



Sustainable Energy Development Programme

Semi-Annual Budget Monitoring Report

Financial Year 2021/22

April 2022

Budget Monitoring and Accountability Unit
Ministry of Finance, Planning and Economic Development
P.O. Box 8147, Kampala
www.finance.go.ug

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS	III
FOREWORD	V
EXECUTIVE SUMMARY	VI
CHAPTER 1: BACKGROUND	1
1.1 Background.....	1
1.2 Programme Goal.....	1
1.3 Programme Objectives	2
1.4 Programme Outcomes and Indicators.....	2
CHAPTER 2: METHODOLOGY	3
2.1 Scope.....	3
2.2 Approach and Sampling Methods.....	3
2.3 Data Collection and Analysis	4
2.3.1 Data Collection	4
2.3.2 Data Analysis.....	4
2.4 Limitations	5
2.5 Structure of the Report.....	5
CHAPTER 3: PROGRAMME PERFORMANCE	6
3.1 Overall Performance.....	6
3.1 Generation Sub-programme	7
3.1.1 Develop small and medium sized hydropower generation plants	7
3.1.2 Develop large power generation plants	8
3.2 Transmission and Distribution Sub-programme.....	11
3.2.1 Expand and Rehabilitate the Transmission Network	11
3.2.2 Expand and Rehabilitate the Distribution Network.....	14
3.3 Renewable Energy Development Sub-programme	19
3.3.1 Construction of mini grids based on renewable energy technologies	19
3.3.2 Promotion of use of new and renewable energy solutions	20
3.3.3 Building local technical capacity in renewable energy solutions.....	20
3.3.4 Promote uptake of alternative and efficient cooking technologies (electric cooking, domestic and institutional biogas and LPG)	20
3.4 Energy Efficiency and Conservation Sub-programme	22
3.4.1 Promote uptake of efficient cooking technologies	22
3.4.2 Invest in Liquefied Petroleum Gas (LPG) Infrastructure	23

3.4.3 Promote the use of energy efficient equipment for both industrial and residential consumers	23
3.4.4 Introduce minimum Performance Standards for selected electrical appliances	23
<u>CHAPTER 4: CONCLUSION AND RECOMMENDATIONS.....</u>	26
4.1 Programme Conclusion	26
4.2 Recommendations	26
REFERENCES	27
ANNEXES.....	28

ABBREVIATIONS AND ACRONYMS

AFD	Agence Française de Développement
AfDB	African Development Bank
CDAP	Community Development Action Plan
CGV	Chief Government Valuer
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction
ERT	Energy for Rural Transformation
EXIM	Export Import
FAT	Factory Acceptance Test
GERP	Grid Extension and Reinforcement Project
GoU	Government of Uganda
HPP	Hydro Power Project
HSE	Health Safety and Environment
HV	High Voltage
IDA	International Development Association
IFMS	Integrated Financial Management System
IPC	Interim Payment Certificate
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
kV	kilo Volts
LV	Low Voltage
MDAs	Ministries, Departments and Agencies
MEMD	Ministry of Energy and Mineral Development
MLHUD	Ministry of Lands, Housing and Urban Development
MoU	Memoranda of Understanding
MPS	Ministerial Policy Statement
MV	Medium Voltage
MW	Mega Watts
NDP III	Second National Development Plan 3
OE	Owner's Engineer
PAPs	Project Affected Persons
PBS	Programme Budgeting System
PDHs	Physically Displaced Households
PIP	Public Investment Plan
PPDA	Public Procurement and Disposal of Assets
PPP	Public-Private Partnership
RAP	Resettlement Action Plan
REA	Rural Electrification Agency
REP	Rural Electrification Programme
ROW	Right of Way
SDR	Special Drawing Rights
SPV	Special Purpose Vehicle
TA	Technical Assistance
UEDCL	Uganda Electricity Distribution Company Limited
UEGCL	Uganda Electricity Generation Company Limited

UETCL Uganda Electricity Transmission Company Limited
UNBS Uganda National Bureau of Standards

FOREWORD

The Government is implementing programmatic planning and budgeting which harnesses synergies from a number of previously independent sectors and avoids duplication of resources, thus enabling us attain efficiency in our development investments.

The Budget Monitoring and Accountability Unit (BMAU) is now undertaking Programme-Based Monitoring to assess performance of the targets and outcomes set in the Programme Implementation Action Plans (PIAPs) of the third National Development Plan (NDPIII), Ministerial Policy Statements, plus the Programme and Sub-Programme work plans.

These BMAU findings are the first Programme assessments we have conducted and I urge you to embrace the findings therein, and fully adopt the recommendations as we strive to ensure compliance to Programme-Based Budgeting.



Ramathan Ggoobi

Permanent Secretary/Secretary to the Treasury

EXECUTIVE SUMMARY

Introduction

The Sustainable Energy Development (SED) Programme is among the 20 programmes earmarked for implementation in the third National Development Plan (NDP III). The goal of the Sustainable Energy Development Programme is to meet the energy needs of the country by providing adequate, affordable, clean and reliable energy for sustainable socio-economic growth and development. The specific objectives of the programme are to:

- i. Increase access and utilisation of electricity;
- ii. Increase generation capacity of electricity;
- iii. Increase adoption and use of clean energy; and
- iv. Promote utilisation of energy efficient practices and technologies.

The lead institution guiding implementation of the programme is the Ministry of Energy and Mineral Development (MEMD), with other key implementing agencies being the Uganda Electricity Transmission Company Limited (UETCL), and Uganda Electricity Generation Company Limited (UEGCL).

Findings

The overall semi-annual performance of the programme was fair at 52.0 % and most interventions were behind schedule. The budget for the whole programme is Ug shs. 586.7 billion (bn), of which Ug shs 131.3bn was released and Ug shs73.3bn spent. The low release and expenditure was mainly due to poor disbursement because of delayed works on the transmission, rural electrification and hydro power projects. The sub-programmes whose interventions were monitored included: Transmission and Distribution; Generation; Renewable Energy Development; and Energy Efficiency and Conservation.

The Transmission and Distribution Sub-programme had a fair performance at 50.47%, in the first half of the FY2021/22 due to Right of Way (RoW) issues and contract management challenges. The planned interventions under this sub-programme for the FY 2021/22 are: Expanding the transmission network to key economic growth areas; and expanding and rehabilitating the distribution network.

The transmission network increased from 3,100km to 3,385.56km as at end of the Quarter 2 following the completion of works on the Karuma-Kawanda 400kV and Karuma-Olwiyo 132kV transmission line. However, works on all other transmission projects were delayed due to several challenges. Works on the 132kV Karuma-Lira Transmission Line did not progress much and were stuck at 85.2% due to RoW challenges in the line corridor. Design and works on the Kole-Gulu-Nebbi-Arua Transmission Line were progressing slowly at 55% works completion. The project experienced RoW challenges on the transmission line works in the Nebbi and Anaka areas of the corridor.

Works on the Mutundwe-Entebbe Transmission Line were also slowed by RoW challenges and only 53 towers (73%) were erected. Most civil and electrical works on the substations at Entebbe and Mutundwe were completed. Works on the Mirama-Kabale Transmission Project progressed slowly during the first half of the FY with only tower foundation works ongoing. The project was negatively

affected by delays in manufacturing the equipment, while works on the substations had not commenced since a contractor was yet to be procured.

Other planned outputs under the sub-programme such as the Kampala Metropolitan Transmission Line, Masaka-Mbarara Transmission Project and Electrification of Industrial Parks, Gulu-Agago Transmission Project were yet to commence works.

Under the intervention to expand and rehabilitate the distribution network, there are several outputs aimed at grid expansion and densification, last mile connections, evacuation of small generation plants and quality of supply projects. Several rural electrification projects were ongoing countrywide to extend the grid under several projects¹ using both GoU and external funding. Electricity connectivity was up to 57% to electricity (on-grid 19% and off-grid 38%). The Government resumed implementation of the Electricity Connections Policy (ECP) and received materials for 87,000 no-pole connections and procurement of materials for 100,000 connections was initiated. By 31st December 2021, 58,860 connections were done out of the planned 300,000 for the entire FY.

Under the Generation Sub-programme, performance was fair at 56.38% due to failure to complete works on the Karuma HPP in time. The planned interventions under this sub-programme for the FY 2021/22 are to: develop small and medium power generation plants; develop large hydro plants and finalising plans for construction of a nuclear power generation plant.

The electricity generation capacity increased by 57MW, from 1,268.9MW as at Quarter 1 to 1,325.9MW. This was due to the completion of the 42MW Achwa I and 15MW Nyamugasani I. Other projects under construction are Nyagak III HPP, 14MW Kikagati HPP. Progress of works at Nyagak III HPP had reached 38% but the project was behind schedule, and the private partners were yet to achieve financial closure. Works at the 14 MW Kikagati HPP had progressed to 80%. Procurement of works for Muzizi HPP ended at contract negotiations and the re-tendering was ongoing.

Works at Karuma HPP 600MW as at 31st December 2021 had progressed to 99%. The project completion date was extended to June 2022 to enable correction of defects and non-conformities in the previously done works. The numbers of identified defects were 48 for the mechanical works, 27 for the civil works and 89 for the electromechanical works. The planned commissioning of the Karuma HPP is scheduled for June 2022.

For other planned outputs, the developer for the 400MW Kiba HPP completed technical feasibility studies, while the feasibility studies for the 840MW Ayago were updated. Plans for construction of the nuclear power generation plant were still at site survey for the most suitable location with several areas.

The Renewable Energy Development Sub-programme performance was fair at 54.16%. The planned interventions under the sub-programme in FY2021/22 include: Construction of 200 renewable energy mini-grids; promotion of new and renewable energy solutions; and building local technical capacity in renewable solutions.

¹ Energy for Rural Transformation III, Uganda Rural Electricity Access Project, Bridging the Demand Through the Accelerated Rural Electrification, Rural Electrification Project

Installation of the 4 MW solar plant on grid system located at Busitema was completed pending attainment of certificates to enable connection to the grid. Also the construction of 25 of the planned 46 solar mini-grids in Lamwo was launched in November 2021 and six mini-grids were completed.

As part of promotion of alternative energy sources the MEMD continued with the feasibility studies for the 4MW grid biogas digester plant to be constructed in Kiteezi and the technical reports were submitted to the Electricity Regulatory Authority and the National Environment Management Authority (NEMA) for approval. Also a detailed technical feasibility study and Environmental and Social Impact Assessment (ESIA) for the additional generation of biogas through co-digestion for the National Water and Sewerage Corporation (NWSC), Bugolobi plant was also concluded. To promote use of solar and wind energy solutions, four solar water pumps were installed in Kasese and Bulambuli, while analysis of the wind speeds data collected at the two wind masts installed in Napak and Kotido districts in the Karamoja region was ongoing to further determine the wind resource potential.

In order to build local technical capacity in renewable energy solutions, training of 20 engineers and technicians on the completed maintenance of the solar plant continued. Three (3) Renewable Energy Department staff continued training in Masters of Renewable Energy. The training of eight (8) biogas artisans in construction of one bio-latrines in a school on cost sharing model, and 15 artisans on construction of high efficient energy stoves in schools was undertaken.

Overall performance under the Energy Efficiency and Conservation Sub-programme was poor. The planned interventions were to: Promote uptake of alternative and efficient cooking technologies (electric cooking, domestic and institutional biogas and LPG); invest in LPG infrastructure; promote use of energy efficient equipment and introduce minimum standards for selected equipment and appliances.

In order to promote alternative energy sources for cooking, the MEMD procured a total of 902 LPG promotional cylinder kits, but their distribution was yet to be undertaken. Criteria for selection of potential beneficiaries was not yet developed. The procurement process for works to setup an LPG storage terminal in Kampala was at evaluation of bids stage.

Challenges

- Land acquisition delays as a result of speculation and exaggerated property values in the transmission line corridor is affecting timely completion of infrastructure for evacuating electricity leading to increasing deemed energy costs.
- Increased vandalism on ongoing electricity transmission and distribution infrastructure due to high demand for metal scrap from steel factories.
- Delayed completion of works for the Karuma Hydropower Project and associated transmission lines is driving up the costs of works, and supervision.

Recommendations

- The Electricity Regulatory Authority (ERA) should not issue more licenses to private power producers in areas where the electricity evacuation infrastructure has not been constructed to avoid burdening government with deemed energy costs.

- The Parliament should draft legislation making it illegal to trade in materials vandalised from power infrastructure and sentences for offenders should be more punitive. The demand for scrap is driving up the rate of theft and vandalism of electricity infrastructure.

CHAPTER 1: BACKGROUND

1.1 Background

The mission of the Ministry of Finance, Planning and Economic Development (MFPED) is, “*To formulate sound economic policies, maximise revenue mobilisation, and ensure efficient allocation and accountability for public resources so as to achieve the most rapid and sustainable economic growth and development.*”

The MFPED through its Budget Monitoring and Accountability Unit (BMAU) tracks implementation of programmes/projects by observing how values of different financial and physical indicators change over time against stated goals, indicators and targets (how things are working). The BMAU work is aligned to budget execution, accountability, service delivery, and implementation of the Domestic Revenue Mobilisation Strategy (DRMS).

Starting in the FY 2021/22, the BMAU is undertaking Programme-Based Monitoring to assess performance against targets and outcomes in the Programme Implementation Action Plans (PIAPs) of the third National Development Plan (NDPIII). Semi-annual and annual field monitoring of government programmes and projects is undertaken to verify receipt and application of funds by the user entities and beneficiaries, the outputs and intermediate outcomes achieved, and level of gender and equity compliance in the budget execution processes. The monitoring also reviews the coherency in implementing the PIAP interventions; the level of cohesion between sub-programmes; and challenges of implementation.

The monitoring covered the following Programmes: Agro-Industrialisation; Community Mobilization and Mindset Change; Digital Transformation; Human Capital Development; Innovation, Technology Development and Transfer; Integrated Transport Infrastructure and Services; Manufacturing; Mineral Development; Natural Resources, Environment, Climate Change, Land and Water Management; Public Sector Transformation; Sustainable Development of Petroleum Resources; and Sustainable Energy Development.

This report presents findings from monitoring the Sustainable Energy Development (SED) Programme for the budget execution period of 1st July 2021 and 31st December 2021.

1.2 Programme Goal

The goal of the Sustainable Energy Development Programme is to meet the energy needs of the country by providing adequate, affordable, clean and reliable energy for sustainable socio-economic growth and development.

The SED Programme consists of five sub-programmes namely: Generation; Transmission; Distribution and Rural Electrification; Renewable Energy Development; Energy Efficiency and Conservation; and Institutional Coordination.

The lead MDA for implementation of the programme is the Ministry of Energy and Mineral Development (MEMD), with other key implementing agencies being the Uganda Electricity Transmission Company Limited (UETCL), and Uganda Electricity Generation Company Limited (UEGCL).

1.3 Programme Objectives

The specific objectives of the programme are;

- i. Increase access and utilisation of electricity;
- ii. Increase generation capacity of electricity;
- iii. Increase adoption and use of clean energy; and
- iv. Promote utilisation of energy efficient practices and technologies.

1.4 Programme Outcomes and Indicators

The NDP III outlines outcomes and the targets to be delivered under each programme objective. The indicators in table 1.1 will be used to measure the progress towards the outcomes in the programme.

Table 1.1: Sustainable Energy Development Outcomes and Indicators

Outcome	Indicators
Objective 1: Increase access and utilisation of electricity	
Increased electricity access	1. Increase percentage of households with access to electricity from 50% to 80%.
	2. Increase grid reliability from 88% to 90%.
	3. Increase electricity consumption per capita (kWh per capita) from 100kWh to 578kWh.
	4. Increase length of high voltage transmission lines (km) from 2354km to 4354km.
	5. Increase length of distribution network from 45,423.1km to 70,000km.
Objective 2: Increase electricity generation capacity	
Increased electricity generation capacity	Increase electricity generation capacity from 1,252.3MW to 3500MW
Objective 3: Increase adoption and use of clean energy	
Increased energy consumption	Increase primary energy consumption (million tonnes of oil equivalent) from 15.2 to 21.74 million tonnes of oil equivalent
Objective 4: Promote utilization of energy efficient practices and technologies.	
Increased consumption of alternative clean cooking energy	Reduce total energy losses (%) on the distribution network from 19.6% to 12.6%.
Efficient energy utilization	Increase % of adoption of energy efficient technologies from 30% to 50% across all consumer categories

Source: NDP III

CHAPTER 2: METHODOLOGY

2.1 Scope

This monitoring report is based on selected interventions in the four sub-programmes of the Sustainable Energy Development Programme. A total of 12 of the 16 (66.7%) interventions in the PIAPs were reviewed. At least 62% of the reviewed interventions translated into 92% coverage of allocation² for the FY2021/22. The selected interventions monitored are:

- 1) Develop small and medium sized hydropower generation plants
- 2) Develop large power generation plants
- 3) Expand and Rehabilitate the Transmission Network
- 4) Expand and Rehabilitate the Distribution Network
- 5) Construction of mini grids based on renewable energy technologies
- 6) Promotion of use of new and renewable energy solutions
- 7) Building local technical capacity in renewable energy solutions
- 8) Promote uptake of alternative and efficient cooking technologies (electric cooking, domestic and institutional biogas and LPG)
- 9) Promote uptake of efficient cooking technologies
- 10) Invest in Liquefied Petroleum Gas (LPG) Infrastructure
- 11) Promote the use of energy efficient equipment for both industrial and residential consumers
- 12) Introduce minimum Performance Standards for selected electrical appliances

The selection of interventions to monitor was based on the following criteria:

- Outputs planned for and undergoing implementation in the year of review, whether financed or not
- Significant contribution to the programme objectives and national priorities
- Availability of progress reports for the period under review.
- Completed projects to assess beneficiary satisfaction, value for money and intermediate outcomes.

The inputs, activities, processes and outputs tracked were a combination of those under implementation as reviewed in the PIAP, Ministry Policy Statements and Annual and Quarterly work plans of the Sustainable Energy Development Programme.

The semi-annual monitoring focused on the following MDAs that had a large contribution to the realisation of the SED Programme for FY2021/22: MEMD, UETCL, and UEGCL.

2.2 Approach and Sampling Methods

Both qualitative and quantitative methods were used in the monitoring exercise. Physical performance of interventions, actions, outputs and intermediate outcomes was assessed through monitoring a range of indicators and linking the progress to reported expenditure and/or planned targets. The purposive sampling method was used in selecting sub-interventions and outputs from the Programme Implementation Action Plans (PIAPs), Ministerial Policy Statements (MPS) and progress reports of the respective Ministries, Departments and Agencies for monitoring.

² Allocation as indicated in the Programme Implementation Action Plans

To aid monitoring, mapping was done of the PIAP interventions and outputs to the actions and outputs of programmes and projects in the Vote MPS and progress reports. Multi-stage sampling was undertaken at four levels: i) Sub-programmes ii) Sub-sub programmes. The selection of districts that were monitored took into account the aspect of regional representativeness.

2.3 Data Collection and Analysis

2.3.1 Data Collection

Both primary and secondary data was collected from the source by the means indicated below:

- i) Literature review: MPS FY 2021/22; National and Programme Budget Framework Papers; A handbook for implementation of NDPIII Gender and Equity commitments for Sustainable Energy Development Programme, Programme intervention or Actions documents, PIAPs, NDP III, quarterly progress reports and work plans for the respective implementing agencies, Budget Speech, Public Investment Plans, Approved Estimates of Revenue and Expenditure, project reports, Aide Memoires and Evaluation Reports.
- ii) Review and analysis of data from the Integrated Financial Management System (IFMS); Program Budgeting System (PBS); Budget Website; Quarterly Performance Reports and Bank statements from some implementing agencies.
- iii) Consultations and key informant interviews with project managers, value addition or processing facility managers and service beneficiaries at various implementation levels. Focused group discussions were also held in instances of group beneficiaries.
- iv) Field visits to various districts, farms, ranches, irrigation facilities, and demonstration sites, value addition facilities for primary data collection, observation and photography.
- v) Call-backs in some cases were made to triangulate information.

2.3.2 Data Analysis

Both qualitative and quantitative approaches were used to analyze the data. Qualitative data was examined and classified in terms of constructs, themes or patterns to explain events among the beneficiaries (interpretation analysis) and reflective analysis where the monitoring teams provided an objective interpretation of the field events.

Quantitative data on the other hand was analysed using advanced excel tools to aid interpretation. Presentation took various forms including histograms, bar charts, pie charts, curves, tables and graphs among others.

Comparative analysis was done using the relative importance of the outputs and the overall weighted scores. Relative importance (weight) of an output monitored was based on the amount of budget attached to it; thus the higher the budget the higher the contribution of the output to the programme performance. This was derived from the approved annual budget of each output divided by total annual budget of all outputs of a particular programme/project.

The weight of the output and percentage achievement for each output was multiplied to derive the weighted physical performance. The attained outputs contributed 100% to the overall semiannual programme performance.

The overall programme performance is an average of individual sub-programme performances assessed. The performance of the programme and sub-programme was rated on the basis of the criterion in table 2.1.

Table 2.1: Assessment Guide to Measure Performance in FY 2021/22

Score	Comment
90% and above	Very Good (Achieved at least 90% of outputs)
70%-89%	Good (Achieved at least 70% of outputs)
50%- 69%	Fair (Achieved at least 50% of outputs)
49% and below	Poor (Achieved below 50% of outputs)

Source: Author's Compilation

2.4 Limitations

- i) The FY2021/22 budget and work plans were prepared in sector mode with an old Chart of Accounts and Output codes and were not in sync with the PIAP interventions.
- ii) Lack of reliable and real time financial data on donor financing as this aspect is not accessible on the IFMS.
- iii) The financial information for the outputs under some of the interventions is not disaggregated.

2.5 Structure of the Report

The report is structured into four chapters. These are: Introduction, Methodology, Programme Performance, Conclusion and Recommendations respectively.

CHAPTER 3: PROGRAMME PERFORMANCE

3.1 Overall Performance

Financial Performance

The overall budget release under the programme was poor. This was due to the slow progress on most electricity transmission, generation and grid extension projects which affected the disbursement of external funding. Programme financing by the end of Quarter 2 of the financial year is summarised in table 3.1.

Table 3.1: Financing of the Sustainable Energy Development Programme at 31st December 2021

Sub-programme	Budget (Ug shs Bn)	Release (Ug shs Bn)	Expenditure (Ug shs Bn)	Release as % of budget	Expenditure as % of release
Generation	184.35	46.16	12.14	25.03	26.3
Transmission and Distribution	388.6	84.26	60.48	21.68	71.7
Renewable Energy Development	1.01	0.4	0.3	39.6	75
Energy Efficiency and Conservation	12.71	0.44	0.37	3.46	84.10
Overall Performance	586.7	131.3	73.3	12.5	55.8

Source: IFMS and PBS Reports

Physical performance

The overall performance of the programme was poor at 52.0 % due to slow implementation of the planned interventions under the sub-programmes namely: Generation Sub-programme; Transmission and Distribution Sub-programme; Renewable Energy Development Sub-programme and the Efficiency and Conservation Sub-programme (table 3.2). Performance of the Generation Sub-programme was negatively affected by delays in the works at Karuma HPP which is the main output under the sub-programme. The Transmission and Distribution Sub-programme performance was negatively impacted by continued delays in works on the various transmission lines due to the compensation challenges and long procurement processes.

Table 3.2: Summary of Performance for the Sustainable Energy Development Programme as at 31st December 2021

Sub-programme	Performance (%)
Generation	56.38
Transmission and Distribution	50.47
Renewable Energy Development	48.3
Efficiency and Conservation sub-programme	47.10
Overall Performance	52.0

Source: Authors' Compilation

3.1 Generation Sub-programme

The sub-programme objective is to ensure adequate generation capacity for economic development and it contributes to the programme outcome of “increased generation capacity added to the grid”. The outcome indicator for the sub-programme is the generation capacity in MW added to the grid.

The planned interventions under the sub-programme are to develop small and medium sized power generation plants; develop large power generation plants; and finalise approvals for construction of a nuclear power generation plant.

Performance of Interventions

The sub-programme performance was fair at 56.3% with a budget of Ug shs 190.470bn, of which Ug shs 46.16bn was released and Ug shs 12.14bn spent. The low release and expenditure was due to delayed works on the large hydropower projects.

3.1.1 Develop small and medium sized hydropower generation plants

The intervention is jointly implemented by UEGCL and MEMD. The planned outputs under the intervention are construction of Nyagak III and Muzizi hydropower plants.

Construction works on Nyagak III Hydropower Plant were ongoing in Zombo District with overall progress at 55%. The project budget was Ug shs 11.77bn, of which Ug shs 5.86bn was released by half year. The scope of the works includes construction of 5.5MW Hydropower Plant and a 5km of 33kV interconnection line.



Ongoing civil works at the Nyagak III dam intake

Although the project works were still behind schedule, there was good progress made during Quarter 1 and 2 of the FY2021/22. For the civil works, one out of five blocks for the dam structure were completed and works on the other four blocks was in progress. Laying of the pipe conduit from the dam intake to the surge chamber was over 50% complete. The foundations work for the powerhouse were also ongoing. Works on the site access roads for both the dam site and power house were completed.

The major challenge facing Nyagak III project was delay by the project private partners to obtain loan financing from the banks. This will be a major limitation when it is time to order the electromechanical and hydro mechanical equipment.

The second output under this intervention was the construction of the 14MW Muzizi HPP. The project is jointly funded by Government of Uganda (GoU) and external funding from Kreditanstalt für Wiederaufbau³ (KfW) and Agence Française de Développement⁴. The funding from GoU is

³ German Development Bank

⁴ French Development Bank

Euro 21 million, while that from KfW is Euro 44 million and that expected from AFD is Euro 45 million.

The budget for FY2021/22 is Ug shs 17.91bn, of which Ug shs 15.39bn is external funding. Only Ug shs 0.25bn was released and spent from the GoU component of the funding. The project works did not commence since procurement of the EPC contractor was not concluded. Negotiations with the best evaluated bidder were unsuccessful after their bid price and retendering of the works was recommended.

The RAP for the Muzizi HPP did not progress much during the FY because the funder (KfW) demanded that re-evaluation of the affected properties, and approximately 37% compensation had been undertaken. However, UEGCL continued to undertake sensitisation on RAP, Health and Safety issues in the project site.

3.1.2 Develop large power generation plants

The intervention is jointly implemented by UEGCL and MEMD. The planned outputs under this intervention are completion of Karuma HPP⁵, and feasibility studies for Ayago HPP.

Construction works for Karuma HPP at half year were found to be behind schedule and the project completion date was revised from December 2021 to June 2022. The project budget was Ug shs 30.0bn, and the release was Ug shs 33.35bn with expenditure Ug shs 7.5bn. Overall progress of the works were estimated at 99% by 31st December 2021 up from 98.98% in the previous FY. None of the six generation units at the site were ready for commissioning by end of Quarter 2 FY2021/22.



Ongoing works on the safety barriers at Karuma HPP

All major civil, electrical and electromechanical works at Karuma were completed at the spillway, dam intake, powerhouse, substations and tunnels. Works on the permanent roads at the dam site and employers camp were ongoing with several sections tarmacked and drainage works being undertaken.

Works to fix non-conformities in some of the completed sections or activities was on-going with so far 160 defects identified and a breakdown of progress is given in table 3.1.

⁵ Total cost of the project funding is 85% China-EXIM Bank, 15% GoU.

Table 3.1: Progress of works on identified defects at Karuma HPP

Category of Defect	Pending	Rectifications on-going	Completed	Total
Electro Mechanical	43	46	0	89
Mechanical	33	12	3	48
Civil	15	10	2	27



Newly re-installed electrical cubicles in the Karuma HPP Powerhouse

Works on the Karuma-Kawanda and Karuma Olwiyo transmission lines for evacuating electricity from Karuma HPP were completed pending inspection. The substations at Karuma and Kawanda were completed, while Olwiyo was at 95% progress. The Karuma-Lira Transmission Line works were still held up by the unresolved Right of Way (RoW) issues.

Works on the employer's camp were behind schedule with the water treatment plant at less than 40% progress. Other components of the employer's camp such as the club house,

staff houses, administration block, and hostel were complete.

The Environmental and Social Impact Assessment of the project was ongoing and procurement of a consultant to undertake the Environmental Audit was not yet completed. The Community Development Action Plan (CDAP) for project commenced on small scale and works on the three selected schools was underway at Nora Primary School in Oyam District, Diima Primary School in Kiryandongo District, and Purungo Primary School in Nwoya District.

Construction of the resettlement houses for some of the PAPs on the Karuma HPP had not commenced since the supervising consultant was not procured and also MEMD was yet to undertake an Environmental and Social Impact Assessment at the proposed construction site. Analysis of the performance for the Generation Sub-programme interventions is in table 3.2.

Table 3.2: Performance of the Generation Sub-programme as at 31st December 2022

Intervention	Output	Annual Budget (Ug. shs) Billions	% of budget received	% of budget spent	Physical Performance Score (%)	Remark
Develop small and medium sized hydropower generation plants	Construction of Nyagak III HPP	12	49.7	19	5.76	Nyagak III works progressed well, civil works on the dam.
	Construction of Muzizi HPP	18	100.0	1	0.22	Procurement of Muzizi HPP works not concluded and the tendering was to be redone.
Develop large power generation plants	Construction of Karuma HPP	30	111.2	22	5.28	Overall progress at 99% and final works, and rectification of defects ongoing.
	Completion of defects liability period for Isimba HPP	145	100.0	2	42.48	Project was still under defects liability monitoring.
Overall performance	sub-programme				53.74	Fair performance

Challenges

- Delayed procurement is affecting the delivery of some outputs and activities under the sub-programme. Muzizi HPP procurement process had not been completed and construction of the resettlement houses for Karuma HPP had not commenced due to prolonged procurement processes.
- Funding for the CDAP for Karuma HPP had was not prioritised, yet project works were almost complete. Failure to fund this component will produce bad publicity for the Government.
- Contract management issues on the Karuma HPP continue to linger as evidenced by the several project completion date extensions. The issue of how the identified defects will be handled and other contract disputes with the EPC contractor if unresolved threaten to derail the planned completion in June 2022.

Recommendations

- The MEMD should reallocate funds from within its budget so that the CDAP activities planned under the Karuma HPP can progress before the project is fully commissioned.
- The appointment of an adjudicator to help resolve the various contract disputes on the Karuma HPP should done by MEMD so that the issues can be resolved.

Conclusion

The Generation Sub-programme continued to progress towards increasing the power generation capacity on the grid by 600MW. The key challenges that affected the interventions and outputs under were the contract management issues at Karuma HPP, and the procurement delays that stalled Muzizi HPP implementation.

3.2 Transmission and Distribution Sub-programme

The sub-programme is responsible for promoting; increased investment in power transmission and rural electrification. The sub-programme contributes to the programme outcome of “*increased access and utilisation of electricity.*” The outcome indicators for the sub-programme are: Increased electricity access and reduction in electricity cost per unit. Under this sub-programme, various power transmission line projects with their associated sub-stations and rural electrification projects are ongoing throughout the country.

The planned interventions under this sub-programme for FY 2021/22 are: Expand the transmission network, and expand and rehabilitate the distribution network. The sub-programme performance was poor in the first half of the FY2021/22 due to RoW issues, delayed procurement and contract management challenges.

Performance of Interventions

The sub-programme performance was fair at 50.47% with a budget of Ug shs 391.87bn, while the released funds amounted to Ug shs 84.45bn and the total expenditures was Ug shs 60.67bn. The poor release and expenditures was due to the slow disbursement on all the transmission projects.

3.2.1 Expand and Rehabilitate the Transmission Network

The intervention is the responsibility of UETCL and MEMD. The planned outputs under the intervention in the FY2021/22 is onstruction of high voltage transmission lines with the performance indicators being number of kilometres of high voltage lines added to the grid, distance in km of rehabilitated transmission network, and distance in km of land corridor acquired for transmission lines.

The transmission network increased from 3,100km to 3,385km after the completion and commissioning of the Karuma-Kawanda and Karuma-Olwiyo transmission sections under the Karuma Interconnection Project.

Under the Entebbe-Mutundwe Expansion Project, the scope of works is construction of a 24km double circuit 132kV transmission line from Mutundwe to Entebbe to provide reliable and quality power to Entebbe town and its environs. The project budget was Ug shs13.39bn (GoU- Ug shs 5.7bn, KfW-7.69bn). The expenditure and release was Ug shs 0.37bn of the GoU funds only. There was poor disbursement on the loan amount due to delays by the funder to pay approved invoices.

Overall performance of the Entebbe-Mutundwe Project at half year was poor, although the cumulative progress of the works was 85%. Works on the transmission line had not progressed much during the FY2021/22 due the RoW issues on the remaining tower spots. However, at the end of December 2021, UETCL finally secured access to all the tower sites and works were ongoing to complete the pending tower foundations. Materials for the two modified towers for crossing Nambigirwa Swamp were factory tested pending manufacturing.

Overall progress of the substation works on the Entebbe-Mutundwe Project was 87%. Works on the substations at Mutundwe and Entebbe were delayed by late payment of the contractor's invoices. The electromechanical and most electrical works at the two substations were complete. The major pending works included access roads and the switchyard gravel.



Partially completed Entebbe Substation Switchyard

Acquisition of land for the transmission line corridor had not progressed much during the FY. However, a new RAP consultant for the project commenced work in August 2021 and this was helping resolve some of the long standing

issues with land acquisition. The paid transactions were 853 (81%) of the 1,053 transactions required for the 23.8km and 30m wide corridor. The acquired corridor was approximately 18.9km (79.4%) of the 23.8km.

Another planned output under the intervention is the 132 kV Mirama-Kabale Transmission Project. The scope of the project is to construct an 85km transmission line from Mirama Substation and connect it to a newly constructed substation at Kabale with funding from GoU and Islamic Development Bank (IsDB) loan of US\$ 83.7 million.

The overall progress of construction works Kabale-Mirama Transmission Line during the first half of the FY2021/22 was poor. Works on the transmission line progressed very slowly and overall works were at 35.6% with only six tower foundations completed by half year. The contractor experienced challenges in project implementation due to a hike in prices of materials and logistics.

Works on the Mirama and Kabale substations had not commenced because UETCL decided to re-tender the works in November 2021 after the previously procured contractor failed in execution. The RAP implementation on the Mirama-Kabale Transmission Project was progressing well with 2,126 of the 2,497 (85%) of the PAPs for the transmission line compensated, while for the substation site in Kabale was yet to be finalised although a suitable site was identified.

Under the Grid Extension and Re-enforcement Project (GERP)⁶ works were ongoing to connect West Nile to the national grid through construction of 294 km of 132kV double circuit transmission line from Kole, through Gulu and Nebbi, to Arua as well as new four substations at Kole, Gulu, Nebbi and Arua.

The project budget for the FY2021/22 was Ug shs 17.89bn (GoU-2.5bn, IDA-15.39bn). The total release for the project was Ug shs 3.34bn and expenditure Ug shs 0.41bn. Overall progress of works on all components for the project was 55%. The design and engineering for all components was estimated at 92%, while the procurement was at 64%. Detailed progress on the different sections of the T-line is summarised in table 3.3.

Table 3.3: Detailed Progress on the Kole-Gulu-Nebbi-Arua T-Line

T-line Segment	Total planned towers	Foundations completed	% of foundations completed	Total towers erected	% of towers erected
Kole-Gulu	207	141	68.1	136	65.7
Gulu-Olwiyo	179	98	54.7	88	49.2
Olwiyo-Packwach	156	55	35.3	39	25.0
Packwach-Nebbi	160	77	48.1	72	45.0
Nebbi-Arua	194	46	23.7	26	13.4

Source: UETCL and field findings

Works on the four (4) substations at Kole, Gulu, Nebbi and Arua was progressing well but remained behind schedule having experienced delays at the initial start of the project. Overall progress of Lot 1(Kole and Gulu substations) was 46.8% with transformer foundations completed and erection of the plant house walls ongoing. Progress of Lot 2(substations of Nebbi and Arua) was at 50.1% with plant house construction having progressed beyond the foundation and excavation of other equipment structures ongoing.



L-R: Ongoing foundation works at the Nebbi Substation; Completed towers at Kochi Abil, Gulu Village District

⁶ World Bank (IDA) funded through a loan of SDR 64.3 Million

Acquisition of land and resettlement of PAPs on the Kole-Gulu-Nebbi-Arua Transmission Line corridor had progressed and 86% of the 3,356 PAPs were compensated. All the 65 sites for the planned resettlement houses were handed over to the contractor and work was ongoing on 56 houses, with work on houses yet to commence. A total of 667 vulnerable PAPs were identified on the project and were supported under the Livelihood Restoration Program through distribution of farm inputs and tools.

On the Gulu-Agago Transmission Project, preliminary activities to construct an 83km transmission line connecting Gulu substation to a newly constructed substation at Agago had commenced. The funding of the project is a Euro 40 million loan from KfW and it will evacuate electricity from Agago and Achwa hydropower plants.

The project works started in FY 2021/22 but had delayed due to loan effectiveness conditions that had not yet been met. However, by the end of the first half of the FY2021/22 designs for the transmission line and the substations were at 65% and 25% respectively. The line route survey transmission line was completed and levelling of the Agago substations was ongoing. Progress of the RAP was at 95% compensation and construction of the four planned houses for vulnerable PAPs had commenced.

Other planned transmission projects

The procurement process for the Kampala-Metropolitan transmission project was still at preparation of tender documents, and approval was awaited from JICA before documents could be issued to bidders. Under the Power Supply to Industrial Parks and Extension of Transmission Line Project, the contractor was still undertaking design review, and acquisition of land for the Wobulenzi-Kapeeka and Nakasongola-Kaweeweta-Kapeeka Transmission Lines was yet to commence.

3.2.2 Expand and Rehabilitate the Distribution Network

The aim of this intervention is to undertake grid expansion and densification, last mile connections, evacuation of small generation plants, quality of supply projects. The expected outputs under this intervention are - expanded distribution grid in rural areas, consumers connected to the grid, off-grids and mini grids constructed. The output indicators under the intervention are: number of kilometers of high voltage and medium voltage constructed, number of new consumers connected to the grid, and number of off-grids/mini grids constructed. The intervention is the responsibility of MEMD.

Under the Free Connection Policy, a total of 58,860 connections were done countrywide using GoU funding and financial support from several development partners. The initiative is aimed at providing a free connection service for people who require a no-pole or one pole to be connected to the grid. The annual target for the connections in the FY is 300,000. The performance of this initiative was disrupted by inadequate funding which led to its suspension during the previous FY. A detailed report on the breakdown of the free connections made using the different funding sources in Quarter 1 and Quarter 2 of the FY2021/22 is given in table 3.4.

Table 3.4: Breakdown of Free Electricity Connections by 31st December 2021

FY	Quarter	No. of connections as per funding source				Grand Total
		AfDB	KFW	IDB	GoU	
2021/22	Q1	25,880	333	215	2,188	28,616
	Q2	27,543	2,104	170	427	30,244
Grand Total		53,423	2,437	385	2,615	58,860

Source: MEMD

Under the Rural Electrification Project (REP), works implemented with the Islamic Development Bank Phase II funding in Northern region (Agago, Apac, Dokolo, Katakwi, Kitgum, Kole, Lira, Pader) and Western region (Ibanda, Isingiro, Kabale, Kanungu, Kisoro, Kyenjojo, Mbarara, Mitooma, Kabarole, Kamwenge, Ntungamo, Rukungiri, Rubirizi) was completed in FY 2020/21.

Overall progress of GoU funded schemes under REP (Lots 1, 2, 3, 4, 5, 7 and 8) in the different districts countrywide was very slow. Pole erection and dressing was completed. Most schemes stalled due to key material delivery delays caused by the COVID-19 pandemic which disrupted the scheduled Factory Acceptance Tests (FATs) and planned shipping schedule for key equipment. However, some key materials (transformers and conductors) were procured, while the remaining equipment is expected in the second half of the FY. Additionally, works for the original scope of Lot 8 in Central (Buikwe, Mukono, Nakaseke) was completed pending transformer installation works. Additionally, pole erection for additional scope was ongoing. However, the procurement for GoU funded Lot 6 for Eastern (Buyende, Kamuli, Mayuge, and Tororo) collapsed and was under administration review by the Public Procurement and Disposal of Public Assets Authority (PPDA).

For the Kuwait-funded projects, works under Lot 1a in the districts of Kibaale, Kiryandongo and Nebbi were completed and commissioned. Stringing for Lot 1b in the South Western region (Bushenyi, Kasese, Mitooma and Rukungiri) was partially done and works were stack due lack of materials.

During the first half if the FY2021/22, the schemes implemented under the Grid Rural Electrification Project with funding from the Islamic Development Bank Phase I (IDB I) in Karamoja region (Abim, Amudat, Kaabong, Moroto, Kotido, Nabilatuk, Nakapiripirit,) were completed and commissioned after long implementation delays. A total of 726km and 290.1km of medium voltage and low voltage lines were extended in the various towns, trading centres within the Karamoja region. Additionally, 132 distribution transformers were installed.

Construction of rural grid extensions under the Energy for Rural Transformation (ERT) Phase III with funding from the World Bank (IDA)⁷ continued in several parts of the country. The components planned under the project are: Off-grid energy access for grid extensions and connections, off-grid energy access for solar PV installation for public institutions in rural areas and provision of credit facilities to enhance electricity access and quality standards enforcement support, and lastly institutional strengthening and impacts monitoring to finance transaction advisor (TA) and capacity

⁷ Loan of US\$135 million and a grant from the Global Environment Facility (GEF) Trust Fund of US\$ 8.2 million.

development to accelerate electricity access and support government to carry out an impact monitoring and evaluation of ERT III.

Under ERT III, works for the line 1 in Mubende and line 2 in Mbarara and Kiruhura were completed in FY2021/22 and were now under DLP monitoring. Schemes for lines 3 and 4 in Arua, Moyo and Yumbe were ongoing with conductor stringing ongoing in the project areas. For other packages, the schemes in Ibanda, Gomba and Butambala were completed and pre-commissioned.

Additionally, construction works for other ERT III lines (11 to 21) under Packages B, C, D and E were progressing slowly in the Western, South Western, Central, Northern and Eastern regions and were behind schedule. The progress for schemes was slow due to delay to procure key materials and a lag in clearing payment certificates for contractors. Delayed acquisition of RoW led to suspension of works in some areas.

Under Package B, pole erection works for line 11 in Masaka and Rakai was completed and stringing ongoing. Pole erection for line 12 in Mukono was also at 96% and stringing was ongoing.

Furthermore, line 13 works in Gomba and Butambala were completed and pole erection for the additional scope in Lyantonde was nearing completion and transformers had not yet been delivered. For works under Package C, pole erection and stringing was ongoing for line 14 in Mubende, while



Ongoing grid extension scheme under ERT III in Omukitunzi TC, Kanungu District

stringing for line 15 in Kamwenge was completed and transformer earthing works were underway.

For package D, line 19 in Ibanda was completed and commissioned. Pole erection and medium voltage (MV) stringing works for line 16 in Rwampara and line 17 in Rukungiri and Kanungu were also nearing completion with low voltage (LV) stringing works ongoing. In addition, most works for line 18 in Ntoroko were completed pending transformer installation. Delays to acquire RoW led to slow progress of the schemes

Under Package E, works in Northern (Agago, Alebtong, Apala, Lira and Otuke) and Eastern regions (Amuria, Dokolo, Kaberamaido, Kalaki, Soroti) were under pole erection with stringing ongoing in some areas.

Under Bridging the Demand Gap through the Accelerated Rural Electrification Programme (BDAREP)⁸ the government is targeting to electrify a total of 287 sub-county headquarters and surrounding areas in 111 districts covering all the regions of the country.

⁸ Funding by a \$212.669 million loan from China-EXIM Bank

Overall progress of BDAREP was at 78.8%, with constructions of electricity networks completed in 94 of the planned 106 districts. This has added a total of 2,471.4km out of 3,449.1km of medium voltage, 4,224.1(59%) out of 7,131.61km of low voltage lines, and installation of 813(42%) out of 1,926 distribution transformers. Most schemes for the different sub-counties and surrounding areas in the Central (Bukomansimbi, Butambala, Gomba, Mityana, Mubende, Kasanda, Kiboga, Lyantonde, Lwengo, Rakai, Sembabule), Northern (Adjumani, Agago, Otuke, Omoro, Apac, Kwanja, Kole, Lira, Oyam, Kaberamaido), Western (Kibaale, Kakumiro, Kanungu, Kayunga, Isingiro, Lyantonde Lwengo, Rakai, Sembabule), Northern (Adjumani, Otuke, Omoro, Apac, Kwanja, Agago, Kole, Lira, Oyam, Kaberamaido), Western (Bundibugyo, Isingiro, Kabarole Kakumiro, Kanungu, Kibaale, Kiruhura, Rubirizi), and Eastern regions (Budaka, Bugiri, Bukedea, Buyende, Kapchorwa, Jinja, Kumi, Namutumba, Kamuli, Mbale, Ngora, Tororo) were completed and the commissioning phase had kicked off after long delays.

Commissioning of completed schemes under BDAREP was delayed by lack of harmonisation of construction standards between REA and the network service providers which has since been resolved with guidance from the Attorney General. Last mile connections had not commenced but procurement of materials (meters and service conductors) was completed and manufacturing ongoing in China.

Under the Uganda Rural Electrification Access Project (UREAP)⁹, the scope is to construct a total of 1,427km of medium voltage lines, 1,170.7km of low voltage lines, installation of 500 transformers, and a 33kV submarine cable connection to Bugala Island in Kalangala District and 10,739 last mile connections at commissioning.

Overall progress of UREAP was 75.93% construction works under UREAP Lot 1 and Lot 5 in the districts of Nakasongola, Luuka, Bugweri and Iganga were completed with some of the schemes already commissioned. Works under Lot 2 in Central region (Luwero and Wakiso) were also underway with stringing and transformer installation completed.



Completed grid extension scheme under UREAP Lot 2 in Lugungudde TC, Wakiso District

In the Northern region under UREAP Lot 7, pole erection for section A (Gulu Custom Corner – Anaka Town) and section B (Olwiyo 132/33kV substation – Pakwach Town) was advanced with stringing ongoing in some sections. Schemes in the Eastern region under Lot 4 in Kaliro District were progressing with pole erection and stringing underway.

Additionally, under UREAP Lot 3 in the districts of Bukedea, Mbale, Manafwa, Ngora, Serere, Soroti, works had been completed in

Bukedea, while those in Soroti and Serere were almost complete. Stringing works for most schemes were completed and projects awaited transformer installations. Delivery for key materials such as transformers was done. However, schemes in Otuke had just began, while works in Namisindwa

⁹ Jointly funded by GoU and African Development Bank (AfDB)

had not started. Stringing for some areas could not be done because wayleaves were not secured and this delayed project progress.

Under UREAP Lot 6 in Kalangala, the engineering designs for the switching station and inland distribution network were finalised. Construction works had begun and pole erection was ongoing in Kalangala Island. The scheduled completion date of December 2021 was not met.

Procurement of last mile connection materials such as ready boards and prepaid meters under UREAP was concluded, and an implementation agreement signed with UMEME to undertake the planned 13,778 connections.

The progress status of all ongoing rural electrification schemes under the intervention is summarised in Annex 1 of the annex, and the performance of the Generation and Distribution Sub-programme is summarised in table 3.6.

Table 3.6: Transmission and Distribution Sub-programme Performance by 31st December 2022

Intervention	Output	Annual Budget (Ug. shs) Bn	% of budget received	% of budget spent	Physical Performance Score (%)	Remarks
Expand and rehabilitate the transmission network	Distance in km of high voltage lines added to the grid	265	19.7	50	31.08	Works delayed on most projects.
	Distance in km of corridor acquired for T-lines	59	15.1	100	6.06	Compensation was ongoing on most transmission projects but was progressing very slowly.
Expand and rehabilitate the distribution network	No. of km of high voltage lines added to the grid	98	25.9	78	8.24	Works on several grid extension projects was ongoing, but last mile connections were very low due to previous suspension of the free connections because of lack of funds.
	No. of km of low voltage lines added to the grid	49	25.9	78	3.79	
	No. of Last mile connections	16	25.9	78	1.29	
		486			50.47	Fair performance

Challenges

- Transmission line and rural electrification projects continue to experience delays due to land acquisition challenges as a result of speculation and landowners who exaggerate the value of their property. Delayed works is leading to cost overruns.
- Increased vandalism on ongoing and existing electricity transmission and distribution infrastructure due to high demand for metal scrap from steel factories.

- Failure to complete transmission projects in time is putting a heavy financial burden of deemed energy costs for un-dispatched electricity from several licensed independent power producers.
- The transfer of the mandate of the Rural Electrification Agency (REA) MEMD negatively affected the implementation of all ongoing rural electrification projects due to uncertainty in the contract management.

Recommendations

- The Electricity Regulatory Authority (ERA) should take more caution when licensing private power producers in areas where the electricity evacuation infrastructure has not been constructed to avoid burdening the Government with deemed energy costs.
- Parliament should draft legislation making it illegal to trade in materials vandalised from power infrastructure, and sentences for offenders should be more punitive. This demand for scrap is driving up the rate of theft and vandalism of infrastructure.
- The MEMD should quickly streamline functions previously undertaken by the defunct REA to avoid disruption of ongoing works due to uncertainty.

Conclusion

The progress of implementation of interventions under the sub-programme during the first half of the FY2021/22 continued with the transmission network expanded from 3,100km to 3,385km with the completion of sections of the Karuma Interconnection Project; likewise, the grid distribution network additions under rural electrification increased electricity access to 19%. However, the performance of the sub-programme continued to be negatively affected by delayed works due to RoW, increasing occurrence of vandalism on ongoing projects and procurement challenges.

3.3 Renewable Energy Development Sub-programme

The objective of the sub-programme is to increase adoption and the use of clean energy with an intermediate outcome of increased consumption of alternative clean cooking energy. The planned interventions under the sub-programme in FY2021/22 are: Construction of 200, renewable energy mini-grids; promotion of use of new and renewable energy solutions and building of local technical capacity in renewable energy solutions.

Performance of interventions

The sub-programme performance was poor at 48.3 %. The sub-programme was poorly funded with a total budget of Ug shs 1.01bn, of which Ug shs 0.4bn (39.6%) was released and Ug shs 0.3bn spent by half year.

3.3.1 Construction of mini grids based on renewable energy technologies

The planned output under the intervention is construction of 200 mini-grids with 46 planned during the FY2021/22.

Installation of the 4 MW solar plant on grid system located at Busitema was completed. The commissioning awaited attainment of certificates to enable connection to the grid. Also the construction of 25 solar mini-grids in Lamwo, Northern Uganda was launched in November 2021 and 85% of the network was completed. Six of the planned 25 solar mini grids were completed. Construction of the 15 planned solar mini-grids in the Southern service territory was ongoing, and 50% of the network was completed.



Technicians undertaking final installation works on panels for the solar generation plant at Busitema, Busia District

3.3.2 Promotion of use of new and renewable energy solutions

As part of promotion of alternative energy sources, the MEMD continued with feasibility studies for the 4MW grid biogas digester plant to be constructed in Kiteezi and the technical were submitted to the Electricity Regulatory Authority (ERA) and NEMA for approval.

Also a detailed technical feasibility study and Environmental and Social Impact Assessment (ESIA) for the additional generation of biogas through co-digestion for the NWSC, Bugolobi plant was concluded.

To promote use of solar and wind energy solutions, four (04) solar water pumps were installed in Kasese and Bulambuli. Also more data was collected at the two wind masts installed in Napak and Kotido district in the Karamoja region for further assessment of the wind resource potential.

3.3.3 Building local technical capacity in renewable energy solutions

The planned output is training and capacity building for 200 experts in the field of renewable energy, training of 100 personnel in renewable, 15 financial institutions supported, 2 quality standards developed for renewable energy.

By half year, training of 20 engineers and technicians on maintenance of completed solar plant continued. Three (3) Renewable Energy Department staff continued training in Masters of Renewable Energy. The training of eight biogas artisans in construction of one bio-latrines in a school on cost sharing model was undertaken. A total of 15 artisans trained on construction of high efficient energy stoves in schools was undertaken.

3.3.4 Promote uptake of alternative and efficient cooking technologies (electric cooking, domestic and institutional biogas and LPG)

Discussions were held with Nansana Municipal Council for identification of beneficiaries and training of household in the use of ethanol as an alternative cooking fuel. Consultations were also held with Total Energies and Kakira Sugar Limited for establishment of a biofuels blending pilot. A study to undertake an energy needs assessment in over 800 educational health, prison and police

institutions to understand their energy cooking needs was planned and a consultant was being procured. This study will feed into the implementation framework for the Energy Access Scale up project (EASP). The performance of the Renewable Energy Development Sub-programme is summarised in table 3.7.

Table 3.7: Performance of the Renewable Development Sub-programme by 31st December 2022

Intervention	Output	Annual Budget (Bn Ug shs)	% of budget received	% of budget spent	Physical performance Score (%)	Remark
Construction of mini grids based on renewable energy technologies	200 mini-grids constructed	0.41	24.4	100	22.06	Construction of 25 mini-grids in Lamwo was launched and six were completed. Works on 15 mini-grids was ongoing in the South.
Promoted use of new and renewable energy solutions (solar water heating, solar drying, solar cookers, wind, water pumping solutions and solar water pumping)	Increased deployment of new and renewable Energy solutions					Four (04) solar water pumps were installed in Kasese and Bulambuli.
Building local technical capacity in renewable energy solutions	Training and capacity building for 200 experts in the field of renewable energy; training of 100 personnel in renewable;	0.20	50.0	50	2.48	Training of 20 engineers and technicians on maintenance of completed solar plant continued.
Promote uptake of alternative and efficient cooking technologies (electric cooking, domestic and institutional biogas and LPG)	Installation of 6 wind measuring masts un Karamoja	0.20	50.0	100	11.88	Feasibility study for 4MW grid biogas digester was completed. Four (4) solar pumping stations installed in Bulambuli and Kasese. A total of 20 engineers trained on the maintenance of solar plants.
					48.30	Poor performance

The sub-programme performance was hampered by low funding which affected implementation of some planned activities.

Recommendation

The MEMD should allocate enough funding in the Medium Term Expenditure Framework (MTEF) for implementation of the activities under the sub-programme such as promotion of LPG and use of renewable energy to reduce on the reliance of biomass.

Conclusion

The sub-programme performance was poor at 48%, with most interventions still in the early stages of implementation. Minimal progress on construction of the 200 mini-grids was registered with six of the planned 46 mini-grids completed in Lamwo. Some of the capacity building training for renewable energy experts was undertaken with 20 engineers/technicians trained. The initiatives seeking alternative energy in from of biogas still at feasibility study.

3.4 Energy Efficiency and Conservation Sub-programme

The sub-programme aims to promote the efficient use of energy across all sectors of the economy, with the following objectives to: Put in place and review policies, legislation and statutes that promote energy efficiency and conservation; Develop strategies and programs for improving energy efficiency; Provide technical advice and guidance to energy consumers regarding energy utilisation practices; Raise awareness on energy efficiency and conservation and build capacity of energy efficiency experts.

The planned interventions under the sub-programme during the FY are to: Promote uptake of alternative efficient cooking technologies; Invest in Liquefied Petroleum Gas (LPG) infrastructure; Promote the use of energy efficient equipment for both industrial and residential consumers; Introduction of Minimum Energy Performance Standards (MEPS) for selected electrical appliances.

Performance of the interventions

The overall performance of the interventions under the sub-programme was poor at 47.1%. The sub-programme budget was Ug shs 12.71bn, while only Ug shs 0.44bn was released. The sub-programme budget allocation was very low for all interventions except the one for investment in LPG infrastructure, although its budget release was still low.

3.4.1 Promote uptake of efficient cooking technologies

An alternative fuel feasibility study was ongoing and two appliances were identified as the most efficient fuel for cooking (electric pressure cooker and the electric solar cooker). Demonstrations using the tow technology was conducted for MEMD staff before outreach to other stakeholders could be undertaken.

3.4.2 Invest in Liquefied Petroleum Gas (LPG) Infrastructure

To promote uptake of LPG as an alternative to biomass, MEMD launched an initiative to procure promotional LPG cylinder kits which will be distributed free of charge so that the cost of acquisition can be subsidised for new users. The plan for the FY2021/22 is to procure a total of 29,400 promotional LPG cylinder kits, but only of 902 kits were procured at half year. Awareness campaigns to promote the use of LPG were not carried in the first half of the FY 2021/22 due to funding constraints and were rescheduled to the third quarter of the FY.

The feasibility study report to guide in setting up the LPG infrastructure was completed and it recommended need for two storage terminals. Acquisition of sites for two LPG storage terminals, the procurement of land for storage terminals in Mukono and Kampala was ongoing with the process at bid evaluation stage.

3.4.3 Promote the use of energy efficient equipment for both industrial and residential consumers

The Readiness Assessment for Energy Audits was conducted for ten (10) industries and procurement of a consultant to support the conducting of energy audits in the 10 selected large energy consuming facilities has commenced. Also the ISO 50001 implementation preparedness and awareness was conducted for five (5) industries.

The procurement of a consultant to support the five facilities in implementation of an Energy Management System in accordance with ISO 50001 commenced and related to this the procurement of another consultant to develop an implementation strategy for Eco Industrial Parks in three industrial parks commenced.

3.4.4 Introduce minimum Performance Standards for selected electrical appliances

Five appliances were identified for consideration when developing the minimum energy performance standards (MEPS). The appliances identified include: personal computers (pcs); television sets (TVs); electric fans; electric cookers; and distribution transformers. Regional harmonisation of MEPS for lighting appliances conducted, necessitated by the need for harmonising requirements governing quality of products and services in the East African Community.

The performance of the Energy Efficiency and Conservation Sub-programme is summarised in table 3.8.

Table 3.8: Performance of the Energy Efficiency and Conservation Sub-programme as at 31st December 2022

Intervention	Outputs	Annual Budget (Bn Ug shs)	% of budget received	% of budget spent	Physical Performance Score (%)	Remark
Promote uptake of alternative and efficient cooking technologies (electric cooking, domestic and institutional biogas and LPG)	Clean and efficient technologies promoted among industrial and domestic consumers. Two energy efficiency awareness campaigns to sensitise consumers on sustainable utilisation of energy.	0.80	2.5	50	1.86	Alternative fuel study report almost completed.
Invest in LPG infrastructure	Procurement and distribution of promotional LPG cylinders and establishment of the two LPG storage terminals.	11.50	3.5	85	44.54	Only 902 of the planned 20,732 LPG cylinders were procured.
Introduce Minimum Energy Performance Standards (MEPS) for selected electrical appliances	Five MEPS developed for five appliances.	0.30	3.3	100	0.70	Five appliances were identified but their standards yet to be developed.
Promote the use of energy efficient equipment for both industrial and residential consumers	Five industrial facilities supported to implement Energy Management Systems in accordance with ISO 5001 standard. Monitoring and supervision of energy efficiency interventions in 10 industrial facilities	0.31	3.2	100	0.72	Procurement of consultants to support the energy audits was ongoing.
					47.10	Poor performance

The sub-programme performance was affected by a very low funds release of only Ug shs 0.44bn (3.4%) of the budgeted Ug shs 12.91bn released by half year.

Recommendation

The MEMD planning unit should allocate adequate funds for implementation of activities under the sub-programme. The current allocations are very low for the sub-programme activities to have any impact.

Conclusion

Overall performance of the sub-programme was poor at 47% due to low funding. The intervention to invest in LPG infrastructure could only procure 902 of the planned 20,732 LPG cylinders. Land acquisition for the LPG storage terminals was not yet concluded. Other outputs such as the procurement of consultants to undertake energy audits had not been concluded so the audits were yet to commence.

CHAPTER 4: CONCLUSION AND RECOMMENDATIONS

4.1 Programme Conclusion

The overall performance of the programme was poor at 52.0%, and delivery of most key planned outputs under the programme was delayed due to several implementation challenges. Construction works on Karuma HPP were not completed and there were several defects that still needed to be corrected. Implementation delays were also experienced on all the ongoing transmission and distribution grid extension projects mainly due to Right of Way (RoW) issues and procurement challenges. The programme continues to grapple with the increasing occurrence of vandalism on the ongoing projects and other completed infrastructure. The interventions under the Renewable Energy Development; and Energy Efficiency and Conservation Sub-programmes were poorly funded which negatively affected the progress of most planned activities.

4.2 Recommendations

- The programme implementing MDAs should engage the security agencies to curb the rising incidents of vandalism of electricity infrastructure, and the Parliament should revise the laws to so that those who commit these offences are severely punished.
- The Electricity Regulatory Authority (ERA) should be more restrictive in licensing private power producers, to ensure there is electricity evacuation infrastructure to avoid burdening Government with deemed energy costs.
- The implementing MDAs should expedite the procurement of key projects under the programme to avoid long delays, so that the loan financing can be fully utilised to deliver the planned outputs.

REFERENCES

1. Uganda Electricity Generation Company Limited (2021) Karuma Hydropower Project status report up to December 2021
2. Uganda Electricity Generation Company Limited (2021) Nyagak III Hydropower Project status report up to December 2021
3. Ministry of Energy and Mineral Development (2021), Ministerial Policy Statement, Vote; 017
4. Ministry of Energy and Mineral Development (2021), Quarter 1 and 2 FY 2020/21 reports
5. Ministry of Energy and Mineral Development (2021), Energy for Rural Transformation(ERT)III Progress Report up to December 2021
6. Ministry of Energy and Mineral Development (2021), Uganda Rural Electricity Access Project(UREAP) Progress Report up to December 2021
7. Ministry of Energy and Mineral Development (2021), Grid Rural Electrification Project IDB I Progress Report up to December 2021
8. Ministry of Energy and Mineral Development (2021), Bridging the Demand Gap through the Accelerated Rural Electrification Programme (BDGAREP) Progress Report up to December 2021
9. Ministry of Energy and Mineral Development (2021), Rural Electrification Project Progress Report up to December 2021
10. National Planning Authority (2020), Third National Development Plan (NDPIII) 2020/21 – 2024/25
11. Uganda Electricity Transmission Company Limited (2021), Mirama-Kabale Transmission Project Progress Report up to December 2021
12. Uganda Electricity Transmission Company Limited (2021), Entebbe Kampala Transmission Expansion Project Progress Report up to December 2021
13. Uganda Electricity Transmission Company Limited (2021), Grid Extension and Re-enforcement Project (GERP) Progress Report up to December 2021
14. Uganda Electricity Transmission Company Limited (2021), Gulu-Agago Transmission Project Progress Report up to December 2021
15. Uganda Electricity Transmission Company Limited (2021), Kampala Metropolitan Transmission Project Progress Report up to December 2021

ANNEXES

ANNEX 1: Status of Rural Electrification Projects as at 31st December, 2021

Scheme	Status
Schemes under AfDB Funding	
UREAP Lot 1 Contract Sum: USD 3,269,782.9 UGX 18,100,888,521 Contractor: Mohan Energy Corporation Pvt. Ltd and EMC Ltd. JV	
Nakasongola Kibira – Kyabaganga Kabbala – Buyamba	All construction works had been completed. A total of 41 transformers were installed in the different villages and trading centres in Lwampanga, Kakooge and Lwabyata sub counties Scheme had been completed and 3 transformers installed at Kabbala, Njeru and Buyamba trading centres in Nabiswera sub county.
UREAP Lot 2 Contract Sum: USD 5,028,167.75 UGX 12,306,000,817.36 Contractor: Larsen and Toubro Ltd Power Transmission and Distribution	
Wakiso Masulita – Katongole- Soweto and tee-off to Lugungudde, Kawooya and Nabalanga trading centers Nandagira – Kikuju - Kabagaano	Construction works had been completed awaiting pre commissioning. A total of 7 transformers had been installed Construction works were completed and 2 transformers had been installed in Kikuji and Kabagaano trading centers.
Luwero Kasisio – Katasule – Nambere and Mazzi trading centres Wakivule – Mpagati Villages	Transformer installation works were ongoing. A total of 27 transformers are to be installed. Scheme was affected by payment delays.
UREAP Lot 3 Contract Sum: 9,956,251.96 UGX: 20,434,424,422.57 Contractor: Larsen and Toubro Ltd Power Transmission and Distribution	
Bukedea Bukedea – Akuoro – Kanyipa Nalugayi – KotiaBududa - KakigaKotia	Scheme had been completed but not yet pre commissioned. MV length is 11.37km and 4 transformers were installed. Works were completed and pre commissioned.
Mbale Tee-off to Namalogo	Works were completed but awaiting pre-commissioning and one transformer had been installed

Scheme	Status
Serere Kalongo - Omomgolem I - Toror Kandugulu - Kabulabula - Kagwera LS with t-offs to Opiya LS, Agwaet TC, Acorombo LS, Madaka & Akwangalet TC, Kandugulu - Ateng LS& Olio Polytechnic	Erection and stringing works had been completed pending transformer installations. The scheme aims to extend the grid to Kadungulu Town Council as well as Kagwera landing sites and neighbouring villages and trading centres. The MV length was 42.8km and 14 transformers were yet to be installed.
Sororo Lale – Ocherakuru – Gwetom – Ocherakuru – Agora – Odera Arapai – Gama – Kamuda with t-off to Olobai	All pole erection and stringing had been completed. A total of 19 transformers were yet to be installed. LV stringing for 9 transformers had been completed.
UREAP Lot 4 Contract Sum: 5,805,311.21 UGX: 13,840,234,292.17 Contractor: Larsen and Toubro Ltd Power Transmission and Distribution	
Kaliro Natwana – Saaka	Both pole erection and stringing were nearing completion at 95%. Transformer installations were also underway. The schemes aim to extend grid to areas along Kaliro- Paliisa road.
UREAP Lot 5 Contract Sum: USD 4,205,622.85 UGX 12,363,337,856.34 Contractor: China Henan International Cooperation Co. Ltd	
Schemes in Luuka and Bugweri were completed and were under Defects Liability Period (DLP)	
UREAP Lot 7 Contract Sum: USD 2,499,255.55 UGX 18,937,436,531.42 Contractor: China Henan International Cooperation Co. Ltd	
Gulu, Nwoya	Construction works for Section A extending the grid from Custom Corner to Anaka town to 23 trading centres. The MV pole erection for Section A had been completed and MV stringing was at 75% while LV works were in early stages Works for Section B which aims at electrifying the areas in Nwoya by extending the grid from the new Olwiyo substation to Pakwach town were ongoing. MV pole erection was ongoing and LV construction works had started.
Schemes under World Bank funding	
ERT III Fast Track Line 3 Contract Sum: UGX 15,455,028,424.00, USD 6,645,170.33 Contractor: China Jiangxi Corporation	
Wandu – Yumbe – Moyo	Both MV and LV pole erection works were almost complete. MV stringing works were at 40% and LV stringing had just

Scheme	Status
	commenced. The scheme aims at extending the grid to towns, trading centres and villages along Wandu – Yumbe- Moyo road. The total MV length is 340 km and a total of 92 transformers will be installed in the different trading centres and villages of Arua, Yumbe and Moyo districts. A total of 92 transformers will be installed.
ERT III (Fast Track Line) Line 4 Contract Sum: UGX 2,829,587,398.00, USD 1,319,849.52 Contractor: C and G Andijes Group Limited	
Arua Onduparaka – Odramachu – Abiria	MV and LV pole erection were completed. Overall stringing progress was at 65%. The project will extend grid to trading centres of Onduparaka, Oria, Andilegu, Pajulu and Odramacaku among others with a total HV and LV length of 70.6km and 71.27 respectively.
ERT III Lots 1, 2 and 3: Lines 11 – 21	
Package B Contractors: Megger Technical Services Ltd for Line 11; MBH Power Ltd for Line 12; Datpo Investments Ltd for Line 13	
Lot 1B - Masaka Line 11; Mitemula - Nakiyaga - Nkuke – Kyanamukaka with Tee-Offs Nkuke - Ketengesa, Bukeeri - Namirembe & Baale Landing Sites, Kyanamukaka – Butano	Pole erection had been completed and stringing was ongoing. Factory Acceptance Tests (FATs) for transformers had been completed in the Month of January 2022.
Lot 2B - Mukono Line 12: Nakifuma – Nagojje, Walusubi – Katogo Mbaliga – Namele & Nakasajja – Kyampisi	MV and LV works were underway with pole erection nearing completion whereas stringing was ongoing in some areas.
Lot 3B- Gomba and Butambala Line 13: - Kyabadaza – Masankwa, Nyanama, Mpenja – Maseruka, Kiriri – Kasasa, Mpenja – Nsambwe – Kanoni – Mamba – Mawuki	Schemes were completed and had been precommissioned. A total MV length was 199.46km and a total of 74 transformers were to be installed. However, there was vandalism of conductors.
Package C Contractors: Tetra Technical Services Ltd for Line 14; Megger Technical Services Ltd for Line 15	

Scheme		Status
Lot 1C- Mubende, Kagadi and Kibaale Line 14: Mubende - Kyabayanga - Ngangi with tee-off Kibaale and Kagadi		MV and LV pole erection were completed in Mubende. Additionally, MV stringing for Mubende works was also completed. LV stringing was yet to start. There was slow progress of works due to Right of Way (ROW) issues along this section.
Lot 2C-Kamwenge Line 15: Bwizi – Ntonywa – Kampala Bigere Tee off to Kamusenene		MV and LV works were completed pending transformer installations.
Package D Contractors: Datpo Investments Ltd for Lines 16 and 17; Steg International Services Ltd for Lines 17 and 18		
Lot 1D Line 16 and 17	Rukungiri Kyomera – Rwenshanka	All pole erection was complete. MV stringing was also nearing completion while LV stringing works were in early stages.
	Kanungu Nyamirama – Kanyabizo – Ntungwa	Pole erection and stringing was ongoing for both MV and LV.
	Nyakatoma – Omukitunzi with tee-offs to Omukishasha	Pole erection and stringing was nearing completion. However, progress of works was negatively affected by the delay to acquire Right of Way (RoW)
Lot 2D	Ntoroko Line 18 Karugutu – Ibanda Village Karugutu – Kaboga TC Tee-off to Kanyamunkore	MV and LV works in Karugutu were complete pending transformer installations.
	Ibanda Line 19: Kagongo – Rweshuri with tee-off to Kigalama and Nyansimbo - Rwenkobwa	All construction works of a total MV length of 68 km had been completed. The scheme had extended grid to the different trading centres and villages of Kijonjo sub county.
Package E Contractors: C&G Andijes Group Ltd for Line 20; Sagem Com Energy & Telecom SAS for Line 21		
Lot 1E Line 20 in Lira, Alebtong, Agago and Otuke		The construction works had started and pole erection was ongoing with stringing underway in some areas.

Scheme	Status
Lot 2E Line 21: Dokolo, Kaberamaido, Scheme along Kaberamaido – Dokolo road. Akolodong – Adwoki – Agwata Health Center III Soroti and Amuria	Both MV and LV pole erection were nearing completion and MV stringing was complete while LV stringing had just started.
Schemes under KUWAIT Funding	
Kuwait Lot 1a Contract Sum: USD 4,269,801 Contractor: Ontrack Technical Services Limited	
Schemes in the districts of Kiryandongo, Kibaale and Nebbi had been completed, commissioned and were under Defects Liability Period (DLP)	
Kuwait Lot 1b Contract Sum: USD 4,778,666.18 Contractor: Rocktrust Contractors Limited	
Kasese Kabirizi- Kihenge – Kanyonya – Kyarumba - Mughete Kinyatete - Rusara	Works had been completed pending transformer installations. Scheme registered slow progress and was behind schedule because of delayed delivery of materials as a result of the travel restrictions caused by the COVID-19 pandemic. However, some of the conductors were being vandalised. For example, 3.5 km of conductor were vandalised on Kinyatete – Rusara line.
Rukungiri Ndere – Rwoya Villages Kakamba – Rukonkoma Villages	All pole erection had been completed. Works had stalled due to lack of materials but had now resumed and pole dressing was ongoing.
Bushenyi Mukatafali – Birimbi - Kahungye	
Schemes under China Exim Bank Funding	
TBEA Schemes in Central Region	
Kassanda Kawungera - Manyogaseka / Buzawula 'A' - Myaliro / Kyakitanga - Manyogaseka - Ndeeba to add Kiryamenvu	Schemes had been completed and commissioned.

Scheme	Status
Kamusenene - Kitaiza - Kalamba - Kitaama	
Mubende Ngabano - Kazirangoma / Kabale - Kichuchulo - Kawololo - Kisagazi - Buganyi - Nsanvu in Butoloogo sub county	All works were completed and schemes had been commissioned.
Schemes in Kiboga, Gomba, Bukomansimbi, and Kayunga and had also been completed.	
TBEA Schemes in Northern Region	
Apac Abeybuti - Akokoro SS - Apoi centre – Onyany in Alaro county	Construction works were complete and scheme had been commissioned
Dokolo Agebo 'A' - Apeti A - Okile - Odeo Cwagere – Apeneki in Kangai Town council	Scheme had been completed and awaiting commissioning. Works were nearing completion. However, scheme was awaiting completion of ERT III Line 21 project for connection of tee off structure.
Kaberamaido Kaberamaido - Opurai - Okapel 'A' – Aperkira in Aperkira sub county Okapel 'A' - Ajikai - Alomet - Obur in Bululu sub county	Scheme had been precommissioned. Works had extended grid to Aperkira Health Center III Works had been completed
Kalaki Kalaki - Olilimo	Works were precommissioned
Additionally, schemes in the districts of Arua, Adjumani, Kwanja, Kole, Lira, Omor, oPader,, Zombo, Pader and Otuke had been completed while schemes in Gulu had not started.	
TBEA Schemes in Eastern Region	
Jinja Buwagi – Kagera – Kidiope – Kidera Central Buyengo scheme Kabowa scheme	Scheme had been precommissioned. 3 transformers had been installed with MV length of 3.92km. Works were completed and precommissssioning had been done. 4 transformers were installed including 2 additional transformers that were considered in the additional scope. Scheme had been precommissioned and 2 transformers were installed.
Iganga Nawandala sub county schemes	

Scheme	Status
<p>Bubogo - Bunyiuro - Nawankonge in Nawanyingi sub county</p> <p>Nakalama – Bukyaye</p> <p>Bukona – Buwongo – Bupala - Nawangisa with tee-off to Namundudi</p>	<p>Works were completed. Transformer earthing works were ongoing. MV length was 29.2km and a total of 19 transformers are to be installed.</p> <p>Pole erection works were ongoing.</p> <p>Works had been completed and 3 transformers had been installed.</p> <p>Works were under pole erection.</p>
<p>Bugiri</p> <p>Namayemba -Nakabale - Bulesa - Bukuta - Buwagama</p> <p>In Bulesa sub county</p> <p>Namayemba – Kafufu in Kapyanga sub county</p>	<p>Schemes had been completed but not yet commissioned.</p>
<p>Schemes in the districts of Kumi, Bukedea, Kamuli, Tororo, Mbale, Butalejja, Budaka, Namutumba, Buyende, had also been completed.</p>	
<p>TBEA Schemes in Western Region</p>	
<p>Bunyangabu</p> <p>Kasali - Kagoma - Nsororo - Bsamba I - Kabonero - Mutiiti - Kabaalebi - Katugunda polytechnic in Kabonero subcounty</p>	<p>All pole erection had been completed where as both MV and LV stringing had just commenced.</p>
<p>Kasese</p> <p>Tee-offs to Nyakabale and Kanyatsi trading centers</p>	<p>All pole erection had been completed and conductor stringing was yet to start.</p>
<p>Kabarole</p> <p>Mugusu - Kiraro - Kigaya - Kanyamutwale - Mugunga – Rukooko in Mugusu sub county</p>	<p>Schemes had been pre commissioned.</p>
<p>Ntoroko</p> <p>Rweibesengo - Harukoba - Harukoba - Butungama - Masojo - Nyakasenyi</p>	<p>All pole erection and stringing had been completed and scheme was awaiting transformer installations. A total of 4 transformers were to be installed with MV length of 10.4km.</p>
<p>Bundibugyo</p> <p>Ntandi – Kityo (10.6km)</p>	

Scheme	Status
Bundikuyali / Bundibele - Burileya I - Bubomboli II - Kijanjara in Kisubba sub county Kabango - Buhundu - Ngamba I - Busendwa I - Ngamba II in Ngamba sub county	Works were completed and schemes were pre commissioned.
Schemes in Kagadi, Ntungamo, Lyantonde, Rwampara, Bushenyi, Lwengo, Kibaale, Isingiro and Mbarara had been completed and precommissioned.	
Schemes under GoU Funding	
GoU Lots 1, 2, 3, 4, 5 and 7 In Mubende, Mityana, Kabarole, Kyegegwa, Kassanda, Rakai, Masaka, Gomba, Butambala, Lwengo, Kiruhura, Rakai, Masaka, Gomba, Butambala, Lwengo, Kiruhura, Mbarara, Sheema, Buhweju, Bushenyi, Rubirizi, Kabale, Ntungamo, Isingiro, Gulu, Kiboga and Kibaale	Pole erection was completion. Schemes were awaiting delivery of conductors, transformers and other accessories for works to resume.
GoU Lot 6 Tororo, Mayuge, Buyende, Kamuli	The procurement process had collapsed. The contracts had been awarded in the FY 2019/20 but were later cancelled citing unfairness in procurement by a whistle blower. The procurement process was still under administrative review.
GoU Lot 8 Contract Sum: UGX 19,756,014,498.70 Contractor: Dott Services Limited	
Mukono	
Gilinya trading center and environments Namyoya – Busabala – Nabalanga – Kabawala	Construction works were complete pending transformer installations
Intensifications in Nakifuma	Both MV and LV pole erection and stringing had been completed in the trading centres of Nakibano, Ndwadde Mutwe, Nanga and Busenya had been completed.
Buikwe	
Ssugu - Kirangira & Nakatyaba areas	Pole erection and stringing were completed. Transformers were yet to be installed.
Nakaseke	

Scheme	Status
Kyayunga village, Balengera village and Kasana Sseggalye village to Kyambogo village Bulega village to seeta village, Lwetunga and Toggo	Pole erection in the different trading centres and villages in these areas had been completed and stringing was also nearing completion.
Schemes Under IDB I Funding	
IDB I Lot 3 Contract Sum: USD 5,483,455.7 Contractor: Nanjing Daji Steel Tower Manufacturing Company Limited	
Moroto:	
Moroto- Katikekile, Moroto-Nakapiripirit, Moroto-Moroto Amudat: Amudat – Ngoshom, Amudat – Acustom Nakapiripirit: Mwanakolo Village Nabilatuk: Loyaraboth - Meturori Police barracks, Cement Factory	The schemes had been completed. A total of 163 km of MV, 61.7 km of LV and 34 distribution transformers were installed. Additional works had been completed.
IDB I Lot 4 Contract Sum: USD 12,918,479.4 Contractor: Nanjing Daji Steel Tower Manufacturing Company Limited	
Napak Lopei PS - Napak District Office Block Kotido UPDF at Nakapelimoru - Locirang Army Barracks Kaboong Koputh Sub-county/ Sidok TC - Lotim TC	The works in the original and additional scopes had been completed and commissioned. A total of 455 km of MV, 140 km of LV and 56 distribution transformers had been installed.