

**Remarks by the Minister of Mineral Resources and Energy, Mr Gwede Mantashe (MP) for the IRP2019 workshop with the National Council of Province, 28<sup>th</sup> November 2019**

The Integrated Resource Plan is a legislative instrument under the Electricity Regulation Act (Act 4, 2006). The Integrated Resource Plan therefore provides a blueprint of the electricity generation options that have been selected to drive government's policy objectives for the electricity sector, being: increasing energy security, diversifying the energy mix, lowering energy costs, reducing greenhouse gas emissions, increasing energy access, increasing energy efficiency, improving regional integration and reducing water utilization in energy production. It is against these objectives that IRP2019 is aimed at providing the energy necessary for our economic growth.

IRP 2019 was approved by Cabinet and promulgated in October 2019, after a period of extensive public consultation.

The IRP is used to roll out electricity infrastructure development in line with Ministerial Determinations issued under Section 34 of the Act.

In summary, the IRP provide for the following energy mix up to 2030:

**Coal:** Beyond Medupi and Kusile, coal will continue to play a significant role in electricity generation in South Africa in the foreseeable future, as it is the largest base of the installed generation capacity, and makes up the largest share of energy generated. Due to the age of the existing coal fleet and the abundance of coal resources, new investments will need to be made in more efficient coal technologies to comply with climate and environmental requirements.

**Nuclear:** Koeberg Power Station reaches end of life in 2024. In order to avoid the demise of the nuclear power programme, South Africa has to make a decision regarding its life extension and possibly the expansion of the nuclear power programme.

It is government's intention to expand nuclear power capacity well in advance of the anticipated decommissioning of coal power stations, as they reach the end of their

operational lives. Additional nuclear capacity from any technology deployed should be done at a scale and pace that will not have a negative impact on the economy, in a manner that avoids tariff shocks in particular.

**Natural Gas:** Gas to power technologies provide the flexibility required to complement renewable energy. 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. Exploration to assess the magnitude of local recoverable shale and coastal gas are being pursued.

With the increasing availability of gas in Southern Africa, we might be able to expand electricity generation through the use of gas. There is enormous potential and opportunity in this respect and the Brulpadda gas resource discovery in the Outeniqua Basin of South Africa, piped natural gas from Mozambique (Rovuma Basin), indigenous gas like coal-bed methane and ultimately shale gas, could form a central part of our strategy for regional economic integration within SADC.

Co-operation with neighbouring countries is being pursued and partnerships are being developed for joint exploitation and beneficiation of natural gas within the SADC region. SADC is developing a Gas Master Plan, to identify the short- and long-term infrastructure requirements to enable the uptake of a natural gas market.

South Africa continues to run diesel plants at Ankerlig (Saldanha Bay), Gourikwa (Mossel Bay), Avon (Outside Durban) and Dedisa (Coega IDZ), simply because of the unavailability of natural gas, which is cheaper than diesel. The gas-power nexus has not yet been exploited, to the extent that gas plants at Avon and Dedisa could be converted to combined-cycle, provided that natural gas (either pipeline or LNG infrastructure) is developed.

**Renewable Energy:** Solar PV, wind and Concentrated Solar Power with storage present an opportunity to diversify the electricity mix, to produce distributed generation and to provide off-grid electricity. Renewable technologies also present huge potential for job creation and localisation across the value chain.

The generation of electricity and heat (to be supplied for industrial processes), through biomass and biogas holds huge potential in South Africa, recognizing that such projects range from kW to MW-scale and could be distributed across the industrial

centres. Biomass from waste, paper and pulp, sugar industries could even be utilized in co-generation plants and deliver electricity at a price competitive level.

When deployed together, the nexus between the biomass and a government-backed biofuels programmes could improve the economics of the initiatives and create job opportunities in rural and urban centres.

**Imported hydro:** 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 these countries, due to the lack of infrastructure. The potential for intra-SADC trade is huge as it could open up economic trade.

**Energy Storage:** There is a complementary relationship between Smart Grid systems, energy storage, and non-dispatchable renewable energy technologies based on wind and solar PV. The traditional power delivery model is being disrupted by technological developments related to energy storage, and more renewable energy can be harnessed despite the reality that the timing of its production might be during low-demand periods. Storage technologies including battery systems, compressed air energy storage, flywheel energy storage, hydrogen fuel cells etc. are developments which can address this issue, especially in the South African context where over 6 GW of renewable energy has been introduced, yet the power system does not have the requisite storage capacity.

### **Implementation of IRP2019**

Once IRP2019 has been promulgated, the Minister uses it as the rational basis for electricity infrastructure development in line with “Determinations” issued under Section 34 of the Electricity Regulation Act. The Determinations give effect to planned infrastructure by facilitating the procurement of the required electricity capacity.

It is noteworthy that Schedule 2 of the Act provides for “Exemption from Obligation to Apply for and Hold a Licence”. Effectively, a generation plant constructed for demonstration purposes, for own use and not connected to the electricity grid does not require a licence.

Gazetting of a revised Schedule 2, after concurrence from NERSA, will enable a more efficient process for the registration of generators, rather than licensing, under specific circumstances. Once this revised Schedule 2 has been concurred to, most of the municipal generation options under “Distributed Generation” would be enabled to close the energy gap caused by deteriorating Eskom plant performance. Depending on the circumstances, the generation plant may only require registration and not licensing.

### **Determinations under Consideration**

I have already announced my intention to issue a determination regarding the conversion of Dedisa Power Station from diesel to gas, through the introduction of the first LNG infrastructure in the Coega IDZ (Eastern Cape Province). This will displace the utilization of expensive diesel, thus lowering electricity costs simultaneously as opening up the development of gas pipeline and storage infrastructure in the Eastern Cape.

In addition I intend to make determinations regarding Short Term Levers to close the “Short term capacity and energy gap” in line with the column under the IRP Table headlined “Distributed Generation”.

### **Implications for Municipalities and Provinces**

With the promulgation of IRP2019 and the inclusion of Distributed Generation to the extent of 500MW per annum, municipalities are able to develop their own Distributed Generation projects. Only once we have gazetted the section 34 Determination in regard to Distributed Generation, and the energy regulator has concurred to the Determination, would any new generation capacity contemplated under IRP2019 comply with the legal framework outlined above.

We recognize that municipalities and provincial government may have ambitions to develop their own generation plant. Over and above the section 34 Determination, the

extent to which Municipalities/Provincial Government are able to conclude the necessary contractual agreements, including power purchase agreements, are also outlined under the Public Finance Management Act (under Treasury Regulation 16). Of particular importance is the extent to which such long-term agreements require careful consideration of their implications on the National Revenue Fund and its encumbrance (government guarantees). Municipalities and provincial government are therefore advised to engage National Treasury prior to making any commitments regarding power purchase agreements, to ensure compliance with all the necessary prescripts.

The IPP Office under the Department of Mineral Resources and Energy is also available for assistance.

Honourable Members, this, in a nutshell, is the IRP 2019. We welcome the support of the House in this regard.