy storage systems reduce the need for back-up capacity from coal or gas-fired electrical generation plants, thereby reducing power sector emissions and help us mitigate against climate change.

Battery energy storage is undergoing particularly rapid techno-economic advancements with costs declining significantly. The large-scale uptake of battery energy storage would accelerate the stable implementation of cost-effective renewable energy technologies, permit the decentralization,

modernization and digitalization of the electric grid, and enable improved electrical power system flexibility, security and affordability. Batteries will further support the electrification of transport, encourage small-scale embedded generation and stimulate the deployment of smart and micro grids. In that regard, the President of the World Bank committed USD 1 billion in September 2018 to accelerate investments in battery energy storage systems in developing and middle-income countries.

In recognizing the technical and economic benefits of energy storage systems, our national electric utility, Eskom, has embarked on a process for the large-scale deployment of distributed battery energy storage over the next three years. The programme will be implemented in two phases for up to 1 440 MWh of energy storage capacity in total, with the request for proposals for the first phase of 200 MW to be released to the market by mid-2019.

South Africa further has high-quality minerals and industrial capability that can be used for battery chemistries, beneficiation and manufacturing, both locally and abroad, for domestic use and export markets. Some partnerships have already been formed between government, business, development finance and academic institutions to develop and commercialize battery energy storage systems in South Africa. Important aspects that need to be addressed to accelerate the uptake, industry development and deployment of energy storage systems in South Africa include taking a value-chain approach to localization, creating the required technical expertise, designing practical regulations, establishing energy storage standards and incorporating energy storage systems in long-term least-cost electricity system planning.

Ladies and gentlemen, cost effective and technically advanced energy storage systems are one of the key ingredients to enabling a renewable energy future. Their development, uptake and implementation are therefore necessary and unavoidable. For South Africa, it also opens up new opportunities for local manufacturing and job creation in technologies that are set to play a key role in Industry 4.0. It is for this reason why this conference plays a key role in solving the issues facing an energy sector in transition. It requires practical, forward and innovative thinking and collaborative efforts among all stakeholders. In the words of Albert Einstein, “we can’t solve problems by using the same kind of thinking we used when we created them.”

On that note, I would like to end this opening statement by wishing you a productive conference in a manner that advances our collective energy, economic, developmental, environmental and social prosperity. I look forward to the presentations, deliberations, networking opportunities, ideas and partnerships that will emerge from this event, as well as the continued strengthening and deepening of our united collaboration on energy.

South Africa is not oblivious to the benefits and risks associated with energy storage systems and, as a token of our commitment to the development of this important industry, I will now allow an opportunity for the next speaker to elaborate more on Eskom's battery energy storage programme.

I thank you.