STATEMENT BY THE MINISTER OF MINERAL RESOURCES AND ENERGY, MR GWEDE MANTASHE (MP) ON THE APPROVAL OF THE INTEGRATED RESOURCE PLAN 2019

18 OCTOBER 2019

Directors-General

Deputy Directors-General

Members of the media

Ladies and Gentlemen

Good morning

Introduction

At the beginning of the term of the sixth Administration of Government when we outlined our key priorities for the 2019/2020 financial year in the Budget Vote Debate, we highlighted the finalisation of the Integrated Resource Plan (IRP) as one of our key focus areas.

We therefore welcome the approval by Cabinet on Wednesday of the IRP 2019. It brings much-needed certainty to this critical area of the economy, and hopefully puts to rest the often polemical debate which has consumed many analysts and commentators regarding the country's future energy mix. As a department we have been categorically clear from the onset that ours is not to be a lobby group for a particular energy technology, but rather to execute our mandate of ensuring security of energy supply, using all available resources. Now that the energy mix has been outlined, we must work with the necessary speed and resolve to ensure its implementation.

The purpose of this briefing is to share with you key aspects of the approved IRP, which we are gazetting today. The plan will also be made available on the website.

The IRP 2019 has where practical and applicable taken into account public inputs received. The number of submissions received from the public was 5 929, of which 242 were substantive comments inclusive of discussions and at times supporting facts, data or references. The document was also extensively engaged on with our social partners at NEDLAC.

Context

The National Development Plan (NDP) identified the need for South Africa to invest in a strong network of economic infrastructure designed to support the country's medium and long-term economic and social objectives. Energy infrastructure is a critical component that underpins economic activity and growth across the country. It needs to be robust and extensive enough to meet industrial, commercial and household needs.

The first IRP for South Africa commonly - referred to as the IRP 2010 - was promulgated in March 2011.

The IRP 2010 identified the preferred generation technology mix required to meet expected demand growth up to 2030. The plan was developed taking into account government objectives towards affordable electricity, reduced greenhouse gas (GHG) emissions, reduced water consumption, diversified electricity generation sources,

localisation and regional development. It is within this context that our electricity planning philosophy aims to balance supply and demand while minimising the cost of electricity and keeping up with our environmental commitments.

The energy sector contributes close to 80 percent towards the country's total greenhouse gas emissions, of which 50 percent is from electricity generation and liquid fuel production. As a signatory to the Paris Agreement on Climate Change, we are committed to reduce emissions from the sector, in line with our 2016 Intended Nationally Determined Contribution.

The IRP is used to roll out electricity infrastructure development in line with Ministerial Determinations issued under Section 34 of the Electricity Regulation Act. The Ministerial Determinations give effect to planned infrastructure by facilitating the procurement of the required electricity capacity.

Since the promulgation of IRP 2010, a total of 18 000 megawatts of new generation capacity has been committed to, which is comprised of 9 564 of coal power at Medupi and Kusile, 1 333 megawatts of water pumped storage at Ingula, 6 422 megawatts of renewable energy by the IPPs, and 1 005 megawatts of Open Cycle Gas Turbine (OCGT) peaking plants currently using diesel at Avon and Dedisa.

Besides these capacity additions, a number of assumptions in the IRP 2010 have since changed.

Electricity supply and consumption patterns are also changing with demand no longer captive to the national grid (Eskom or municipalities), which affects infrastructure planning. Technology advancements and associated decline in cost makes it possible for end users generate their own electricity. Increasing electricity tariffs have led to energy intensive users becoming uncompetitive, resulting in reduced production and shutdowns in some areas. Unreliable supply due to challenges experienced by Eskom is resulting in electricity users looking at alternatives to meet or supplement their energy needs. The assumption in the IRP 2019 to the extent possible takes into account all these changes.

Key changes to the assumptions include amongst others:

- The rebasing of the demand forecast to reflect 2018 actual demand as a starting point;
- The revision of Energy Availability Factor (EAF) projections as submitted by Eskom;
- The revision of the plant decommissioning schedule to reflect unavailability of some non-performing units due to technical challenges;
- Updated costs for technologies such as battery storage and import hydro.

The IRP 2019 supports a diversified energy mix.

Coal will continue to play a significant role in electricity generation as the country has the resource in abundance**.** New investments will be directed towards more efficient coal technologies (High Efficiency, Low Emissions), underground coal gasification and the development of Carbon Capture and Storage to enable us to continue using our coal resources in an environmentally responsible way. Government will also work with Eskom to ensure the utility complies with the minimum emissions standard over time. There must be a just transition towards less carbon-emitting technologies – workers and communities in affected areas must - as far as possible - not be left worse off.

It is globally accepted fact that **Nuclear** as a clean source of energy can contribute significantly to the reduction of emissions. There is a move globally towards the development of small modular reactors that are considered more manageable investment when compared to a large fleet approach. The IRP 2019 provides for the extension of the design life of Koeberg, as well as additional new nuclear capacity in the future. Taking into account the capacity that will be decommissioned into the future, nuclear at a pace, scale and cost affordable to the country is a no-regret option. Upfront planning with regard to additional nuclear capacity is therefore requisite, given the long lead-time.

Renewable Energy combined with **storage** present an opportunity to produce distributed power closer to where demand is and to provide off-grid electricity to far-flung areas of the country. In addition to the sun and wind resources, South Africa has some of the world's largest high-grade resources in at least six key commodities that play a critical role in the global energy storage sector. These are **vanadium, platinum, palladium, nickel, manganese, rare earths, copper and cobalt**. These resources

present a huge potential for the creation of new industries and localisation across the value chain. The IRP 2019 continues to make provision for significant rollout of renewable energy and storage. Eskom is already working on a utility scale battery storage, which will allow us to assess the benefits to our power system as we diversify the energy mix.

Gas to power technologies will provide the flexibility required to complement intermittent renewable energy and meet demand during peaking hours. While in the short term the opportunity is to pursue gas import options, local and regional gas resources will allow for scaling up within manageable risk levels. Indigenous gas like coal-bed methane and ultimately local recoverable shale and coastal gas are options we are considering. The IRP 2019 makes provision for gas from year 2024. As previously indicated during the department budget vote, we intend to establish the first LNG hub in Coega IDZ in the Eastern Cape Province.

In support of regional integration and energy trading, South Africa has entered into a Treaty for the development of the **Grand Inga Project** in the Democratic Republic of Congo (DRC), with some of the power intended for transmission to South Africa across DRC, Zambia, Zimbabwe and Botswana. In addition to this generation option providing clean energy, the regional development drivers are compelling, especially given that currently there is very little energy trade between the SADC countries, due to the lack of infrastructure.

Additional capacity to the energy mix as contained in the IRP 2019 for the period up to 2030 is as follows: 1 500 MW of generation from Coal, 2 500 MW from Hydro, 6 000 MW from Photovoltaic, 14 400 MW from Wind, 2 088 MW from Storage and 3 000 MW from Gas.

It must be noted that while the coal's installed capacity will be lower than current installed base, it will remain the dominant energy supply contributing 59 percent of the energy volumes required to meet demand. Nuclear will contribute 5 percent; Hydro 8 percent; Photovoltaic 6 percent; Wind: 18 percent; Gas and Storage 2 percent.

In recognition of the growing role of distributed generation and generation for own use, the IRP makes provision for distributed generation. This provision is meant to do away with the need for ministerial deviations for the licensing of generation for own use for

plants above 1 megawatt. This we believe will unlock investment in small energy projects from biomass, biogas, landfill and co-generation.

In addition to the capacity installed, there are a number of implementation issues that will have to be addressed and these include:

- the development of a just transition framework including the socio-economic impact analysis of the decommissioning of old coal fired power plants that would have reached their end of design life;
- the changing structure of the industry, including the role of Eskom and local government in electricity generation; and
- the level of participation by local companies and the previously marginalised South Africans in the energy sector.

The IRP recognises that due to challenges with Eskom plant performance, there is an immediate supply and demand gap that needs to be addressed. The current load shedding is testimony to this. We urgently need to secure additional capacity in order to increase our reserve margins. The department will shortly issue a request for information (RFI) regarding supply and demand side options available that can be brought online in the shortest possible time at reasonable cost.

An increased focus in the monitoring of the supply and demand balance by the department and the regulator will ensure we are proactive in dealing the challenges posed by aging plant and technology advancements. This will ensure we can accelerate or decelerate implementation of the plan if necessary or even revise the plan timeously if assumptions change significantly.

In our Budget Vote debate we also highlighted the need to ensure proper governance at the state-owned entities in the Department's portfolio. We are moving decisively in this regard, with the finalisation of Board appointments at the Central Energy Fund, as announced by Cabinet yesterday. We are in the process of finalising Board and executive management appointments at other SOEs, to ensure that these entities are stabilised, and can focus more effectively on delivering on their respective mandates.

Ladies and gentlemen this is our update on where we are.

Thank you.