

Energy Sector Update-East Africa “Africa’s Bright Spots”

Driven by a burgeoning economy, East Africa’s energy sector is estimated to grow to unprecedented levels as countries in the region seek to obtain middle income statuses. The initiatives taken by the Governments to rack-up generative capacities is commendable, bearing in mind that 0.5B people in sub-Saharan Africa don’t have access to electricity. The East African countries have also embarked on off-grid power solutions aiming at connecting more people to electricity. In this report we shed more light on what each country is doing to augment electricity access in the country.

Aiming to leverage on each country’s production advantages, the East African Power Pool (EAPP) was created in 2005 and currently has 10 members (Kenya, Uganda, Tanzania, Burundi, Rwanda, DRC, Egypt, Ethiopia, Sudan and Libya). The regional power trade is aimed at ensuring countries have adequate power with those in overcapacity supplying to those experiencing load shedding. In addition, the power trade could avail cheaper power rather than countries investing in expensive power generation plants.

	Ke	Ug	Tz	Rw	Et
Population (M)	45.4*	41.4	56.5	12.1	103.8
Power consumption per capita (kWh)	177.4*	88.0*	103.2*	46.4*	86*
Generation capacity (MW)	2,300	863	1,357	208	4,260
Largest Power source	Geothermal	Hydro	Natural Gas	Hydro	Hydro
Peak demand (MW)	1,580	550	1,000	110	2,000
Average tariffs (US cents)	15	12	12	12	4
Electricity access rate (%)	60.0	20.4	32.8	28.0	60**

Source: ApexAfrica Estimates, CBK, BoU, BOT, KNBS, UBoS

* 2016 figures

**Electricity coverage rate which does not necessarily translate into access rate

Kenya Power

We reiterate a **BUY** recommendation on Kenya Power (KP) informed a fair value of **KES 11.20**, representing a handsome **75.0%** upside on the counter’s current price of **KES 6.40**. The downgrade from our previous fair value (**KES 12.65**) is as a result of lower market prices which have brought down historical multiples and a revision of assumptions. In the medium-term, we project a 9.2% 4-year CAGR in the firm’s top-line combined with a 9.3% 4-year CAGR in the firm’s bottom-line.

KenGen

We reiterate a **BUY** recommendation on KenGen informed by a fair value of **KES 9.43**, representing an alluring **45.7%** upside on the counter’s current price of **KES 6.45**. The downgrade from our previous fair value (**KES 11.80**) is as a result of heightened ownership dilution (from the rights issue and subsequent share purchase by PIC limited) and a revision of assumptions. In the medium-term, we project a 4-year CAGR of 8.1% in the firm’s top-line combined with a 4-year CAGR of 9.9% in the firm’s bottom-line.

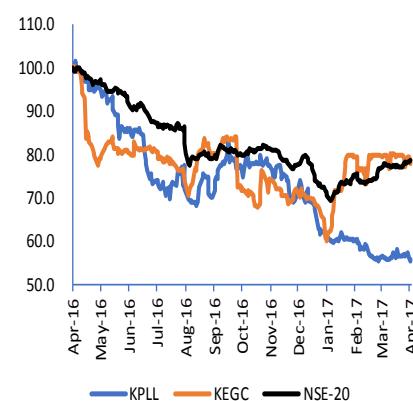
Kenya Power

Bloomberg Ticker	KPLL KN
Reuters Ticker	KPLC.NR
Recommendation	Buy
Fair value (KES)	11.20
Current price (KES)	6.40
Market Cap (USD M)	121.0
Free float (%)	48.1
Foreign ownership (%)	10.9
3 month Average trading val (USD)	22.509

KenGen

Bloomberg Ticker	KEGC KN
Reuters Ticker	KEGN.NR
Recommendation	Buy
Fair value (KES)	9.43
Current price (KES)	6.45
Market Cap (USD M)	412.0
Free float (%)	25.7
Foreign ownership (%)	8.4
3 month Average trading val (USD)	108.970

KPLL vs KEGC vs NSE-20



Source: (NSE)

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Developments in the Energy Sector

A. Kenya

5,000+MW power generation eases up

As per Kenya Power's 2016/17—2020/21 strategic plan, Kenya was estimated to have an installed capacity of 5,024MW by 2021. Currently, the country has an installed capacity of 2,341MW. By 2021, geothermal (26%) and coal (20%) are projected to have the lion share of power generation easing reliance on the erratic hydro (17%) and the expensive thermal (16%). Renewables of wind and solar are estimated to contribute 11% and 1% respectively to the grid. The country has signed a PPA with Ethiopia allowing the latter to export 400MW of power. To this effect the countries have begun constructing the 1,045km transmission line with a 2,000MW power transmission capacity. This line is anticipated to be complete by December 2018.

Due to a sluggish growth in electricity demand in the country, the Government has been forced to ease up on the ambitious plan to rack-up the generative capacity of the country. A huge chunk of the new energy demand was projected to be sourced from large industrial and commercial consumers, though the new demand has not been forthcoming. As KP moves to meet 100% electricity access by 2020, the bulk of the new energy demand is estimated to come from domestic and small consumers. In addition, slow implementation of vision 2030 flagship projects, that were anticipated to create 1,927MW in new demand, have contributed to the slow demand growth.

Due to the slow growth in electricity demand, the government is likely to shift plant completion dates to match the new demand created.

Demand creation

Peak demand by 2021 is projected to be at 2,864MW against an installed capacity of 5,024MW implying that, by 2021, similar to right now, the country will be operating in excess capacity. An avenue for new demand shall be the new customer connections with the Government eyeing universal access by 2020. In addition, electricity demand from Large Industrial Consumers (LIC's) is anticipated to pick up with modest economic growth in the medium-term, rallying the country's demand. The vision 2030 flagship projects are estimated to contribute 67.3% of the projected demand underscoring their importance in demand creation. However, slow implementation of these projects may see the demand grow at a slower rate than projected (6.0% y/y).

The EAPP, upon actualization, may serve as an avenue for the excess power generated. This would ease electricity costs (on consumers) that may occur due to under-utilization of power plants.

Access rate

The country has a target to connect 70% of the population by the end of this year (currently at 60%) and attain universal access by 2020. This entails grid expansion to cover 90% of the population with the remaining 10% to be served by off-grid and mini-grid solutions. In expanding and revamping the grid, the country plans to put up 116 new distribution substations totaling 2,809MVA (megavoltage amperes) with 1,244kms of associated 66kv (kilovolts) & 33kv lines and 20 new bulk supply stations. Additionally, the country plans to install 20 new bulk supply stations. Off-grid and mini-grid solutions are to be powered through a combination of renewables (solar and wind) and thermal power (to ensure system stability). The effectiveness of these solutions is also bolstered by a deep mobile penetration (88.2% as at Dec 2016) that allows users to effectively pay for power through mobile money.

Power costs

Currently, electricity costs in the country average US 15 cents with the government planning to bring down this cost by c.47% in the next five years. The reduction will largely be as a result of substituting thermal power for more cheaper renewable power. In addition, easing reliance on the unreliable hydro-power is anticipated to bring down thermal power usage, especially during dry seasons. The Government late last year ordered a review of all PPAs aimed at dropping agreements that are keeping power costs elevated.

The country however runs the risk of operating at a huge excess capacity which would force consumers to foot the bill of the unutilized power capacity.

Energy bill fails to get Presidential assent

Late last year, the President failed to ascend to the Energy Bill, 2016 to give power players more time to upgrade their supply networks. The Bill sought to have power players compensate consumers for losses incurred in case of power surges or outages. The Bill could be returned to parliament for amendment, but this is unlikely given the prioritization of bills at the Legislature.

B. Uganda

Generation capacity

Uganda is currently classified as a low income country, with the Government projecting that the country will attain lower middle income status by 2017, progressing to an upper middle income category by 2032 and attaining a target of USD 9,500 per capita income by 2040.

Uganda's generation capacity stands at 863MW and plans to raise this capacity to at least 3,040MW by 2030. The bulk of this new energy is estimated to be sourced from large hydro-electric power (HEP) plants (79.3%). Among the HEP plants that are expected to bolster generation capacity in the medium term include Karuma, Isimba, Oriang and Ayago. Isimba's (180MW) commissioning date has been set for August 2018 (currently 25% complete), Karuma (600MW) has a completion date slated for 2018 (30% complete currently) while Oriang (450MW) and Ayago (840MW) are both expected to be in operation by 2020.

In addition to hydro, Uganda is also looking at nuclear sources of power with the country ambitiously setting a target of 20 nuclear plants by 2040. The plan is to start with 5 plants that are estimated to be up and running in the next decade. High costs associated with setting up nuclear plants may force the country to shelve the plans seeing that the country could source cheaper power from the East African Power Pool at a significantly lesser set up cost.

Electricity access rate

Electricity access rate in Uganda stands at 20.4% with plans to achieve universal access by 2030. To meet this ambitious target, the Government projects the country's grid, upon expansion, will serve 80% of the population with the remaining proportion to be served by off-grid (mainly solar) and mini-grid solutions (hydro, solar, wind or diesel generators).

In rural areas, electricity connection rates are at 7% compared to 57% in urban and peri-urban areas, with the low access rates attributable to grid unavailability and high connection costs. To address this the World Bank has lined up 21 projects (1,800km) aimed at expanding and intensifying the grid. Through the Uganda Grid Expansion and Reinforcement Project (GERP), the Bank intends to finance the interconnection of isolated systems to the national grid, the rehabilitation & upgrade of existing transmission and infrastructure.

The country has already connected 108 of 112 of its district headquarters with the last 4 estimated to be connected in the medium-term. Uganda also plans to put up 2,000Km of HV (high voltage) transmission lines, 8,000Km of MV (medium voltage) and 4,000Km LV (low voltage) networks located in over 98 districts. In addition, works at 4 new substations will also commence at the Namanve South, Luzira, Mukono and Iganga Industrial parks.

Demand creation

Uganda is currently operating at excess capacity with a peak demand of 550MW against an installed capacity of 863MW. With plans to further bolster its generative capacity, stalled growth in electricity demand could exacerbate the situation. The demand is anticipated to grow by 10-12% annually driven by increased connectivity and increased consumption by large industrial consumers (currently consume 65% of power produced).

The Government has lined several power hungry infrastructure projects which are estimated to create an excess of 800MW in new demand upon completion. The projects include the class one SGR (running purely on electricity), Namanve Industrial Park, Kampala Light Rail and Iganga Industrial Park.

Bringing down power costs

Although Uganda's current cost of electricity is deemed to be high (US 12 cents per kWh), Umeme got an approval from ERA to raise power tariffs by 11% in 1Q17 citing a weaker shilling against the US dollar. However, the Government plans to bring down this cost to US 5cents in the long-run.

The current rates have been blamed on the high tariffs (US 12 cents) from Bujagali HEP plant, with the power costs from the plant set to rise to US 15 cents per kWh by 2020. In a bid to bring down this cost, African Development Bank (AfDB) stated that it would float a USD 500M bond, with the facility set to restructure the tenure of the loan (Bujagali) over 15 years, bringing down power costs which would be translated into lower tariffs.

In addition, injection of cheaper hydro power from Karuma and Isimba Power plants is anticipated to bring down power costs further.

C. Tanzania

Generation capacity

Tanzania has a generation capacity of 1,357MW with plans to raise this capacity to 4,915MW by 2020 and 10,000MW by 2025. The increase is targeted at meeting the 13.0% y/y estimated electricity demand growth in the country. Endowed with precipitous rivers, Tanzania has a hydro-power generative capacity of 38,000MW. To meet its generative capacity targets, the country has lined up 23 hydro-power projects with a total installed capacity of 4,765MW.

Diversifying from the erratic hydro-power, the country plans to install an additional 4,133MW capacity from thermal sources. The thermal sources are aimed at leveraging from the country's vast coal and natural gas resources. Coal fired plants are planned to augment power generation by 1,400MW while natural gas powered plants are expected to inject an additional 2,733MW. The country discovered 55T cubic feet of natural gas reserves off its southern coast-line. The use of natural gas in place of diesel is estimated to realise savings of about USD 1B a year, which would go a long way in contracting the country's current account deficit.

Geothermal power is estimated to bring in an additional 200MW, while wind and solar power are anticipated to feed in an additional 200MW each into the national grid. Aiming at leveraging from the cheap hydro-power production in Ethiopia, the country plans to import 400MW through the EAPP by 2019.

Electricity access rate

Electricity access rate in Tanzania stands at c.32.8% (Tanzania Mainland) with the Government planning to raise this rate to 90% by 2035. The planned improvement in electricity access rate is pegged on the success of grid expansion & refurbishment as well as rural electrification.

Tanzania's transmission line is currently 647Km (400Kv), 2,745Km (220Kv), 1,626Km (132Kv) and 580Km (66Kv). Planning to improve electricity access rate in the country, the Government has planned an additional 4,739Km of 440Kv, 1,968Km of 220Kv, 186Km of 132Kv and 85Km of 66Kv by 2021. Grid expansion also encompasses an additional 456 new substations to be built across the country. High voltage (HV) lines traverse larger areas reducing the number of lines that would be used on lower voltage. In addition, the HV lines when coupled with numerous substations keep the system losses in check even as the grid expands.

The rapid electrification rate in the country will be largely focused on the rural areas. 73% of Tanzanians live in the rural areas, with a rural access rate of 16.9%. The Rural Energy Agency (REA) plans to electrify a total of 7,500 villages by 2021 (translating to a rural access rate of about 35%) through grid expansion and off-grid solutions. To this effect, REA got USD 200M from the World Bank, a USD 0.9M grant from the AFDB and a USD 3.2M financing from the Government of Tanzania.

Off-grid solutions can connect about 50% of the country's households informed by the country's large leverageable natural energy resources. Tanzania is located in the world's solar belt receiving abundant amounts of sunlight all year. 10% of the country is endowed with high wind energy potential. In addition to the natural resources, Tanzania has scrapped VAT and import taxes imposed on the main solar components.

Demand creation

Currently, the country's electricity demand of (c.1,000MW) equals the generative capacity of the country (at c.25% margin) with the some power being sourced from Uganda and Zambia. The country's rapid 7% annual estimated economic growth in the medium term is anticipated to attract large industrial manufacturers who may stack up the demand for the country. This new demand is anticipated to be drawn mainly from the Mtwara Development Corridor that houses mining (oil, gas and various minerals) companies. Increased connectivity coupled with increased consumption are expected to support the 13.0% annual electricity demand growth. As such, the country does not face the risk of overcapacity in the medium-term.

Power costs likely to go up

A key tenet of Magufuli's administration has been the provision of cheap and adequate power to the consumers zeroing in on industrializing the nation. The use of gas powered plants in place of oil powered plants is estimated to pull down power costs in the country. Importation of the hydro-generated power from Ethiopia is expected to ease power tariffs in the country.

The country's power distributor (TANESCO—supplying 60% of the country's electricity) has been marred with heavy debt and is in dire need of a bail-out. TANESCO is seeking a USD 200M loan from the World Bank to clear its outstanding debt arrears. A prerequisite to the loan is that the utility firm has to raise its electricity tariffs, a precondition that may not auger well with the administration.

D. Rwanda

Generation capacity

The Government of Rwanda (GoR) has identified the provision of adequate and cheap energy as a precursor to the country's ability of attaining middle income status by 2020. Currently, the country has an installed capacity of 208MW with plans to raise this capacity to 563MW by 2018. This additional capacity is being sourced by a number of power projects and importation from Kenya and Ethiopia.

Hydro-power plants include 17MW Nyabarongo phase II, 80 MW Rusumo plant and 147 MW Ruzizi III hydro plant. Power from the Rusumo plant is to be shared equally among Burundi, Rwanda and Tanzania while that of Ruzizi HEP is to be shared by Rwanda, Burundi and DRC. The 80MW peat powered plant, financed by the AFC to the tune of USD 350M, is anticipated to further add on to the country's generative capacity.

Rwanda aspires to further *tame* the 'exploding lake Kivu that's laden with potentially toxic gases of methane and carbon dioxide. Leveraging on the highly flammable methane gas, lake Kivu could support production of 700MW (350MW each for Rwanda and DRC). By 2020, the country estimates that the Kivu methane plant will have the capacity to generate 100MW of power. Power generation from this plant has also the benefit of reducing the risk of a potentially catastrophic natural disaster should the lake's gaseous deposits be disturbed by an earthquake.

Rwanda plans to start importing power from Ethiopia (400MW) by 2021 and was supposed to commence the importation of 30MW from Kenya this year. The plan however faced headwinds with delays in the construction of the transmission line from Uganda.

Electricity access rate

Rwanda's access rate stands at 28% with the grid supplying 25% while 3% is supplied by off-grid solutions. The Government has set an ambitious target to raise this to 70% by 2018. Of this, 48% is to be supplied through the national grid while 22% is to be supplied using off-grid power solutions.

The grid expansion in the country will see the country develop a 110kV Gahanga-Rilima line, supplying Bugesera Industrial Park and Bugesera Airport; a 220kV backbone Rusumo-Rilima-Shango which will evacuate power from Rusumo Power Station among other HV and MV lines.

Revamping the grid will see the country upgrade from single phase network into a three phase network which will effectively bring down the number of power black-outs in the country.

The country is also putting up interconnectors that will see it share power with Uganda, Tanzania and DRC as well as import power from both Kenya and Ethiopia. Longer lines with larger capacities are anticipated to bring down the large system losses in the country (currently at 23%).

High cost of reaching rural households through the grid, together with low residential electricity consumption levels, have affected financial sustainability of grid-extension investments. Roughly half of residential consumers are using less than 20kWh per month. In view of this, GoR is promoting off-grid access to electricity, where extending the grid is not financially viable, especially for light electricity users. These off-grid and mini-grid solutions are to run on solar and hydro-power.

Demand creation

The country's current power demand is at c.110MW against an installed capacity of 208MW implying that the country is already operating at an excess capacity.

Other than increased connectivity, large industrial and commercial consumers are anticipated to drive up demand in the country. There's increased cement consumption in Rwanda and DRC which will in turn see cement production rise. Consequently electricity demand in the country is anticipated to be on an upward trend.

By 2018, the projected generation capacity of 563MW will leave the country at excess capacity given the 470MW forecasted demand. As such, the country may be forced to slow down power generation projects to match the demand requirements.

Power costs to go down further

Early this year, the Rwanda Electricity Group (REG) enacted the Government's plan to cut power costs. This brought down power costs in the country from US 24 cents per kWh to around US 12 cents. The decline in power costs is attributed to the scale down of expensive thermal fuel oils to 37.8% of power generated from above 50%.

The line up of power projects is anticipated to further bring down the use of expensive fuel in power generation which will lessen power prices. Reduced importation of heavy fuels will, in addition to bringing down power costs, see the country enjoy forex savings, contracting the current account deficit. Low and affordable power costs align with the country's target of having cost production advantage seeing that it's a land-locked country.

E. Ethiopia

Generation capacity

Ethiopia plans to attain middle income status by 2025 fueled by industrialization and partly by power exports. In 2015/16 Ethiopia earned USD 123M with plans to raise this to USD 1B by 2020. Ethiopia has a potential of generating 60,000MW (45,000MW from hydro, 1,350MW from wind, 7,000MW from geothermal and the rest from other sources). The vast hydro production capacity is facilitated by the country's numerous rivers and hilly terrain.

Ethiopia currently has an installed capacity of 4,260MW and has targeted a capacity of 17,208MW by 2020. Of this, hydro (80.3%) and wind (7.1%) are anticipated to offer the chunk of this new capacity. Increased focus on wind power offers a back-up to hydro seeing that the latter is erratic with capacity dented during dry weather. Wind on the other hand is at optimal capacity during the dry weather seeing that, in Ethiopia, the windy season coincides with the dry season.

Hot on the heels of realizing the full potential is the 6,450MW Grand Ethiopian Renaissance Dam (GERD) that is estimated to come into operation by the end of this year. In addition, the Gilbe III plant is anticipated to realise its full potential of 1,870MW once transmission lines to the grid are completed. The 254MW Genale III HEP is c.91% complete while the Omokuraz I, II, III, IV, V and VI, Kassem hydro-plants are in the pipeline of completion.

Electricity access rate

As of 2015/16, Ethiopia's electricity coverage rate stood at 60% though the Government has set a target of 90% by 2020. To realize this, the country plans to raise the distance of transmission lines to 21,728Km by 2020, with a majority of this being focused on HV lines. HV lines cover larger areas, transmit more electricity and keep system losses low even as the grid expands to serve more people.

Heavily endowed with wind and solar, the country plans to connect the remaining 10% of the population with off-grid, mini-grid and micro-grid solutions. By 2020, the country plans to have installed 105 micro HEP and 250 solar mini-grids to serve its rural population.

Demand creation

The country has identified three major avenues for demand creation. The first would be the increased number of customers; mainly low consumers. The bulk of the demand would however come from large industrial consumers and the country's ambitious plan to export power to at least 7 countries.

Ethiopia has the potential to become an industrial hub in Africa. This is as a result of the country's lower labor wages, relatively cheap work permit visas and low electricity costs. The country also benefits from duty and quota free access to the US under AGOA (African Growth and Opportunity Act) and the EU markets under EBA (Everything But Arms) accord. The country's expansion plan has been modelled behind the *tiger* economies of Asia. This entails setting up industrial parks with low power and other operational costs. The industrial parks are estimated to add on an additional 1,125MW of power demanded.

Low power costs in the country combined with lower operational costs (e.g. lack of a minimum wage in the country) are anticipated to attract new industrial companies in the country. This new influx is anticipated to drive demand by 2,100MW in the country. As such, the country's manufacturing sector is estimated to realise 25.0% y/y growth which will see the country's electricity demand surge 10% annually.

Through the EAPP, the country plans to export 400MW to Kenya and 400MW to Tanzania while some power will be exported to Uganda, Rwanda, Burundi and Sudan. Through bilateral deals, Ethiopia plans to export power to South Sudan, Egypt and Yemen.

Low power costs to remain

Ethiopia currently has among the lowest power rates in Africa at US 4 cents per unit. This is attributable to the heavy reliance on hydro-power production, which is the cheapest source of renewable power. These low power rates have enabled the country to industrialize by attracting new manufacturers as well as electrifying its railway track.

Going forward, the country's main focus for new power production is hydro with the other sources acting as a back-up to the hydro. As such, we anticipate the power rates to remain low in the medium-term. The Government is also adamant to keep power costs low as it seeks to attract new manufacturers in its various industrial parks that are to be set up.

Kenya Power

Recommendation: BUY

We reiterate a **BUY** recommendation on Kenya Power (KP) informed a fair value of **KES 11.20**, representing a handsome **75.0%** upside on the counter's current price of **KES 6.40**. The downgrade from our previous fair value (**KES 12.65**) is as a result of lower market prices which have brought down historical multiples and a revision of assumptions. In the medium-term, we project a 9.2% 4-year CAGR in the firm's top-line combined with a 9.3% 4-year CAGR in the firm's bottom-line.

Tailwinds

- Increased connectivity to support top-line growth. Economic growth in the medium-term to drive electricity demand more so from large industrial consumers.
- Hefty capex program focused on revamping the grid expected to bring down system losses in the long-run. We forecast a 25bps annual decline in system losses from FY17F level of 19.7%.
- Sustained increase in demand for data estimated to draw up more revenue through its subsidiary, Kenya Power International Limited (KPIL). As such, we project a 4-year CAGR of 8.4% on other income.
- Government support will see the firm continue enjoying cheap concessionary loans that will tame finance costs. Balance sheet restructuring in 1H17 to result in a 7.1% 4-year CAGR in net finance costs.

Headwinds

- Low consumption amongst new grid locations dampening the efforts made to bring down system losses. This consumption is however forecasted to pick-up bringing down losses further.
- Low cash and cash equivalents for FY17F translate to no finance income for the year. We however expect this to reverse from FY18F onwards.
- Capex program to raise operating costs (11.7% 4-year CAGR) though burgeoning top-line will keep operating profit margin largely unchanged in the medium-term.
- Unclear dividend policy dampening investor appetite.

Summary	FY16	FY17F	FY18F	FY19F	FY20F
GP margin (%)	40.9	43.7	43.8	43.9	44.0
y/y change %	(1.8)	2.8	0.1	0.1	0.1
Net earnings margin (%)	8.7	8.4	8.4	8.4	8.7
y/y change %	(9.5)	(0.3)	(0.0)	0.0	0.3
EPS (KES)	3.87	4.08	4.45	4.88	5.51
y/y change %	1.7	5.4	9.1	9.5	13.1
DPS (KES)	0.50	0.41	0.45	0.49	0.55
y/y change %	-	(18.4)	9.1	9.5	13.1
ROaE (%)	12.1	11.5	11.3	11.2	11.4
y/y change %	(0.9)	(0.6)	(0.2)	(0.1)	0.2
ROaA (%)	2.7	2.7	2.6	2.6	2.8
y/y change %	(0.4)	0.0	(0.1)	0.0	0.1

Source: Company Filings, ApexAfrica Estimates

Bloomberg Ticker	KPLL KN
Reuters Ticker	KPLC.NR

Share Statistics

Recommendation	Buy
Fair Value (KES)	11.20
Current Price (KES)	6.40
Market Cap (KES B)	12.5
Market Cap (USD M)	121.0
Year end	30-Jun
Free Float (%)	48.1
Foreign ownership (%)	10.9
3-month Avg Trading Vol (USD)	22,509

Trailing multiples

EPS (KES)	3.87
NAV (KES)	33.62
P/E (x)	1.7
P/B (x)	0.2
ROaE (%)	12.1
Div yield (%)	5.7

Price Return

	Absolute	Relative
3m	-16.8%	-15.7%
6m	-28.3%	23.6%
12m	-16.8%	15.7%

KPLL vs NSE-20



Source: (NSE)

Increased connectivity to ramp up demand

Through the Last Mile Connectivity Program (LMCP), KP envisions universal electricity access by 2020 from the current rate of 60% (FY16). With this target, the utility firm sees an additional 1.5M new customers in FY17F and 1.2M new customers thereafter annually to FY21F.

It is worth noting that these new connections are low energy consumers with a majority using under 20 units per month. The cumulative effect will however support top-line growth during the current economic slow-down. In addition, the low-end consumers promise higher margins with power being charged at USD 18 cents compared to the country’s average of c. US 15 cents per unit.

Uptick in economic activity to drive large industrial consumption

In FY17, the forecasted 9.2% y/y growth in top-line to KES 95.1M will be driven by increased connections (largely domestic consumption). Going forward, we however expect demand from large industrial consumers (LICs) to pick up with the general economic uptick in the country. In addition, the Government (both Central and devolved level) is keen to support LICs which further adds onto the potential new demand.

Kenya Power has in the recent past connected 200 LICs (0.7% of the total LICs) with alternate power supply line. The plan is to connect all LICs with alternate power supply. This serves as a back-up to the main power supply lines and ensures minimal power outages for the large industrial consumers.

The ERC is currently conducting a market viability to assess the implementation of time of use tariffs (off-peak tariffs) for LICs. The lower tariffs could lead to an even load distribution ensuring efficient use of the grid. In addition, the lower charges on these tariffs could translate into more energy used. These lower charges may hinder the set-up of off-grid plants by LICs further driving electricity demand.

In the long-run, vision 2030 projects, upon completion are anticipated to add up 1,900MW of new demand further driving the top-line expansion.

Grid expansion to dampen efforts made in bringing down system losses

The firm has an ambitious plan to bring down these losses to c.10% by 2021 and further bring them down to single digits. The value of 100bps reduction in system losses in the current situation of surplus generation capacity (FY16) translates to approximately KES 766M annual power purchase cost savings.

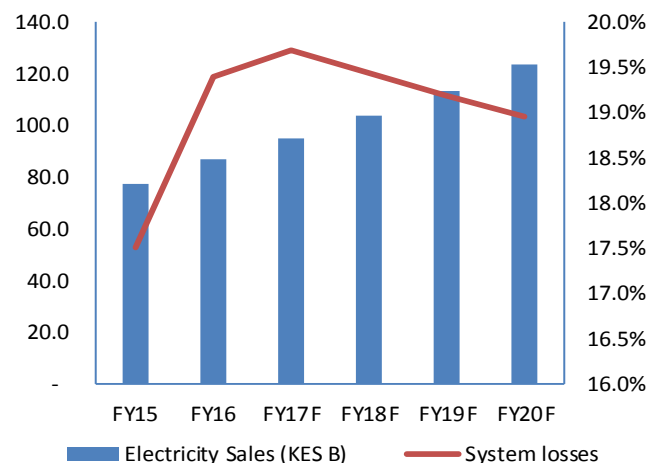
As there is no significant load shedding at present, sales increase due to loss reduction may come only from some of the commercial losses translating to additional sales. 100 bps reduction in commercial losses, if translated into additional metered sales will result in approximately KES 1.3B additional annual revenue.

To bring down system losses, Kenya Power is implementing various initiatives:

- Installing more capacitors at 11kV,
- Extending the length of MV lines to shorten LV lines where most of the losses occur,
- Increasing the number of distribution transformers to shorten LV lines
- Outdoor metering (LICs), smart metering (domestic and small commercial consumers above 500kWh per month) and pre-paid meters (domestic and small commercial customers under 500 kWh per month).

As of 1H17, system losses rose 30bps h/h to 19.7% attributed to subdued consumption in the newly connected areas. Grid expansion encompasses connecting low consuming areas in a bid to ensure universal access. Due to the low consumption, the grid stands underutilized piling pressure on technical system losses. In the 2016/17—2020/21 strategic plan, Kenya Power had envisioned a 0.5% annual decline in system losses for the 5-year period. However, due to the low consumption we see this target as a bit ambitious and envision a gradual 25bps annual decline from FY17F level of 19.7%.

Electricity Sales & System Losses



Source: Company filings, ApexAfrica Research

Diversified revenue streams to boost other income

Aiming to leverage on additional capabilities of the national grid, Kenya Power has commenced the installation of fibre optic cables on power lines and subsequently partner with telcos in provision of retail broadband services to its customers. A partnership with Safaricom has seen the telco offer Fibre To The Home, a pilot program to connect 12,000 homes in a year. The leasing of fibre optic is anticipated to bolster the firm's other income; contributing a larger chunk to other income from the current rate of 3.1% (FY16). Consequently, we project a 4-year CAGR of 8.4% in the firm's other income.

Further driving other income expansion, is revenues from street lighting with this revenue stream earning the firm KES 1.1B in 1H17. This is however an ancillary service meant to support the creation of a 24-hour economy. The cost of the project is equal to the revenue earned and therefore has no impact on the bottom-line.

Operating costs to rise with heightened connectivity and grid revamping

KP's operating costs are forecasted to grow at a 4-year CAGR of 11.7% attributed to rising network management costs (14.3% 4-year CAGR) and administration costs (12.1% 4-year CAGR), that encompasses repairs and maintenance costs. Increased connectivity and grid expansion is anticipated to drive these costs as Kenya Power serves more customers (and larger areas). Street lighting charges (writing off amounts recorded in other income) is anticipated to support the rise in operating costs as KP strives to offer street lighting to vast country areas.

On the flip-side, we anticipate the top-line to out-pace the growing operating costs resulting in a minute decline in EBIT margin (FY21F - 16.3% against 16.5% in FY16).

Capex programs to keep debt high; though debt/equity to decline

Kenya Power plans to spend USD 2.2B (KES 219.6B) in the next five years (FY17F onwards) aimed at expanding and upgrading the network capacity as well as reducing technical losses. By 2021, the firm plans to install 20 new bulk supply points and 116 new primary substations as well as 3,768Km of new lines constructed.

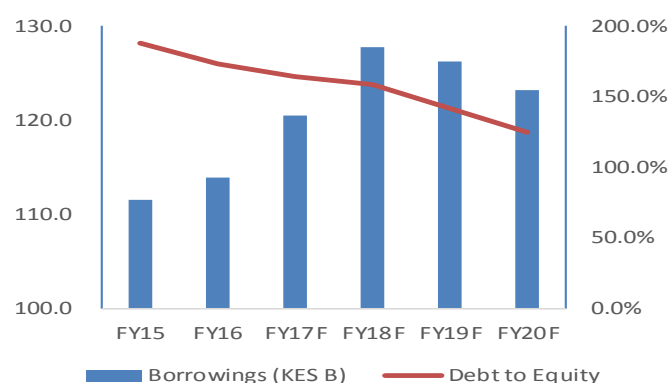
Kenya Power has set a self-financing ratio of c.60% to finance the capex programs implying that the firm will continue taking up new debt. However, we anticipate the 4-year CAGR of 4.5% on debt levels to be outpaced by the 4-year CAGR of 10.8% on equity resulting in a gradual decline in the firm's debt/equity (FY20F c.137.4%).

Subdued increase in finance costs

Balance sheet restructuring carried out by Kenya Power in 1H17 is anticipated to ease the firm's average finance cost to levels sub 5.0% going forward. As such, we expect an 11.3% y/y decline in FY17F finance costs with the declined cost factored in going forward; resulting in a minimal 4-year CAGR of 0.4% in the firm's financing costs.

In 1H17, the firm did not record any finance income as a result of low bank balances. Informed by this, we don't anticipate any finance income in FY17F; resulting in a 14.0% y/y forecasted surge in FY17F net finance costs. Going forward, we however expect this to reverse resulting in a 4-year CAGR of 7.1% in net finance costs.

Borrowings & Debt to Equity



Source: Company filings, ApexAfrica Research

Dividend policy

Breaking away from the norm, Kenya Power decided to withhold interim dividend for 1H17 with management claiming a change in dividend policy in that the firm will only pay final dividend. The withholding of interim dividend has created uncertainty over Kenya Power's dividend policy, having paid a consistent dividend (KES 0.50 per share) for the last three years. Going forward, we foresee a retention policy of c.90% resulting in a 4.1% y/y decline in DPS to KES 0.43 in FY17F. With the firm planning to finance its capex programs partly through debt, we expect the policy to hold in the medium-term. However, with rising profitability (PAT 4-year CAGR 9.7%), we forecast a *return to normalcy* in DPS by FY20F.

Peer Comparables

Name	Country	P/E (x)	P/B (x)	EV/EBITDA (x)	Div Yld (%)	ROE (%)
Kenya Power	KE	1.7	0.2	5.2	7.4	12.1
Irbid Lighting Co	JO	10.4	4.4	6.8	-	46.8
Copperbelt Energy	ZM	-	0.5	-	12.4	-
Umeme	UG	4.8	1.5	5.2	7.2	41.2
Saudi Electricity Co	SA	-	1.6	16.5	2.9	3.4
Average		5.6	1.6	8.4	7.5	25.9
Median		4.8	1.5	6.0	7.3	26.6

Source: Company filings, ApexAfrica Research, Bloomberg

Valuation

Assumptions

Risk free rate (%)	13.5	5-year T-Bond yield
Beta	0.8	ApexAfrica estimates
Risk premium (%)	5.0	
Cost of Equity (%)	17.5	
WACC (%)	5.0	

Weighting

Historical average (%)	80
Industry mean (%)	20

P/E Method

Historical average (x)	2.4
Industry mean (x)	4.8
Weighted average (x)	2.9
FY17F EPS (KES)	4.08
Fair Value (KES)	11.89

DDM	FY17F	FY18F	FY19F	FY20F	Terminal
DPS (KES)	0.41	0.45	0.49	0.55	15.76
Discounted DPS (KES)	0.40	0.37	0.34	0.33	9.44
Fair value (KES)	10.87	-	-	-	-

EV/EBITDA

Historical EV/EBITDA (x)	5.1
Industry average EV/EBITDA (x)	6.0
Weighted EV/EBITDA (x)	5.3
FY17F EBITDA (KES B)	25.9
EV (KES B)	136.3
FY17F Net Debt (KES B)	115.1
Market Cap (KES B)	21.2
Fair Value (KES)	10.89

Blended fair value	KES
P/E	11.89
DDM	10.82
EV/EBITDA	10.89
Blended fair value	11.20

1H17 Recap

Wider customer base drives top-line further: Kenya Power connected 800,000 new customers in 1H16. The resultant wider customer base saw the firm's electricity sales (excluding fuel recovery and forex surcharge) rise 9.9% y/y to KES 45.8B.

Electricity purchase costs (non-fuel) edged up 4.6% y/y to KES 26.1B attributed to a 5.6% y/y growth in unit purchases to 4,786 GWh. Units sold rose faster than the power purchase costs, implying lower capacity charges paid by Kenya Power.

Fuel costs which is a pass through cost declined 22.9% y/y to KES 6.2B attributed to a decline in the unit cost of fuel. Fuel cost recoveries as a percentage of fuel costs increased 690bps y/y to 99.3%, explaining the slower decline in the recoveries (as compared to the costs) of 17.1% y/y to 6.2B.

A faster growth in electricity sales as compared to power purchase costs saw Kenya Power's gross profit margin improve by 220bps y/y to 34.9%. As a result, gross profit margin rose 8.7% y/y to KES 19.0B.

Operating profit margin largely unchanged not withstand higher operating costs: As the firm expanded its grid (to serve the new customers) and maintained the electricity network (to improve service quality to its customers), the firm saw its transmission and distribution costs surge 23.7% y/y to KES 16.2B. The surge wrote-off gains made in the top-line, resulting to a 9.4bps y/y decline in operating profit margin to 13.3%.

Finance costs decline, but the absence of finance income raises net finance costs: Balance sheet restructuring carried out saw Kenya Power lower its short-term borrowings. The decline in short-term borrowings saw the firm's finance costs decrease 11.6% y/y to KES 2.3B (-29.4% h/h). Cash and cash equivalents at the end of the year plunged 93.2% y/y resulting to a 723M decline in the firm's finance income. This caused a 22.9% y/y surge in net finance costs to KES 2.3B.

Lower tax rate helps Kenya Power to save face: The jump in net finance costs negated gains made in operating profit, resulting in a slight decrease in PBT of 1.7% y/y to KES 5.6B. The effective tax rate slumped 890bps y/y to 25.5%, resulting in a 27.1% y/y fall in income tax expense to KES 1.4B. Consequently, PAT rose 11.4% y/y to KES 4.2B with an EPS of KES 2.15.

Cash and cash equivalents continue facing south: Cash and cash equivalents maintained the declining trend, plummeting 92.3% y/y to KES 925M (-83.2% h/h). Net declines in cash and cash equivalents stood at KES 4.6B from 1H16's KES 14.7B. The apparent improvement was driven by a 44.1% y/y decline in cash used in investing activities to KES 13.7B.

Dividend drought in the energy sector?: After KenGen decided to withhold dividend, Kenya Power decided to withhold interim dividend. There are a myriad of reasons why it could have decided to withhold dividend. One would be the low cash balances and another would be financing its capex programs. Though it remains unclear why there's no interim dividend for the power distributor, investors in the market may grow skeptical of the firm's ability to maintain dividend. As a result, the counter may take a beating on the bourse.

1H17 Financials

Income statement (KES M)	1H16	1H17	y/y %
Electricity sales	41,665	45,795	9.9
Forex adjustment	4,419	2,531	(42.7)
Fuel cost adjustment	7,463	6,183	(17.1)
Other income	3,155	5,060	60.4
Total income	56,702	59,569	5.1
Operating expenses			
Power purchase costs			
Non-fuel power purchase costs	24,951	26,109	4.6
Fuel costs	8,072	6,226	(22.9)
Forex costs	3,021	3,156	4.5
Total power purchase costs	36,044	35,491	(1.5)
Transmission & distribution costs	13,065	16,157	23.7
Operating profit	7,593	7,921	4.3
Finance income	723	-	-
Finance cost	(2,579)	(2,281)	(11.6)
Profit before tax	5,737	5,640	(1.7)
Income tax expense	(1,974)	(1,439)	(27.1)
Profit after tax	3,763	4,201	11.6
EPS	1.93	2.15	11.4
DPS	0.20	-	-

Statement of financial position (KES M)	1H16	1H17	y/y %
PPE and Land	219,314	246,762	12.5
Recoverable forex adjustment	7,795	6,163	(20.9)
Net retirement benefit asset	6,414	3,263	(49.1)
Total non-current assets	233,523	256,188	9.7
Total current assets	48,672	43,037	(11.6)
Total assets	282,195	299,225	6.0

Equity and liabilities	1H16	1H17	y/y %
Total Non-current liabilities	175,476	179,786	2.5
Total current liabilities	42,093	50,208	19.3
Total equity and liabilities	282,195	299,225	6.0

Statement of cashflows (KES M)	1H16	1H17	y/y %
Cash generated from operating activities	12,722	12,083	(5.0)
Net cash used in investing activities	(24,571)	(13,730)	(44.1)
Net cash from financing activities	(2,804)	(2,931)	4.5
Changes in cash and cash equivalents	(14,653)	(4,578)	(68.8)
C&CE at the beginning of the period	28,231	5,503	(80.5)
C&CE at the end of the period	13,577	925	(93.2)

Ratios and margins	1H16	1H17	y/y %
GP margin	32.7	34.9	2.2
Operating profit margin	13.4	13.3	(0.1)
Net earnings margin	6.6	7.1	0.4
Effective tax rate	34.4	25.5	(8.9)
Return on Average Equity	12.8	12.5	(0.3)
Return on average assets	3.0	2.8	(0.2)
Current ratio	1.45	0.86	

Source: Company filings, ApexAfrica Research

C&CE– Cash and cash equivalents

Financial Forecasts

Income Statement (KES M)	FY16	FY17F	FY18F	FY19F	FY20F	1 yr % ch	4 yr CAGR %
Electricity revenue	87,081	95,100	103,812	113,316	123,682	9.2	9.2
Electricity purchase costs	51,399	53,403	58,217	63,461	69,171	3.9	7.7
Gross profit	35,503	41,449	45,391	49,681	54,366	16.7	11.2
Operating costs	28,561	33,859	37,385	40,878	44,530	18.5	11.7
Operating profit	14,322	15,294	16,611	18,260	20,158	6.8	8.9
Net finance income/(cost)	(2,239)	(2,554)	(2,710)	(3,043)	(2,947)	14.0	7.1
Profit before tax	12,082	12,741	13,901	15,218	17,211	5.4	9.2
Taxation	(4,526)	(4,773)	(5,207)	(5,701)	(6,447)	5.4	9.2
Profit after tax	7,554	7,966	8,692	9,515	10,762	5.4	9.3
EPS (KES)	3.87	4.08	4.45	4.88	5.51	5.4	9.3
DPS (KES)	0.50	0.41	0.45	0.49	0.55	(18.4)	2.5

Balance Sheet (KES M)	FY16	FY17F	FY18F	FY19F	FY20F	1 yr ch	4 yr CAGR
Fixed assets	235,467	267,458	291,732	314,807	336,152	13.6	9.3
Non-current assets	247,532	270,351	295,285	319,014	340,939	9.2	8.3
Current assets (excl. cash)	48,370	51,131	51,058	53,363	55,711	5.7	3.6
Cash & cash equivalents	1,640	1,309	3,244	4,418	7,349	(20.2)	45.5
Total assets	297,542	322,792	349,587	376,795	403,999	8.5	7.9
Shareholders equity	65,616	72,785	80,607	89,171	98,856	10.9	10.8
Non current liabilities	181,153	194,222	210,809	223,626	236,728	7.2	6.9
Current liabilities	50,773	55,785	58,170	63,998	68,414	9.9	7.7
Total equity and liabilities	297,542	322,792	349,587	376,795	403,999	8.5	7.9

Cashflow Statement (KES M)	FY16	FY17F	FY18F	FY19F	FY20F
Cash flow from operations	32,208	28,831	31,454	32,595	36,067
Cash flow from investing	(48,843)	(40,518)	(34,998)	(34,957)	(34,295)
Cash flow from financing	438	16,292	10,885	9,061	6,788
Cash at the beginning	24,923	2,195	1,309	3,244	4,418
Net increase for the year	(22,728)	(885)	1,935	1,174	2,931
Cash and cash equivalents end	2,195	1,309	3,244	4,418	7,349

Ratios and margins	FY16	FY17F	FY18F	FY19F	FY20F
Gross profit margin (%)	40.9	43.7	43.8	43.9	44.0
EBITDA margin (%)	27.3	27.3	27.6	27.7	27.8
EBIT margin (%)	16.5	16.1	16.0	16.1	16.3
Net profit margin (%)	8.7	8.4	8.4	8.4	8.7
ROaA (%)	2.7	2.7	2.6	2.6	2.8
ROaE (%)	12.1	11.5	11.3	11.2	11.4
Debt to equity (%)	173.5	165.6	158.6	148.6	137.4
Net debt to equity	165.2	158.1	148.9	138.0	124.5
Debt to total assets (%)	38.3	37.3	36.6	35.2	33.6
Current ratio (x)	0.98	0.94	0.93	0.90	0.92

Source: Company filings, ApexAfrica Research

KenGen

Recommendation: BUY

We reiterate a **BUY** recommendation on KenGen informed by a fair value of **KES 9.43**, representing an alluring **45.7%** upside on the counter's current price of **KES 6.45**. The downgrade from our previous fair value (**KES 11.80**) is as a result of heightened ownership dilution (from the rights issue and subsequent share purchase by PIC limited) and a revision of assumptions. In the medium-term, we project a 4-year CAGR of 8.1% in the firm's top-line combined with a 4-year CAGR of 9.9% in the firm's bottom-line.

Tailwinds

- Heightened capex programs, estimated to realise 743MW by 2020, are projected to realise additional capacity revenue.
- Rising electricity demand from domestic consumption (increased connectivity) and LIC's (economic uptick) anticipated to bolster KenGen's energy revenue.
- The Energy Bill, once passed will enable the entry of new market entrants in power distribution and retail. This will enable KenGen to set up the Olkaria industrial park serving as an electricity generator and retailer in the park. Provision of steam to industries within and without the park is projected to further augment the firm's top-line.
- Cash received from the rights issue and subsequent investment by PIC to be re-invested; earning the firm finance income (FY17F +117.6% y/y) in the short-run.
- Government backing to keep net finance costs low (4-year CAGR of 5.3%) even as the firm takes up more debt to finance capex programs.

Headwinds

- Large dilution in the last year to dampen multiples. In addition, the market price of the counter has not reacted to the new shares in circulation. This could be construed to mean a ticking time-bomb.
- Hefty capex programs, estimated at USD 2.4B translate into more debt for the firm. We expect gearing to remain elevated in the medium-term (FY20F net debt to equity at 73.0% against FY16 75.3%)
- Unclear dividend policy dampening investor appetite.

Summary	FY16	FY17F	FY18F	FY19F	FY20F
Net earnings margin (%)	18.5	19.1	19.8	18.8	22.0
y/y change (%)	0.9	0.6	0.7	(0.9)	3.1
EPS (KES)	1.08	1.09	1.12	1.45	1.49
y/y change (%)	(80.5)	0.1	2.6	29.9	2.8
DPS (KES)	-	-	0.11	0.22	0.37
y/y change (%)	-	-	-	94.9	71.3
ROaE (%)	3.8	3.9	4.6	4.5	5.9
y/y change (%)	0.9	0.0	0.8	(0.2)	1.5
ROaA (%)	1.8	1.9	2.2	2.1	2.7
y/y change (%)	0.9	0.0	0.3	(0.1)	0.7
Debt to equity (%)	79.3	74.1	70.8	73.5	74.1
y/y change (%)	0.9	(5.2)	(4.3)	2.8	0.7

Source: Company Filings, ApexAfrica Estimates

Bloomberg Ticker	KEGC KN
Reuters Ticker	KEGN.NR

Share Statistics	
Recommendation	Buy
Fair Value (KES)	9.43
Current Price (KES)	6.45
Market Cap (KES B)	42.5
Market Cap (USD M)	412.0
Year end	30-Jun
Free Float (%)	25.7
Foreign ownership (%)	8.4
3-month Avg Trading Vol (USD)	108.970

Trailing multiples	
EPS (KES)	1.08
NAV (KES)	27.67
P/E (x)	6.4
P/B (x)	0.3
ROaE (%)	3.8

Price Return		
	Absolute	Relative
3m	18.9%	11.9%
6m	-5.5%	-2.1%
12m	-14.5%	6.0%

KEGC vs NSE-20



Source: (NSE)

Capex program to grow capacity revenue

KenGen has lined up a number of projects targeted at raising the firm's installed capacity by 45.6% (743MW) to 2,376MW by 2022. The bulk of this new energy is projected to come from geothermal (87.9% equivalent to 653MW) with the remainder being sourced from wind. Judging from historical patterns, geothermal, thermal and hydro are the only power sources that earn capacity revenue. As such, the heightened focus on geothermal power generation is anticipated to drive up capacity revenue realizing a 4-year CAGR of 10.9%.

Project Pipeline

Project	Capacity (MW)	CAPEX (USD M)	Comm date
Ngong I Phase 3	10	25	2019
Olkaria wellheads	25	27	2016
Olkaria I Unit 6	70	314	Jan-19
Olkaria I AU Uprating	30	20	Sep-19
Olkaria IV Uprating	30	20	Sep-19
Olkaria I Rehab	6	106	Apr-20
50MW Well-Leasing	50	54	Oct-19
Olkaria V	158	555	Jul-19
Meru Wind Phase I	80	143	Jul-21
Olkaria VI	140	571	Sep-20
Olkaria VII	140	571	2022
Total	743	2,406	

Source: KenGen

Rising electricity demand to ramp up revenues

The country's peak demand is forecasted (by the Government) to rally from 1,580MW (1H17) to 2,864MW by 2021. This in turn will lead to rising electricity demand in the country pointing to higher revenues for the firm. However, it is worth noting that the firm's electricity revenue will rise at a slower rate than the country's electricity demand in the long-run due to the entry of new generators eyeing to supply the mounting demand. As of FY16, KenGen generated 88.8% of electricity consumed in the country. We however expect this portion to gradually decline going forward.

Steam revenue to gallop in the medium-term

Notwithstanding a projected normalized 5.6% y/y reduction in FY17F steam revenue, we expect this to reverse resulting in a 4-year CAGR of 7.2%. Among the elements expected to spur this growth is provision of steam at the proposed Olkaria Industrial park as well as increased capacity of the firm's geothermal power generation. In addition to this, the inland port of the SGR is set to be put up in Naivasha. As such more firms are anticipated to set up in the area, creating the demand for steam.

Ease up of +5,000MW plan to hurt other income

The Government has eased up on plans to raise the country's installed capacity by 5,024MW by 2021, which points to declining revenues in other income for KenGen. Consultancy services (first earned in FY16) contributed the largest portion of other income (68.0%) in FY16 and we foresee this portion of other income to come under heavy pressure due to the new developments. As such, we project a gradual 4-year CAGR of -1.9% on KenGen's other income.

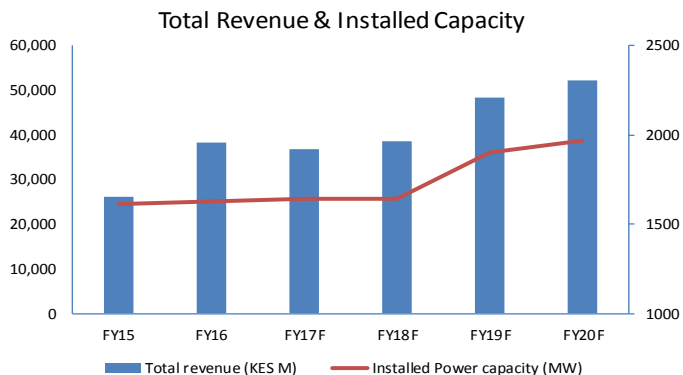
One off events to dent revenue growth, in the short-term

In 1H17, KenGen's electricity revenue contracted minutely by 0.5% y/y to KES 14.7B. This was caused by a number of factors:

- **Transmission constraints:** delayed dispatch from 15MW of wellheads (revenue loss of KES 355M)
- **Mechanical breakdowns:** cooling tower for one unit of Olkaria I (revenue loss of KES 150M). This issue is anticipated to be resolved in 2H17
- **Decommissioning of thermal plants:** decommissioning of Garissa and Lamu thermal power stations after the two towns were connected to the grid (revenue loss of KES 163M)
- **New revenue stream delays:** commercial drilling services revenue not realized due to outstanding contractual matters (delayed revenue KES 633M)
- **Expiry of PPA:** Expiry of Embakasi gas turbine PPA (revenue loss of KES 34M). The plant was moved to Muhoroni and renegotiations of the same are being carried out.

Informed by the above, we forecast a marginal 3.9% y/y decline in the firm's FY17F total revenue though energy revenue is projected to register a 2.6% slight increment. Most factors affecting energy revenue are anticipated to be resolved in 2H17 resulting in higher revenues. Nonetheless, steam revenue is expected to see a normalized decline of 5.6% y/y in FY17F whilst other income is anticipated to see a bigger dent of 32.4% y/y decline. We remain conservative on when the new revenue stream delays will be resolved, explaining the huge decline.

Going forward, we expect KenGen to fire on all turbines resulting in a 4-year CAGR of 8.1% on total income.



Source: Company filings, ApexAfrica Research

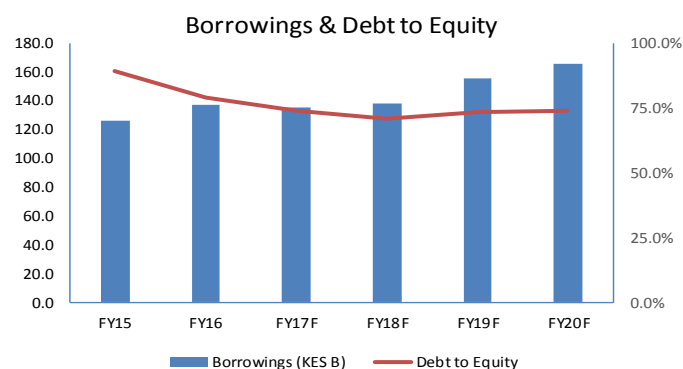
Operating costs to rise steadily; efficiency to remain largely unchanged

With the firm investing increasingly in its generative capacities, we expect these efforts to trickle down to its operating costs. As such, we project a 4-year CAGR of 12.1% on the firm's operating costs, though the 4-year CAGR of 8.1% on its total income is anticipated to keep EBITDA margin largely unchanged (FY20F EBITDA at 67.1% against 67.7% in FY16)

Lofty capex programs to keep debt levels high; D/E ratio to ebb gradually

KenGen has lined up a number of capital intensive projects aimed at adding an additional 743MW of generation capacity. These projects are estimated to cost USD 2.4B (KES 248.6B) with the firm having set a floor on self-financing ratio at 25%. Informed by the heavy capital expenditures lined up, we expect the firm's total debt levels to grow by a 4-year CAGR of 6.5% in the medium-term.

Debt to equity levels are projected to come off due to higher equity levels. Equity levels are anticipated to go up as a result of increases in the share capital and share premium as a result of the rights issue and additional investment by PIC limited. Additionally, the rising profitability level (4-year CAGR of 9.9%) on the firm's net earnings is expected to support the rising equity level. To this effect, we expect a 4-year CAGR of 7.4% on equity, outpacing the 4-year CAGR of 6.5% on debt, resulting in a lower debt/equity level by FY20F of 74.1% (FY16; 79.3%)



Source: Company filings, ApexAfrica Research

Net finance costs to grow moderately

Given the rising debt levels of the company, we expect the finance costs to grow by a 4-year CAGR of 6.5% in the medium-term. We project the cost of debt to remain largely unchanged at the current low levels due to Government involvement in debt acquisition which enables KenGen to source for cheap concessionary debt.

The rights issue carried out mid last year saw the firm receive KES 5.9B (cash) from the public. Since there were no major capex projects financed in the year, the firm invested the funds realizing finance income of KES 632M (+118.7% y/y) in 1H17. Earlier this year, PIC Limited acquired the untaken shares (from the rights issue). This saw KenGen issue 351,250,589 shares to PIC at KES 6.55 (each) translating to KES 2.3B. Seeing that there are no major capex programs lined up for this year, we expect KenGen to re-invest these sums resulting in a 117.6% y/y surge in FY17F finance income.

Going forward, we expect KenGen's finance income to increase by a 4-year CAGR of 3.5% resulting in a moderate 4-year CAGR of 5.3% in the firm's net finance cost.

Dividend policy

To finance its capex projects, KenGen decided to withhold final dividend which sent investors into disarray over its dividend policy. Currently, we don't foresee a dividend in FY17F, though a mild pay-out ratio of 10% is projected in FY18F; resulting in a DPS of KES 0.11. Going forward, we anticipate a 500bps y/y increment in the pay-out ratio culminating in a DPS of KES 0.22 in FY19F and KES 0.37 in FY20F.

Peer comparables

Name	Country	P/B	P/E	EV/EBITDA	ROE	Div Yld
		x	x	x	%	%
KenGen	KN	0.2	6.4	6.5	3.8	-
Montauk Energy Holdings	SA	2.3	*	9.2	3.5	-
Sembcorp Salalah Power	OM	2.6	18.7	9.2	17.3	5.8
SMN POWER	OM	7.0	15.9	11.4	*	5.3
Al Suwadi Power	OM	1.7	21.2	10.4	12.0	6.0
ACWA Power Barka SAOG	OM	2.2	15.1	8.0	21.9	5.5
Al Batinah Power	OM	1.6	24.4	10.5	12.1	4.8
TAQA Morocco	MO	3.5	18.7	8.6	19.4	3.9
Qatar Electricity & Water	QA	2.8	15.0	16.8	19.7	3.6
Mean		2.7	16.9	10.1	13.7	3.9
Median		2.3	17.3	9.2	14.7	4.8

Source: Company filings, ApexAfrica Research, Bloomberg

* implies outlier and has been eliminated

- implies missing information and has been eliminated

Valuation

Assumptions

Risk free rate (%)	13.5	<i>5-year T-Bond yield</i>
Beta	1.2	<i>ApexAfrica Estimates</i>
Risk premium (%)	5.0	
Cost of Equity (%)	19.6	
WACC (%)	11.6	

Weighting

Historical average (%)	70
Industry mean (%)	30

P/E Method

Historical average (x)	5.8	<i>1-year historical avg on diluted FY16 EPS</i>
Industry mean (x)	16.9	
Weighted average (x)	9.13	
FY17F EPS (KES)	1.09	
Fair Value (KES)	9.95	

EV/EBITDA

Historical EV/EBITDA (x)	6.4
Industry average EV/EBITDA (x)	10.1
Weighted EV/EBITDA (x)	7.5
FY17F EBITDA (KES B)	24.9
EV (KES B)	186.6
FY17F Net Debt (KES B)	126.8
Market Cap (KES B)	59.7
Fair Value (KES)	9.06

Earnings Power

Trailing EPS (KES)	1.08
WACC (%)	11.6
Fair value (KES)	9.28

Blended fair value

P/E (KES)	9.95
EV/EBITDA (KES)	9.06
Earnings Power (KES)	9.28
Blended fair value (KES)	9.43

1H17 recap

Declines across revenue sources dent top-line

Electricity revenue decreased marginally by 0.5% y/y to KES 14.7B. Electricity revenue comprises capacity revenue, energy revenue and recoverable forex adjustment, of which only capacity revenue recorded gains.

Capacity revenue edged up 3.9% y/y to KES 10.9B attributed to improved stability of power plants. Capacity revenue from all energy sources recorded improvements with hydro going up 2.0% y/y to KES 3.9B, geothermal rose 3.8% y/y to KES 5.2B while thermal leapt 8.9% y/y to KES 1.7B.

Energy revenue on the other hand declined 7.2% y/y to KES 3.6B as a result of decommissioning of two thermal plants (Garissa and Lamu), the expiry of the PPA for Embakasi Gas Turbine in November 2016 and scheduled statutory inspections in some power plants. Wind energy revenue remained unchanged at KES 239M while hydro (-10.9% y/y to KES 668M), geothermal (-5.6% y/y to KES 2.5B) and thermal (-15.8% to KES 229M) saw declines in revenues.

In 1H16, **steam revenues** of KES 4.1B included arrears on steam revenues of KES 1.6B following the signing of steam resources and maintenance agreement in September 2015. Adjusting for the revenue arrears, steam revenue fell 1.9% y/y to KES 2.5B, pinned on transmission constraints on the dispatch of well-head units.

Decreased revenue from drilling activities and insurance compensation saw KenGen's **other income** plunge 47.6% y/y to KES 598M. Commercial drilling services slumped from KES 617M in 1H16 to nil in 1H17, while insurance compensation waned 37.8% y/y to KES 184M. Carbon credits of KES 57M and net fuel surplus saw miscellaneous income surge 141.1% y/y to KES 205M. Revaluation of bank balances saw the firm record exchange gains resulting in a 46.2% y/y growth to KES 209M.

Dwindling steam costs keep total operating costs tamed:

Operating expenses rose 6.1% y/y to KES 4.4B attributed to operational factors. Transmission constraints saw the firm dispatch lower wellhead units. The decline in units transmitted saw the firm's steam costs fall 22.4% y/y to KES 1.3B. The huge fall in steam costs saw the firm's total operating costs edge down marginally by 5.7% y/y to KES 5.7B, resulting in a mild 310bps y/y decline in EBITDA margin to 68.0%.

Depreciation and amortization charges grew 0.2% y/y to KES 4.5B resulting in a 22.4% y/y dip in EBIT to KES 7.4B.

Surging finance income brings down net finance costs:

Investment of funds raised during the rights issue saw KenGen's finance income gallop 118.7% y/y to KES 632M. The 1.0% y/y marginal decline in the finance cost was attributed to the 12.0% appreciation of the Kenyan shilling against the Japanese Yen. Consequently, net finance costs dropped 27.3% y/y to KES 973M.

Cash position remains healthy: Cash and cash equivalents at the end of the year leapt 155.3% y/y to KES 6.5B (-3.1% h/h), attributed to a 71.0% y/y decline in negative net changes in cash and cash equivalents to KES 211M. Cash generated from operations came down 35.5% y/y to KES 7.0B, though cash used in investing activities fell 51.3% y/y to KES 6.0B.

1H17 Financials

Income statement	1H16	1H17	y/y
	KES M	KES M	% change
Electricity revenue	14,757	14,676	(0.5)
Steam revenue	2,514	2,465	(1.9)
Steam revenue - arrears	1,613	-	-
Other income	1,141	598	(47.6)
Total income	20,025	17,739	(11.4)
Operating expenses	(4,141)	(4,392)	6.1
Steam costs	(1,648)	(1,279)	(22.4)
Depreciation & amortization	(4,519)	(4,529)	0.2
EBIT	9,717	7,539	(22.4)
Interest income	289	632	118.7
Finance costs	(1,622)	(1,605)	(1.0)
PBT	8,384	6,566	(21.7)
Tax income/(expense)	(2,716)	(1,941)	(28.5)
PAT	5,668	4,625	(18.4)
Other comprehensive income	(15)	2	(113.3)
Total comprehensive income	5,653	4,627	(18.1)
Basic EPS (KES)	2.58	2.10	-
Diluted ESP (KES)	0.91	0.74	-

Balance sheet	1H16	1H17	y/y
PPE	312,912	322,091	2.9
Other non-current assets	20,206	19,162	(5.2)
Current assets	21,891	22,224	1.5
Total assets	355,008	363,477	2.4
Equity and liabilities			
Share capital	5,496	15,610	184.0
Share premium	5,040	21,056	317.8
Reserves and retained earnings	135,282	140,703	4.0
Non-current liabilities	187,912	167,913	(10.6)
Current liabilities	21,279	18,195	(14.5)
Total equity and liabilities	355,009	363,477	2.4

Statement of Cashflows	1H16	1H17	y/y
Cash from operating activities	10,836	6,994	(35.5)
Cash from investing activities	(12,238)	(5,954)	(51.3)
Cash from financing activities	674	(1,251)	-
Net changes	(728)	(211)	(71.0)
Opening balance	3,292	6,756	105.2
Closing balance	2,564	6,545	155.3

Ratios and margins	1H16	1H17	y/y
EBITDA margin	71.1%	68.0%	(3.1)
EBIT margin	48.5%	42.5%	(6.0)
Net earnings margin	28.3%	26.1%	(2.2)
Effective tax rate	32.4%	29.6%	(2.8)
ROaE	7.9%	5.3%	(2.6)
ROaA	3.3%	2.5%	(0.7)
Current ratio	1.0	1.2	-

Source: Company Filings, ApexAfrica Research

Financial Forecasts

Income statement (KES M)	FY16	FY17F	FY18F	FY19F	FY20F	1 yr change (%)	4-yr CAGR (%)
Energy revenue	29,571	30,334	31,666	38,460	41,505	2.6	8.8
Steam revenue	6,856	5,215	5,720	8,391	9,043	(23.9)	7.2
Other income	1,839	1,244	1,298	1,577	1,702	(32.4)	(1.9)
Total Income	38,266	36,792	38,684	48,428	52,249	(3.9)	8.1
Operating expenses	(18,828)	(21,266)	(22,016)	(26,811)	(29,701)	13.0	12.1
Steam costs	(3,167)	(2,706)	(2,968)	(4,355)	(4,693)	(14.5)	10.3
EBIT	16,271	12,819	13,699	17,262	17,855	(21.2)	2.3
Net finance costs	(2,576)	(1,883)	(2,505)	(3,033)	(3,170)	(26.9)	5.3
PBT	11,264	9,726	10,538	13,693	14,069	(13.7)	5.7
Tax	(4,521)	(2,918)	(3,161)	(4,108)	(4,221)	(35.5)	(1.7)
PAT	6,743	6,808	7,377	9,585	9,848	1.0	9.9
EPS (KES)	1.08	1.09	1.12	1.45	1.49	1.0	8.4
DPS (KES)	-	-	0.11	0.22	0.37		

Statement of Financial Position (KES M)	FY16	FY17F	FY18F	FY19F	FY20F	1 yr change (%)	4-yr CAGR (%)
PPE	320,933	331,505	358,409	406,291	431,217	3.3	7.7
Other non-current assets	24,399	24,658	25,293	26,932	27,781	1.1	3.3
Current assets (excluding cash and cash equivalents)	15,159	14,691	15,263	18,448	19,815	(3.1)	6.9
Cash and cash equivalents	6,757	8,399	3,136	2,534	2,458	24.3	(22.3)
Total assets	367,249	379,253	402,101	454,204	481,271	3.3	7.0

Equity and liabilities	FY16	FY17F	FY18F	FY19F	FY20F	1 yr change (%)	4-yr CAGR (%)
Total equity	172,743	182,553	195,220	212,304	223,298	5.7	6.6
Non-current liabilities	176,316	174,176	186,807	219,144	233,127	(1.2)	7.2
Current liabilities	18,190	22,524	20,074	22,756	24,846	23.8	8.1
Total equity and liabilities	367,249	379,253	402,101	454,204	481,271	3.3	7.0

Statement of cashflows (KES M)	FY16	FY17F	FY18F	FY19F	FY20F
Cashflows from operating activities	29,257	22,853	22,509	27,360	30,456
Cashflows from investing activities	(22,690)	(18,205)	(35,646)	(57,174)	(38,252)
Cashflows from financing activities	(3,102)	(3,006)	7,874	29,212	7,720
Net Changes in cash and cash equivalents	3,465	1,642	(5,262)	(602)	(76)
Opening cash and cash equivalents	3,292	6,757	8,399	3,136	2,534
Closing cash and cash equivalents	6,757	8,399	3,136	2,534	2,458

Ratios and margins	FY16	FY17F	FY18F	FY19F	FY20F
Steam margin (%)	42.7	48.1	48.1	48.1	48.1
EBITDA margin (%)	67.7	67.7	67.2	67.4	67.1
EBIT margin (%)	34.8	35.4	35.6	34.2	37.7
Net profit margin (%)	18.5	19.1	19.8	18.8	22.0
ROaA (%)	1.8	1.9	2.2	2.1	2.8
ROaE (%)	3.8	3.9	4.7	4.5	6.0
Debt to equity (%)	79.3	74.1	70.8	73.5	74.1
Net debt to equity (%)	75.3	69.5	69.2	72.3	73.0
Debt to total assets (%)	37.3	35.7	34.4	34.3	34.4
Current ratio (x)	1.2	1.0	1.0	1.0	1.0

Source: Company filings, ApexAfrica Research

Appendix

Investment ratings

- ✦ **Buy:** A total return is anticipated in excess of the market's long-term historic annual rate (approximately 10%). Total return expectations should be higher for stocks that possess greater risk.
- ✦ **Hold:** Hold the shares with neither a materially positive total return nor a materially negative total return anticipated.
- ✦ **Sell:** Stock should be sold as materially negative total return is anticipated.

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