



THE REPUBLIC OF UGANDA

ELECTRICITY CONNECTIONS POLICY

Financing and Implementation for Connections

Period: 2018 - 2027

THE FOREWORD

Government has prioritized the development of the energy sector in order to provide access to reliable energy and hence attain social and economic development in the country. The Government recognizes that energy is a key enabler for the country to attain middle income status.

This Electricity Connection Policy has been introduced by Government to address the challenge of low connection rates that previous policies have not addressed despite having invested considerable amounts of funds in grid extension.

The Policy will address the major areas that have hindered increasing electricity access and provide simple approaches that will be applied to enable faster connection to electricity. This Electricity Connection Policy sets out the circumstances for the provision of a connection service.

The Development of the policy involved a consultative process with key stakeholders. These included Government of Uganda Ministries and Agencies, Development Partners, Electricity Service Providers, Members of Parliament, Local leaders and households among others. Lessons learnt from previously implemented projects like the Uganda Grid Based Output Based Aid (OBA) subsidy project for consumer electricity connections have been applied to come up with the simple approaches that will increase access to electricity.

To realize the goal of the policy, I urge Ugandans, particularly the Leaders, Development Partners and Implementers including the Private Sector, to have a positive mindset to facilitate efficient and effective implementation of this Policy.

Implementing this Policy will require developing and implementing a communication strategy to educate the public on the policy, the benefits of getting connected to electricity and its rational use to reduce bills. The Rural Electrification Agency will prepare a plan for the implementation of the policy.

I wish to appreciate all those that contributed to the development of the policy. I thank the Ministry of Energy and Mineral Development and the Rural Electrification Agency for being at the forefront of the development of the policy. I would also like to thank all Government bodies, Electricity Service Providers and all Private Sector Parties that have supported and made an input as the Policy was being developed. In addition we thank the Development Partners who have supported the energy sector and their role in developing the policy.



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MINISTER OF ENERGY AND MINERAL DEVELOPMENT

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LIST OF ABBREVIATIONS

DFID – UK	Department for International Development – United Kingdom
ECP	Electricity Connection Policy
ENDEV	Energizing Development
ERA	Electricity Regulatory Authority
ERT	Energy for Rural Transformation
GoU	Government of Uganda
IDA	International Development Agency
IVA	Independent Verification Agent
MEMD	Ministry of Energy and Mineral Development
M&E	Monitoring and Evaluation
NDPII	National Development Plan II
OBA	Output Based Aid
PV	Photovoltaic
REA	Rural Electrification Agency
REB	Rural Electrification Board
REF	Rural Electrification Fund
RESP I	Rural Electrification Strategy and Plan I
RESP II	Rural Electrification Strategy and Plan II
RF	Revolving Fund
SE4ALL	Sustainable Energy for All
SIDA	Swedish International Development Agency
SP	Service Provider
UECCC	Uganda Energy Credit Capitalization Company
UNPHC	Uganda National Population and Housing Census
USAID	United States Agency for International Development
WB	World Bank

LIST OF DEFINITIONS

Access:	The number of premises connected to electricity.
Consumer:	Any person supplied or entitled to be supplied with electrical energy for personal, industrial or commercial use but does not include a person supplied with electrical energy for delivery to another person.
Demand:	Refers to the active power or apparent power consumed by a customer in respect of an electrical installation integrated over a fifteen or thirty minute period.
Distribute:	It means to distribute electricity to a consumer's point of supply using a distribution system.
Distribution area:	The area in which a licensee is licensed to distribute electricity.
Distribution license:	Authorization by a Government entity to distribute electricity.
Electrical installation:	Electrical equipment at a consumer's supply address that is connected to, but not part of a distribution system.
Electrification rate:	Percentage number of households and businesses that have physical connections to electric grids
Energy:	Includes active or reactive electrical energy.
Grid:	A network of electricity lines.
Grid Intensification:	Enhancing the low voltage network to enable connection of more customers. It may involve addition of transformers, poles and more.
Inspection fees:	Fees charged by electricity service provider for inspecting a premise's wiring before an electricity connection can be made.
Last Mile:	Connections that do not require any additional investments apart from the cost of connection.
Load:	A customer's demand for electricity at a supply point.
Low voltage:	220V to 415V lines from which households and light industrial loads can directly be connected to the grid.
Medium voltage:	33kv or 11kv lines that carry power from the transmission stations to the transformers.

Mini grid:	An integrated electricity generation and distribution system serving numerous customers that is designed to operate independently from the centralized grid.
No Pole service:	A connection to be made with a 35m radius from a pole.
Off grid:	Energy service technologies that are not dependent on the national grid
One Pole service:	A connection that requires one pole to be made.
Output Based Aid:	Funding paid on a results based approach
Photovoltaic:	A power system that generates electricity directly from sun light.
Ready boards:	A pre-installed board that includes provision for a switch, socket and a bulb. It's a replacement for house wiring and is best suited for single roomed houses.
Revolving fund:	A mechanism where funding is recycled to procure more connection materials and fund more connections.
Rural area:	An area supplied with electricity by an electric line which- (a) Forms part of a distribution system; and (b) Is a single feeder, the length of which measured from the relevant zone substation is at least 15kms
Sale license:	A license to sell electricity pursuant to the Act.
Service Providers:	Licensed distribution companies that manage the electricity networks and carry out implementation of connections.
Service Territory:	A geographically defined area within which an electricity utility company has the obligation to provide electricity distribution services.
Supply:	Means supply to consumers, generation, transmission, distribution and sale including importation and exportation of electrical energy.
Voltage:	Means the Root Mean Square (RMS) of the phase to phase voltage
Wayleaves:	A right-of-way granted by a land or property owner for passage of power lines.
Wiremen:	Certified technicians that carry out house wiring.

EXECUTIVE SUMMARY

Electricity access in Uganda still remains low at about 20%¹ for all forms of energy. This very low level of access is an impediment to achieving social and economic transformation of the country. The major obstacles to electricity access have been identified as: a) high connection charges; b) high house wiring costs; and c) lack of incentives for service providers to make timely and cost affordable connections. Previous policies and strategies have majorly focused on putting in place the back bone infrastructure while electricity connections have remained unsupported ².

This document, therefore, presents Government's Electricity Connection Policy (ECP) for a period of ten years starting from 2018 – 2027. The primary objective of the policy is to increase electricity access and provide cleaner energy for Ugandans. The policy will aim at addressing the major obstacles that have hindered increasing electricity access in Uganda.

Electricity access targets, as spelt out in the Government major development plans, are to be achieved under the ECP. The ECP will initially aim at achieving the 26% rural access target by 2022 set out in the Second Rural Electrification Strategy and Plan, 30% national coverage target by 2020 set out in the Second National Development Plan. The ECP will also aim at accelerating access after 2020 in order to achieve 60% access rate by the year 2027, after which it will be revised to enable achievement of the 80% Vision 2040 connection target and, thereafter, universal coverage. The 60% target is a minimum and may be surpassed as more funding becomes available.

Development of the policy was made in a consultative process with the principal stakeholders. Lessons learnt from previously implemented projects, like the Uganda Grid Based Output Based Aid (OBA) subsidy project for consumer connections, have been applied to come up with simple approaches that will increase access to electricity.

The policy has adopted a subsidy approach as the major financing strategy for single phase connections. This will enable many Ugandans to connect to electricity faster and, as well, increase the number of customers on the networks and, hence, create more revenue for the Electricity Service Providers. Consumers will be required to wire their premises and pay inspection fees to Service Providers. The policy has taken into consideration customers to be connected on the grid and off the grid. 67% of the connections target will be made on grid and 33% on off grid in line with projections under the Sustainable Energy for All Action Agenda.

Three phase customers will, as well, be supported through simpler mechanisms such as energy rebates and credit support to enable them connect faster.

Implementation details will be spelt out in the ECP Implementation Manual that will be prepared and approved prior to the implementation. Revision of the ECP will be made every after three years and amendments made in accordance with the review recommendations.

¹ 2016 Statistical Abstract by UBOS
²Energy Policy for Uganda 2002

1.0 INTRODUCTION

1.1 Background

Electricity access is crucial for the social and economic development of Uganda. To improve the performance of the electricity sector, electricity reforms were introduced. As a result the Electricity Act 1999 was enacted to liberalize and regulate the electricity sector, and to provide for rural electrification.

In accordance with the Electricity Act 1999, the Rural Electrification Fund (REF), the Rural Electrification Board (REB) and Rural Electrification Agency (REA) were established through Statutory Instrument no 75 of 2001, to support rural electrification programmes. The purpose was to address the low level of electricity access in rural areas which was below 1% at the time.

In addition to the reforms, the Government went ahead to formulate policies and strategies with an aim of increasing electricity access in the country.

In 2002 the Government put in place the Energy Policy for Uganda with the goal of meeting the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.

The National Development Plans I, 2010-2015 and II, 2015-2020 prioritized investment in energy infrastructure to improve the country's competitiveness and foster accelerated socio-economic transformation. The focus was to increase electricity generation capacity and the national electricity power grid network. In the NDPII period, the sector targets to increase the percentage of the population with access to electricity to 30 percent and increase electricity consumption per Capita to 578kWh. The target for the Uganda Vision 2040 is to increase electricity access to 80 percent by 2040.

In view of the energy access challenges, the Government prepared a Rural Electrification Strategy and Plan (RESP) covering the period 2013 to 2022 to guide the implementation of the rural electrification programme in the country. The primary objective of RESP 2013-2022 is to achieve an accelerated pace of electricity access and service penetration to meet national development goals during the planning period and beyond.

Although the Government has put in place plans and implemented several electricity access programmes, the level of electricity access in Uganda still remains low at about 20.4 % nationwide and 10% in the rural areas for all forms of energy. The emphasis of Government has been on grid extension on the assumption that once the electricity lines are in place, potential customers would apply and get connected. The major bottlenecks to increasing access to electricity have been identified as high connection charges, high house wiring costs, and lack of incentives for service providers to make timely and cost affordable connections. Without Government intervention to support connections, it is likely that the connectivity level will remain low and access targets under the Government development plans will not be achieved.

1.1.1 Experiences with other Connection Approaches

Several connection approaches have been adopted to lower connection charges and increase access in Uganda and countries all over the world. The following approaches have been implemented and the lessons learnt are documented as follows:

a) Payment of Full Service Connection Charges

Under this approach, the consumer pays the full charges of a connection upfront. The connection charge in Uganda is about US\$160³ (inclusive of 18% VAT and inspection fees) for a No Pole service connection. Connection rates have remained low under this approach because the majority of the population cannot afford to pay the full service connection upfront.

b) Construction Contract Embedded Connections

Under this approach, the cost of connection materials is embedded in the grid construction project and the contractor is tasked to connect customers once the project is complete. The approach aims at having customers connected fast and immediately to the line at no charge before the contractor leaves the project area. The method is restricted to new construction projects. Since a project is time bound and yet customers are not able to wire their houses within the project time, the intended number of connections may not be realized.

c) Partial Subsidies

With this approach, the customer pays a fraction of the connection charges and the balance is paid through a government subsidy program. This approach enables the customer to pay a lower connection charge and, therefore, the rate of connections can be significantly increased⁴. As subsidies increase, the potential for connections is expected to increase proportionally. Under previous subsidy trials carried out through projects supported by grants from the governments of Sweden and Norway, connections were realized much faster. Customers were only mandated to pay the inspection fees equivalent to about US\$50,000.

d) Revolving Fund

The Revolving Fund (RF) provides for a mechanism where finances are recycled to fund more connections. Under this approach, connection materials are procured in bulk and Service Providers (SP) use them to connect customers. The customers make deferred payments (instalments) for the connection charges to the SP. Finances paid back by the customers are put back into the RF and used to procure more connection materials. This approach enables continuous connection of customers.

Some of the foreseen challenges under the approach include:

- i) Management of a credit mechanism may turn out to be cumbersome especially for SPs since this is not in their area of operation. This may require additional

³ ERA approved connection cost 2016

⁴ OBA project reports

operational costs in the setting up of systems and acquiring human resource. As a result, interest rates and more costs may be charged to the customer hence making it more expensive resulting in increased deductions.

- ii) Failure to payback by customers and long repayment periods may cripple the cash flows of the SPs.
- iii) The loan deductions would further worsen the situation with the customers since service fees of about UGX3,600 and 18%VAT are already being deducted. On average, rural households purchase energy of UGX10,000 to UGX15,000⁵ monthly. The customer may have very little or nothing left for energy.

e) Output-Based Financing

This is a subsidy approach applied for connection. With this approach, connection charges are financed through a grant mechanism and financing of connections is results based. A service provider is contracted to make connections. Reimbursement of the connection charges to the Service Provider is made after the connections have been verified by an independent party. This has been the most successful approach in Uganda and was implemented under the Uganda Grid Based Output Based Aid subsidy project for connections. Connection numbers significantly increased under the Umeme Limited footprint and in areas managed by the other smaller Service Providers where the connection charge was subsidized.⁶ This approach has as well been the most successful connection program in Kenya as observed through benchmarking studies.

1.2 Situation Analysis

Access to electricity has been identified as one of the key drivers to social and economic transformation in Uganda. Electricity is a modern form of energy that has a direct effect on agricultural and economic productivity, opportunities for income generation, and more generally the ability to improve living conditions.

The 2016 Statistical Abstract of Uganda indicates that only 5% of the rural households are connected to grid electricity, and when all other forms of modern energy are included, electricity connectivity by rural households is only 10.3%, which is far below the Sub-Saharan average of 29%. The Uganda National Housing and Population Census 2014 estimates that 85% of the population in Uganda lives in rural areas and are engaged in subsistence economic activities with negligible value addition partly due to unavailability of electricity connection.

The Government of Uganda (GoU), has historically concentrated on financing expansion of the distribution infrastructure to rural and remote areas of Uganda. GoU, has constructed and commissioned over 14,000 km of lines; over 8,700 km of MV and over 5,400km of LV distribution lines since 2006. About 120,000 service connections were completed by 2016 on the lines⁷. Despite the achievements on grid extension, the rural electrification rate still remains low at less than 5% on the grid.

⁵ REA Monitoring Reports

⁶ ERA Connection Reports 2016

⁷ REA Progress Report 2016

Since 2007, on average, about 70,000 connections have been made annually by the electricity Service Providers with about 90% being made by Umeme Ltd, the largest Service Provider. Umeme Ltd has, in the past, focused on rehabilitation of the network while the Government, through the Rural Electrification Agency, led the drive to increase electricity coverage countrywide.

However, the connection rates in areas operated by both Umeme and other Service Providers (SPs) established by REA have remained far below Government connection targets. In addition, consumption levels have as well remained low at 215kWh as compared to the sub-Saharan average of 552 kWh per capita consumption and world average of 2,975kWh per capita. Without Government intervention, it is likely that the connectivity and consumption level will remain low and access targets under the Government development plans will not be achieved.

1.3 Problem Statement

Electricity is essential for the social economic transformation of the country. However the national electrification rates continue to be low at 15% on the grid and 20 % when all forms of electricity are included.

The major obstacles to increasing electricity connections have been identified from studies and lessons learnt from previously implemented access projects. It was established that the primary obstacles to increasing connections included the following:

- a) **The high upfront connection costs** that are not affordable to most households, most especially in the rural areas. The current approved connection charge for a No Pole Service is UShs. 580,000 (US\$160)⁸ including taxes and inspection fees. This cost continues to be an obstacle even in the urban areas as majority of the people are not able to meet it. About 80%⁹ of Ugandan households are not able to connect to electricity due to the high charge.
- b) **The inability of the Service Providers (SPs) to pre-finance and stock connection materials** that are enough to sustain connection of new customers for a long period of time. Even in areas where people have been able to raise funds for connections, connection has taken longer due to the low pre-financing capacity of connection materials especially on the part of the smaller SPs in the rural areas.
- c) **High wiring costs incurred by households.** Wiring costs consist of material and labour costs. These costs are high making it difficult for the poor to wire their houses and get connected. About 20% of rural households may not afford to wire their premises using the conventional wiring approach.¹⁰ This is compounded by unavailability of wiremen within the reach of many rural communities.

⁸ ERA Approved Connection costs 2016

⁹ OBA Poverty Mapping Report 2016

¹⁰ OBA Poverty Mapping Report 2016

The conventional wiring used which is expensive is more relevant for households with higher energy consumption. Most rural households require basic energy services to provide lighting, phone charging and entertainment services hence consume little energy.

- d) **Sparsely Populated Settlements.** Many of the settlements in rural areas are sparsely populated with low energy consumption making grid extension and connection economically unviable.

The Policy will aim at addressing the above challenges in order to increase electricity access.

- e) **Excess Electricity Supply expected in the Medium Term.** The GoU embarked on an ambitious electricity generation program and it is expected that by 2020 an additional 1,000 MW (Karuma – 600 MW, Isimba – 183 MW, Achwa 80 – MW, and various Global Energy Transfer Feed-in-Tariff (GETFIT) projects – 120 MW) of new power plants would be connected to the grid. If the additional generation capacity is not consumed, Government will be required to pay for deemed energy which will result into a high consumer tariff. The current peak demand is about 600MW.

This document, therefore, presents Government’s Electricity Connections Policy for a period of ten years starting from 2018 – 2027. Within the document, the policy framework covering the guiding principles, policy goal, policy objectives and strategies to meet the objectives are presented. The institutional arrangements and the implementation modalities have been highlighted including the monitoring and evaluation interventions that will be undertaken.

2.0 POLICY FRAMEWORK

2.1 Guiding Principles

The ECP will be guided by the following implementation principles:

- a) The underpinning principle is the provision of connection subsidies to customers to bridge the gap between affordability and the cost of connection in order to increase electricity access and achieve Government electricity connection goals.
- b) Sustained financing shall be availed to ensure continuous connection of customers. To this extent, there will be a dedicated annual allocation from the Consolidated Fund and the Transmission Levy to the Rural Electrification Programme in order to achieve a minimum level of connections per year. Funding will also be allocated through donor financing.
- c) There will exist an enabling environment that will facilitate the scale up of connections so as to achieve the NDPII and Vision 2040 goals of increasing electricity access. The enabling environment may include regulatory and financing arrangements as well as incentives to Service Providers to enable them implement the policy.
- d) The mechanisms adopted must not compromise the utilities' financial sustainability and operational efficiency.
- e) The subsidies or other mechanisms deployed must be done in such a way that there is transparency, accountability, efficacy and efficiency.
- f) The Government of Uganda will continue to invest in the backbone infrastructure to increase and intensify grid coverage.

2.2 Policy Goal

The goal of the policy is to achieve a 60% level of access to electricity for Uganda by 2027.

2.3 Objectives

- a) Increase number of connections made annually from the current average 70,000 to 300,000 connections.
- b) Increase electricity demand on the main grid by 500MW by 2027

2.4 Strategies to achieve the Objectives

2.4.1 Objective 1: *Increase number of connections made annually from the current average 70,000 to 300,000 connections.*

In order to achieve Objective 1, the following strategies will be applied:

- a) Subsidize the connection charges for eligible customers existing within the low voltage distribution network. Customers will be required to cover the cost of internal wiring and inspection fees while the Government will meet all other associated charges for the connection.
- b) For grid densification and intensification, prioritize areas to be electrified while ensuring equitable provision of services across the country. This will involve identifying areas with high population density near or within the distribution network who can be connected under one scheme to lower the unit cost per customer. This too will as well be subsidized for customers.
- c) Apply technical standards and low cost technologies for wiring and connection such as ready boards which provides a lighting and socket for customers who are not able to wire their house.
- d) Use of off-grid solutions for customers located far from the grid where extension of the grid is not financially feasible. A study will be undertaken to inform the design of an appropriate approach to adopt to meet the off grid connection targets in the ECP. Once the approach is agreed upon, it will feed into the ECP and enable achievement of 31% off-grid of the connection target. The approach will be approved by the REB and implemented immediately.
- e) Provide for customers to pay the connection cost in instalments over a period of time. This approach will be applied later after reviewing the ECP and accumulating a critical mass of customers on the network.
- f) Enhance the capacity of SPs to meet the increased connection target by facilitating acquisition of connection materials, capacity building and institutional strengthening.

2.4.2 Objective 2: *Increase electricity demand on the main grid by 500MW by 2027*

In order to achieve Objective 2, the following strategies will be applied:

- a) Provide mechanism for energy rebates where customers invest in infrastructure that will benefit them and other businesses and premises.
- b) Facilitate connection of Three-phase customers through provision of credit support facilities. This will also include existing enterprises using fossil fuels such as diesel and petrol. These will be enabled to switch to clean energy.
- c) Promote productive use of electricity through publicity and mobilization.

2.5 Justification

Presently, the Energy Sector in Uganda is guided by the Energy Policy for Uganda 2002. Under Objective Two of the Energy Policy for Uganda, government aims at increasing access to modern affordable and reliable energy services as a contribution to poverty eradication. Under this policy objective, modern energy targets aspects of improved cook stoves and solar PV systems among others. This largely looks at only meeting household energy needs for domestic use. The Policy is silent on access to the grid due to the low generation capacity at the time of its formation. In addition, the aspect of Per Capita energy consumption was left out which is a fundamental indicator of development.

The aspect of generation capacity is being addressed and the need to absorb the energy that will soon be produced from the Karuma and Isimba dams currently under construction has emerged. The government's target of attaining middle income status by 2020 will as well need to be addressed and the energy sector will need to make its contribution in line with the connection target spelt out in the NDPII.

Access to grid electrification and raising Per Capita energy consumption are seen as key enablers of production, value addition and industrialization. In its form, the energy policy does not capture these fundamental aspects of production, value addition and industrialization. This creates a missing link in the value chain that necessitates a deliberate policy action to be put in place.

In addition, the following aspects have still remained not catered for under existing policies and development plans.

- a) Connectivity goals to be reached as per the Government's plans and how they are to be achieved.
- b) How the major obstacles to increasing access are to be addressed.
- c) Consumption goal to be achieved and how it's to be achieved. There is an anticipated 1000MW from Karuma and Isimba dams under construction.

It has emerged that the very low access rates require a long-term planning approach to be adopted in order to increase the connection numbers. Given the gap in existing policies, a clear policy to provide direction on increasing access and consumption is thus required. In this regard, the MEMD has proposed to put in place an Electricity Connections Policy to fill the existing gap.

The need for an appropriate Electricity Connections Policy is also recognized by the Constitution of the Republic of Uganda which states: "The State shall promote and implement energy policies that will ensure that people's basic needs and those of environmental preservation are met". The ECP should, therefore, contribute to Government's development plans under the NDPII and Vision 2040. The two plans spell out connectivity targets to be achieved and aim at lifting Ugandans to middle income level and eventually transform Uganda into a prosperous country.

3.0 EXPECTED SOCIAL AND ECONOMIC OUTCOMES

Government, has been implementing electricity access projects in rural Uganda. Through the implementation of these projects, it has been observed that electricity is one of the major drivers of social and economic transformation.¹¹ Information documented under previously implemented access projects like the OBA project shows great improvement in standards of living of the beneficiaries. Consumers have gone on to use the electricity for entertainment, refrigeration, phone charging, ironing, reading and power their businesses, among others.

It is therefore anticipated that implementation of connections under the ECP will result into the following social, economic and environmental benefits.

3.1 Economic

- a) An average of 300,000 connections will be made initially under the ECP on an annual basis. This will translate into US\$950 million in ten years as additional revenue for the electricity service providers hence contributing to increasing their sustainability and viability.
- b) Increased income generating activities by 30% of the connected premises.
- c) 30% average increase in revenue growth for existing businesses as a result of reduced expenditures on expensive sources of energy such as diesel generators.
- d) Over 40% savings for households on the cost of energy for lighting, phone charging and powering electric equipment as a result of switching from using diesel, kerosene, candles, batteries and traveling long distances to charge mobile phones.
- e) Additional consumption of 6million kWh annually as a result of connecting 300,000 additional customers. This is expected to raise when customers engage in productive use of energy and as well the connection of bigger industries. 30% of the connected customers are expected to engage in productive use. As a result, an additional consumption of 5.4 million kWh is expected.
- f) Setting up new industries or expanding existing industries to manufacture connection materials. This will result into the following:
 - i) Additional and increased power consumption by the industries.
 - ii) Creation of employment opportunities by the industries.
 - iii) It is anticipated that connection materials will be cheaper when produced locally and will hence reduce the connection charges.

¹¹ REA Access Reports

3.2 Social

- a) Increased personal security will be realised as a result of provision of outside lighting.
- b) Increased average reading time by 20% for students which will eventually contribute to improved academic performance.
- c) Improved delivery of health services due to the ability to power medical equipment, provision of better lighting for health centres and refrigeration for vaccines.

4.0 POLICY CONTEXT

4.1 General Context

Government has since put in place a number of development plans and electricity connection targets within the plans to be achieved. The following are the various Government plans with electricity connection targets incorporated in them:

- a) The Second National Development Plan (NDPII) which aims at increasing the proportion of households accessing power from the National grid to 30% by 2020;
- b) Vision 2040 which aims at having 80% of the population with access to electricity by 2040;
- c) The Second Rural Electrification Strategy and Plan (RESP II) which aims at achieving 26% rural electrification by 2022;

The Energy Policy for Uganda (2002) under objective two aims at increasing access to modern affordable and reliable energy services as a contribution to poverty eradication.

Table 1 presents the Government plans and the connection targets to be achieved indicated within.

Table 1: National Connection Targets under Existing Government Plans

Government Plans	Connection Target (Number)	Achieved Connections so far (Number)	Balance of Connections to be made (Number)
Vision 2040, 2013 - 2040. 80% access (National)	12,713,665	1,456,945	11,256,721
NDP – II, 2015 - 2020. 30% access (National)	2,656,650	1,456,945	1,199,705
RESP- II, 2013 - 2022. 26% access (Rural)	1,831,986	300,207	1,531,779

Source: Government planning documents

NB: A population growth rate of 3% has been factored in the connection numbers

While all the mentioned plans were put in place, approaches to provide for achieving the connection targets have not yet been put in place and hence electricity access has remained low. The ECP has, therefore, put in place strategies for financing and implementation to achieve the RESPII and NDPII connection targets.

It will as well aim at achieving 60% connectivity by the year 2027. At the end of the ten years, the policy will be reviewed to enable achievement of the Vision 2040 connection target and universal access thereafter.

In addition to the Government plans in Table 1, the United Nations Sustainable Energy for All action plan (SE4ALL) aims at achieving universal electricity access by the year 2030. The plan provides for 67% of the access target to be achieved on the grid and 33% (31% on standalone solar systems and 2% on mini-grids) on the off grid. The SE4ALL plan may not be achievable under the ECP given that time constraints may not enable realization of resources for both infrastructure and connections.

The ECP has based connection projections on the SE4ALL approach. It will aim at achieving 67% access on the grid and 33% (31% from standalone solar systems and 2% from mini-grids) access on off grid.

5.0 LINKAGES TO EXISTING STRATEGIES

5.1 Regulations and Legislations

- a) The ECP is in line with the objectives, strategies and interventions highlighted in the National Development Plan II (2015/16 – 2019/20) in regard to the Energy Sector. To this effect, the NDP II under Section 11.2 on Energy, objective 5 is "to improve the policy, legal and institutional framework" in the energy sector.
- b) The ECP also contributes to the Vision 2040 objectives. It will contribute to the Vision's connection target of 80% by the year 2040.
- c) Under the National Objectives and Directive Principles of State Policy, objective XXVII (a) of the Constitution of the Republic of Uganda, it is provided that the state shall promote and implement energy policies which will ensure that people's basic needs and those of environmental preservation are met.
- d) The ECP is in line with Goal no 7 of the Sustainable Development Goals adopted by the United Nations in September 2015 namely "Ensure access to affordable reliable, sustainable and modern energy for all by 2030". One of the targets of this goal is "to provide universal electricity access by 2030".
- e) The ECP is in line with the United Nations Sustainable Energy for All action plan (SE4ALL) aims at achieving universal electricity access by the year 2030. The plan indicates that 67% of the access is to be achieved on the grid and 33% (31% on standalone solar systems and 2% on mini-grids) off grid.

6.0 CROSS CUTTING ISSUES

6.1 Gender

The ECP aims at ensuring that both men and women get an opportunity to get connected to electricity. This will as well be incorporated in the publicity and awareness campaigns.

6.2 Equity

The ECP will benefit every Ugandan, regardless of their political, social and religious affiliations. Inclusiveness of persons with disabilities and other marginalized groups will be accommodated.

6.3 Environment

It will contribute to reduction in greenhouse gas emissions by about 1.3million tonnes of carbon dioxide as a result of switching from using traditional forms of energy like diesel, kerosene and candles.

7.0 ROLES OF KEY STAKEHOLDERS

The following stakeholders will play key roles in the implementation of the ECP. Roles will be detailed in the ECP Implementation Manual that will be prepared prior to implementation.

a) Ministry of Energy and Mineral Development

The Ministry of Energy and Mineral Development will provide policy guidance in relation to the ECP, and oversee the overall implementation of the Policy through the Rural Electrification Board.

b) Rural Electrification Agency

The Rural Electrification Agency, with its mandate to plan and implement the national Rural Electrification Programme, acknowledging that 85% of the population which is going to be targeted lives in rural areas, will be the lead agency in the operationalization of the ECP. It will be the point of contact for all matters pertaining to the ECP implementation.

c) Electricity Regulatory Authority

ERA will review and determine the required connection charges and as well supervise the quality of connections made by the SPs.

d) Uganda Energy Credit Capitalization Company

The Uganda Energy Credit Capitalization Company (UECCC) will provide credit facilities to enable connections of enterprises and households as applicable.

e) Development Partners

DPs will continue to provide financial and supervision support for the ECP.

f) Electricity Service Providers

The Electricity Service Providers will be mandated to make connections within the criteria stipulated in the ECP. These are companies licensed in the distribution and sale of electricity in the different service territories.

g) Wiremen

These are electricians licensed by ERA to carry out any electrical installation works. They will provide the required wiring services for premises before a connection is made.

h) Independent Verification Agent/s

Independent Verification Agents will be hired to audit the connections made under the ECP. They will ensure that the connections made are compliant to the ECP and Implementation Manual requirements.

i) Local Governments

Local Governments will provide information dissemination support at the grass root level.

j) Households and Businesses

Households and businesses will be tasked to wire their premisses and apply for connection from their respective service providers.

8.0 IMPLEMENTATION MANUAL

An Implementation Manual for the ECP Programme will be prepared to guide implementation of the ECP operations. It will spell out details on the roles and responsibilities of the different stakeholders/institutions, procurement of connection materials, disbursement mechanisms, monitoring and evaluation plans, publicity and mobilization for connections, verification for connections, funds flow, inventory management, risk assessment and mitigation and all other operations deemed necessary for the successful implementation of the ECP. The Implementation Manual will be approved by the Rural Electrification Board prior to implementation of the policy.

9.0 STAKEHOLDER CONSULTATIONS

Consultations were made widely with various stakeholders through meetings, workshops, focus group discussions and interviews. Some of the stakeholders engaged in the consultation process include; Government Ministries and Agencies, Development partners, service providers, local governments, members of parliament and households among others.

9.1 Development partners

The following development partners participated in the consultation process; World Bank, KFW, European Union, African Development Bank, French Development Agency, Japanese International Cooperation Agency, GIZ, United States Agency for International Development and United Nations Development Program among others.

Initially, the development partners expressed concern over the sustainability and funding mechanisms of the ECP. The ECP therefore proposes to apply the subsidy approach in the first years so as to amass a big number of customers on the network. This as well targets the achievement of the connection target in the NDPII that will contribute to moving Uganda to middle income status by 2020. The policy will be reviewed and depending on the review results, the financing connection approach may change. The Government of Uganda has as well reiterated its commitment towards funding the ECP through the consolidated fund and applicable levies.

Proposals were made to exclude any criteria that may hinder faster attainment of connection numbers.

House wiring was noted as one of the hindrances to connection. Three wiring approaches will be considered namely; full house wiring, partial house wiring and low cost wiring approaches like ready boards will be adopted in the Implementation Manual.

9.2 Service Providers

The following service providers participated in the consultation process; Umeme Limited, Kilembe Investments Limited (KIL), Uganda Electricity Distribution Company Limited (UEDCL), Bundibugyo Energy Cooperative Society (BECS) and Pader Abim Community Multi-Purpose Electric Cooperative Society (PACMECS) Limited.

The service providers were in support of the ECP given their experiences and lessons drawn from the implementation of the OBA project. Through the OBA project, the service providers registered significant growth in their customer base and sales revenue.

The service providers as well commended the continuation of the public – private partnership as opposed to a monopoly in the power distribution business.

9.3 Local Government leaders

Majority of the Local Government leaders were in support of the ECP basing on the fact that most of the people they represent cannot afford the high upfront charges of an electricity connection.

The following local government leaders participated in the consultation process;

- a) Chief Administrative Officers from Adjumani, Arua, Yumbe, Rukungiri, Kibale, Pader, Dokolo, Lamwo, Kapchorwa, Manafwa, and Mpigi district.
- b) Resident District Commissioners from Bukomansimbi, Gomba, Kalangala, Busia, Mbale, Kaberamaido, Kyankwanzi, Kanungu, and Lira district.
- c) Local Council V Chairpersons from Abim, Kotido, Otuke, Iganga, Kamwenge, Kyenjojo, Palisa, Soroti, Kaliro, and Serere districts.

9.4 Members of Parliament from the Energy Resources Committee

The Members of Parliament welcomed the ECP indicating that it would go a long way in transforming their electorate in the areas of; lighting for households, lighting for education, productive use, information communication, preservation of the environment and improved security among others.

9.5 Government Ministries and Agencies

The following government agencies participated in the consultation process and embraced the ECP; Ministry of Finance, Planning and Economic Development, Electricity Regulatory Authority (ERA) and Uganda Energy Credit Capitalization Company (UECCC), among others.

9.6 Ministry of Local Government

Consultations were made with the Ministry of Local Government (MoLG) on the ECP. MoLG affirmed its commitment to work with the rest of the Government institutions in the implementation of the policy. They would go ahead to support the ECP up to the grassroots.

10.0 FINANCING MODALITIES

10.1 National Connection Targets and Required Funding

a) Connection Targets

The ECP aims at achieving the NDPII national connection target of 30% and RESPII rural connection target of 26% and overall achieve 60% of electricity access by the year 2027. The ECP will be reviewed after every three years and amended as required.

b) Connection Projections

As per the population increase of 3%¹², it's estimated that the number of households in Uganda will be 10,506,538 by the year 2027. The policy will aim at reaching 60% connection rate by the year 2027 representing 6,303,923 connections both on grid and off the grid. It is estimated that 2% of the connection target equivalent to 126,078 connections will come from the mini-grid connections. 31% of the connection target equivalent to 1,954,216 connections will come from off grid standalone solar systems and the remaining 67% target equivalent to 4,223,628 connections will be achieved on the grid. This basis is derived from the SE4ALL Action Agenda and will be adopted for the ECP.

As per the NHPC 2014 about 1,156,945 households were connected to the grid and about 300,000¹³ were made in the years 2015 and 2016 hence bringing the total to 1,456,945 connections on the grid. This leaves a balance of about 2,892,762 grid and mini grid connections to be made to achieve 60% connection target by 2026. This target maybe surpassed as funding becomes available.

The policy will aim at achieving about 300,000 connections on an annual basis and 3million connections in the ten years of the policy. It will assume a connection charge of US\$160 for a No Pole service connection as approved by ERA in 2016. The charge may reduce when materials are procured in bulk as a result of benefitting from economies of scale.

10.2 Funding Sources

The Government will use its best efforts to mobilise sufficient funding to finance the implementation of the ECP. The Government will use resources from the annual budget (the Consolidated Fund), development partners and any other sources including levies that the Government may find appropriate to charge and growth factor revenues.

a) Funding from Government of Uganda

The Rural Electrification Board has realised an inflow of a sizable amount of funds for infrastructure development from development partners over the last

¹² NHPC2014
¹³ ERA reports

decade. Given the achievements so far made on infrastructure, Government will provide more funding towards increasing the connectivity rate. At least 50% of the budgetary allocation from the Consolidated Fund for development and the transmission levy will be allocated to the financing of connections. The balance of the budget allocation would be utilised to finance infrastructure, tax component on infrastructure projects financed by development partners, compensation for right of way and administration costs.

b) Funding from Development Partners

Government is currently supported by a number of development partners that co-finance electrification programmes. These include the World Bank, Federal Government of Germany, European Union, Royal Kingdom of Norway, French Development Agency, German Development Bank, African Development Bank, Islamic Development Bank, United States Agency for International Development, Exim Bank of China, Japan International Cooperation Agency, and the Kingdom of Sweden. Government will continue to seek funding from development partners to fund the ECP. So far about US\$80million has been committed for the last mile connections. The contribution is from the World Bank, DFID – UK through ENDEV, German Development Bank, European Union through the African Development Bank and the French Development Agency.

c) Growth Factor Revenue

Funding for the policy connections will as well be sourced from Growth Factor Revenues of Electricity Service Providers on an annual basis. About 10% of the policy's budget will be funded from this source.

d) Sustainability of Financing

While the Government shall use best efforts to source for the required financing for connections from development partners, for sustainability of funding, the Government will commit 50% of its annual Rural Electrification budget to finance connections.

In addition, design of all future funding on all projects funded by both Government and Development partners will incorporate funding for connections.

10.3 Average Annual Funding Requirement

In order to achieve the ECP connection target, an average of about 300,000 connections will be made annually on the grid and mini grids. Funding for the connections has been estimated basing on previously implemented projects. Therefore annual funding for grid and mini-grid last mile connections will be required as follows:

- a) Connection materials have been costed at US\$160 inclusive of taxes per connection which translates into US\$ 48,000,000.

- b) About US\$3,000,000 will be required annually for verification at a verification cost rate of about US\$ 10 per connection.
- c) It is estimated that about US\$6,450,000 would be required for publicity and mobilization for the ECP Programme. The start would require an estimated US\$1.5 million as seen in table 2. This would reduce in the subsequent years as the policy gains visibility. About US\$550,000 would be required annually in the subsequent years of the policy. On average including the first year, about US\$645,000 would be required annually.
- d) The cost of a ready board and earthing kit is estimated at about US\$70. About 20%¹⁴ equivalent to 60,000 households may apply for a ready board.

Table 2 below shows the average estimated annual funding for the ECP.

Table 2. Total Annual Funding Required

No.	Item	Amount (US\$)
1	Connection materials	48,000,000
2	Verification of Connections	3,000,000
3	Publicity and mobilization	645,000
4	Ready boards	4,200,000
Total		55,845,000

Source: Previously implemented projects

10.4 Total Funding Requirement

A total of 3,000,000 connections will be required to reach the 60% connection target. Table 3 shows the estimated funding required to achieve the connections. Costs have been adopted from Section 10.3.

Table 3. Estimated Funding Requirement for the ECP

No.	Item	Amount (US\$)
1	Connection materials	480,000,000
2	Verification of Connections	30,000,000
3	Publicity and mobilization	6,450,000
4	Ready boards	42,000,000
Total		558,450,000

¹⁴ OBA Poverty Mapping Study

11.0 MONITORING AND EVALUATION

REA, ERA and MEMD will play a major role in the Monitoring and Evaluation (M&E) of the implementation of the policy and will put in place M&E plans. Consultants will be hired to carry out independent verification of connections.

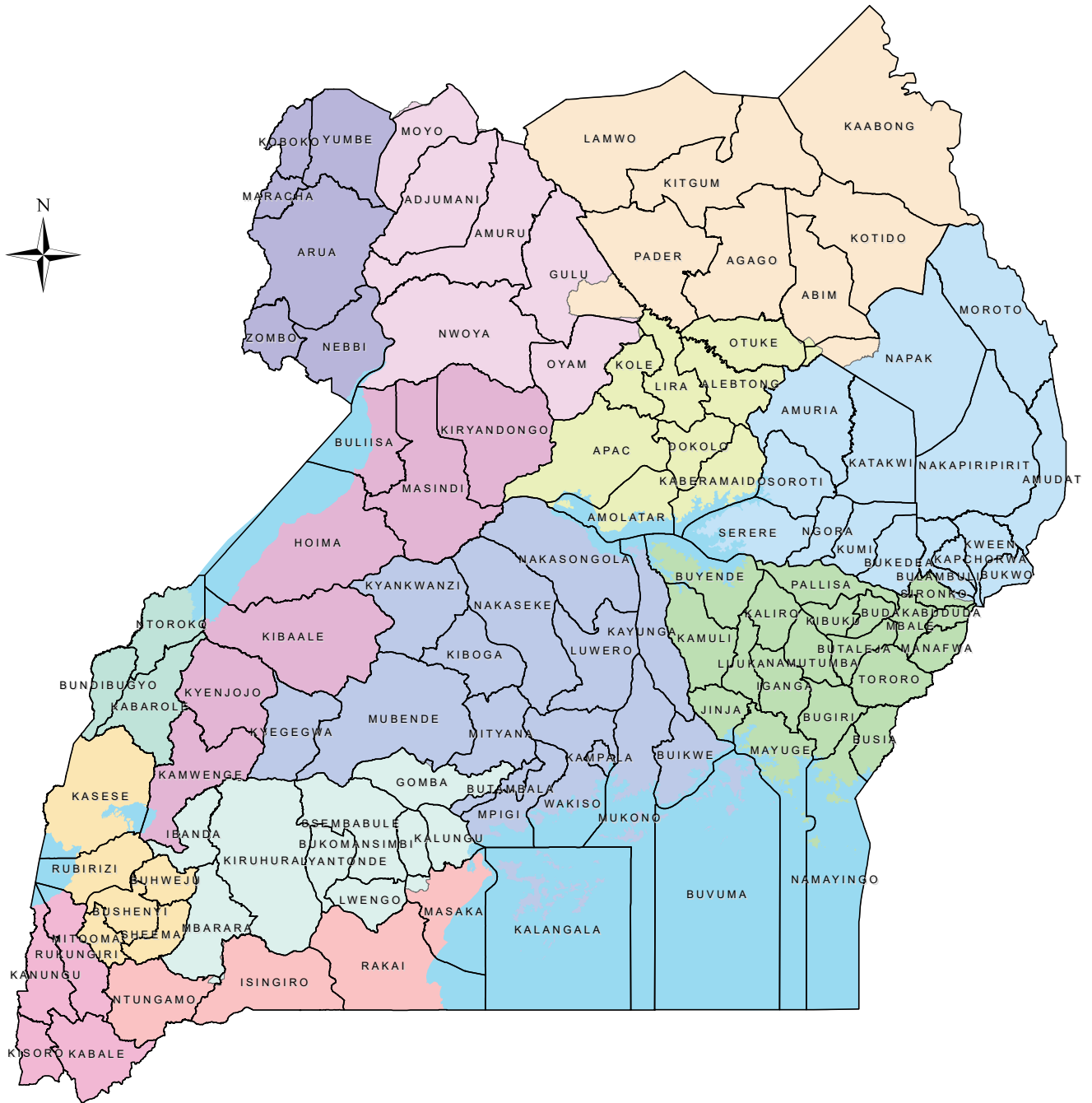
The ECP has fittingly built-in a revision cycle, whereby amendments will be made in accordance with review recommendations every three years. M&E will be detailed in a strategy in order to take full advantage of each revision cycle.

The desired objectives for M&E will include parameters such as: the number of connections achieved; Cost per connection; operational costs by SPs; the Type of household connected; impact of the ECP and effectiveness of the publicity campaigns. This will be essential to securing external funding after the first few years of implementing the ECP.

In order to understand the efficacy of the various strategies, the first three-year revision cycle of the policy will also evaluate the different approaches used to support service providers. The next revision of the ECP will be informed by the outcome of the evaluation.

The M&E plan will include a mechanism for tracking ready board to wiring conversions and ready board retrieval. The tracking and assessment of households who opt to wire their premises after a ready board connection could also aid a better understanding of customer demand and the impediments to increased connections.

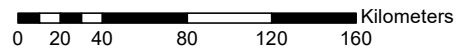
Map Showing the Electricity Distribution Service Territories in Uganda



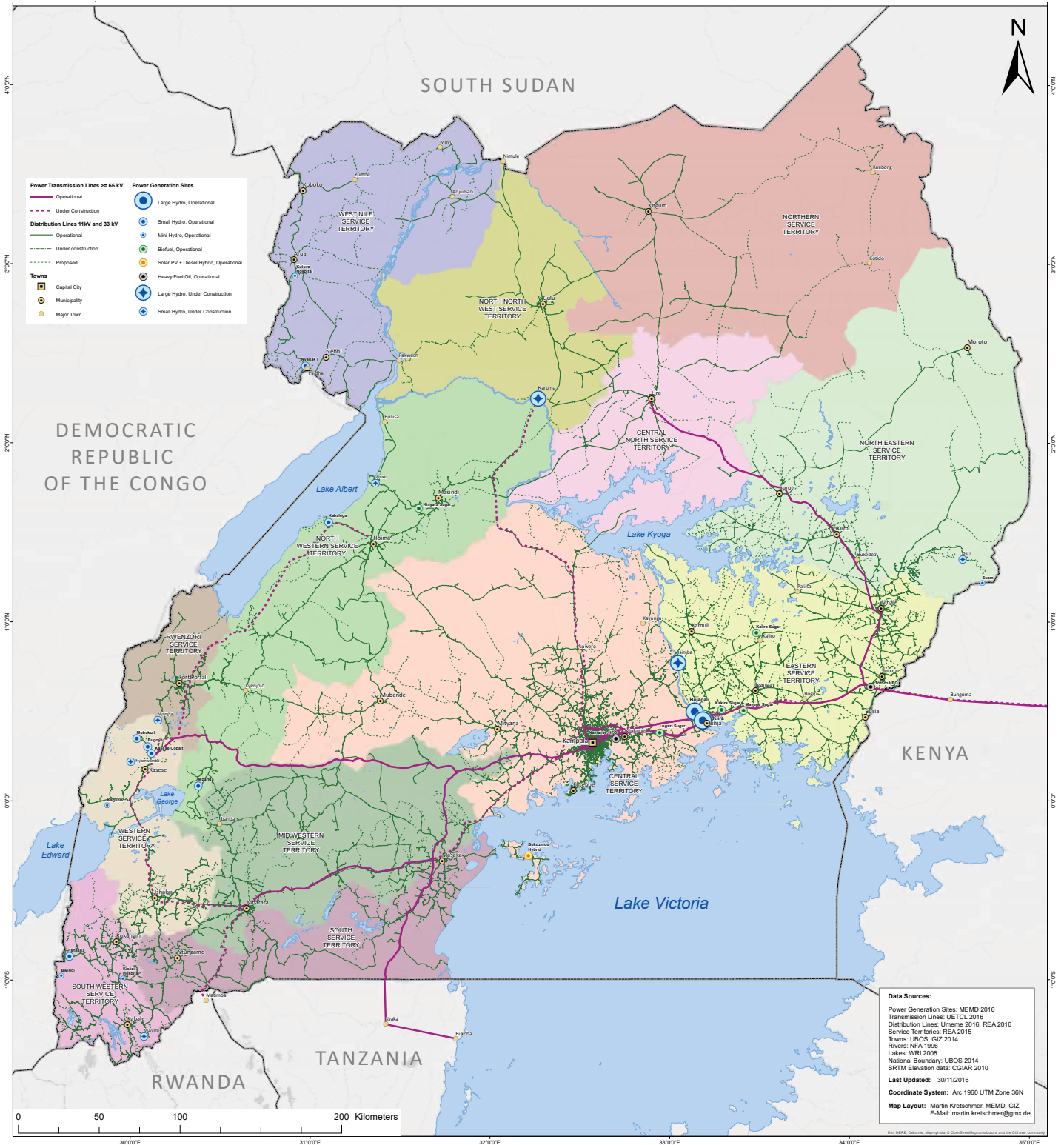
Legend

- District_Boundary
- EASTERN S/T
- NORTH WESTERN S/T
- SOUTH WESTERN S/T
- SERVICE TERRITORY
- MID WESTERN S/T
- NORTHERN
- WEST NILE S/T
- CENTRAL NORTH S/T
- NORTH EASTERN
- RWENZORI S/T
- WESTERN S/T
- CENTRAL S/T
- NORTH NORTH WEST S/T
- SOUTH S/T
- Major Lakes

Coordinate System: Arc 1960 UTM Zone 36N
 Projection: Transverse Mercator
 Datum: Arc 1960
 False Easting: 500,000.0000
 False Northing: 0.0000
 Central Meridian: 33.0000
 Scale Factor: 0.9996
 Latitude Of Origin: 0.0000
 Units: Meter



Map Showing the Electricity Grid Distribution Network in Uganda





THE REPUBLIC OF UGANDA

ELECTRICITY CONNECTIONS POLICY

Financing and Implementation for Connections
Period: 2018 - 2027



RURAL ELECTRIFICATION AGENCY
Implementing Uganda's Electricity Connections Policy