GROUND-BREAKING CEREMONY FOR CONSTRUCTION OF THE REGIONAL RUSUMO FALLS HYDROELECTRIC PROJECT SET FOR MARCH 30, 2017

The Government of Rwanda has put more efforts and resources to ensure provision of amenities that support and provide strong impetus to socio-economic development. With the energy sector being among the drivers of economic transformation and growth, focus has been to increase electricity access in both rural and urban areas. As the Ministry launches the Regional Rusumo Falls Hydro Electricity Project together with Member States, the Minister of Infrastructure Hon. James MUSONI explains the importance of the project, current energy sector status and the implementation of different strategies to attain the energy targets spelt out in the National programs.

QN1.The ground breaking for the construction of the regional Rusumo falls hydro power plant that will generate 80MW with each member State getting 26.6 MW. What's the project background, why is this project so important and who are the beneficiaries?

The Rusumo falls is located on the Kagera River on the border between Rwanda and Tanzania, and about 25 kilometres downstream of Burundi. The Falls are approximately 15 meters high and 40 meters wide. The catchment at the falls drains to the territories of Tanzania & Rwanda.

The construction of the Power Plant is financed by the World Bank at a cost of USD 340 million while transmission lines that will evacuate power to the national grid in the three member countries is financed by the African Development Bank (AfDB) to the tune of USD 121 million.

Among the numerous benefits, the project will provide an additional **26.6MW** to each of the Member State, strengthen the regional power interconnection and provide job opportunities for over 500 skilled, non- skilled and casual workers from the three beneficiary countries.

Construction of the Power Plant is expected to last three years, until 2020. CGCOC Group Ltd in joint venture with Jiangxi Water & Hydropower Construction Company Ltd, Chinese companies will execute the Civil Works/Supply and Installation of Hydro-Mechanical Equipment, while the Consortium of Andritz Hydro GmbH (Germany) and Andritz Hydro PVT Ltd (India), will supply and install Electro-Mechanical Equipment for power plant.

QN2. Hon. Minister, briefly tell us the current status of power generation and achievements registered in the last 7 years in the energy sector

Power generation capacity has tripled from 76 MW in 2010 to 208 MW in January 2017. The Government has opted for diversification of power generating technologies ranging from hydropower, solar power, methane gas to power, peat to power and exploration of geothermal sources that is ongoing.

Over the last 2 years and a half, we have recorded generation capacity increase of over 87MW. We have projects in pipeline such as: 80MW Hakan peat to power project, 55MW Symbion methane gas to power project, 27 MW Rusumo hydro power project and other Micro Hydro Power Plants that will add about 200MW by 2021 doubling the istanstalled capacity.

Electricity access increased 3 times from 9% in 2010 to 30.9% in January 2017 with 27.9% on-grid and 3% off-grid. 92% of Sector Offices are connected to electricity grid and expected to increase to 100% by June 2018; 85% of Health Centers are connected and expected to increase to 100% by June 2018; 54% of all schools connected to the grid and expected to increase to 100% by June 2018.

In addition, there has been no load shedding since December 2015 (current power cuts are related to network issues); the rate of major power cuts has reduced from 62 minutes/month in January 2016 to 10 minutes/month in December 2016;

Industrial tariff decreased by 32% whereas electricity tariffs for low-income households decreased by 51%.

QN3.The fact that the national grid cannot serve the entire nation's population down to the grass roots, what is the government doing to connect households on affordable rates in line with promoting off-grid strategy?

The Ministry of Infrastructure developed Rural Electrification Strategy that approved by Cabinet in April, 2016 with key underlying principle of Government in partnership with private sector to establish a mechanism to allow households access modern energy services through a solar system and continue to roll out the electricity network focusing on connecting high consumption users.

The first stage of off-grid development is underway with more than 18 companies licensed to connect 530,000 households leading to 22% off grid access by June 2018.

We have launched an awareness campaign to accelerate both on grid and off grid connections countrywide with a target to achieve universal access by 2020. This will be done by connecting households within a range of 37 meters from the grid and installing solar home systems to households far from the grid.

QN4. Grid intensification is an important aspect in enabling users' access electricity; what has the government done to ensure that there is an efficient transmission system?

The Government has invested in the development of the transmission system comprising of high voltage lines rated to 110 kV and 220kV for evacuation of power from power plants to the national grid. In order to continue strengthening the grid network, there are a number of transmission lines that have been completed, some under construction and expected to be completed by 2018, and others at contract negotiations and signing;

- 220 kV Mirama–Shango, 93.5 km transmission line connecting Rwanda and Uganda was completed and the construction of related substation is ongoing.
- 110 kV Birembo-Shango, 9 km transmission line was completed.
- 110 kV Rukarara-Kilinda, 31 km transmission line and related substation was completed for the evacuation of power at Rukarara Power Plant.
- 220 kV Shango–Karongi-Rubavu–Goma, 167 km transmission line connecting Rwanda with DRC is under construction and at 99 % completion.
- 110 kV Ntendezi- Bugarama, 17.5 km transmission line and related substation was completed and commissioned.

- 110 kV Gishoma-Bugarama, 13 km transmission line was completed.
- Rehabilitation of Rulindo and Gifurwe substations are at 50% completion.
- 110kV Rulindo-Gabiro-Musha transmission line with related substation is under construction at 50% completion.
- 220kV Mamba-Rwabusoro-Bugesera transmission line is at contract negotiation.
- 220kV Kibuye-Kilinda- Kigoma-Bugesera transmission line and related substation under procurement stage.
- 220kV Rusumo-Bugesera-Shango transmission line and related substation under procurement stage.

QN5. Apart from Rusumo power project that is starting soon, what are other regional hydropower projects under development?

The regional project that is under development, is 147MW Rusizi III hydro power project to be shared equally between Rwanda, Burundi and DR Congo. The project agreements are expected to be signed by May 2017 and construction will commence this year with target to be completed by 2022.

QN6. The challenges energy sector is facing today are commercial and technical losses. Rwanda at some point was registering a power loss estimated at 22.7 %. What is being done to address this issue?

A number of projects are ongoing to reduce both commercial and technical losses, and by mid-next year we expect to have brought this figure to almost a half.
The ongoing projects to address the mentioned losses are;

i. Implementation of Kigali ring network to have more than one route of power supply
ii. Installation of smart meters to industries,
iii. Upgrade of Gasogi Substation and construction of new substation in the industrial area to provide quality power to Kigali Special Economic Zone and Kigali International Airport,

QN7.Alternative and renewable energies are growing in popularity all over the world. What is Rwanda doing to facilitate the use alternative sources to reduce dependency on Biomass?

The Government of Rwanda has put in place incentives to promote use of alternative sources of energy to reduce dependency on biomass. Clean cooking energy technologies are currently being deployed in urban areas especially in City of Kigali to ultimately eradicate use of charcoal. Awareness campaign on the use of Liquefied Petroleum Gas (LPG) is ongoing to sensitize the population in both rural and urban areas.

It should be noted that the use of LPG gas been proved cheaper than charcoal as a sustainably long term cooking alternative with saving benefits at household level. It also saves time and is more environmentally friendly.

In the recent years, we have seen a mindset change towards the use of gas and numbers indicate a positive trend. The current targeted users are hotels, restaurants and guest houses that are still using charcoal and we expect a paradigm shift to the usage of cooking gas.

Today, most of prisons and schools use biogas technology as an alternative source of cooking energy and this should further be scaled up even in other related institutions.

In rural areas, we intend to scale up the use of modern improved cook stoves in collaboration with MINALOC and MINIRENA to ensure that all households have access to the usage of these technologies.

QN8.What is the current status of Fuel Storage Facilities in Rwanda?

The Petroleum storage reserves were increased from 31 Million litres to 72 Million litres during the year 2016 resulting from additional storage capacity constructed by private sector.

The Government of Rwanda recently concluded negotiations with the private sector to build additional 60 million litres of strategic fuel storage reserves to be added to the national reserves.