



RURAL ELECTRIFICATION AGENCY

DRIVING UGANDA TO MIDDLE INCOME STATUS THROUGH RURAL ELECTRIFICATION

HOW REA IS FULFILLING THE 2016-2021 NRM MANIFESTO COMMITMENTS

The central theme for the 2016 – 2021 NRM Manifesto is “Taking Uganda to modernity through job creation and inclusive development”. The Rural Electrification Agency (REA) has been able to contribute towards this central theme that seeks to take Uganda to a competitive middle-income country from a predominantly low income society in the following ways; extensive electricity network extension, geographical equitable distribution of electricity and initiating a free connection programme, all of which will ensure socio-economic development and thus improving the quality of life of Ugandans. The Agency has boosted the power supply quality through system improvement, facilitated the development of local industries including tourism through deliberate provision of electricity to productive activities and areas with high economic growth potential, built local technical capacity and facilitated local industries for the electricity subsector, supported public-private participation in electrification and contributed towards a resilient environment and societies.

To date, the Agency has realized the construction of about 15,000km of Medium Voltage (MV) power lines and over 10,000 km of Low Voltage (LV) distribution power lines. This has greatly contributed to the connections of over 1,000,000 customers onto the national grid and an increment in the rural electrification access rate from 1% in 2001 to over 20% in 2020. Grid extension to the remaining two onland district headquarters, that is Kotido and Kaboongo, is in the final stages of implementation while the island of Buvuma District is awaiting funding in the next financial year.

In addition, about 6,000km of MV power lines and 5,000km of LV power lines are under implementation while 1,500 km of MV power lines and 2,000km of LV power lines are under procurement.

In October 2019, the Project for “Bridging the Demand Supply Balance Gap Through the Accelerated Rural Electrification Program”, that is electrification of all administrative headquarters including sub – county headquarters, town councils and division headquarters commenced, with contractor mobilization to site, survey and construction. Under the project, over 4,000km of medium voltage networks and over 6,000km of low voltage network shall be constructed, electrifying 620 administrative centers (558 sub – county headquarters, 10 Divisional and 52 unserved Town Council headquarters countrywide. Currently, implementation is on-going in the 22 districts forming the first phase. Technical commissioning has already taken place on some of the schemes in Kiboga, Kumi, Kapchorwa and Kyegegwa.

The Agency is also implementing the Electricity Connection Policy (ECP) that was approved by Government in January 2018. Under this policy, Government subsidizes the cost of connection materials, enabling citizens that are ready for electricity consumption to access free connection materials. Over 300,000 connections are targeted annually.

Alongside these projects, the Agency is also implementing grid intensification and densification projects aimed at connecting areas with suppressed demand within the existing national grid footprint. This project targets the connection of underserved load centers and load centers within a 2km footprint of the existing grid, through transformer injections, expansion of the low voltage reticulation network and short expansions of the medium voltage network, majorly targeting highly populated areas such as municipalities, divisions and busy trading centers countrywide.

REA is also facilitating the evacuation of various small hydropower plants countrywide, including about 14 projects implemented through the GET FIT program.

In the reporting period, REA set out to implement specific schemes as part of the NRM manifesto 2016-2021. Over 70% of these projects have been completed, with the remaining currently under construction and shall be due for completion by the end of 2020. There are also other projects being implemented or planned with firm funding that came after the NRM Manifesto was compiled.

PERFORMANCE OF GRID EXTENSION PROJECTS

1. Small to Medium scale power networks in various districts of Uganda under Community and Government of Uganda Cost Sharing model. These projects, implemented within fourteen (14) districts, were at a cost of Ug. Shs 5,195,848,543.5. The districts include Mpigi, Mukono, Kabarole, Bushenyi, Wakiso, Gulu, Arua, Luuka, Nakasongola, Rukungiri, Butambala, Kibaale, Sembabule and Luwero.

All the schemes were commissioned in November, 2017 and handed over to different Network operators including; UMEME, UEDCL and WENRECO for maintenance and operation.

2. RE Schemes implemented with World Bank funding under ERT II at a cost of USD 4,550,839.15 covers the four districts of Nwoya, Hoima, Isingiro and Ntungamo.

All the schemes were commissioned in October 2016 and handed over to the respective Network operators for maintenance and



REA EXECUTIVE DIRECTOR
Mr Godfrey Turyahikayo

28%
NATIONAL COVERAGE
28% of Uganda's population currently have access to electricity.

60%
ECP TARGET: 2027
Electricity connection policy targets connecting 300,000 households annually.

operation.

3. RE Schemes implemented under the French Funding (AFD) through a loan worth 42.9million Euros, and a grant from the infrastructure Trust Fund (ITF) from the European Union worth 8.3 million Euros and the contribution from GoU worth 8.3 million Euros. The works covered twenty-four (24) districts divided into five (5) lots, depending on the service territories. The districts include; Kiryandongo, Hoima, Kibaale, Masindi, Mbarara, Ntungamo, Kabale, Isingiro, Lwengo, Rakai, Masaka, Bukomansimbi, Lyantonde, Sembabule, Kiruhura, Kyegegwa, Kasese, Kyenjojo, Kabarole, Rubirizi, Buhweju, Mitooma, Bushenyi and Sheema.

Construction works under the original scope of works were completed early 2018 and commissioned. However, the EPC contracts were amended to cover additional works within the project areas.

4. RE Schemes implemented using Islamic Development Bank funding are under three phases including; IDB I covering seven(7) districts, twenty two (22) districts, IDB II covering 22 districts and IDB III covering forty seven (47) districts.

The IDB I district include; Amudat, Napak, Moroto (including the cement factory), Kotido, Kaboogo, Abim & Nakapiripirit. This project was financed through a loan obtained from Islamic Development Bank (IDB) worth USD 18.81million. Of this amount, US\$ 15.61 million shall be funded by IDB and US\$ 3.2 million shall be funded by GoU. The grid extensions on this project were divided into two lots;

The 33kV line from Moroto-Nakapiripirit, Moroto-Moroto cement factory and Moroto-Katikekile (156.5km of MV, 17.65km of LV, 18 transformers and 700 initial connections) with Additional schemes in Amudat and Nakapiripirit (46.9km HV, 18.34km LV, 23 transformers and 230 initial connections).

While the 33kV line from Moroto-Kotido-Kabong, Kotido-Abim with tee-off to Kacheri (391km of MV, 76.05km of LV, 47 transformers and 1,312 initial connections) with Additional schemes in Namakora-Karenga-Kidepo (115km MV, 27.95km LV, 17 transformers and 170 initial connections



President Yoweri Museveni commissions a rural supply line

51%
RESP TARGET: 2030
Government strategy is to achieve 51% coverage by 2030, and 100% by 2040

8. RE Schemes packaged under World Bank Funding – ERT III. Cover the thirty (30) districts of Arua, Yumbe, Moyo, Kiruhura, Mbarara, Mubende, Gomba, Butambala, Mukono, Jinja, Butaleja, Mbale, Bududa, Busia, Iganga, Namutumba, Kamwenge, Ibanda, Kibaale, Ntungamo, Rukungiri, Ntoroko, Kole, Alebtong, Otuke, Kaberamaido, Dokolo, Agago, Soroti and Amuria.

This project is financed through a loan obtained from WORLD BANK/ IDA worth USD 99.2 million. Of this amount, USD 15 million is funding by WORLD BANK / IDA and USD 19.2 million is by GoU. The lines are packaged under two categories as follows;

a) Fast Track- Four lines
The contractors for works are on ground and implementation of works is at 30%. Completion of works is expected by end of December, 2020.

b) 5 packages (A, B, C, D & E) - 17 lines
Package B, C, D & E totalling to eleven (11) lines were approved by the funder and they are still under procurement. Contract signature is expected by end of June, 2020. Package A consisting of 6 lines is under preparation for procurement under GoU funding.

9. RE Schemes implemented under the Uganda Rural Electricity Access project (UREAP) is through a loan from the African Development Bank Funding (AfDB) worth USD 100million and a grant worth USD 11.205million. The project covers the seventeen (17) districts of Nakasongola, Kiryandongo, Luwero, Wakiso, Kaliro, Iganga, Luuka, Bugweri, Gulu, Nwoya, Amuria, Ngora, Bukedea, Manafa, Mbale, Alebtong, Soroti and Serere.

The grid extensions on this project were packaged into six lots. All the contractors have mobilized on ground and completion of works is expected by December, 2021. Works are at 40% completion.

Under this funding a project to connect Kalangala Island to the grid using a submarine cable has been packaged and is under procurement. Contract signature was in March, 2020

10. RE Schemes implemented using the Abu Dhabi Funding covers the seven (7) districts of Kalungu, Bukomansimbi, Mpigi, Masaka, Lyantonde, Bukomansimbi and Kiruhura.

This project is financed through a loan obtained from the Abduhabi Fund worth USD 11million. Of this amount, USD 9.74million is funded by Abduhabi Fund and USD 1.26million is from GoU.

Both EPC contracts have been signed and the contractors have commenced works. Completion is expected by end of December 2020. Works completion is at 60%.

11. Additionally, His Excellency the President pledged to the subcounties project. This project commenced in October 2019. The project for “Bridging the Demand Supply Balance Gap Through the Accelerated Rural Electrification Program”, covers over 4,000km of medium voltage networks and over 6,000km of low voltage network. This covers 620 administrative centers, 558 sub – county headquarters, 10 Divisional and 52 unserved Town Council headquarters countrywide

Today, the contractor has mobilized to the site for survey and construction. Currently, implementation is on-going in the 22 districts forming the first phase. Technical commissioning has already taken place on some of the schemes in Kiboga, Kumi, Kapchorwa and Kyegegwa.



RURAL ELECTRIFICATION AGENCY

BRIDGING THE DEMAND SUPPLY GAP THROUGH ACCELERATED RURAL ELECTRIFICATION PROJECT

Reference is made to the article that run in the New Vision on Friday, 15th May 2020; in which Parliament queried the delay in implementation of rural electrification in 270 sub counties across the country.

1. Progress on the project

Notwithstanding the challenges, there has been a perception that this sub counties project known as the “Bridging the Demand Supply Balance Gap Through the Accelerated Rural Electrification Program” (BDSGAREP) is behind schedule, however as explained here the (Subcounty) project is on course and may even be delivered before the contractual three years since some critical milestones were achieved before contract effectiveness despite the current COVID-19 pandemic which has generally slowed things down countrywide.

The sub counties project is financed by the EXIM Bank of China through a concessional loan of USD 212 million. The funds are to cover the construction of over 4,000km of medium voltage networks and over 6,000km of low voltage network. This includes electrifying 620 administrative centers which covers; 558 subcounty headquarters, 10 Divisional and 52 unserved Town Council headquarters countrywide. In addition, there is to be installation of 3,401 distribution transformers and 170,000 last mile connections.

Currently, implementation is on-going in 22 districts forming the first phase. Technical commissioning has already taken place in four of the districts including; Kiboga, Kumi, Kapchorwa and Kyegegwa.

For purposes of ease of project supervision, the country has been divided into four regions including the Central, Eastern, Northern and South Western regions; with the implementation to take place in five phases.

Phase one includes schemes in twenty (20) districts selected to cover relatively less served districts. The districts include; Kapchorwa, Bugiri, Kibuku, Kumi, Madi, Adjumani, Kagadi, Kibaale, Isingiro, Kanungu, Bundibugyo, Rakai, Manafa, Namutumba, Ntungamo, Otuke, Omoro, Kyegegwa, Kasanda and Kiboga district.

Phase two (2) includes the shorter projects mostly targeting administrative centres while phase three (3) includes the longer lines that require more resources and time while phases four (4) and five (5) include themes meant to interconnect with lines that are to be constructed by other REA projects yet to be implemented, especially the World Bank funded ERT III and the African Development Bank (AfDB) funded UREAP projects. Some of the lines for which the interconnection has already been effected include the following:

- In Kiboga District, the Lwamata Subcounty and Kyomya Subcounty schemes are ready for commissioning,
- Akalabai-Kajamaka/Opetot 4.09km line. This scheme interconnects with the 33kV Mbale - Kumi 33kV line operated by Umeme Ltd,
- Orapada Primary School 0.15km T-off. This scheme interconnects with the 33kV Mbale - Kumi 33kV line operated by Umeme Ltd,
- Oswapai-Kapokina-Atutur 3.9km line. This scheme interconnects with the 33kV Mbale - Kumi 33kV line operated by Umeme Ltd,
- In Kapchorwa, Kabeywa Subcounty (Cheperit-Tangwen-Sunguta-Kokowmasewe, 3.55km), Kwoti Subcounty (Litei-Kween, 0.8km),
- In Kyegegwa, the Kigambo Subcounty, Kyegegwa Subcounty and Kigambo Subcounty schemes.



Minister of Energy and Mineral Development, Dr. Mary Goretti Kituttu (R) at Isimba Hydropower Station recently. With increased production, there is sufficient power supply to satisfy the demand of all consumers.

2. Buy Uganda Build Uganda (BuBu) policy

In order to ensure adherence to the Buy Uganda Build Uganda (BuBu) policy; the following has been done;

- i. To date TBEA has contracted 45 local subcontracting firms for the execution of construction works under labour and transport arrangements. They are mandated to contract a minimum of 40 local companies for the execution of the entire contract. A total of 24 local construction companies out of the 45 have already mobilized to site with a total of 47 construction teams and about 850 workers at sites. At present, for MV lines, a total of 9,124 foundation pits have been excavated, 7,846 poles have been erected, 4,000 sets of fittings have been installed, and 282.83 kilometers wires have been strung; for LV lines, 13,619 foundation pits have been excavated, 10,799 poles have been erected, and 5,636 sets of fittings have been installed, and 240.389 km wires have been strung.
- ii. All the wooden poles and concrete stubs to be used under this project are to be locally sourced. TBEA has to date contracted four pole manufacturing companies and all have delivered poles to the various construction sites. The quantity of wooden poles ordered to date is 61,415, out of which 24,294 have passed Factory Acceptance Tests (FATs) and 22,638 of these have already been delivered to the various construction sites.
- iii. The only items being imported include transformers, cables and conductors, load break and airbreak switches, switch box and metering units and auto Reclosers.

3. Challenges on the project

Some challenges on the project that have been mitigated include the following;

- i. Some of the delays occurred since TBEA Co., Ltd, who are the EPC contractor for this project, are also the ones who were responsible for arranging/promoting this loan in line with the EXIM Bank guidelines and one of the conditions was that TBEA and REA had to first sign a commercial agreement before the loan could be

approved and consequently, the concessional loan agreement between Government of Uganda and the EXIM Bank of China, was signed on 16th January 2019.

Therefore, despite the fact that the commercial agreement was signed in October 2017, contract effectiveness couldn't be achieved before signing of the loan agreement and hence the project couldn't officially kick-off.

- ii. Additionally, the project consultant's (EPTISA) contract was signed in June 2019 (there was no need having the consultant on board before signing of the loan agreement), some of the works that had been done by TBEA (including preparation of preliminary designs) had to be ratified by the consultant, which may be perceived by some as a retraction in project progress. As a requirement by the project financier, REA is required to have on board a supervision and Project Management Consultant.
- iii. At the beginning of this Project, there was a misconception by the contractor that the client was supposed to carry out the RAP Studies under this project. This led to a few delays and eventually the commencement of the implementation of the Phase 1 projects without any RAP studies being done. Subsequently, TBEA has been strongly reminded of this contractual mandate and have since engaged the services of a local sub-contractor for carrying out the RAP study.
- iv. Due to the current national lockdown, planned works under Phase 1 have been impacted and therefore in order to ensure continuity of the project and to avoid demobilization of some already engaged subcontractors, it was resolved that works can commence in some other Phases. As a matter of fact, more schemes should have been ready for commissioning according to our earlier implementation schedule, but these have been affected by the current COVID-19 lockdown and their commissioning dates have been slightly offset.

Furthermore, the current National Lockdown, has also affected all site inspections and investigations and as such the TBEA design team has been suspended. Therefore, the design team of TBEA

can only do indoor design work.

According to the current epidemic situation, Chinese government requires all persons entering China from abroad be quarantined for 14 days. TBEA originally planned to carry out the third FAT in June 2020. Due to the impact of the epidemic, the 3rd FAT of imported materials cannot be performed in time. If Factory Acceptance Tests (FAT) cannot be carried out in time in July 2020, the imported materials will affect further construction. In view of the above actual situation and to ensure the smooth progress of the project, we are studying the possibility of witnessing the tests via video link. Due to the serious impact of the epidemic, the inspection and requirements for exported materials in Shanghai Port of China are more stringent; the shortening of working time of Mombasa Port in Kenya increases the time required for customs transit and time for transportation from Mombasa Port to Malaba Port.

This is further aggravated by the reduced working hours of Uganda Customs officers at the respective ports of entry. Currently the time for transportation and customs clearance of imported materials has increased from the original around 45 days to around 3 months, which would seriously affect the execution of the project.

Due to the current lockdown, construction has been prohibited by local government/police in some districts. For those districts where construction has been permitted by local governments/police, TBEA has requested their subcontractors to take proper measures against COVID-19.

REA applied for movement permits from the respective Ministries but only managed to secure a few, which are currently being shared amongst the various ongoing REA projects as well as for the movement of Kampala office operational staff to and from work. Despite having requested for more stickers for TBEA and EPTISA, we have since failed to secure any, which has greatly affected the supervision of the project. Nevertheless, REA has mobilized Residential Senior Construction Engineers to the four regions (Northern, Eastern, Southern/Western and Central) to ensure closer supervision under the current circumstances. EPTISA have also mobilized Resident Clerks of Works to the four regions.