PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE

Report No.: PIDA13802

Project Name	KE Electricity Modernization Project (P120014)
Region	AFRICA
Country	Kenya
Sector(s)	Transmission and Distribution of Electricity (90%), Other Renewable Energy (10%)
Theme(s)	Infrastructure services for private sector development (25%), Regulation and competition policy (25%), Urban services and housing fo r the poor (25%), Rural services and infrastructure (25%)
Lending Instrument	Investment Project Financing
Project ID	P120014
Borrower(s)	The National Treasury
Implementing Agency	Rural Electrification Authority, Kenya Power and Lighting Company (KPLC), Ministry of Energy and Petroleum
Environmental Category	B-Partial Assessment
Date PID Prepared/Updated	22-Feb-2015
Date PID Approved/Disclosed	23-Feb-2015
Estimated Date of Appraisal Completion	09-Jan-2015
Estimated Date of Board Approval	31-Mar-2015
Decision	

I. Project Context

Country Context

1. As Africa's newest lower-middle income country, Kenya faces both development opportunities and challenges. At a time of major social and economic transitions, the conditions for attaining better living standards are increasingly within reach for a majority of Kenyans. In the past twenty years, the economy has gone from one that was shrinking to an economy growing at nearly five percent per year. Kenya crossed the lower middle-income threshold in 2012 and GNI per capita is currently US$1,160. But economic growth, while solid on average, has been volatile and has yet to take-off at the high, sustained rates needed to reduce poverty rates as the economy has experienced various shocks (e.g., political instability, drought). The rate of poverty reduction has not kept pace with economic growth: the poverty rate is estimated to have decreased from 46 percent in 2005/6 to 38 percent in 2012. Inactivity rates among the youth stand at 9.6 percent, compared to a national average of 8.5 percent. Inequality stands at 47.7 percent. Kenya's latent potential to develop rapidly can be sparked by its dynamic private sector, fueled by its expanding

skilled youthful population, and leveraged through its pivotal role within East Africa and further afield. Sound macroeconomic policy, the peaceful electoral transition and the new Constitution provide a strong foundation for economic development. The recent successful and oversubscribed US$2 billion Eurobond issue demonstrates Kenya potential to raise resources to finance development and signaled confidence in the economy by international investors.

2. Vision 2030, Kenya's long-term development strategy, targets expanded infrastructure access as a key element in achieving higher levels of economic growth. Vision 2030 targets an average annual economic growth rate of 10 percent throughout 2030. This high expected economic growth will require modern, efficient infrastructure facilities to expand the productive sectors of the economy and improve access to markets. The upgrade of the infrastructure platform calls for rehabilitating the road network, upgrading the railways, improving urban public transport, and expanding access to electricity and safe water. In an effort to improve equity of opportunity, the overall program gives a special emphasis to expanding the access of the rural and urban poor to basic services such as electricity, water, and sanitation.

3. Kenya's dynamic private sector faces serious infrastructure constraints. Electricity supply and transport need to be improved if Kenya is to maximize its potential for private sector-led growth. Kenya's vibrant private sector is a major source of economic growth, driven by expanding services in telecommunications and transport. Kenya benefits from its geographical location that is favorable to trade, with the port of Mombasa serving as the most important gateway for imports to the East African Community (EAC) countries, South Sudan and eastern Democratic Republic of Congo. The quality of electricity supply in Kenya has been poor characterized by frequent breakdowns, low voltages and long outage restoration time. Considering that affordable and reliable electricity supply is an essential underpinning of Kenya's competitiveness, investment in the Transmission and Distribution infrastructure to make it a robust service accompanied by efficiency in operations and maintenance remain critical for the country.

Public Disclosure Copy

4. Reliability and quality of electricity service underpin Kenya's plans for industrialization and increasing competitiveness. Currently, poor quality and reliability of service imposes costs on business (including the capital cost of self-generation on business premises and loss of production) and thus is a constraint to competiveness of industry and consequently on employment.

5. Approximately 35 percent of the population has access to electricity. This is above the average of 28.5 percent for Sub-Saharan Africa, but inconsistent with the socio-economic condition of the country, the largest economy in East Africa and o ne of the most developed in Sub-Saharan Africa. Accelerating the pace of electrification in line with the government's target of 70 percent electrification by 2020 can contribute to eliminating extreme poverty and achieving shared prosperity.

Sectoral and institutional Context

6. Since 1997, the Kenya power sector has undergone two generations of reforms, and can count considerable achievements. The number of households with electricity access has more than doubled in the past five years; the grid increased by 25 percent in the past six years and has been extended to the majority of market centers; electricity retail tariffs are largely cost reflective; over US$ 1 billion private investment has been sourced for seven privately owned power generation plants totaling 483 MW capacity that produce about 23 percent of electricity supply; the public

sector power utilities (KenGen and the Kenya Power and Lighting Company, KPLC) operate on the basis of commercial principles supported by a system of performance contracts.

7. These achievements place Kenya among the best performing power sectors in Africa, however, the robust economic growth in the country and the pressing need to reduce poverty are demanding a much stronger performance by the power sector to support and accompany the transformational changes and aspirations of Kenya. The Draft Energy Bill and the draft Energy Policy that were under discussion in March/April 2014 are shaping a third generation of reforms. New policies and new laws being promulgated will align energy sector policy and governance with the Constitution promulgated in 2010, in particular those regarding the devolution of roles between national and county governments and entrenchment of the constitutional requirements on national values and ethical conduct. The Energy Bill for example proposes transparent arrangements for the management and exploitation of the country's natural energy resources in line with the 2010 Constitution.

8. The Ministry of Energy and Petroleum (MoEP) has responsibility for energy policy and administers a system of performance contracts between itself and public sector entities. The Government has set a target of 70 percent electrification by 2016 and universal access by 2020. In this regard, the annual performance contract between the Ministry and KPLC include targets on new consumer connections, delivery of generation capacity being developed by Independent Power Producers (IPPs), distribution system breakdowns, average outage repair time and completion of capital projects.

9. KPLC as the sole purchaser of all electricity produced by public owned and by independent power producers (IPPs) is the cornerstone of the electricity sector in Kenya. KPLC is the single buyer and sole distribution company for all power produced. As such, it is the source of all the revenues of KenGen (the public owned generator) and all the existing and future IPPs as well as the commercial revenues of the Kenya Transmission Company (KETRACO), the public owned transmission company. The private sector presence in electricity generation is fully supported by take-or-pay power purchase agreements signed with KPLC and supported by government and MIGA and IDA security package that insure the obligations of KPLC.

Public Disclosure Copy

10. There is transparent rules-based regulation of the sector that sustains its commercial viability. The Energy Regulatory Commission (ERC) whose powers are prescribed in the Electricity Act 2006 carries out periodic retail tariff reviews. The most recent tariff review was completed in November 2013 and resulted in revised retail tariffs for the three year period 2014-16. The tariff mechanism including its provisions for pass-through to customers of currency fluctuation and fuel costs is based on cost recovery principles and ensures that both public and private sector financed investments remain viable. The legal framework for ERC to monitor and enforce service quality is in place but will require secondary legislation.

II. Proposed Development Objectives

The proposed project development objectives (PDOs) are: (a) to increase access to electricity; (b) to improve reliability of electricity service; and (c) to strengthen KPLC's financial situation.

III. Project Description

Component Name

Component A: Improvement in Service Delivery and Reliability
Comments (optional)
Sub- Component A1. Upgrade of the Supervisory Control and Data Acquisition/Energy Management System (SCADA/EMS). The objective of this sub-component is to enhance flexibility in operations and allow a more efficient management of the distribution network.
Sub- Component A-2. Distribution system enhanced flexibility. KPLC is also implementing various actions to automate and enhance the operational flexibility of the distribution network (in particular at the medium voltage level), in an effort to reduce duration of system interruptions.
Sub-component A-3. Enhanced maintenance practices to improve quality in electricity supply. In order to further reduce interruptions in electricity service, KPLC will implement live-line maintenance (LLM).

Component Name
Component B: Revenue Protection Program (RPP)
Comments (optional)
The main objective of the RPP is to protect on a permanent manner KPLC's revenues from sales to the segment of its large and medium customers, ensuring that all users in that "high value" segment are systematically billed according to their accurately metered full consumption. This component will finance implementation by KPLC of a revenue protection program (RPP), based on the application of advanced metering infrastructure (AMI), and the adoption of organizational arrangements (creation of one or more metering control centers (MCCs)) aimed to optimize the systematic use of the information provided by the metering system and undertake consistent corrective field action as needed.

Component Name
Component C: Electrification of Households
Comments (optional)
Sub-component C 1. Peri-urban electrification. This sub-component that will be implemented by KPLC will finance the design, materials and construction works required to electrify all households and businesses in some high density peri-urban areas located close to existing electricity networks.
Sub-component C 2: Off-grid electrification. This sub-component will support off-grid electrification solutions in areas that cannot be cost effectively served by the national grid through pre-feasibility studies, tender preparation, and implementation support and it will be implemented by REA.

Component Name
Component D: Technical assistance and Capacity Building
Comments (optional)
This component will finance consultancy services, training actions and other activities to support, among others: preparation of the National Electrification Strategy (NES); detailed national technical specifications and standardization; regulations for enforcing quality on electricity service delivery; project preparation support for feasibility studies for new investment projects as required and project monitoring and evaluation; and Training and capacity building.

Component Name
IDA Guarantee
Comments (optional)
Mobilization of commercial financing for KPLC to restructure its commercial debt obligations ($200 million IDA Guarantee). The project will provide a $200 million IDA Guarantee to enhance

Public Disclosure Copy

KPLC's credit quality and enable KPLC to raise approximately new commercial debt with lower interest rates and longer tenors than those currently available to the company.

IV. Financing *(in USD Million)*

Total Project Cost:	762.00	Total Bank Financing:	250.00
Financing Gap:	0.00		

For Loans/Credits/Others	Amount
BORROWER/RECIPIENT	4.50
International Development Association (IDA)	250.00
IDA Guarantee	200.00
Climate Investment Funds	7.50
Foreign Private Commercial Sources (unidentified)	300.00
Total	762.00

V. Implementation

11. MoEP will be responsible for the overall coordination of the Project. MoEP will hire a project coordinator to ensure timely implementation of KEMP activities and will be responsible for consolidating the progress reports from each implementing agency, KPLC and REA. MoEP will be responsible for Components D (i) and D (iii), KPLC will be responsible for the implementation of Components A, B, C-1 and Components D (ii) and D (iv), REA will be responsible for the implementation of Component C-2.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✕	
Natural Habitats OP/BP 4.04	✕	
Forests OP/BP 4.36		✕
Pest Management OP 4.09		✕
Physical Cultural Resources OP/BP 4.11	✕	
Indigenous Peoples OP/BP 4.10	✕	
Involuntary Resettlement OP/BP 4.12	✕	
Safety of Dams OP/BP 4.37		✕
Projects on International Waterways OP/BP 7.50		✕
Projects in Disputed Areas OP/BP 7.60		✕

Comments (optional)

Public Disclosure Copy

VII. Contact point

World Bank
Contact: Kyran O'Sullivan
Title: Senior Energy Specialist
Tel: 5327+6374 /

Email: kosullivan@worldbank.org

Contact: Clara Alvarez Rodriguez
Title: Senior Infrastructure Finance
Tel: 473-0449
Email: cbalvarez@worldbank.org

Borrower/Client/Recipient
Name: The National Treasury
Contact: Dr. Kamau Thugge
Title: Principal Secretary
Tel: 254-20-2252299
Email: ps@treasury.go.ke

Implementing Agencies
Name: Rural Electrification Authority
Contact: Eng. Ng'ang'a Munyu
Title: Acting Chief Executive Officer
Tel: 254-20-4953000
Email: nmunyu@rea.co.ke

Name: Kenya Power and Lighting Company (KPLC)
Contact: Dr. Ben Chumo
Title: Managing Director and Chief Executive Officer
Tel: 254-20-320-1000
Email: md@kplc.co.ke

Name: Ministry of Energy and Petroleum
Contact: Eng. Joseph Njoroge
Title: Principal Secretary
Tel: 254-20-2250680
Email: ps@energymin.go.ke

VIII. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: http://www.worldbank.org/infoshop