



Investment Brief for the Electricity Sector in Kenya

Overview

Kenya's economy has been growing at approximately 5.1% per year over the last 10 years; however, economic growth is constrained by an insufficient supply of electricity. As of the end of March 2015, Kenya has an installed generation capacity of only 2,295 MW or 0.049 kW per capita. Although this has grown from an installed capacity base of 1,885 MW as of the end of June 2014, it is still very low.

Energy Demand

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Energy Generated (GWh)	5,697	6,169	6,385	6,489	6,692	7,303	7,670	8,807	8,840
Energy Sold (GWh)	4,580	5,065	5,322	5,432	5,624	6,123	6,341	6,581	7,244
Peak Demand (MW)	920	987	1,044	1,072	1,107	1,194	1,236	1,357	1,468
Number of Customers	802,249	924,329	1,060,383	1,267,198	1,463,639	1,753,348	2,038,625	2,330,962	2,766,441

In FY 2013, it is estimated that 74.5% of electrical energy was supplied using renewable energy sources, while 25.5% was generated using fossil fuels.

Energy Generated & Corresponding Capacity as of June 2014

Sources of Electric Power Generation		Installed Capacity (KP: 6/14)		Annual Generation	
		(MW)	Percentage	(GWHrs)	Percentage
Renewable Energy	Hydro	817	43%	3,944	45%
	Thermal	264	14%	817	9%
	Geothermal	253	13%	1,156	13%
	Wind	5.3	0.3%	17.6	0.2%
	Imports			87	1%
	Total	1,340	71%	6,025	68
Fossil Fuels	IPP	497	26%	2,698	31%
	Off-Grid	19	1%	31	0.4%
	Emergency	30	2%	93.8	1%
	Total	546	29%	2,061	32%
Installed Capacity and Units Generated		1,885 MW		8,840 GWHrs	

Economic Development Policies

The Government of Kenya's Vision 2030 economic development blueprint program aims to double Kenya's rate of growth. Investment in the electricity services industry is critical if the government is to achieve the Vision 2030 blueprint. According to the Ministry of Energy, Draft National Energy and Petroleum Policy, October 2014, peak electricity demand was projected to grow to 3,400 MW by 2015. This will not be achieved. It is also projected to grow to 18,000 MW by 2030 due to an increase in the number of customers connected to electricity as well as increased intensity of energy utilization. Note that this would equal a compound annual growth rate of 16.2% from the current base.

Although the Government's 5000+ MW program is now considered to be aspirational, it is focused on delivering new electricity generation infrastructure to eliminate the current supply deficit while also providing new generation capacity to support the Vision 2030 program. The majority of new generation will derive from renewable energy sources (RES).

A road map of the projects to be undertaken by the GOK to meet the 5000+ MW target is indicated in the following table, where August, 2013 is the base month:



New Capacity Additions								
Time in Months		12	18	24	30	36	40	Total
Hydro	24	-	-	-	-	-	-	24
Thermal	87	163	-	-	-	-	-	250
Geothermal	90	176	190	50	205	150	785	1,646
Wind	-	-	20	60	300	250	-	630
Coal	-	-	-	-	960	-	960	1,920
LNG	-	-	-	700	350	-	-	1,050
Cogeneration	-	-	18	-	-	-	-	18
Total	201	339	228	810	1,815	400	1,745	
Cumulative Additions		201	540	768	1,578	3,393	3,793	5,638

Investment Climate

Kenya recognizes the importance of creating a sustainable environment conducive to inward Foreign Direct Investment (FDI) and has developed an enabling framework:

- The Kenyan shilling has a floating exchange rate and is able to be freely traded
- There are no restrictions on borrowing by foreign companies
- Foreign and domestic companies may open foreign currency accounts in local banks
- Kenya has lowered or eliminated tax duties to attract investment
- Guaranteed capital repatriation & dividend and interest remittance by foreign investors
- Kenyan law provides protection against the illegal expropriation of private property
- Kenya is a signatory to the UNCITRAL and ICSID dispute resolution conventions
- Both S&P and Fitch have provided Kenya with a long term sovereign credit rating of “B+”

Private Sector Focus

Kenya is developing a market-based economy, where the role of the Government is to act as regulator of competitive markets rather than to act as a participant in those markets.

Kenya is open to both private sector investments from local sources as well as from foreign sources of capital, and has developed a number of policies aimed at attracting foreign capital. FDI into Kenya has shown significant increase in the last ten years as companies respond to incentives by investing in Kenya’s privatized industries and infrastructure.

The Kenyan Government is looking to the private sector to deliver a substantial portion of the required electricity infrastructure. The Public Private Partnership (PPP) Act of 2013 was promulgated to support private sector investment under PPP.

Energy Sector Institutions

The key public sector institutions involved in managing and regulating the Kenyan electricity sector are:

Ministry of Energy & Petroleum (MOEP) -- The MOEP is responsible for national energy policy formulation – including determining the policy on Feed-in-Tariffs (FIT) -- and for creating a framework to allow growth, investment, and efficient operations in the sector. The MOEP also grants and revokes generation and distribution licenses upon the recommendation of ERC. See: www.energy.go.ke

Energy Regulatory Commission (ERC) -- The ERC is responsible for regulation of the energy sector. The Energy Act of 2006 established ERC as an independent energy regulatory authority with responsibility for economic and technical regulation of electric power, renewable energy, and downstream petroleum sub-sectors, including tariff setting and review, licensing, enforcement, dispute settlement, and approval of power purchase and network service contracts. See: www.erc.go.ke



Kenya Power & Lighting Company (KPLC) now known as Kenya Power – Kenya Power is the wholesale buyer of electricity, and is obligated to purchase electricity from all power generators – including KenGen and IPPs -- on the basis of negotiated Power Purchase Agreements. Kenya Power is responsible for onward transmission of purchased electricity and is the sole distributor of electricity from the national grid to consumers in Kenya. Kenya Power is listed on the Nairobi Stock Exchange, is 49.9% owned by private shareholders, with the remainder owned by the Government of Kenya, and is profitable and creditworthy. See: www.kplc.co.ke

Kenya Electricity Generating Company (KenGen) -- KenGen manages all public power generation facilities and is the main generator of electricity in Kenya which it sells on a wholesale basis to Kenya Power. KenGen, which produces approximately 80% of the Kenya's electricity, has an installed capacity of March 2015 of 1,564 MW, which accounts for 68% of total installed capacity from various sources including hydro, thermal, geothermal, and wind. KenGen is responsible for developing new public sector generation facilities to meet increased demand. KenGen is listed on the Nairobi Stock Exchange, is 30% owned by private sector shareholders and 70% owned by the Government of Kenya. See: www.kengen.co.ke

Geothermal Development Company (GDC) -- GDC is 100% owned by the Government of Kenya. GDC has the mandate to undertake the high-risk exploration and development of geothermal fields, including exploration, appraisal and production drilling, and the management of proven steam fields. GDC is also responsible for entering into Steam Sales Agreements with investors in the electricity sector, including KenGen and IPPs, in order that these entities can develop electricity generation capacity with energy sourced from geothermal wells. See: www.gdc.co.ke

Kenya Electricity Transmission Company (KETRACO) -- In 2008, the Kenyan government created KETRACO to develop new, high-voltage electricity transmission infrastructure to facilitate grid access for rural areas, allow for grid interconnection with new generating plants, and enable regional power trade with neighboring countries. KETRACO is 100% owned by the Government of Kenya and is responsible for planning, designing, constructing, owning, operating, and maintaining new high voltage (132 kV and above) electricity transmission infrastructure. See: www.ketraco.co.ke

Independent Power Producers (IPPs) -- are private investors in the power sector involved in generation either on a large scale or in renewable energy projects under the Feed-in-Tariff Policy. The IPPs listed below, currently contribute about 28% to the country's installed capacity (numbers below are MWs):

Iberafrica	108
Tsavo	74
Mumias--Cogeneration	26
OrPower 4--Geothermal	110
Rabai Diesel	90
Thika Diesel	87
Gulf Diesel	80
Imenti FiT hydro	0.3
Gikira FiT hydro	0.5
Aggreko	30 (emergency plant)
Total	606 MW

Kenya Nuclear Electricity Board (KNEB) -- has the responsibility of developing a comprehensive legal and regulatory framework for the use of nuclear energy in Kenya.

Electricity Sector Enabling Environment

Kenya's electricity market provides a sound enabling environment for investment. Kenya's energy market offers reasonably independent regulation, cost-reflective tariffs, and a functional market design:

- Kenya has completed the vertical unbundling of its energy sector
- By law, the ERC operates independently from political influence



- Kenya Power is partially-owned by private investors and is one of the continent’s most financially viable distribution & supply companies. Kenya Power operates profitably, provides transparent financial reporting, and has not been late on an energy payment for six years
- Kenya Power’s financial stability and access to capital markets allows investors to invest without reliance on sovereign guarantees, although IPPs require a letter of comfort from the government that covers political risk in order to obtain financing for projects
- Kenya’s track record of completing ten commercially viable Independent Power Producers (IPP) projects validates the ease and attractiveness of the business environment

New IPP projects are being financed, including the 310 MW Lake Turkana Wind Project (December, 2014). The 60 MW Kinangop project was also financed in November 2013 but is experiencing difficulties owing to a variety of factors. The Kinangop project sponsors are in discussions with the Government on how to restart the project. A history of productive capital investments and sustained regulator and government support for signed PPAs provide a roadmap for future projects.

Electricity Sector Investment Framework

The electricity sector investment framework gives protections and fiscal incentives to investors:

- The FIT for RES projects guarantees a FIT (US\$/kWh) that eliminates pricing risk
- A priority purchase obligation by Kenya Power and guaranteed access to the national grid
- A 20-year FIT, providing an amortization period sufficient to raise long-term project financing
- An obligation upon Kenya Power to enter into a Power Purchase Agreement with the project company upon meeting the criteria required under the FIT program
- An auction expected to be introduced in 2016 to replace the FIT program

Current FIT levels, categorized by project size, are indicated below:

FIT (2012) for Projects less than 10 MW

	Installed Capacity (MW)	Standard FIT (US\$/kWh)	% of FIT subject to esc.	Min. Capacity (MW)	Max Capacity (MW)
Wind	0.5 – 10	0.11	12%	0.5	10
Hydro	0.5 – 10	0.105	8%	0.5	10
Biomass	0.5 – 10	0.10	15%	0.5	10
Biogas	0.2 – 10	0.10	15%	0.2	10
Solar (grid)	0.5 – 10	0.12	8%	0.5	10
Solar (off-grid)	0.5 – 10	0.20	8%	0.5	1

FIT (2012) for Projects more than 10 MW

	Installed Capacity (MW)	Standard FIT (US\$/kWh)	Percent of FIT subject to esc.	Min. Capacity (MW)	Max Capacity (MW)	Max Cumulative Capacity (MW)
Wind	10.1 – 50	0.11	12%	10.1	50	500
Geothermal	35 – 70	0.088	20%/15%	35	70	500
Hydro	10.1 – 20	0.825	8%	10.1	20	200
Biomass	10.1 – 40	0.10	15%	10.1	40	200
Solar (Grid)	10.1 – 40	0.12	12%	10.1	40	100

In addition to protections provided under the FIT policy, fiscal incentives and protections to investors that derived from the structure of tariffs include:

- Exclusion from payment of customs duties on equipment used in electricity generation stations
- Exemptions from the payment of VAT on equipment used in electricity generation stations
- No capital gains taxes and low rates of taxes on dividends
- The denomination of tariffs in US dollars, thus eliminating exchange rate risk for foreign investors
- Indexing of the operations and maintenance component of the FIT tariff using the US CPI
- Indexation of end-user tariffs to fuel costs to ensure fuel costs pass-through



Investment Opportunities

Although the 5000+ MW program is now seen as aspirational, the objectives provide an important signal to the market. Principal among these objectives is to increase geothermal and wind capacity and energy production by a significant amount, and increase the thermal capacity base through the use of natural gas or coal by 1000 MW to 2000 MW. The majority of the 5000 MW will be developed by IPPs through the PPP Act 2013.



Public Sector Procurement

While the Government of Kenya has opened a large portion of the electricity generation market to private-sector developers/investors, state institutions Kenya Power, KenGen, GDC, and KETRACO will continue to play a vital role in the electric services industry. Kenyan public sector institutions are required by law to announce tenders for goods and services on their respective web-sites.

For more information on Power Africa visit: www.usaid.gov/powerafrica

U.S. Government Coordinator for Power Africa

Andrew Herscowitz
USAID, Pretoria, South Africa
Email: powerafrica@usaid.gov
Follow on Twitter: @aherscowitz

USAID Contact for Kenya

Mark Carrato
Power Africa Country Team Leader
Email: mcarrato@usaid.gov

U.S. Commercial Service Kenya contact for U.S. Exporters

Mary Masyuko
Commercial Specialist: Energy Sector
Email: Mary.Masyuko@trade.gov