

Should investors be worried about Kenya Power's (KP) ability to perform?

Executive Summary

COVID-19 has had a significant impact on the World and its economy. For Kenya Power, it has resulted in critical questions being asked around its financial performance. This is following recent headlines stating that the utility company is looking to get out of Power Purchase Agreements (PPAs) through the *force majeure* clause and further declaring a profit warning for the financial year ended June 2020. As an investor in Kenya's energy sector, such messaging is worrying as regards the utility's stability and its expected performance on its long-term PPA agreements.

This report seeks to investigate and answer the question of **whether investors in Kenya's energy sector ought to be worried about KP's ability to perform on its commitments, especially to the investors**. The analysis looks at KP's historical financial performance from 2008 – 2019 (the micro view) and the demand-supply dynamics in Kenya's power sector (the macro view) in a bid to answer this key question.

The analysis finds that operationally KP has performed well. Total revenues and operational profitability as measured by the EBITDA margin (Earnings Before Interest Tax Depreciation and Amortization) have increased over the focus period. Revenues have increased by 93% over the period, with EBITDA margins almost doubling from 12% to 20%. Once finance costs (debts service costs) are taken into account, however, KP has performed dismally. Its net profit margins have reduced from 5% to 0.2% over the same period, no wonder its share price has plummeted over the period by 92%. **While this is concerning, we believe it is something that the utility can address, especially bearing in mind it is a monopoly for all intents and purposes.**

What should worry investors, however, is the macro view. While over the historical review period peak demand and installed capacity have been growing in tandem, the key risk for KP is the Government of Kenya's ability to deliver on proposed mega projects and the Big Four Agenda. KP signs long-term PPA agreements upon reviewing the demand forecasts, which are very much a factor of the Government ability to deliver on key projects. If these projects are not implemented on time and to the forecasted scale, KP will be left exposed and as a result not perform on its obligations.

Introduction

A recent article by [Business Daily Africa](#) discusses Kenya Power's (KP) more recent financial turmoil where it set to declare force majeure on some of its power generation contracts as a result of reduced demand for power following the COVID-19 pandemic. *Force majeure* is a standard contractual term

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which when invoked exempts a party from performing their obligations due to unforeseen events of which they have no control. The Company has further [alerted investors](#) that it expects its profits to decline by more than 25.0% for the period ending June 2020.

As an investor in Kenya's power sector should you be worried about KP's ability to perform on its power purchase agreements (PPAs)? What are the issues facing the power distributor? Are these issues addressable? This research piece looks to resolve these questions by using publicly available data and analysis from [InVestia Africa Limited](#).

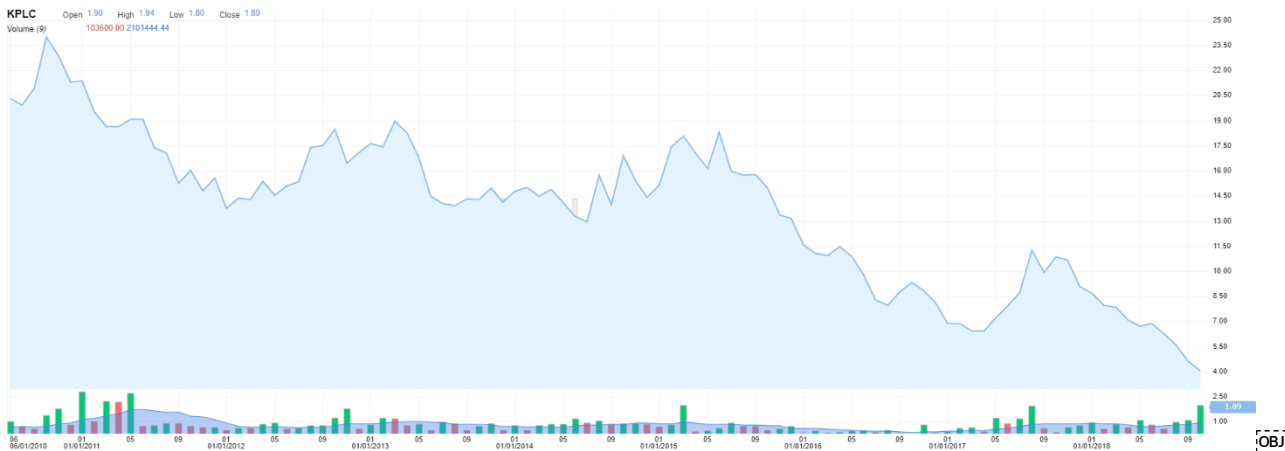
To address the key questions above, we investigated the demand-supply dynamics from a macro perspective and the financial performance of KP over time, from a micro perspective. Our hypothesis was that KP's issues are a combination of both macro and micro issues and that by addressing these two perspectives, we would answer the questions behind this analysis.

KP's financial performance over time

1. How has KP's stock performed over the last 10 years?

Share prices, while not wholly reflective of a company's performance, are always a good indicator of both its performance and the public sentiment to the organization. KP's share price has performed

dismally over the last 10 years. The share has had a tough spell marked with a declining share price. During the 10 years, starting 2010, its market price reduced by 92.0% representing a compounded annual reduction of 22.5% as at 1st of September 2020.



Source: Investing.com

Whilst the decline has been gradual, most of this decline has happened over the last few years with the average annual price in 2015 being Kes 15.9 compared to Kes. 3.8 in 2019, a 76.3% decline. This points to a bigger issue ailing the Company other than COVID-19.

2. What about its financial performance?

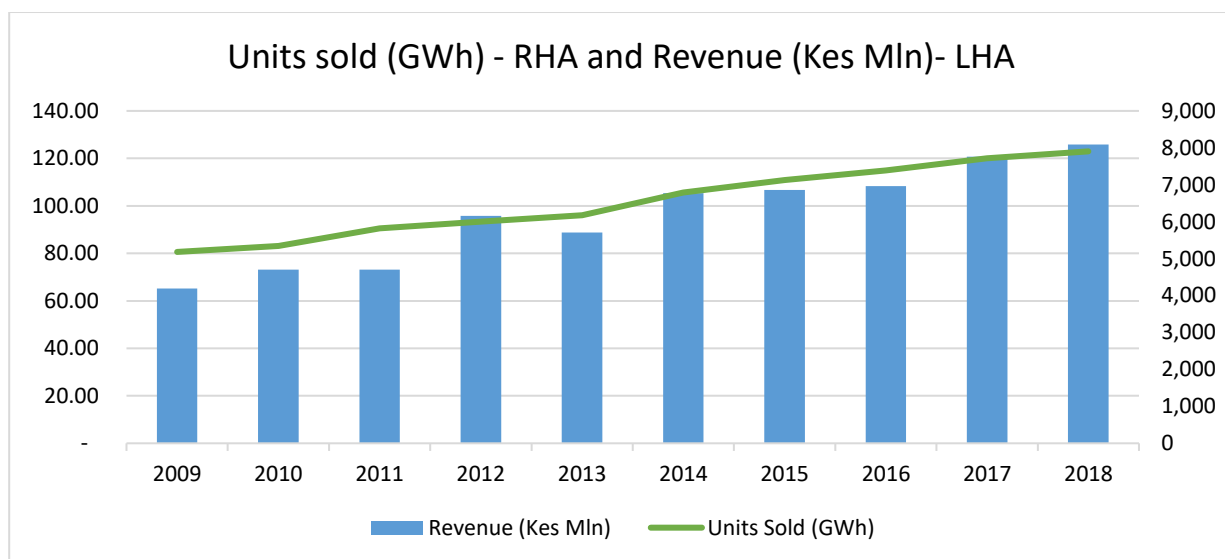
We analyzed KP's financial performance by looking at its operating metrics and key performance ratios over a 10-year period beginning in 2009. (The Company has not published its full audited 2018 /2019 financials ending June 2019, what is available are extracts. The reason given by the Company is the delayed appointment

On an absolute basis, the EBITDA increased by 228.0% during the period 2009 to 2018, with a CAGR of 14.1%. This is remarkable, especially considering that the revenues only increased by 93.0% during the period. This can be attributed to good cost management by the utility.

of the Auditor General who needs to certify the accounts before their publication). For the performance ratios, we analyzed its liquidity, profitability, leverage and return ratios.

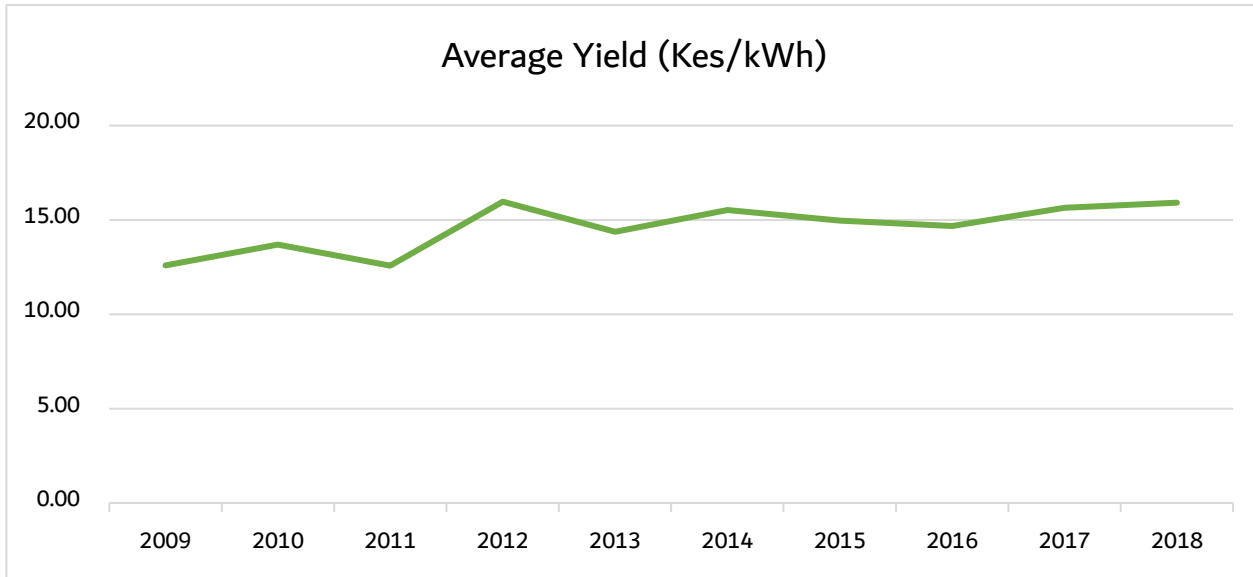
KP's operating performance:

Looking at KP's operating performance, its revenues have been increasing on a Compound annual growth rate (CAGR) of 7.6% totalling to a 93.0% increase in revenue over the review period. CAGR showcases what investors have at the end of the period as it represents what an investment yields on an annually compounded basis.



Analysis data sourced from Kenya Power Annual Reports

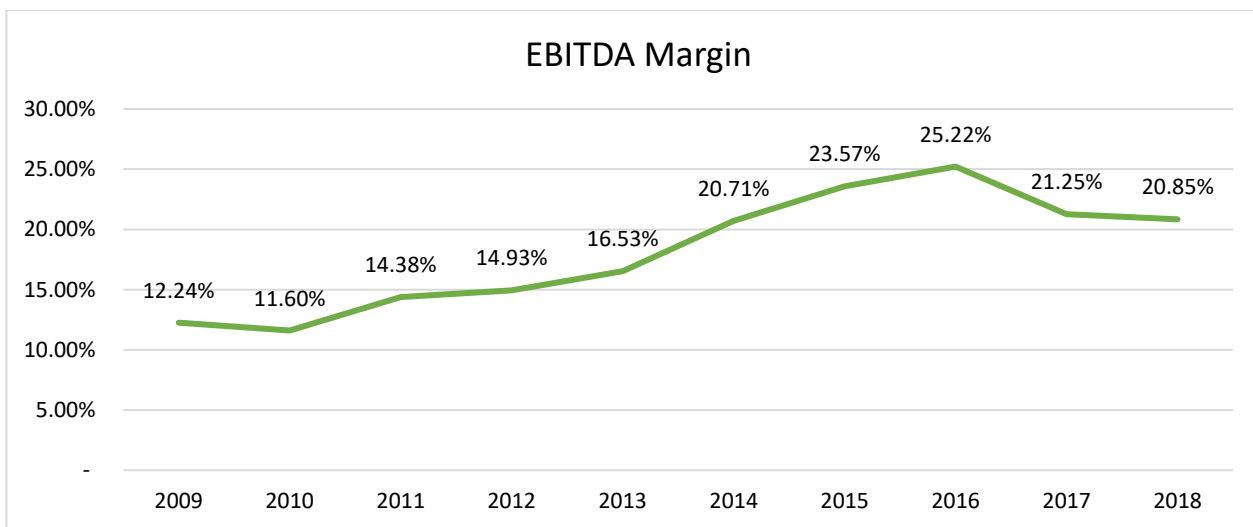
This can be primarily attributed to an increase in the units sold by 52.6% during the review period, with a CAGR of 4.8% per annum, representing increased demand. The other reason for the increase is a 25.6% increase in the price of units sold over the review period, from an average of Kes 12.6 cts/kWh in 2009 to Kes 16.0 cts/kWh in 2018.



Analysis data sourced from Kenya Power Annual Reports

KP's profitability:

Over the review period, KP's profitability on an operational basis, the Company's earnings before interest, taxes, depreciation and amortization (EBITDA) has improved while on a net basis (Net Profit Margin), it has reduced.



Analysis data sourced from Kenya Power Annual Reports

The EBITDA margin for the Company had been increasing steadily from 2009 to 2016. In 2017 and 2018 however, it declined despite a 6.0% increase in yield from units sold from Ksh. 14.7 to Ksh. 15.6. The decline can be attributed to an increase in power purchase costs compared to previous years. On an absolute basis, the EBITDA increased by 228.0% during the period 2009 to 2018, with a CAGR of 14.1%. This is remarkable, especially considering that the revenues only increased by 93.0% during the period. This can be attributed to good cost management by the utility.

This EBITDA growth would have been even more remarkable had KP been able to manage its power losses. System losses GWh increased during the period from 16.3% of units purchased to 21.0%.

System Losses		
	In GWh	As a % of Energy Purchased
2009	1057	16.3%
2010	1068	16.0%
2011	1180	16.2%
2012	1330	17.3%
2013	1507	18.6%
2014	1,596	18.1%
2015	1,624	17.5%
2016	1,905	19.4%
2017	1,932	18.9%
2018	2,244	21.0%

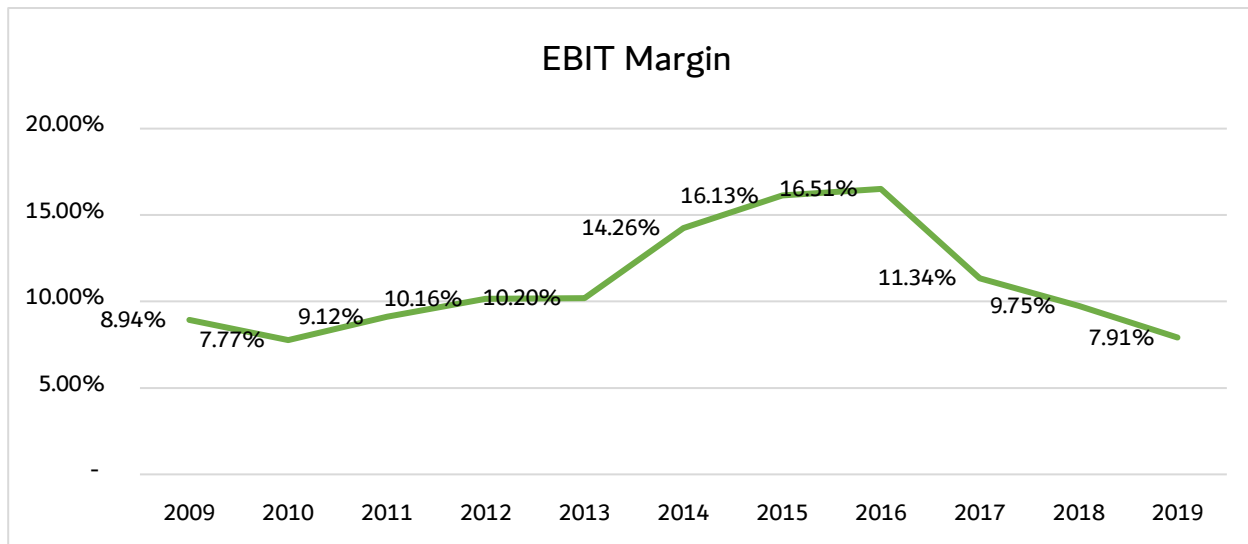
Source: Kenya Power Annual

KP has been losing energy at a rate that is marginally lower than the average for Sub-Saharan Africa, but which is significantly higher than the global average. It is worth noting that KP recognized that it needed to address the system losses and to this end, it developed a three-year Loss Reduction Initiative in collaboration with the IFC.

According to the International Finance Corporation (IFC) on average, electricity utilities in Sub-Saharan Africa lose 23.0% of the energy consumed compared to a 10.0% global average (International Finance Corporation, 2020). In their 2018 annual report, KP says that system losses comprise both technical and commercial components. The technical components are due to an extension of circuit length for high and medium

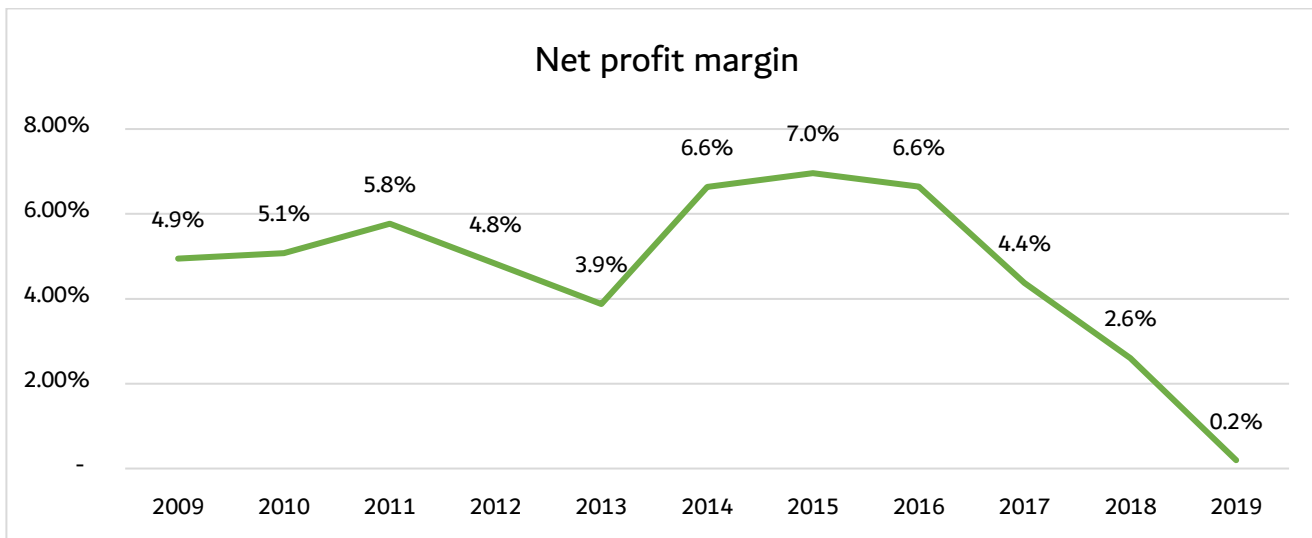
voltage power lines. Pilferages, faulty meters and meter tampering make up the commercial components. KP has been losing energy at a rate that is marginally lower than the average for Sub-Saharan Africa, but which is significantly higher than the global average. It is worth noting that KP recognized that it needed to address the system losses and to this end, it developed a three-year Loss Reduction Initiative in collaboration with the IFC.¹

¹ <https://www.esi-africa.com/regional-news/east-africa/kenya-ifc-to-support-energy-loss-reduction/>



Analysis data sourced from Kenya Power Annual Reports

The EBIT (Earnings Before Interest and Tax) margin is another measure of operational efficiency. Kenya Power’s EBIT margin has been declining over time. It dropped from 8.9% in 2009 to 7.9% in 2019. The increasing power purchase costs can be pointed as the reason for this decline.



Analysis data sourced from Kenya Power Annual Reports 2009-2018

The net profit margin, on the other hand, increased between 2009 and 2016, moving from 4.9% to 7.0%, it then sharply declined during the period to 2018 to 1.5%. This can also be attributed to an

increase in leverage which has resulted in high financing costs. This can be seen in the interest costs to gross revenue table below. We will look at how much KP is leveraged in the next section.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Interest costs to Gross revenue	4.87%	3.29%	1.64%	4.45%	5.18%	7.14%	13.68%	15.08%	13.73%	13.08%

Jumping on to the liquidity ratios, which indicate KP's ability to pay off short-term obligations, these have been deteriorating in recent years despite the increased revenues from electricity sales. While in 2009, the current ratio was just above the recommended ratio of 1, which indicates that the firm could easily meet its short-term obligations, it has since deteriorated to only half of the initial figure. This indicates that KP may not be in a position to settle its short-term obligations. The quick ratio has also similarly deteriorated over the period. A review of the numbers shows that its current liabilities have been growing at a faster pace than its current assets.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Current Ratio	1.15	1.05	1.25	0.90	0.97	1.03	1.45	0.98	0.78	0.51
Quick Ratio	0.74	0.60	1.22	0.57	0.59	0.73	1.19	0.75	0.66	0.42

Analysis data sourced from Kenya Power Annual Reports

It is important to note that is that the above analysis is from 2009 to 2018, before the COVID-19 pandemic.

Looking at its leverage ratios which assess the extent of the long-term debt owed by an entity, these have increased over time worsening the Company's performance. As of 2009, the debt to total assets ratio was at 4.5%. This had increased in the period 2013-2016, with highest being 20.4%. This has

been improving lately, and as of 2018, it was 3.5%. According to KP, the borrowings are meant for a major expansion phase that is driven by increased demand and Government policy.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Debt to Equity Ratio	0.12	0.12	0.22	0.24	0.66	0.50	0.88	0.95	0.26	0.18
Debt to Total Assets Ratio (as %)	4.53%	3.96%	7.27%	7.85%	17.00%	12.42%	19.04%	20.41%	4.89%	3.52%

Analysis data sourced from Kenya Power Annual Reports

On the positive side, the firm's debt service coverage ratio has recovered recently after dipping significantly between 2013 and 2016. In 2018, the debt service coverage was at a comfortable ratio of 2.2.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Interest Coverage Ratio	6.61	8.95	17.36	8.50	6.55	6.43	3.74	3.11	2.48	2.01
Debt Service Coverage Ratio	2.46	2.52	1.19	1.36	0.47	0.80	0.49	0.45	1.58	2.21

Analysis data sourced from Kenya Power Annual Reports

What does the analysis mean for KP?

While operationally KP seems to be performing relatively well, it is important to note that it is a monopoly and investors should not expect anything less. Leverage is, however, undoing the good operational performance and even threatening the utility's survival. From 2013 to 2016, Kenya Power borrowed very heavily, and this came along with additional financing costs. If its revenues reduce by

On a long-term basis there is still an element of concern but not alarm. As indicated operationally, even with its significant power losses, KP still remains at a very sound position (EBITDA margin of +20.0%). Demand for power is expected to rebound and even increase over time especially if the manufacturing pillar of the Big 4 Agenda takes off.

25.0% as it has forecasted, it will sink into losses unless serious restructuring measures are not put into place.

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discipline to weather its current storm, after all, it is still a monopoly.

In the next segment, we analyze the macro perspective where we look at demand-supply dynamics and see whether these play to its advantage or otherwise.

Demand-supply dynamics

To address the key question on the investors' sentiment towards KP's performance, the macro-economic players are addressed in this section. Is the sector operating on a power glut, or is there a 'stable' equilibrium between supply and demand?

1. The demand

Between 2011 and 2018, the peak demand for electricity grew by 54.0% from 1,236 MW to 1,830 MW a 6.4% CAGR. In November 2019, the Ministry of Energy announced that the demand for electricity surpassed the 1,900 MW mark after recording 1,912 MW with an installed capacity of 2,819 MW.

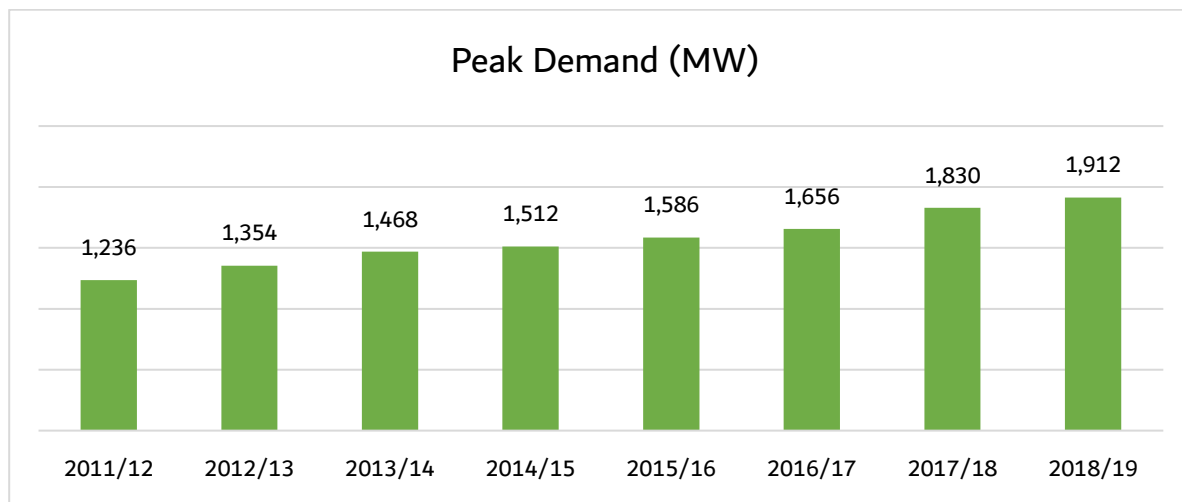
It is important to point out here why there is such a huge difference between installed capacity (2,819 MW) and peak demand (1,912 MW). Peak demand refers to the highest power demand experienced by KP over a 24hr period. In Kenya, this usually happens between 1900 – 2100hrs. KP needs to ensure that it can supply

this demand using the sources it has available at this time. The only problem is that not all sources of power available are active and producing at 100% at this peak demand point (examples of sources not at 100% could be solar and wind). As a result, KP is forced to procure more power to meet this peak demand, this additional installed capacity may not be required during the other times in the day.

Increased electricity demand can be attributed to various factors at play within the economy. Some of the key factors include increased industrialization and the rural electrification project that saw

There is still a risk that supply outstrips demand even in this scenario especially if KP becomes more efficient and reduces its power losses. This is especially concerning considering that under this worst-case scenario forecasted demand-supply gap will stand at approximately 26.0%, which is above the current average of 19.0%.

increased connection to households. In 2019, The World Bank applauded Kenya ² for its increased electricity connectivity to more than 75.0% of its population compared to its neighbours, Uganda, Tanzania and Rwanda who stood at 22.0%, 32.0% and 34.0% respectively. The graph below illustrates the change in peak demand over the years.



(Source: Updated Least Cost Power Development Plan 2017-2037)

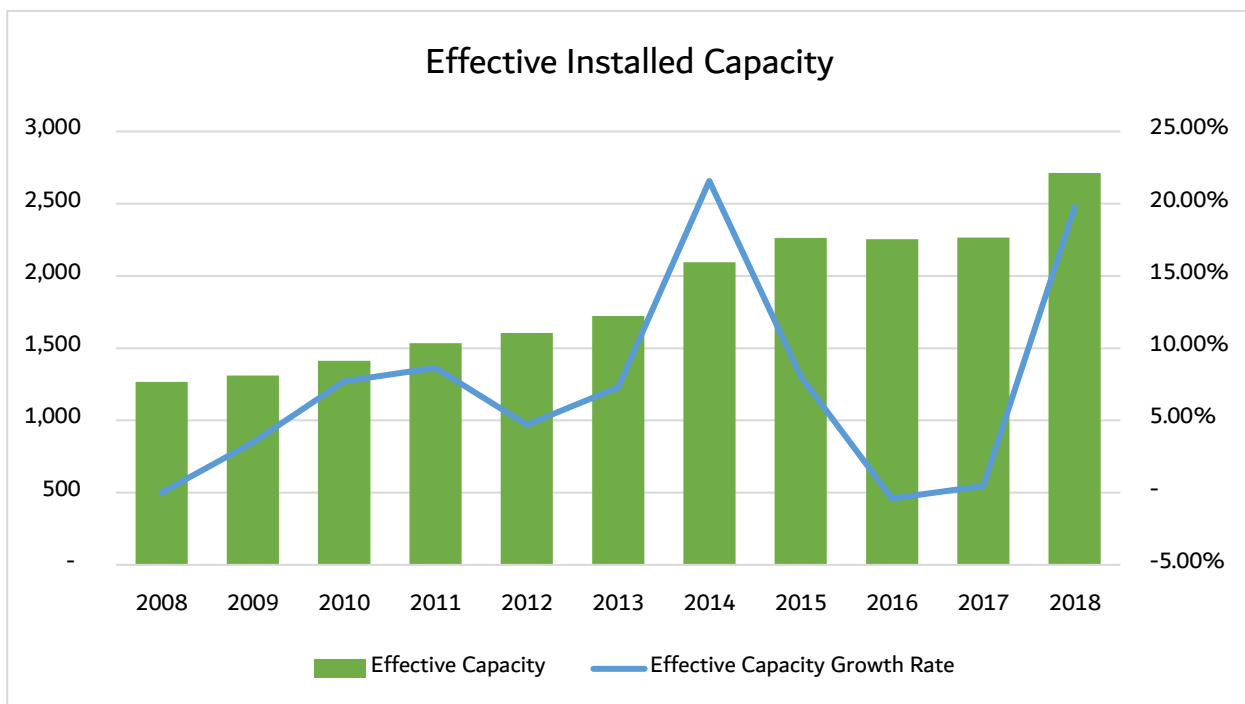
This increase in demand has happened within a backdrop of an increase in electricity costs (as indicated earlier power costs increased by 52.6% between 2009 and 2018). As a result, there has been a move by several corporates and retail consumers towards own power generation to meet some of their needs, for instance, by using solar or other renewable sources. According to the World Bank, at the end of 2019, the price of electricity in Kenya was approximately Ksh. 22.0 per kWh, which is relatively high compared to its neighbours’ Tanzania and Uganda, whose price stood at Ksh. 10.0 and 18.0 per kWh respectively. South Africa’s connectivity stands at 91.0% while its electricity prices stand at approximately Ksh. 12.0 per kWh. If electricity prices keep their upward trend, there will be increased incentives for consumers to seek out cheaper alternatives and while captive power (own

² <https://www.worldbank.org/en/news/feature/2018/12/06/kenya-charts-path-to-achieving-universal-access-to-electricity>

power generation) is still relatively small as a percentage of aggregate KP demand, it could dilute forecast demand in the long-term.

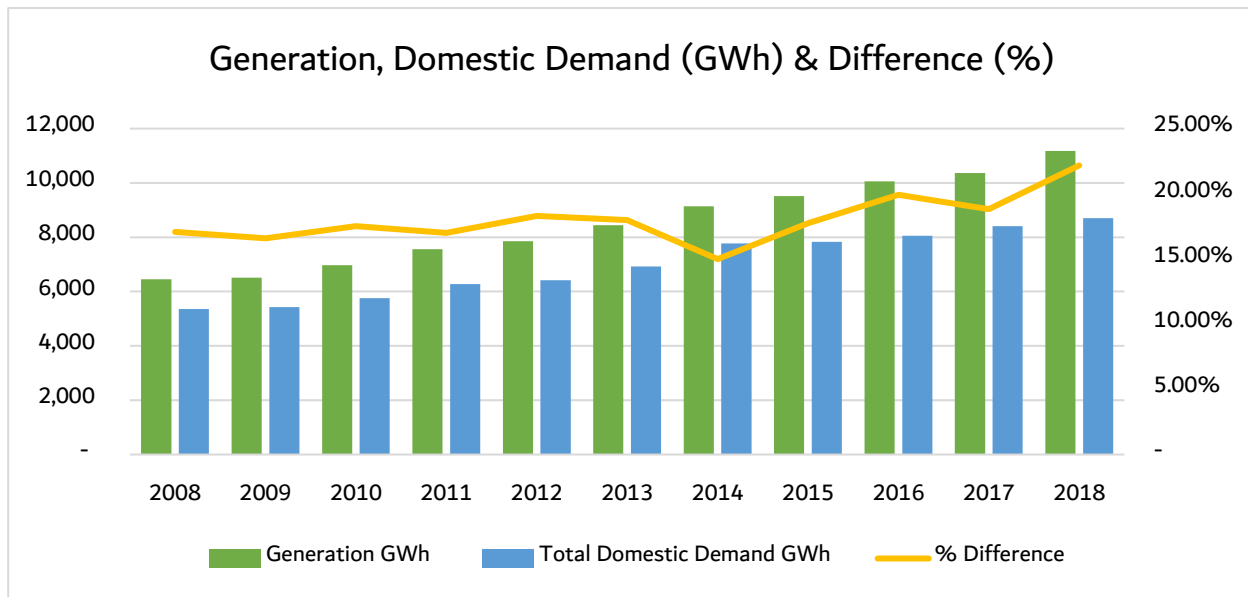
2. The Supply

Between 2008 and 2018, the effective installed capacity recorded a 78.0% growth from 1,267 MW to 2,712 MW. As shown in the graph below, the year on year growth follows no specific trend as the growth has been erratic but represents an 8.8% CAGR.



Source: KNBS Economic Surveys

In line with the growth in installed capacity at peak demand, according to the Kenya National Bureau of Statistics (KNBS), the Country has also seen an improvement in its electricity generation, while in 2008 generation stood at 6,455 GWh by 2018, this figure stood at 10,360 GWh recording a 60.0% increase and a 5.4% annual increase.



Analysis data sourced KNBS

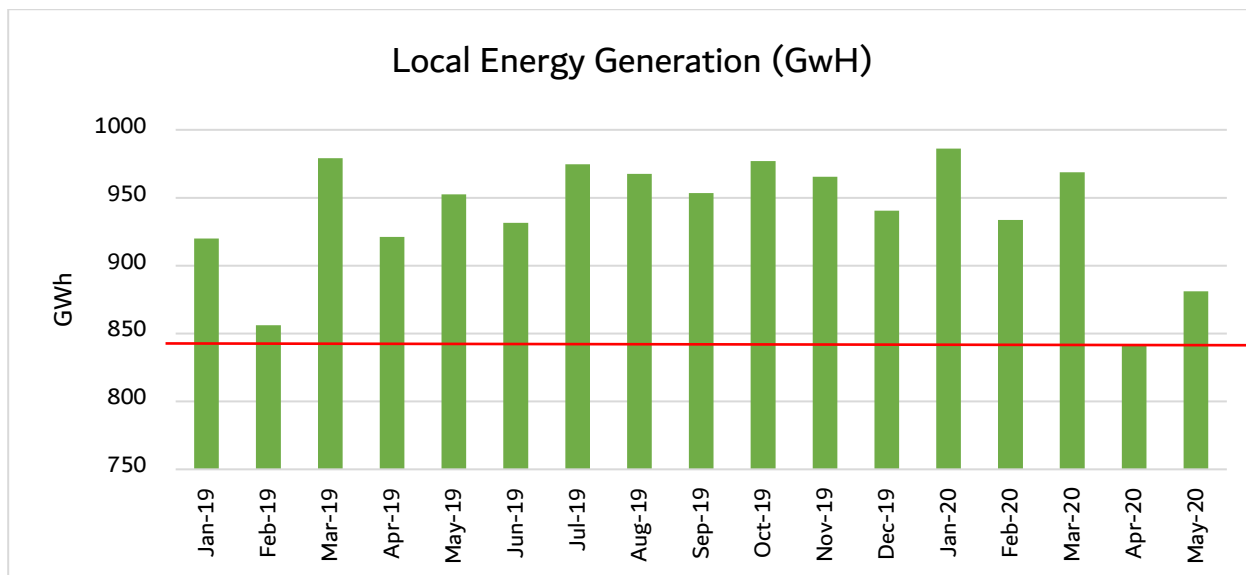
There has been a consistent 20.0% (on average) gap between the average electricity generation and the total domestic demand, which is accounted for by the power losses discussed earlier. This may indicate that generation has not outpaced demand during the period during the review period.

3. Is KP justified in its claims for Force Majeure as a result of the COVID Pandemic

As part of our analysis, we carried out an analysis of the demand and supply changes over the short term, i.e. between 2019 and 2020 to assess whether KP is justified in its plans to take advantage of *force majeure* claims.

A month on month analysis of the electricity generation shows that in May 2020, the total local electricity generation stood at 881 GWh, recording a 5.0% increase compared to April where 840 GWh units were generated. In January the generation stood at 986 GWh which represents an 11.0% overall decrease. To account for any seasonal cycles, we compared the monthly energy generation with the previous year's number. In 2019, the energy generation in March, April and May stood at 979, 921, and 952 GWh respectively. In 2020, the figures were significantly lower with, 969, 841 and 881 GWh recorded in similar periods respectively. The data shows that the differential in March was just 1.0% while April and May were lower by 9.0% and 7.0% respectively. Bearing in mind that this is the

period when the Kenyan Government imposed strict measures to assist in curbing the spread of COVID-19; hence it is possible to blame the decrease in generation to COVID-19. The graph below shows the change in local energy generation from January 2019 to May 2020.



Analysis data sourced KNBS

Bearing in mind, we are discussing generation and not demand (this is the only publicly available data we could find to answer the question) we have assumed that KP can reduce supply in response to changes in demand as required and hence generation is a good proxy for demand. We understand that this strategy would cost KP as it needs to pay for power contracted and not power consumed from non-emergency power plants, i.e. solar, wind, hydro and geothermal. For thermal plants, KP would pay for only the capacity charge, if not consuming.

Power Purchase Agreements (PPAs) are signed on a take or pay basis, meaning that the utility has an obligation to either:

- i. take and pay the tariff price agreed on for generation from a plant each year, or
- ii. pay the applicable contract price for the agreed quantity if it is not taken during the applicable year.

For thermal plants however the PPAs provide for the following payments:

- A capacity charge, i.e. a fixed payment that is paid each period for each kilowatt available (not dispatched) and,
- An energy charge, i.e. an amount paid each period for each kilowatt hour of energy dispatched and delivered at the agreed delivery point during that period

This means that when KP has excess demand after achieving maximum generation from non-emergency power sources, it can decide to reduce the uptake from thermal sources and end up incurring only the capacity charge.

KP is not justified to claim force majeure, the reduction is not significant to warrant the clause's utilization. However, with demand recovery expected to be sluggish and bearing in mind KPs financial performance, the pain at the utility will be felt for some time.

In our opinion, with the reduction in demand of around 9% during the high points of COVID-19, KP is not justified to claim *force majeure*, the reduction is not significant to warrant the clause's utilization. However, with demand recovery expected to be sluggish and bearing in mind KPs financial performance, the pain at the utility will be felt for some time.

In our view, the recovery of the economy following the COVID-19 pandemic will be a gradual one (U shape and not a bounce (V shape). This is due to the massive impact COVID-19 has had on earning potential for a huge portion of the economy (job losses due to reduced demand in various sectors of the economy), which will take time to rebuild.

4. What does the future hold as regard demand and supply for power

As indicated earlier, installed capacity has grown at a CAGR of 8.8% between 2008 and 2018. Peak demand, on the other hand, grew by 54.0% from 1,236 MW to 1,912 MW a 6.4% CAGR between 2011 and 2019.

This may indicate supply growing faster than demand. This can be partly accounted for by the fact that part of the power increase is in sources that are not available 100% of the time (wind and solar), meaning KP will need higher capacity installation than the demand.

In the forecast period, however, according to the Least Cost Power Development Plan, the effective installed capacity is expected to grow to 7,005 MW by 2037 (a 5.4% CAGR from the 2018 capacity, this is lower than growth over the past 10yrs – 8.8%). It is important to note that our focus should not be on installed capacity but rather actual supply generation and demand consumption.

According to the same report, in the best-case scenario electricity consumption is expected to increase to 59,990 GWh by 2037 which is on average, 8.8% annual growth (almost twice the current demand growth rate). The best-case scenario assumes that the Vision 2030 flagship projects such as the electrified mass transit Nairobi system, electrified Nairobi-Malaba

standard gauge railway and the LAPSSET standard gauge railway are completed. The worst-case scenario, on the other hand, estimates demand to grow to 27,945 GWh averaging 5% per annum growth. The electricity generated is forecasted to stand at 35,222 GWh with an installed capacity of 9,547 MW. Based on historical performance on demand, 5.1% growth between 2008 and 2018, this

With inaccurate demand-supply matching, KP may end up in the same position as Ghana power distributor, the Electricity Company of Ghana, where power supply growth has outstripped demand and with take or pay contracts, has led to significant financial health challenges for the utility.

scenario looks most likely. There is still a risk that supply outstrips demand even in this scenario, especially if KP becomes more efficient and reduces its power losses. This is especially concerning considering that under this worst-case scenario, the forecasted demand-supply gap will stand at approximately 26.0%, which is above the current average of 19.0%.

With inaccurate demand-supply matching, KP may end up in the same position as Ghana power distributor, the Electricity Company of Ghana, where power [supply growth has outstripped demand](#) and with take or pay contracts, has led to significant financial health challenges for the utility.

Conclusion

There are reasons for concern for investors in the Kenya Power sector. While KP's operational performance has improved from 2008 to 2018, its financial performance has been dismal owing to high debt levels which have increased debt service requirements leading to negligible profit levels. There are several options to address these financial challenges including working on the reduction of the power losses, putting in place austerity measures to improve operational performance and slowing down on borrowing during this period.

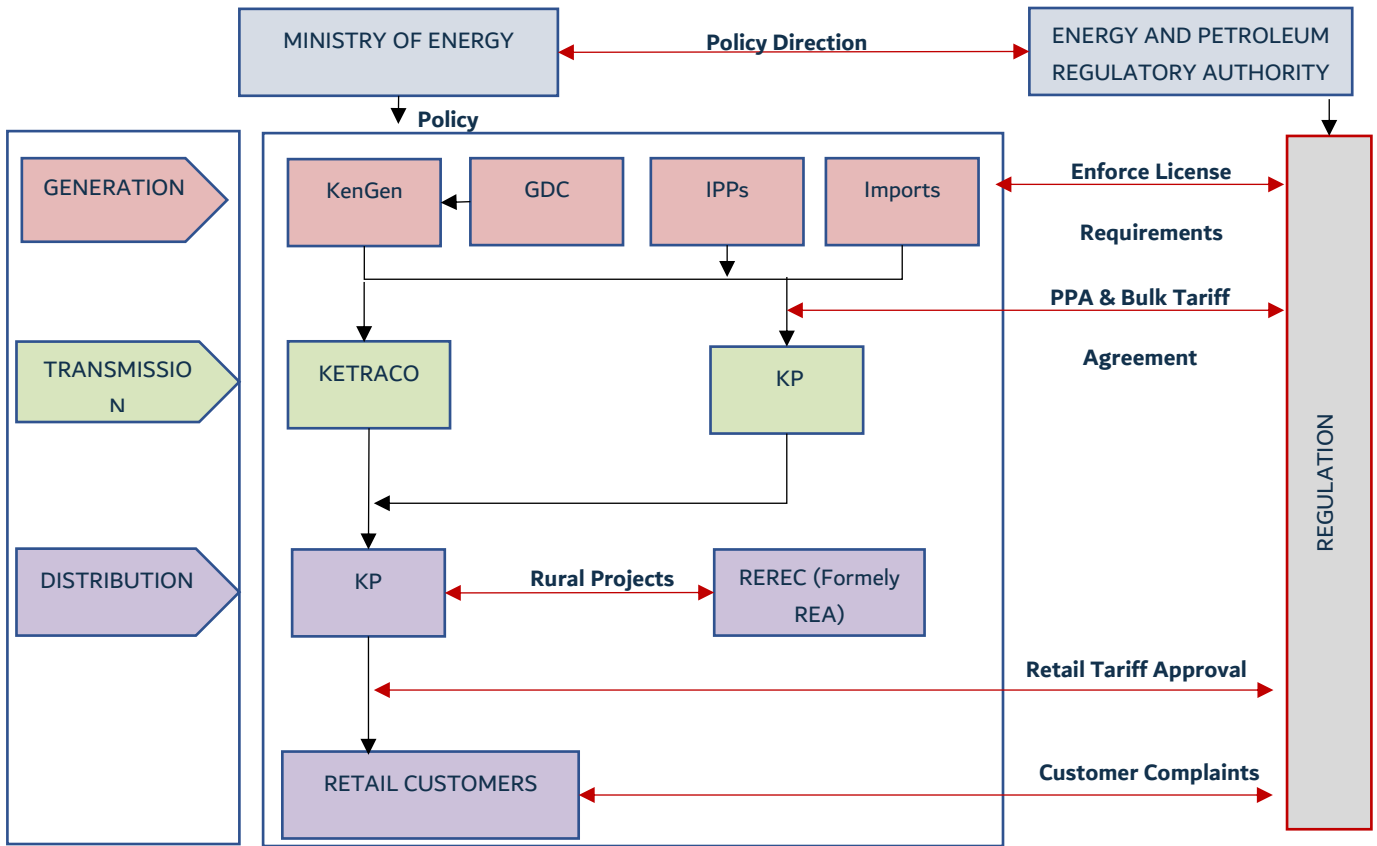
The biggest concerns, however, are not at the Company level but rather on the macro level. The demand-supply dynamics, in our view, pose the biggest risk for the utility. The utility company's role is to enter into long terms agreements to buy electricity from power producers (Kengen and independents) and sell it to different consumers. 69% of the power currently produced is consumed by commercial and industrial consumers and small commercial consumers. Retail customers only consume 31%. Further, with electrification rates in Kenya at over 75%, this points to the fact that growth in demand will not come from the retail segment but from the commercial and industrial sectors. This then means that as an investor, the key question should be whether the Government's policies and execution ability are able to spur growth in this area.

There are positive signs on this macro scale, one of the key pillars of the Big Four Agenda is manufacturing. The Least Cost Development plan also talks of megaprojects, that is, electrified mass transit Nairobi system, electrified Nairobi-Malaba standard gauge railway and the development of integrated iron and mini steel mills which are part of the Vision 2030. If these projects and policies are realized the demand for power should keep up with the supply. If however these are not realized, KP will be left exposed and together with its financial troubles could be crippled.

Appendix – 1

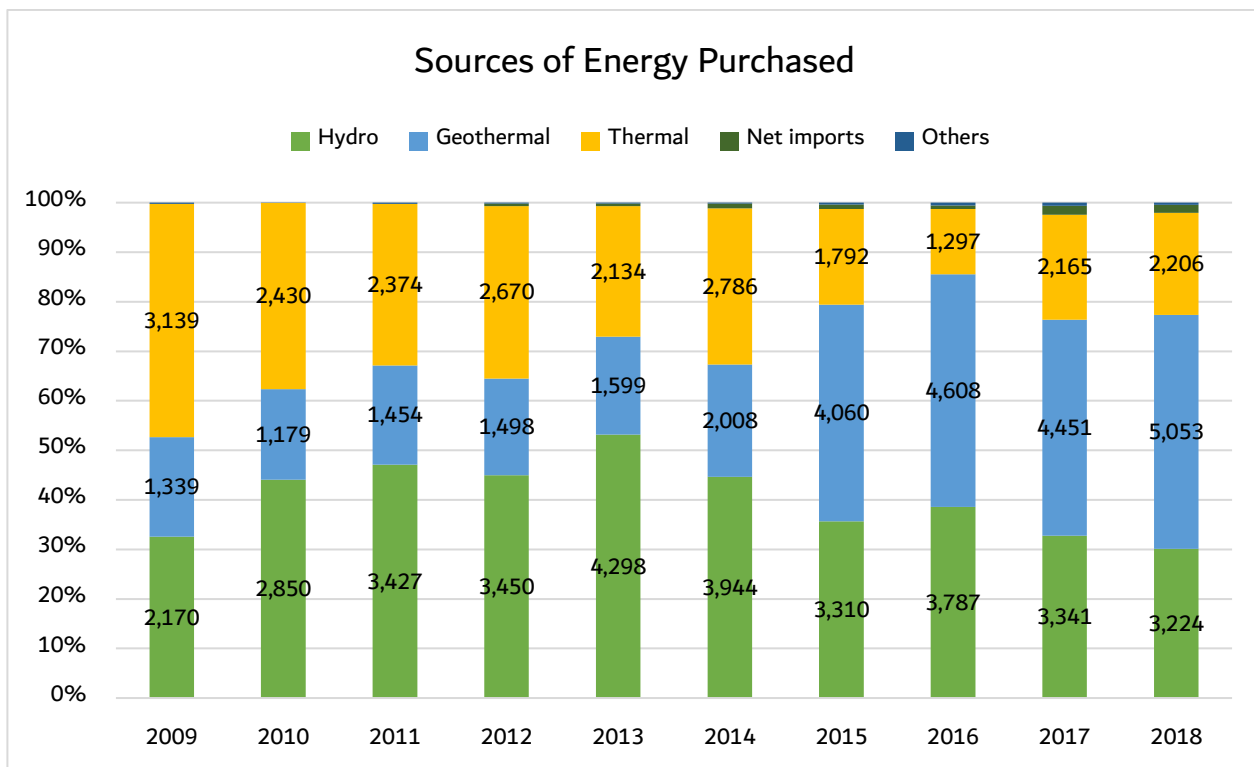
About the Kenya Power Sector.

The Kenyan Energy sector has numerous institutions who play a significant role in the production and distribution of energy. We begin with the regulatory authorities, which include the Ministry of Energy and the Energy and Petroleum Regulatory Authority (EPRA). The Ministry of Energy oversees the formulation of policy in the energy sector. The Energy and Petroleum Regulatory Authority (EPRA) reviews electricity tariffs and enforces safety and environmental regulations. We then move to the power generation players which include The Kenya Electricity Generating Company (KenGen), the Geothermal Development Company (GDC), Independent Power Producers (IPPs) and imports from the Uganda Electricity Transmission Company & Tanzania Electricity Supply Company. KenGen is the leading power generation company in Kenya. The Geothermal Development Company (GDC) on the other hand, promotes rapid development of geothermal electric power in the Country. Independent Power Producers (IPPs) build, own and operate privately owned power stations and sell the power in bulk to Kenya PLC. The final players are those involved in power transmission and distribution. These include the Kenya Electricity Transmission Company (KETRACO) which plans, designs, constructs, owns, operates and maintains high-voltage transmission lines using government funds to accelerate infrastructure development. KP is also another player in this sector, and it is the main off-taker and retailer of power. Finally, we have the Rural Electrification, and Renewable Energy Corporation's (REREC) work is to execute the rural electrification projects for the Government. A graphical representation of the above can be seen below:



Appendix 2 – Sources of power for KP

Information from KP’s annual report in 2018 shows their energy resources as follows: 43.0% was from geothermal, 33.0% hydroelectricity, 21.0% thermal, 2.0% was imported and, 1.0% from other sources. This information has been defined in the chart below. Hydro has been decreasing over the ten-year period with 2013 recording the highest proportion 50.0%, and by 2018, it stood at 33.0%. Geothermal appears to be king holding the biggest proportion and recording a steady increase over time since 2009. For most of the period, thermal power’s contribution has been reducing. In 2009 it constituted approximately 46.0%, 2016 recorded the smallest portion approximately 17.0%. The figure has risen since then to approximately 21.0%.



Source: Kenya Power Annual Reports 2009- 2018