Energy & Petroleum Regulatory Authority

ENERGY & PETROLEUM STATISTICS REPORT

FOR THE FINANCIAL YEAR ENDED 30TH JUNE 2025

About this report

This report provides key statistics on the performance of electricity, petroleum, and renewable energy subsectors during the financial year 2024/2025.

The report and the material herein are provided "as is". All reasonable precautions have been taken by EPRA to verify the reliability of the material in this publication. However, neither EPRA nor other third-party content providers provides a warranty of any kind, either expressed or implied, and they accept no responsibility or liability for any consequence of use of the publication or material herein.

For further information or to provide feedback, please contact EPRA through statistics@epra.go.ke.

Acknowledgements

This report has been compiled by the EPRA Statistics Committee, comprised of the individuals listed below.

1. Njoki Karanja
2. Ronald Ketter
3. Newtone Munyolo
4. Lee Okombe
5. Jamaldin Luqman
6. Ruth Rono
7. Hassid Okumu
8. Gladys Njoroge
9. Kenneth Bullut
10. Ian Bett
11. Allan Gisanga
12. Felix Terigin
13. Gideon Maloba

We thank the Director General and the Director Economic Regulations and Strategy for their technical guidance in the preparation of this report. We also acknowledge the support of the Senior Management team and EPRA colleagues. We extend our appreciation to our stakeholders, especially those who were consulted and shared data on their respective activities.

Who we are

The Energy and Petroleum Regulatory Authority (EPRA) is established under the Energy Act, 2019 as the regulatory agency responsible for economic and technical regulation of the electricity, renewable energy, petroleum and coal sectors.

Our Mission

To facilitate sustainability in the energy and petroleum sectors for improved livelihoods through regulation.

Our Vision

A leading energy and petroleum regulator.

Our Rallying Call

Quality Energy, Quality Life.

Our Core Values

Integrity / Responsiveness / Accountability / Innovativeness / Professionalism

Contents

11 OVERVIEW OF SECTOR PERFORMANCE

13 ELECTRICITY SUB-SECTOR

37 RENEWABLE ENERGY

42 OTHER ENERGY SOURCES

46 ENERGY EFFICIENCY

48 PETROLEUM SUB-SECTOR

61 KENYA'S ENERGY BALANCE

63 CONSUMER PROTECTION IN THE ENERGY AND PETROLEUM SECTORS

67 FUTURE OUTLOOK

Abbreviations and Acronyms

AC	Air Conditioner
AfDB	African Development Bank
AGO	Automotive Gas Oil (Diesel)
AGOL	African Gas and Oil Company Limited
COSSOP	Cost-of-Service Study
DGE	Deemed Generated Energy
DRC	The Democratic Republic of the Congo
DWT	Dead Weight Tonnage
EAC	The East Africa Community
EEA	Energy Exchange Agreement
EEP	Ethiopia Electric Power
EHS	Environmental Health and Safety
EPRA	Energy and Petroleum Regulatory Authority
ERI	Electricity Regulatory Index
FEC	Fuel Energy Cost
FERFA	Foreign Exchange Rate Fluctuation Adjustment
GDP	Gross Domestic Product
GHG	Green House Gas
GWh	Giga-Watt hour
HFO	Heavy Fuel Oil
HHI	Herfidahl Hirschman Index
IK	Illuminating Kerosene
IPP	Independent Power Producer
KENGEN	Kenya Electricity Generating Company
KETRACO	Kenya Electricity Transmission Company
KNBS	Kenya National Bureau of Statistics
KOSF	Kipevu Oil Storage Facility
KOT	Kipevu Oil Terminal
KPC	Kenya Pipeline Company
KPLC	Kenya Power & Lighting Company
KPRL	Kenya Petroleum Refineries Limited
KTDA	Kenya Tea Development Agency
LPG	Liquefied Petroleum Gas
LTWP	Lake Turkana Wind Power
MEPS	Minimum Energy Performance Standards
MSD	Medium Speed Diesel
MSME	Micro, Small & Medium Enterprise

MWh	Mega-Watt hour
NDC	Nationally Determined Contribution
NGAO	National Government Administrative Officer
OMCs	Oil Marketing Company
PMS	Premium Motor Spirit (Super petrol)
PPA	Power Purchase Agreement
PSC	Production Sharing Contract
REREC	Rural Electrification and Renewable Energy Corporation
RGI	Regulatory Governance Index
ROI	Regulatory Outcome Index
RSI	Regulatory Substance Index
SOT	Shimanzi Oil terminal
TANESCO	Tanzania Electric Supply Company
TOE	Tonne of Oil Equivalent
TOU	Time of Use
TWh	Terra-Watt Hour
UETCL	Uganda Electricity Transmission Company Limited
VTTI	Vitol Tank Terminal International
WHR	Waste Heat Recovery
WRA	Water Resources Authority

DIRECTOR GENERAL'S FOREWORD

Kenya has continued to strengthen its position as a continental leader in green energy, with renewable sources accounting for 80.17% of the electricity mix in the year under review. Geothermal energy remained the leading source at 39.51%, followed by hydro at 24.21%, wind at 13.18%, and utility-scale solar at 3.27%. This remarkable energy mix underscores our commitment to sustainability and resilience in the sector.

Electricity demand continued to grow, with the country recording a new peak demand of 2,316.2 MW on 12th February 2025, representing a 6.38% increase from the previous financial year. Consumption rose across all categories, large commercial and industrial, small commercial, domestic, street lighting, and electric mobility, each achieving all-time highs, a clear indicator of Kenya's expanding economic activity and electrification progress.

Regionally, Kenya reinforced its role as a power hub through the completion of the 210-kilometer 400kV transmission line to Tanzania in December 2024. With this milestone, Kenya is now interconnected with the grids of Ethiopia, Uganda, and Tanzania, enabling trade and advancing the vision of the Eastern Africa Power Pool.

On tariffs, the Authority continued to promote efficiency and innovation through structured pricing regimes. The Time-of-Use (TOU) tariff, designed to flatten the demand curve, reached a cumulative 180.3 GWh in consumption, saving beneficiaries Ksh. 1.438 billion in the review period. Similarly, the e-mobility tariff, introduced in 2023, has spurred a remarkable uptake in clean transport, with consumption rising 300% to 5.04 GWh. As of June 2025, 69 customers were billed under this category.

The petroleum sector has equally undergone significant restructuring, with Kenya's petroleum blocks reconfigured in line with exploration potential and international best practice. The reconstitution created 50 high-potential blocks, particularly in the transition zone, offshore Lamu, and the Anza Basin, signaling new opportunities for investment and exploration.

This report provides a comprehensive overview of these milestones and the broader energy landscape, offering stakeholders the insights needed to make informed decisions.

I commend the committee that diligently put it together and extend my appreciation to the EPRA Board, our dedicated staff, and stakeholders whose support continues to steer Kenya's energy sector toward a secure, sustainable, and prosperous future.

Daniel Kiptoo Bargoria OGW, MBS

MESSAGE BY THE DIRECTOR, ECONOMIC REGULATION AND STRATEGY

The financial year 2024/2025 was marked by a notable rise in demand for both electricity and petroleum products, reflecting the impact of Kenya's growing population and heightened economic activity. Petroleum imports recorded a 7.7% increase in diesel, super petrol, and dual-purpose kerosene volumes compared to the previous financial year. Of these volumes, 55.01% were designated for domestic consumption while 44.99% supported the transit market, underscoring Kenya's strategic role as a regional energy corridor.

Domestic demand for petroleum products rose by 6.94% to 5,839,464.78 m^3, driven largely by a decline in local and international prices and increased economic activity. Liquefied Petroleum Gas (LPG) consumption also grew significantly, rising 15% from 360,594 metric tonnes in 2023 to 414,861 metric tonnes in 2024. This upward trend is expected to continue with the rollout of the National LPG Growth Strategy, which promotes LPG adoption in public institutions, households, and among low-income communities. To support this growth, new infrastructural developments have been undertaken, as highlighted in this report.

The period also witnessed growth in captive energy capacity, with an additional 71.3 MW installed, bringing the total to 603.8 MW. Captive generation remains dominated by solar PV (49.76%) and bioenergy (26.80%), reflecting industries' continued investment in renewable sources for sustainability and cost efficiency.

On the regulatory front, the Energy (Energy Management) Regulations, 2025, gazetted on 7th February 2025, introduced obligations for designated facilities to conduct energy audits and implement conservation measures that achieve at least 50% of projected savings. These regulations reaffirm the Authority's commitment to promoting energy efficiency and supporting industries in identifying opportunities to reduce consumption and enhance competitiveness.

This report provides a comprehensive analysis of the performance of each subsector, capturing key trends, policy milestones, and infrastructural developments. We invite you to delve into its insights and welcome your feedback on this and future editions.

Dr. John Mutua, PhD

The Year at a Glance

14,472 GWh
Energy generated

80.48%
Renewable energy installed capacity

2,316.20 MW
Peak demand

Ksh. 1.438B
TOU savings

15%
Increase in LPG demand to 414,861 metric tonnes

6.94%
Increase in domestic petroleum demand

Energy (Energy Management) Regulations, 2025
Gazetted on 7th February 2025

1 OVERVIEW OF SECTOR PERFORMANCE

Kenya's energy supply is primarily derived from biomass, petroleum, electricity and coal. Electricity and petroleum are predominantly utilized in the industrial and transport sectors, while biomass remains the main source of energy for domestic cooking. The performance of the energy sector is closely intertwined with the country's economic trajectory, with economic growth influencing energy demand, investments, and infrastructure development.

In 2024, the real Gross Domestic Product (GDP) expanded by 4.7%, down from 5.7% in 2023. Despite the decline in the GDP growth rate, the nominal GDP increased from KSh. 15,033.6 billion in 2023 to KSh. 16,224.5 billion in 2024. The GDP per capita at current prices increased from KSh. 291,770 in 2023 to KSh. 309,460 in 2024.

The mean exchange rate for the US Dollar against the Kenya Shilling remained relatively stable, ranging between 129.20 and 129.89. Figure 1.1 presents a trend of the performance of the Dollar against the Kenya Shilling during the financial year 2024/2025.

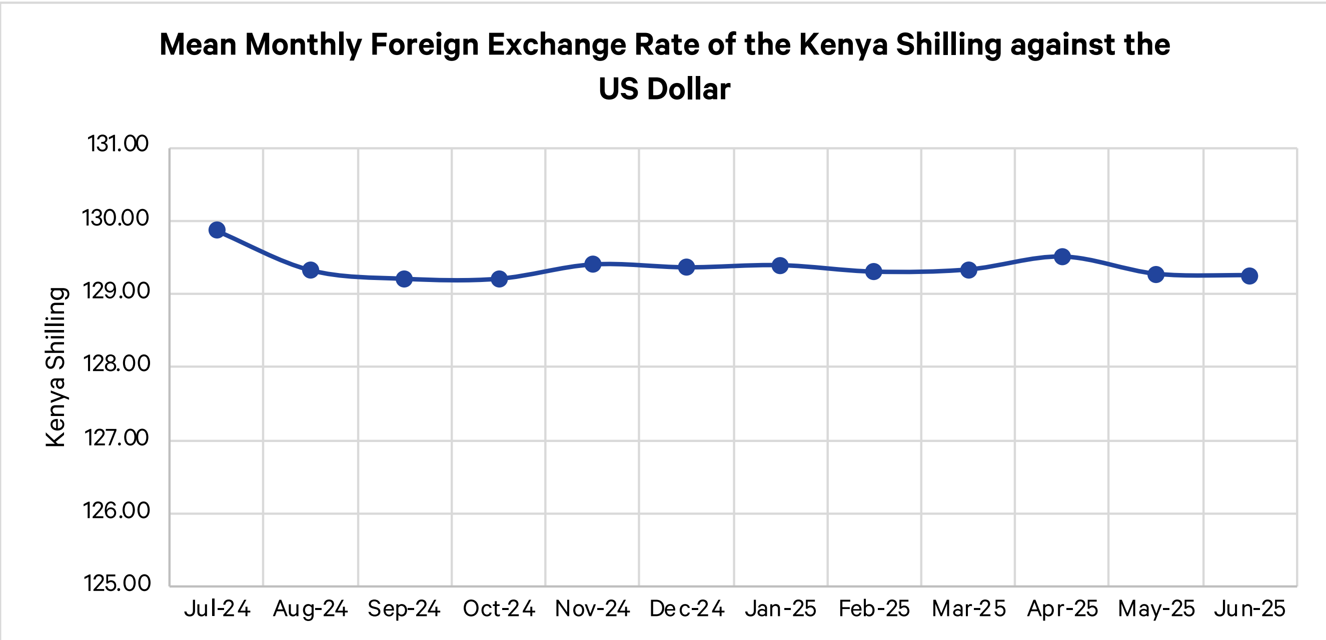


Figure 1.1: A trend in the mean monthly foreign exchange rate during the financial year 2024/25

Source: Central Bank of Kenya(CBK)

The electricity supply sector, experienced substantial growth as the annual electricity generated increased from 13,684.60GWh in 2024 to 14,472 GWh in the period under review. The peak demand for electricity also increased by 6.4% from 2,177 MW to 2,316 MW. Figure 1.2 illustrates the trend in the growth of electricity generation and GDP growth rate from 2020 to 2024.

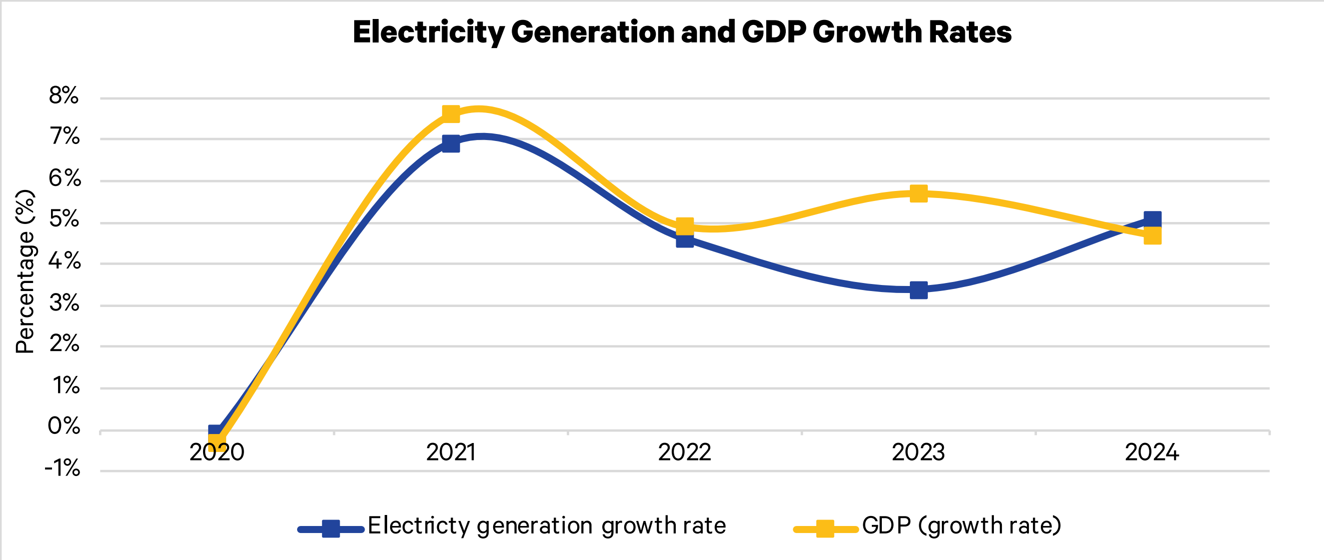


Figure 1.2: A trend of the annual electricity generation and GDP growth rates from 2020 to 2024

As displayed in figure 1.2, the electricity demand has been on an upward trend. The same trend was observed with electricity consumption per capita, as illustrated in figure 1.3, which was driven by increased electricity consumption.

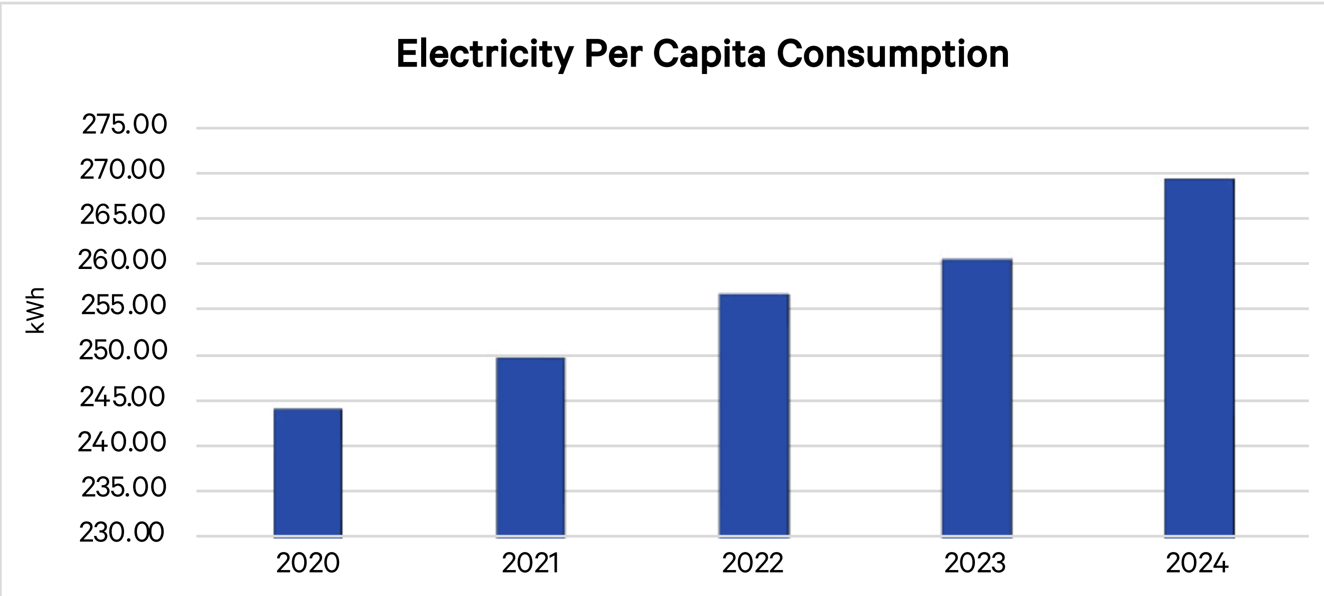


Figure 1.3: A trend of the electricity per capita consumption from 2020 to 2024

Global crude oil prices declined during the period due to a combination of factors, including weaker global economic growth, particularly in the US and China, which dampened demand. This was compounded by a rise in non-OPEC+ production, especially from the United States, and the OPEC+ group's decision to gradually unwind production curbs starting in May 2025. Murban Crude Oil prices recorded a similar trend with a maximum price of US Dollars 89.14 per barrel in July 2024 and the lowest price of US Dollars 67.73 per barrel in July 2025. Consequently, there was a general decline in pump prices in Nairobi with PMS averaging 180.04 Ksh./Litre, AGO 167.48 Ksh./Litre and IK at 157.37 Ksh./Litre.

Petroleum products imports increased by 7.70%. to 9,756,761.15 m3. Domestic consumption increased by 6.94% to 5,839,464.78m3. Pipeline throughput to the transit market increased by 11.37% to 4,049,490 m3.

The demand for Liquefied Petroleum Gas (LPG) increased by 15% to 414,861 metric tonnes with an estimated per capita consumption of 7.9 up from 7.0 in 2023.

2 ELECTRICITY SUB-SECTOR

This chapter covers the performance of various segments of the electricity supply chain, including generation, transmission, and distribution. It also delves into electricity pricing systems, market analysis, and greenhouse gas emissions. Additionally, the chapter provides an analysis of the energy sector performance in East African Community (EAC).

2.1 Electricity Supply and Demand

2.1.1 Installed Capacity

Kenya's installed capacity as of June 2025 was 3,840.8 MW comprising 3,192.0 MW of interconnected capacity, 603.8 MW of captive capacity and 45.0 MW of off grid capacity. No new interconnected power plants were commissioned during the review period.

Geothermal forms the largest share of Kenya's installed capacity at 25.92%. Hydro and thermal rank second and third accounting for 23.97% and 17.22% respectively. Solar PV systems accounts for 14.12% while wind generation systems accounts for 11.98%. Table 2.1 shows the country's total installed capacity as of June 2025.

Table 2.1: Installed, Effective and Captive Power Capacity as at 30th June 2025

Technology	Interconnected Capacity (MW)		Captive Capacity (MW)	Offgrid Capacity	Total Installed Capacity	% Total Installed
	Installed	Effective				
Geothermal	940.0	876.1	3.7		943.7	25.92%
Hydro	839.5	809.7	33.0	0.1	872.5	23.97%
Thermal	564.8	558.4	21.3	41.0	627.1	17.22%
Solar	210.3	210.3	300.5	3.4	514.1	14.12%
Wind	435.5	425.5	-	0.6	436.1	11.98%
Bioenergy	2.0	2.0	161.8		163.8	4.50%
Imports	200.0	200.0	-		200.0	
WHR	-	-	83.5		83.5	2.29%
Total	**3,192.0**	**3,082.0**	**603.8**	**45.0**	**3,840.8**	**100.00%**

The installed capacity for captive power plants, which refers to embedded electricity generation units owned by commercial or industrial consumers for self-consumption, has been increasing. As of June 2025, the total captive power capacity increased to 603.8 MW accounting for 15.72 % of the country's installed capacity. The captive installed capacity is dominated by solar PV and bioenergy which accounts for 49.76 % and 26.80 % respectively. Notably, the captive solar PV system capacity grew by 71.3 MW from 229.2 MW to 300.5 MW. There was a slight decrease in installed interconnected thermal capacity from 572.8 MW to 564.8 MW following power plant performance evaluation on the thermal plants.

2.1.2 Energy Generated

Electrical energy generated refers to the amount of electrical energy that was delivered to the national grid by the various power producers and through imports. It is the net output of the power plants excluding their auxiliary loads. Figure 2.1 shows the trend of electrical generation over the last five financial years.

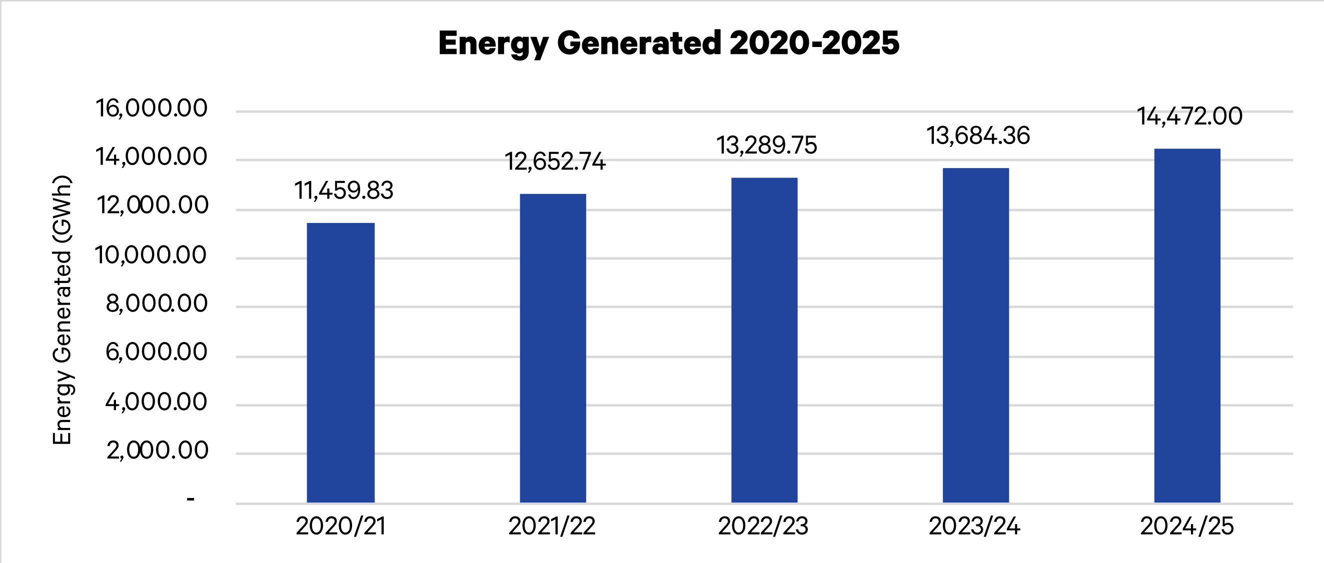


Figure 2.1: A trend in the electrical energy generated from the financial year 2020/21 to 2024/25

The country has continued to register year-on-year growth in electrical energy generated. In the year under review, 14.47TWh of electrical energy was generated, a 5.76% increase from the 13.68TWh generated in the previous financial year. This was the strongest annual growth rate over the last three years. The growth can be attributed to increased grid connectivity and heightened economic activity. Figure 2.2 outlines the monthly generation in the period under review.

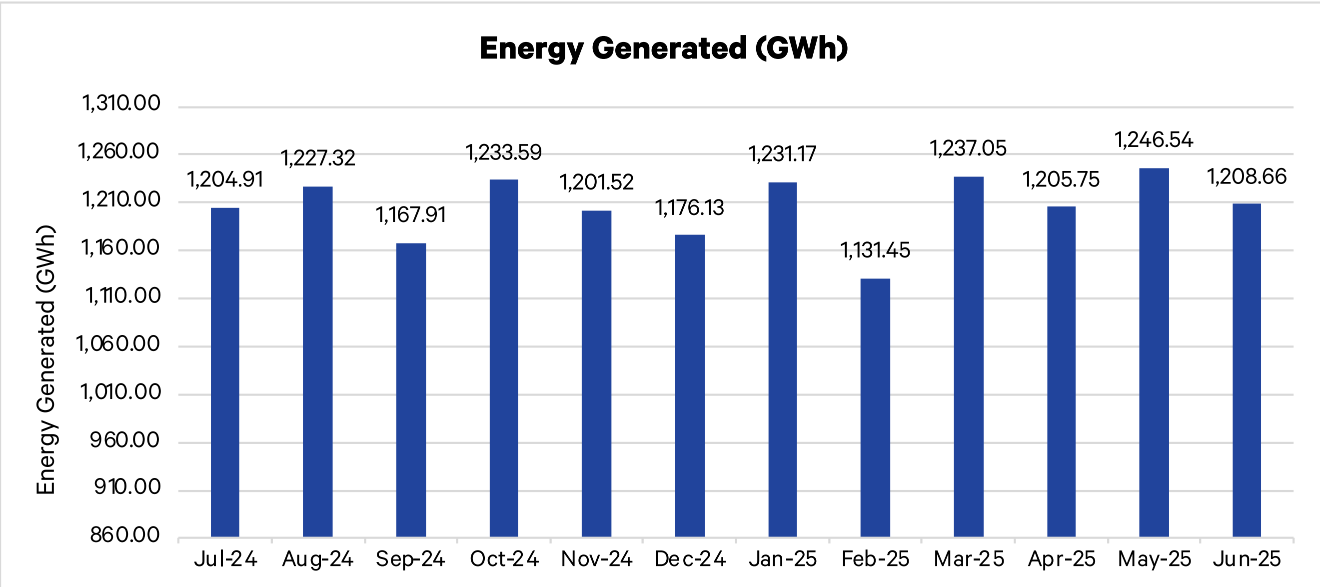


Figure 2.2: A trend in the monthly energy generation during the financial year 2024/25

The highest monthly energy generated in the period under review was 1,246.54GWh in May 2025. This can be attributed to improved system reliability in that month. The least monthly generated was 1,131.45GWh in February 2025, largely due to this being the shortest month (28 days).

2.1.3 Energy Mix

Kenya electricity landscape is shaped by a varied mix of sources. Figure 2.3 shows the energy mix for the period under review.

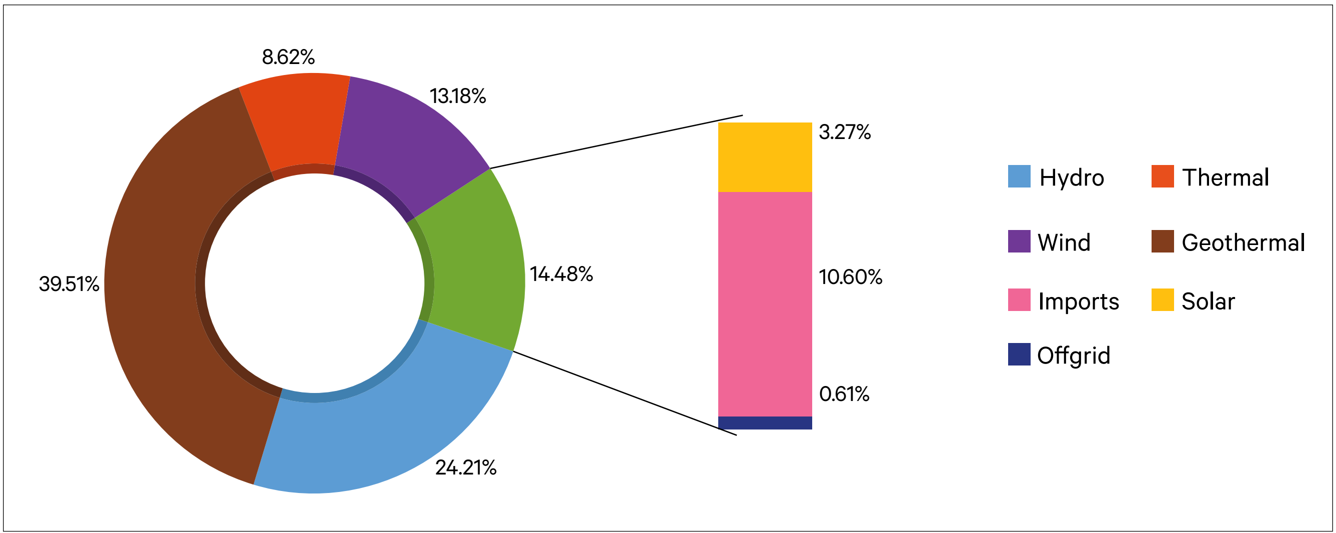


Figure 2.3: The interconnected energy mix during the financial year 2024/25

Geothermal energy remains the leading source of electrical energy, accounting for 39.51% of total energy generated. In the review period, 5,718.16GWh of geothermal energy was generated, marking a slight increase of 10.45GWh compared to the 5,707.71GWh generated in the year ending June 2024. However, the dominance of geothermal energy dropped by 2.19 percentage points compared to its 41.7% contribution to the energy mix in the previous year. This drop is attributed to the increase in electricity imports and stagnation in growth of geothermal installed capacity in the period under review.

Hydro generation held onto its position as the second largest source of electrical energy accounting for 24.21% of total energy generated. 3,503.47GWh of hydro energy was generated in the year ending June 2025 marking a 125.89GWh increase from 3,377.58GWh of electrical energy generated in the year ending June 2024. Despite the increase in generation, the percentage contribution to the energy mix dropped by 0.49 percentage points from the 24.70% contribution recorded in the previous financial year. The increase in absolute generation is due to improved hydrology while the drop in the contribution to the mix can be attributed to increased electricity imports.

Wind energy was the third leading source of energy accounting for 13.18% of electrical energy generated in the period under review. 1,907.57GWh of wind energy were generated in the year ending June 2025, up from 1,798.59GWh generated in the year ending June 2024. This marked a 108.98GWh increase in generation. The growth is attributed to better wind speeds in the period under review.

Electricity imports recorded the highest increase among all energy sources, increasing by 334.05GWh. 1,533.85GWh of electrical energy was imported in the year ending June 2025 up from the 1,199.80GWh imported in the previous financial year. Imports accounted for 10.60% of total energy, up from 8.81% in the previous financial year. The period under review was the first full year of commercial operations of the Ethiopia import program which was commissioned in December 2023.

Electricity imports from Ethiopia amounted to 1,274.42GWh, accounting for 83.09% of total imports. Imports from Uganda accounted for 225.64GWh, 14.71%, while Tanzania accounted for 33.79GWh, 2.20%, of electricity imports respectively.

Interconnected thermal generation accounted for 8.62% of total generation in the period under review generating 1,247.93GWh compared to 1,127.11GWh in the previous financial year. The increased thermal generation was necessitated by the need to meet increased local demand and to provide system support during the peak hours.

2.1.4 Peak demand

Peak demand refers to the highest electrical load on the power system at any given time. It gives a measure of the maximum total electrical power required by consumers connected to the system. In Kenya, peak demand happens in the evening between 1900-2100hrs. Figure 2.4 shows the monthly progression of peak demand during the review period.

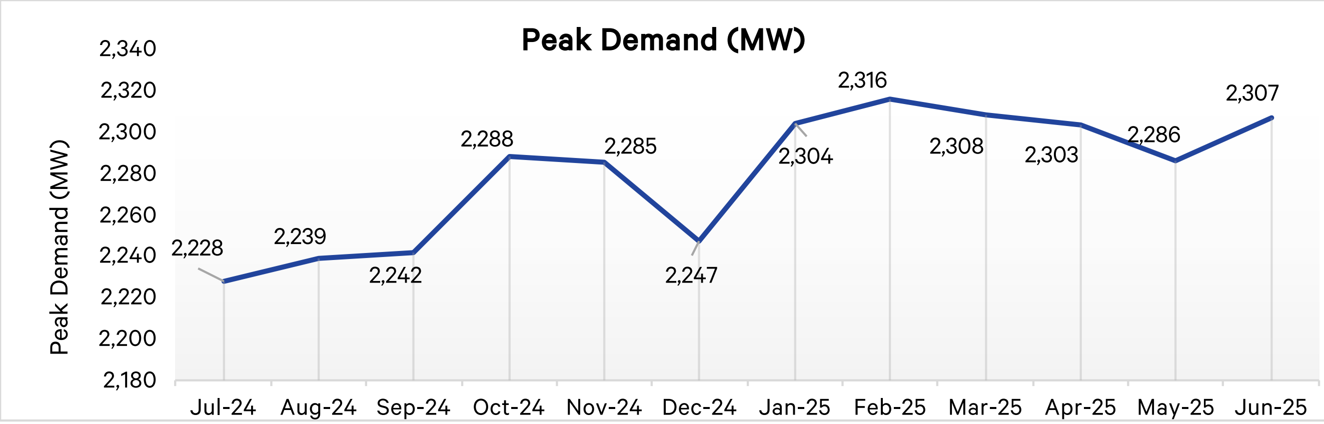


Figure 2.4: A trend of the monthly peak demand during the financial year 2024/25

In the year under review, the country recorded a peak demand of 2,316.2MW on 12th February 2025. This was a 6.38% increase from the peak demand of 2,177MW recorded in the previous financial year. Figure 2.5 shows the progression in peak demand for the last five years.

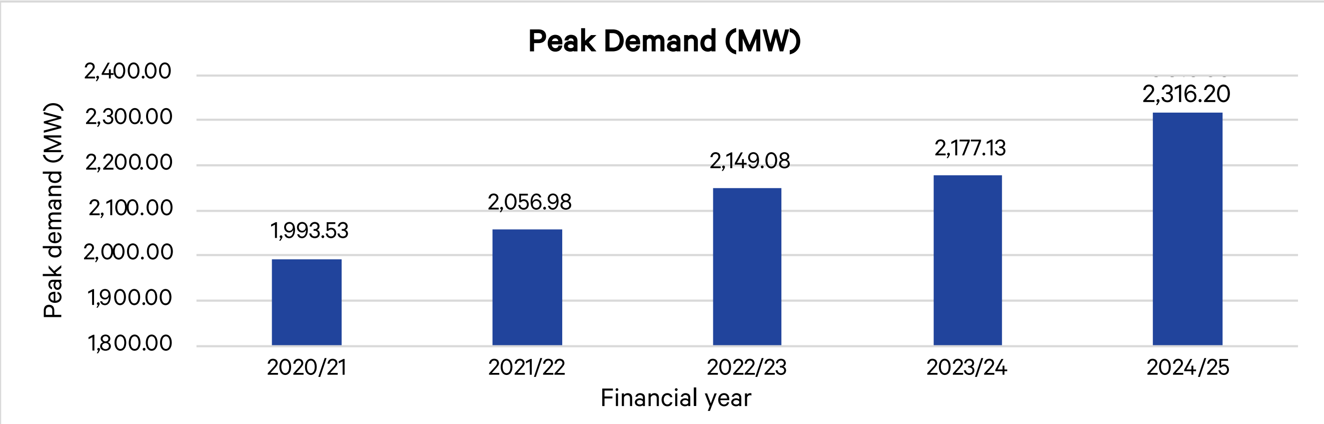


Figure 2.5: A trend in peak demand from the financial year 2020/21 to 2024/25

There was a 139MW growth in peak demand from the previous financial year. This was the highest increase in peak demand recorded in the last five years. The surge in peak demand is attributed to increased connectivity and economic activities.

2.1.5 Daily Demand Profile

The country's daily demand profile is a direct mirror of socio-economic activities in a daily cycle. The country's daily demand is met by a mix of different energy sources dispatched at various times of the day depending on system conditions and economic merit order. Figure 2.6 shows a typical demand profile on a weekday.

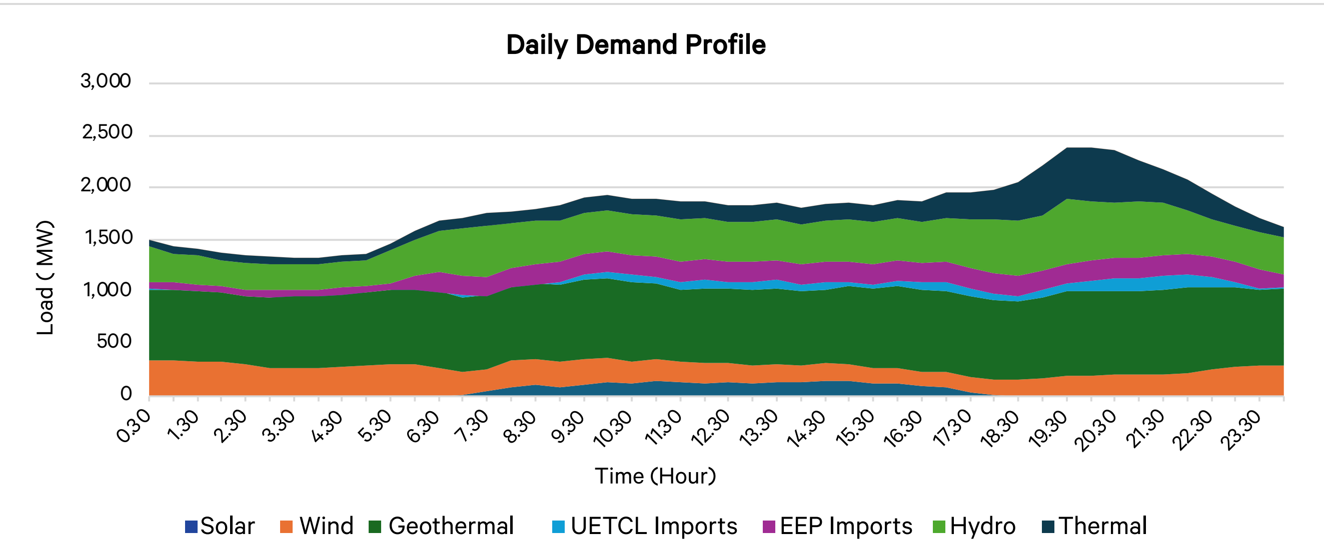


Figure 2.6: A demonstration of a typical demand profile on a weekday.

In the Kenyan grid, there is a period of low demand between midnight and 0500hrs, typically with a low of 1,350MW on weekdays and 980MW on Sundays. It then rises steeply from 0530hrs to a morning peak of about 1,800MW between 0900-1000hrs as people begin their daily activities. It remains fairly constant during the day with a slight dip at 1300hrs which coincides with the lunch break. It then rises sharply after 1700 hours to maximum peaks above 2,300MW between 1900-2100 hours and then slowly declines. The demand curve is the same regardless of the day of the week except for days with major system outages.

2.1.6 Average Daily Demand

This section highlights the average daily energy consumption by day of the week. Traditionally, demand is highest on weekdays and declines as the weekend approaches. In the period under review, the highest daily energy demand was recorded on Wednesdays, averaging 41.01GWh. Tuesdays and Thursdays followed closely recording averages of 40.57GWh and 40.45GWh respectively. The lowest demand day was on Sunday averaging 34.96GWh.

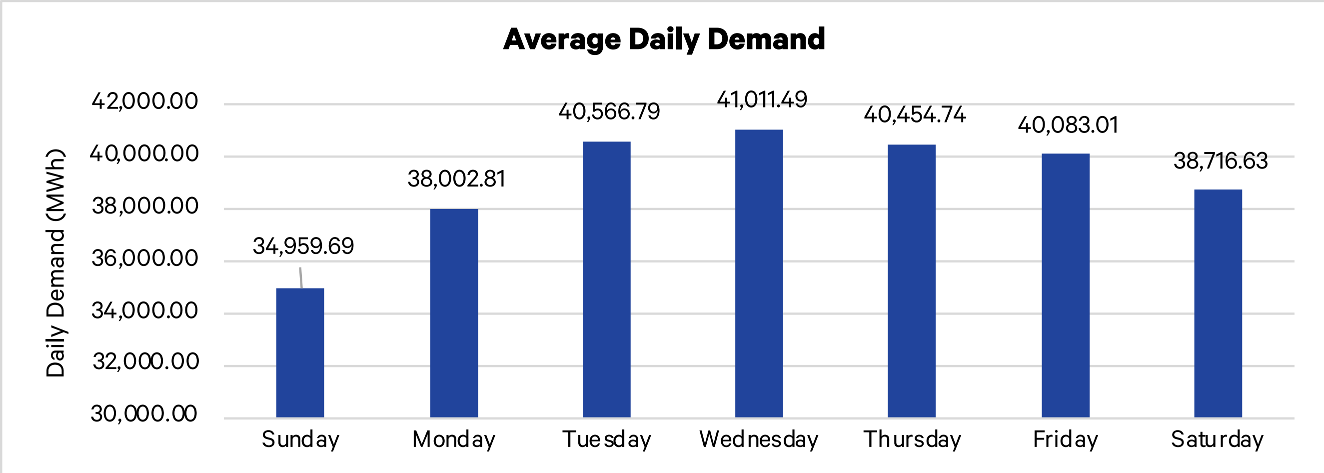


Figure 2.7: A trend of the average daily energy demand during the financial year 2024/25

2.1.7 Electricity Access

A total of 395,490 new customers were connected between July 2024 and June 2025 bringing the cumulative grid connected customers to 10,045,775. This was a decline in new customer connections compared to the previous financial year which recorded a total of 517,666 new connections. Figure 2.8 gives the trend of the cumulative connections in the period under review.

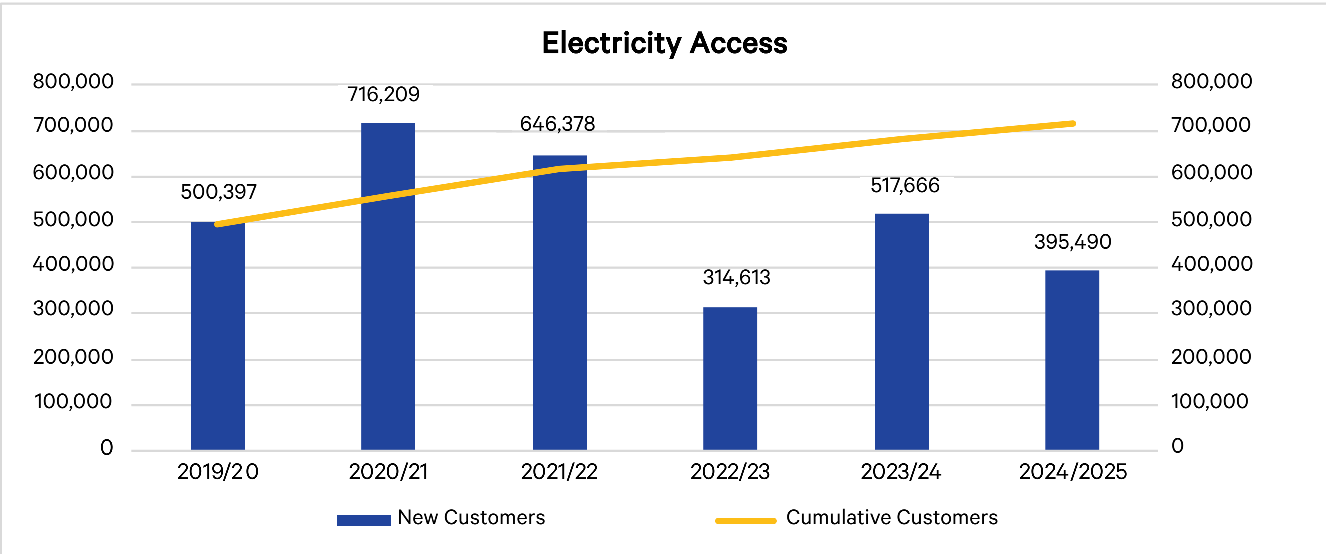


Figure 2.8: A trend of the cumulative customer connections from the financial year 2019/20 to 2024/25

2.1.8 Electricity consumption by category

Electricity consumers are grouped into the following broad categories: large commercial and industrial consumers, small commercial, domestic consumers, street lighting and electric mobility. There was a general increase in electricity consumption across all customer categories with each category recording all-time highs.

Large commercial and industrial consumers are the major drivers of electrical energy consumption in Kenya. The monthly electricity consumption by this category exceeds 15,000 kWh. Customers in this category comprise industries and factories, high-rise buildings, warehouses, and public infrastructure such as airports, ports, and railway stations. In the year ending June 2025, this category of consumers accounted for 49.61% of total electricity consumption in the country using 5,620.71GWh. However, its dominance as the largest energy consumer category reduced from 51.86% in the previous financial year to 49.61% due to increase in the consumption share of other categories.

Domestic consumers registered a 13.03% increase in electricity usage, making it the largest increase in any consumer category. Consumption in this category increased by 419.54GWh from 3,220.78GWh used in the year ending June 2024 to 3,640.32GWh in the year ending June 2025. They accounted for 32.13% of total consumption, up from 30.76% in the previous year. This growth can be attributed to higher per capita consumption and increase in the number of customers.

Small commercial consumers, comprising of micro, small and medium enterprises (MSMEs), accounted for 16.89% of total consumption. Consumption in this category grew by 197.72GWh from 1,715.54GWh in the previous year to 1,913.26GWh in the year under review.

Energy used in street lighting increased by 43.89% from 103.63GWh in the year ending June 2024 to 150.43GWh in the period under review.

Electric mobility consumption was 5.04 GWh which is a 300% increase from the previous financial year's consumption of 1.26 GWh. This growth has been spurred by an increased uptake of the E-mobility tariff. As of June 2025, there were 69 customers billed under the e-mobility Tariff category.

The electric vehicle stock in the country has been on an upward trajectory with 6,442 registered electric vehicles (EVs) as of June 2025. There has been a marked growth in electric vehicle charging points which are currently estimated at 300 as of June 2025 according to the Electric Mobility Association of Kenya (EMAK).

Table 2.2 and figure 2.9 provide a summary of energy consumption by each customer category.

Table 2.2: A summary of energy consumption by each customer category during the financial year 2024/2025

Customer category	Energy consumption (GWh)	Percentage
Industrial	5,620.71	49.61%
Domestic	3,640.32	32.13%
Small commercial (SMEs)	1,913.26	16.89%
Street Lighting	150.43	1.33%
E-Mobility	5.04	0.04%
Total	**11,329.75**	**100.00%**

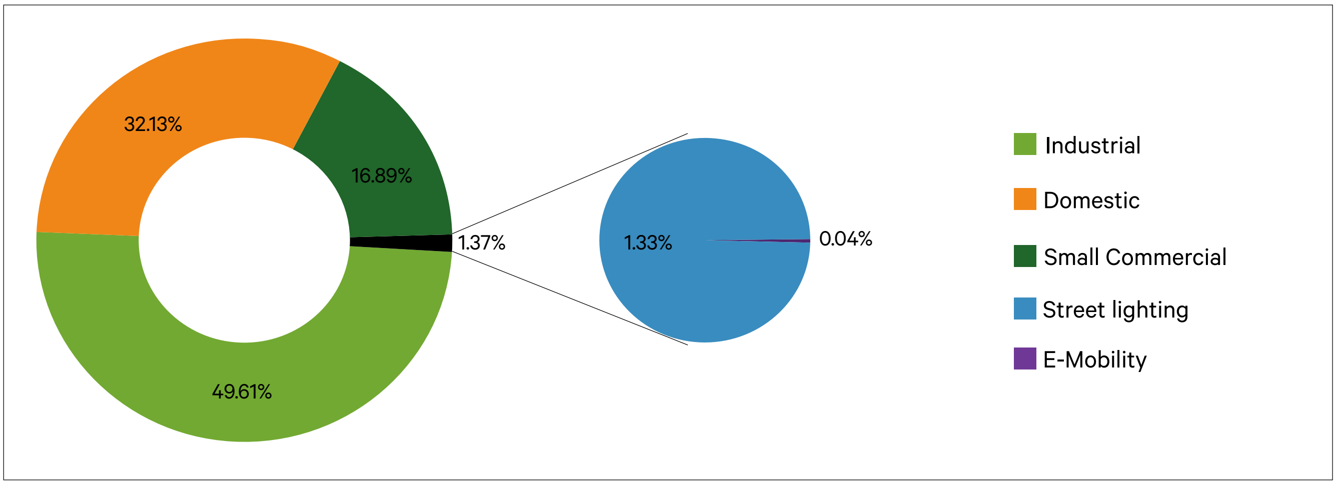


Figure 2.9: Energy consumption by each customer category during the financial year 2024/25

2.1.9. Energy consumption by region

Figure 2.10 shows energy consumption based on KPLC region categorisation for the year ending June 2025. All regions registered growth in consumption.

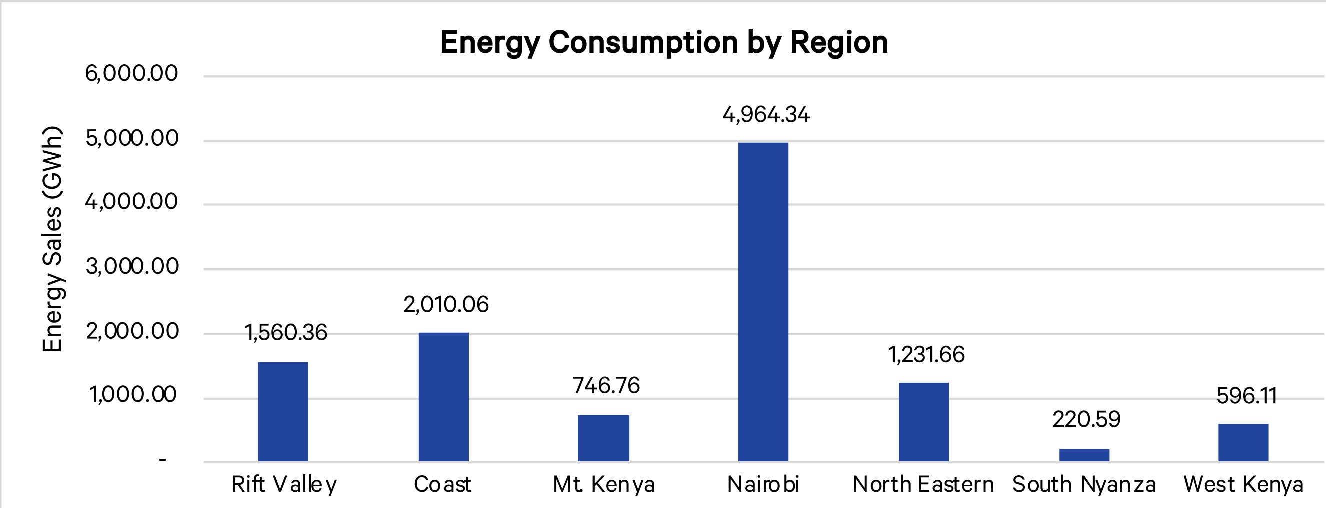


Figure 2.10: Energy consumption by region during the financial year 2024/25

Nairobi region remained the leading consumer of electrical energy accounting for 43.82% of the country's energy usage. The region consumed 4,964.34GWh, a 8.59% increase from the 4,571.78GWh that were utilized in the previous financial year. The region, which includes Kiambu, Kajiado, Machakos and Makueni counties, stands out with its dense concentration of industries and population.

The Coastal region ranked second, utilizing 2,010.06GWh which constituted 17.74% of the country's total consumption. This was a 4.87% (93.38GWh) increase in consumption from 1,916.68GWh utilized in the previous year.

The Rift Valley region ranked third, growing its consumption by 9.02% from 1,431.23GWh in the previous year to 1,560.36GWh in the year ending June 2025.

Electrical energy consumption in the North Eastern region increased by 7.07% from 1,150.30GWh to 1,231.66GWh accounting for 10.87% of the total consumption. The North Eastern region in this case, covers Garissa, Wajir, Mandera, Marsabit, Kitui, Thika and parts of Machakos.

Consumption by the Mt. Kenya region increased by 9.85% from 679.75GWh to 746.76GWh, accounting for 6.59% of the total consumption. West Kenya region consumption increased by 7.07% from 556.77GWh to 596.11GWh accounting for 5.26% of the overall consumption.

South Nyanza regions reported the lowest consumption of 220.59GWh which represents 1.95% of total consumption. The region's energy consumption however increased by 9.69% (19.49GWh) from 201.10GWh in the previous year. Table 2.3 shows a comparison of each region's energy consumption for the last two financial years.

Table 2.3: A summary of the regional electricity consumption (KPLC categorization)

Region	2023/24		2024/25	
	Energy (GWh)	% of total	Energy (GWh)	% of total
Nairobi	4,571.78	43.51%	4,964.34	43.82%
Coast	1,916.68	18.24%	2,010.06	17.74%
Rift Valley	1,431.23	13.62%	1,560.36	13.77%
North Eastern	1,150.53	10.95%	1,231.66	10.87%
Mt. Kenya	679.75	6.47%	746.76	6.59%
West Kenya	556.77	5.30%	596.11	5.26%
South Nyanza	201.10	1.91%	220.59	1.95%
	10,507.84	**100.00%**	**11,329.88**	**100.00%**

2.1.10 Energy Curtailment

Baseload plants, primarily geothermal in Kenya, are designed to operate at maximum available capacity and are only turned off for maintenance and breakdowns. However, during periods of low demand, the system operator is forced to reduce their outputs to maintain frequency stability. This is referred to as curtailment.

In Kenya, curtailment mainly affects geothermal power plants resulting in steam venting that occurs at night between 0000-0500hrs. Wind plants are only affected by curtailment when they meet their contracted annual generation thresholds.

In the period under review, energy curtailment reduced by 17.72% from 812.80GWh curtailed in the previous year to 668.70GWh in the year ended June 2025. The trend of the energy curtailment for the last five years is shown in the figure 2.11.

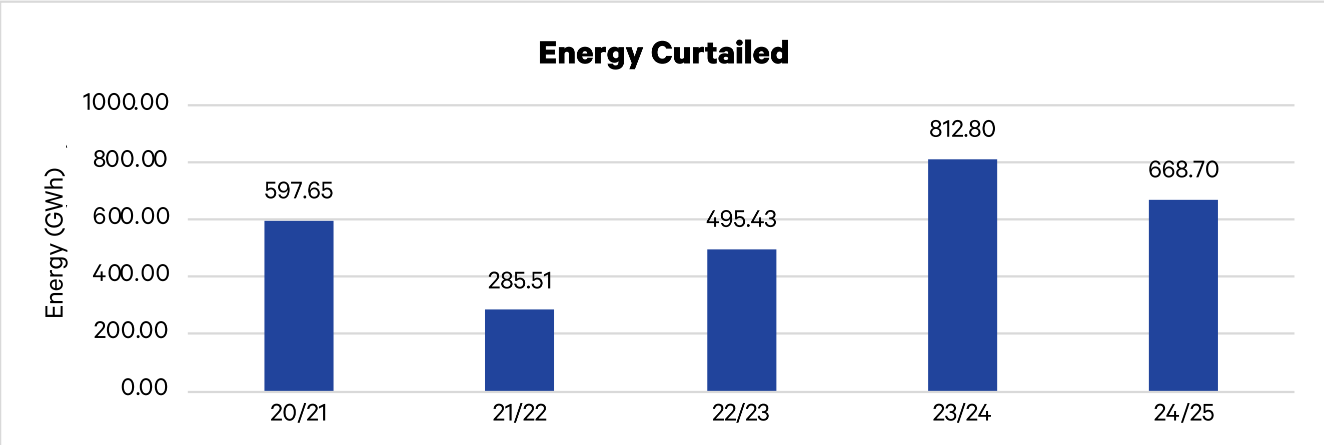


Figure 2.11: A trend of energy curtailment from the financial year 2020/21 to 2024/25

The reduction in curtailment was due to a discernible increase in night demand and unavailability of some geothermal generating units due to breakdowns. No wind energy was curtailed in the period under review. Figure 2.12 shows month by month curtailment for the year ended June 2025.

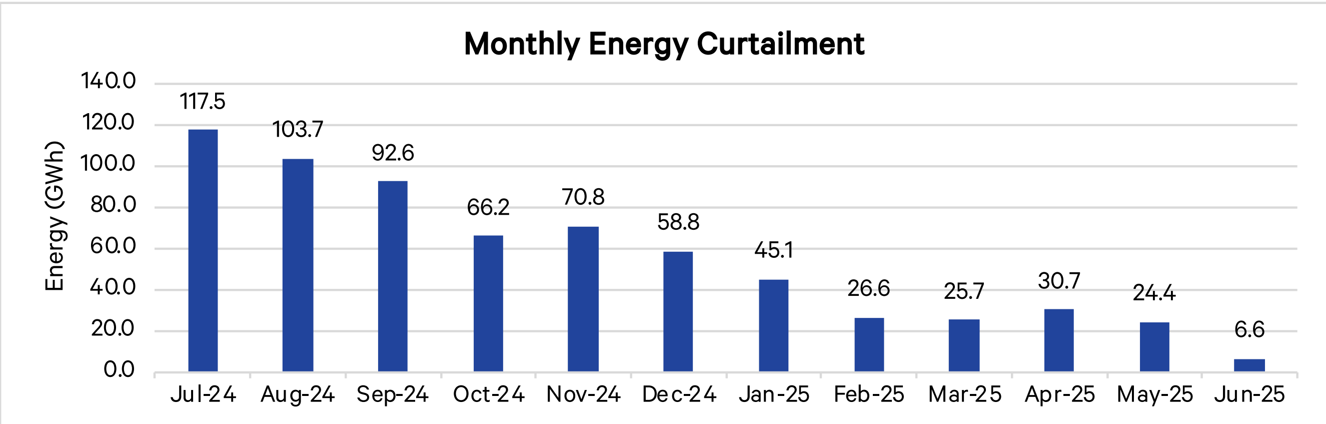


Figure 2.12: A trend of the monthly energy curtailment during the financial year 2024/25

Curtailment was highest in July 2024 where 117.5GWh of geothermal energy was curtailed. Monthly curtailment steadily reduced throughout the year. Curtailment was at at its all-time lowest in June 2025 where 6.6GWh of geothermal was curtailed.

2.1.11 Electricity Transmission Infrastructure

Electricity transmission is the transfer of electrical power over long distances from its point of generation to receiving substations close to load centres. Transmission lines and substations form the backbone of the power system. They are operated at high voltages of 132kV, 220kV, 400kV and 500kV to minimize power losses.

There are only two licensed transmission utilities, the Kenya Electricity Transmission Company Limited (KETRACO) and the Kenya Power and Lighting Company (KPLC), who own all transmission infrastructure in the country. In the period under review, the country's transmission infrastructure consisted 9,849 kilometers of high voltage lines. KETRACO owns most of these lines covering 6,147 kilometers while KPLC owns 3,702 kilometers.

The transmission network as of June 2025 was composed of 3,675 kilometers of 132kV transmission lines which accounted for 37.31%, 1,960 kilometers of 220kV lines and 2,932 kilometers of 400kV lines. The system also includes 1,282 kilometers of 500kV High Voltage Direct Current (HVDC) lines.

There are only two instances in the country where transmission is done at 66kV namely; the 120 kilometers Sarmach-Lokichar line and the 42 kilometers Tana-Thika-Juja line. Figure 2.13 shows the circuit length for each voltage level.

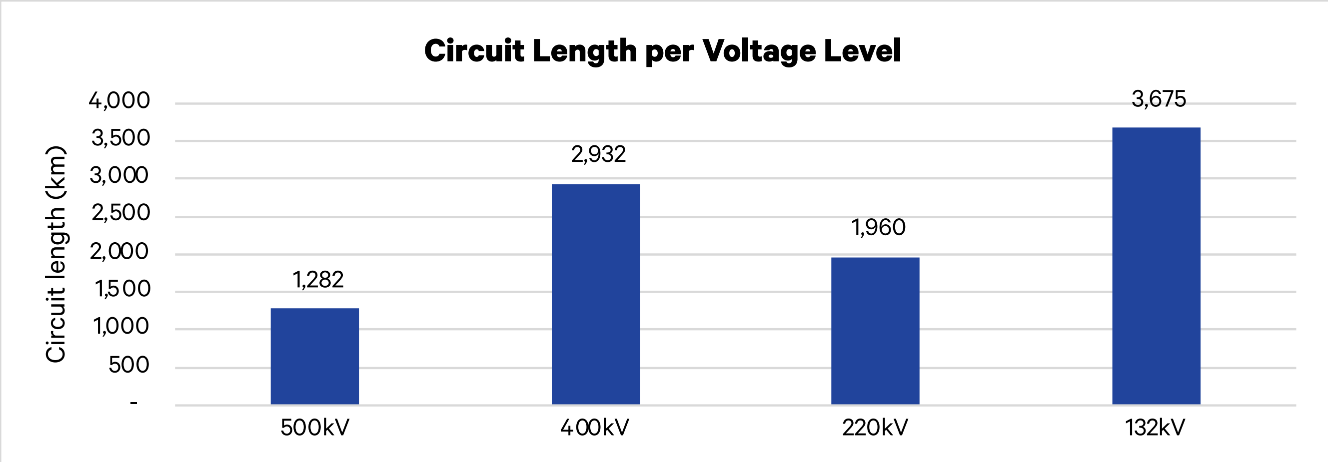


Figure 2.13: Circuit length of the various high voltage transmission lines

In the period under review, the following transmission lines were energized and commissioned:

i) The 210 kilometers Isinya-Lemugur 400kV transmission line also known as the Kenya-Tanzania interconnector. The line traverses both Kenya and Tanzania with 97 kilometers of the line in Kenya and the remaining in Tanzania.

ii) The 108 kilometers Sultan-Mereushi-Oloitoktok 132kV transmission line and its associated substations.

iii) The 29 kilometers Awendo-Isebania 132kV transmission line and its associated substations.

2.1.12 Electricity Distribution Infrastructure

Electricity distribution refers to the evacuation of power from transmission substations to homes and businesses through a network of lower-voltage lines, often harnessed on poles or underground. KPLC is the leading distribution utility, operating distribution lines and substations at 66kV, 33kV, 11kV and low voltage final distribution. While some large power consumers are connected at 132kV level, most of them are supplied at 66kV and 33kV. Small and medium enterprises are supplied at medium voltages while all domestic consumers are supplied at low voltages. Figure 2.14 shows the circuit length of the distribution lines per voltage level.

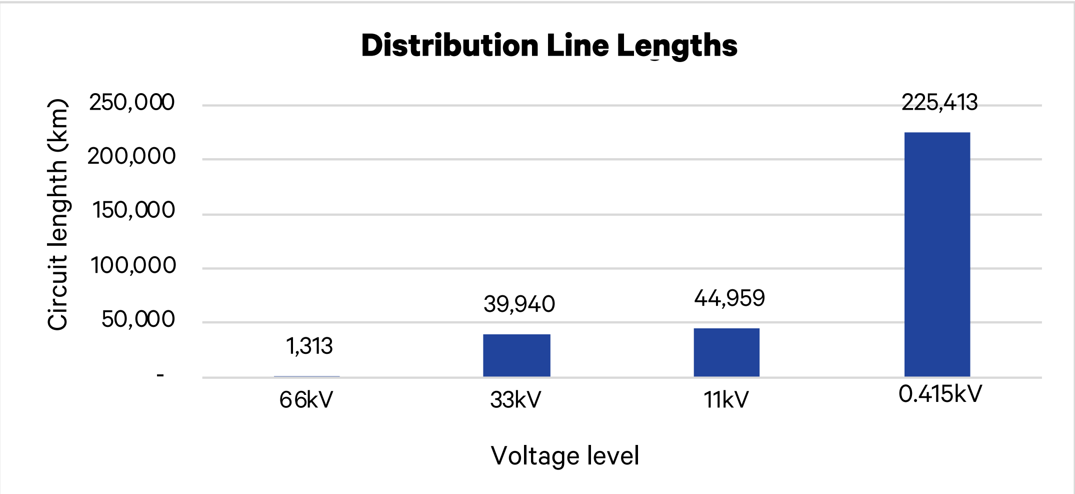


Figure 2.14: Circuit length of distribution lines per voltage level

As of June 2025, the distribution network consisted of 311,625 kilometers of distribution lines. At 225,413 kilometers, low voltage distribution lines accounted for the bulk of the distribution infrastructure representing 72.33% of the distribution network length. The network had 1,313 kilometers of 66kV lines concentrated in Nairobi and its environs. Distribution in Nairobi region is done at 66kV, 33kV and 11kV and for the rest of the country it is done at 33kV and 11kV.

2.1.13 Off grids

To ensure that every citizen gets access to electricity, the government through KPLC and the Rural Electrification and Renewable Energy Corporation (REREC) have developed offgrid stations to serve far flung areas of the country that are beyond the reach of the national grid. These networks are operated by KPLC. The offgrid networks are powered by diesel generators, with some having solar generation integrated, and serve customers within a 30 kilometers radius of the respective power plants. The total installed capacity of KPLC operated mini-grids as of June 2025 was 27.867MW.

Electricity usage in the offgrid distribution areas registered a 3.45% growth from 85,016.71MWh in the year ending June 2024 to 87,955.05MWh. Figure 2.15 shows the monthly electricity utilization in offgrid distribution areas.

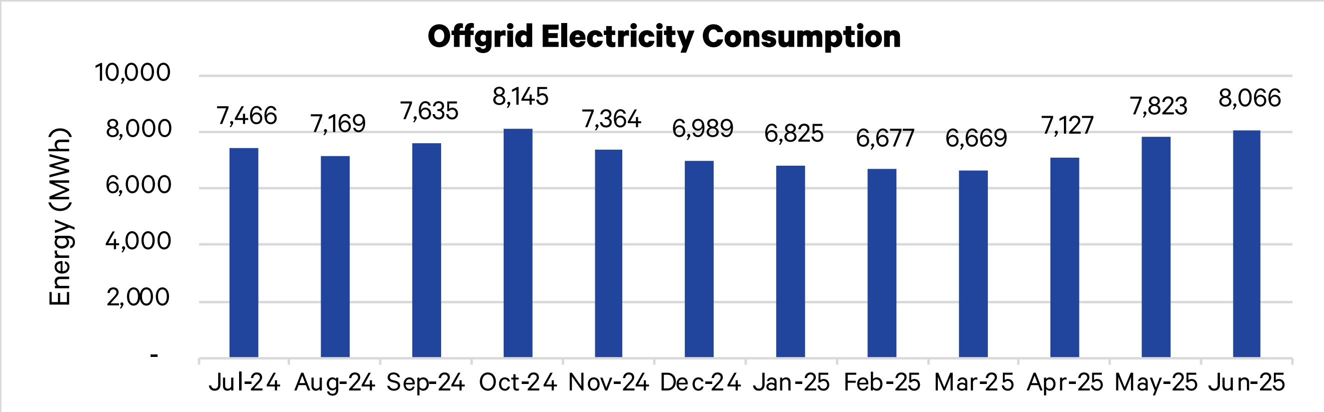


Figure 2.15: Monthly offgrid electricity consumption during the financial year 2024/25

The highest monthly off grid consumption was 8,145.40MWh recorded in October 2024 while the lowest consumption was 6,677.22MWh in February 2025.

2.1.14 System Losses

System losses encompass the electrical energy lost during transmission and distribution, comprising both technical and commercial losses. Technical losses are proportional to the effectiveness of the transmission and distribution network, while commercial losses are caused by factors such as power supply to illegal connections, meter tampering and unmetered energy. The figure 2.16 shows the monthly system losses for the period under review.

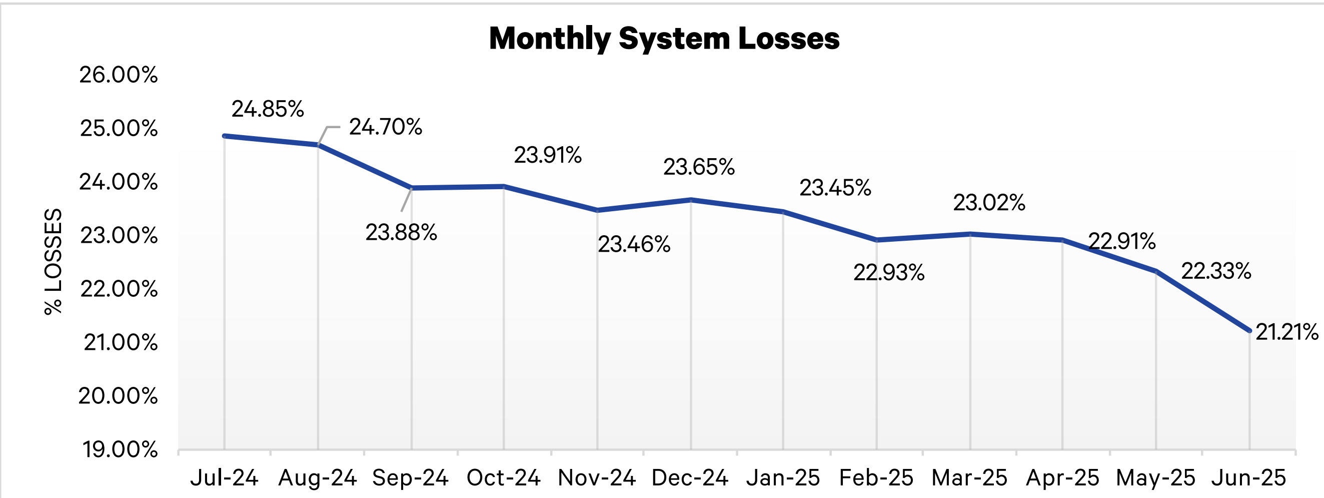
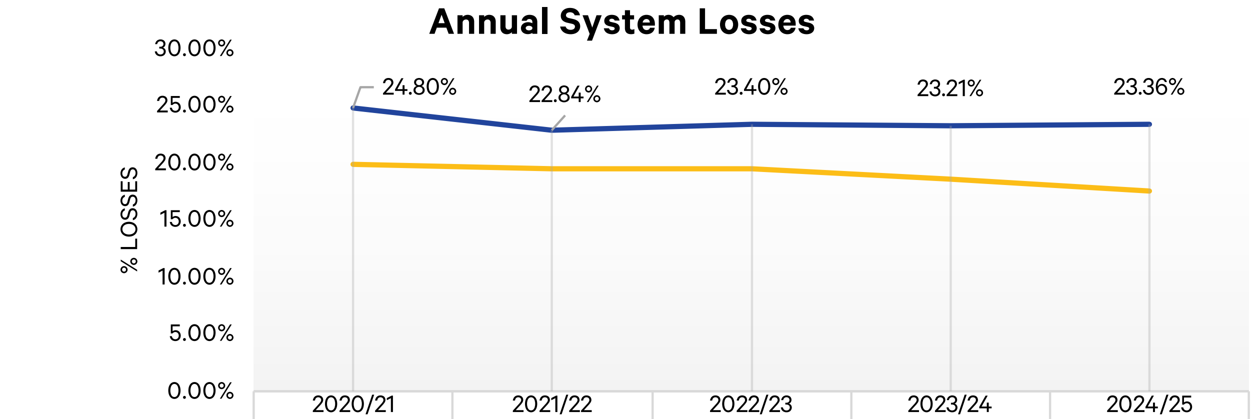


Figure 2.16: Monthly system losses during the financial year 2024/25

In the period under review, monthly system losses declined from 24.85% in July 2024 to 21.21% in June 2025. This can be attributed to increased efforts to improve revenue collection for energy supplied.

The average system losses for the year were 23.36%, 5.86% higher than the allowable system losses of 17.5% prescribed by the Authority for the 2024/25 tariff control period. Losses for the period under review were 0.15% higher than the losses recorded in the year ending June 2024. The financial losses arising from the difference between the allowed benchmark losses and actual losses are borne by the utility.

Figure 2.17 shows the trend in system losses for the last five years against the EPRA target.



	2020/21	2021/22	2022/23	2023/24	2024/25
System Losses	24.80%	22.84%	23.40%	23.21%	23.36%
EPRA Threshold	19.90%	19.50%	19.50%	18.50%	17.50%

Figure 2.17: A trend of the annual system losses from the financial year 2020/21 to 2024/25

System losses in the last five years have stagnated around 23%. The lowest system losses in the period were recorded in 2021/22 at 22.84% while the highest losses were recorded in 2020/21 at 24.80%. System losses have been consistently higher than the EPRA target for the last five years. The EPRA target was 19.9% in 2020/21 and 19.5% in 2021/22 and 2022/23. The target was lowered to 18.5% and 17.5% for the 2023/24 and 2024/25 financial years respectively.

2.1.15 Electricity Reliability Indices

Reliability indices are metrics used to give a numerical representation of how reliable a power system is from a customer's perspective. These are the Customer Average Interruption Duration Index (CAIDI), System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). These indices give a measure of how often power supply is interrupted and the duration of these interruptions in each reporting period. Reporting periods may be in days, weeks, months or years. In this report, the periods used are months and years. In Kenya, reliability is measured against regional benchmarks and EPRA prescribed thresholds set in the key performance requirements for the national utility.

a) Customer Average Interruption Duration Index (CAIDI)

CAIDI gives a measure of the average duration of each sustained supply interruption that any given customer would experience. It is an indicator of how long it takes for supply to be restored after a sustained interruption. It only includes customers who actually experienced an interruption in its calculation. For instance, if a customer experienced two outages in a particular month lasting 2 hours and 1 hour on different days in the same month, CAIDI for that customer would be 1.5 hours per interruption. This is then averaged for each customer who experienced outages to get the index for all customers. Figure 2.18 illustrates the monthly CAIDI trend during the period under review.

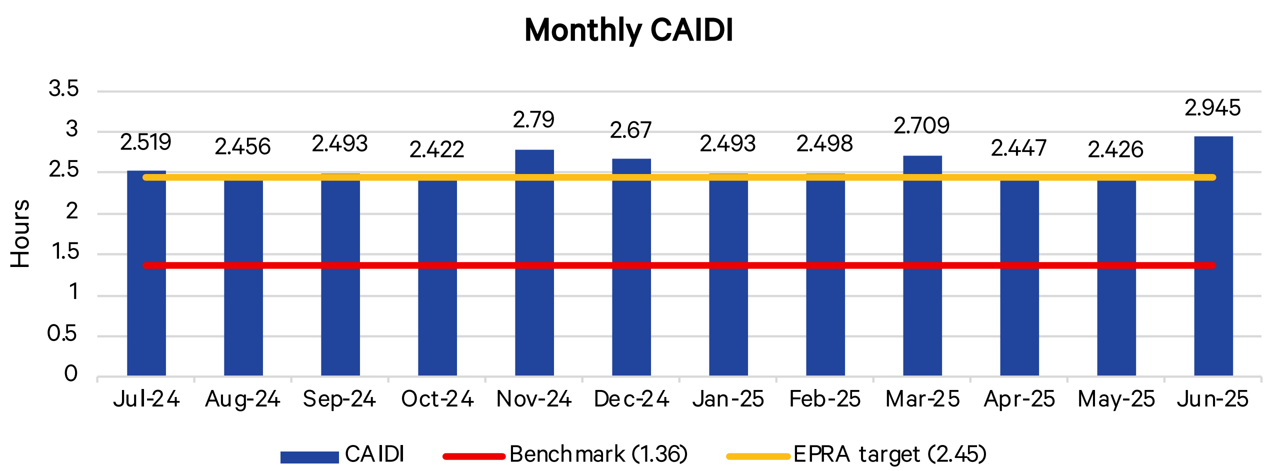


Figure 2.18: Monthly CAIDI trend for the financial year 2024/25

In the period under review, customers experienced supply interruptions averaging 2.57 hours per interruption. This was a marginal 0.04 hours (2.4 minutes) increase from 2.53 hours per interruption recorded in the year ended June 2024. The highest average interruption was recorded in June 2025 at 2.95 hours per interruption while the lowest was recorded in October 2024 at 2.42 hours per interruption. The annual performance of this index was 0.12 hours higher than the 2.45-hour threshold set by the Authority for the 2024/25 tariff control period and 1.21 hours higher than the 1.36-hour regional benchmark for this index. Figure 2.19 shows the trend in this index for the last five years.

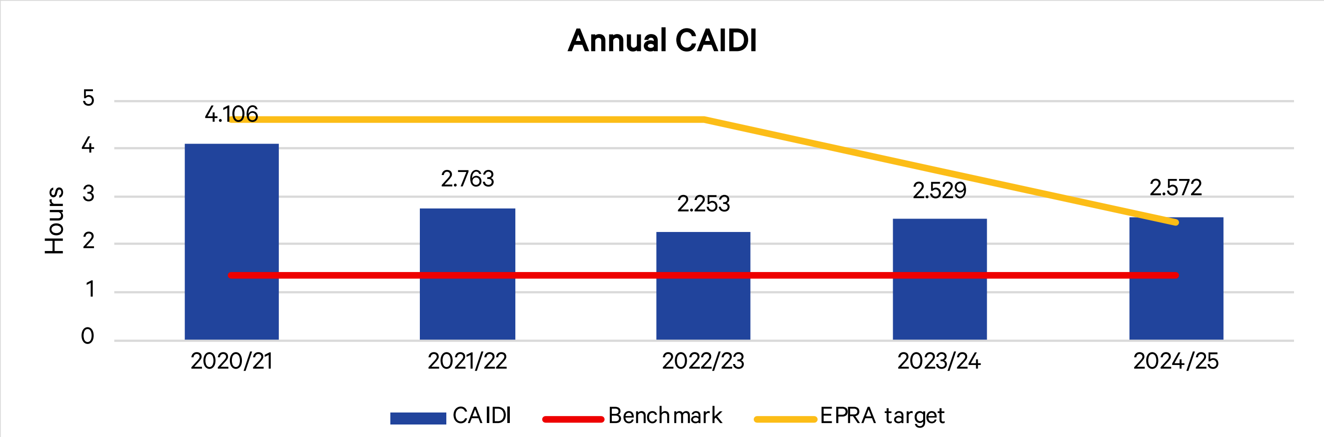


Figure 2.19: A trend of the CAIDI performance from the financial year 2020/21 to 2024/25

The duration of each interruption steadily reduced between 2020 and 2022 before increasing gradually in the period leading to 2025. The current national electricity tariff provided for a structured reduction of the index to match the regional benchmark by June 2026. The performance of this index has been well within the Authority's target for the last four years but exceeded it for the first time in the period under review when the threshold dropped to 2.45 hours per interruption. The highest CAIDI was recorded in the 2020/21 financial year at 4.106 hours per interruption while the lowest was recorded in 2022/23 at 2.25 hours per interruption.

b) System Average Interruption Duration Index (SAIDI)

SAIDI gives a measure of the total duration of interruptions a customer would experience in a given period and is measured in units of time (minutes, hours) per month or year from a system point of view. It indicates the average of the sum of all outages each customer connected to a power system experienced during a given reporting period. For instance, if a customer experienced two outages lasting 3 hours and 2 hours respectively, SAIDI for that customer for that month would be 5 hours. This is then averaged for all customers to get SAIDI for the system. Unlike CAIDI, SAIDI includes even those who did not experience any outage. Figure 2.20 below shows the monthly performance of this index for the year ended June 2025.

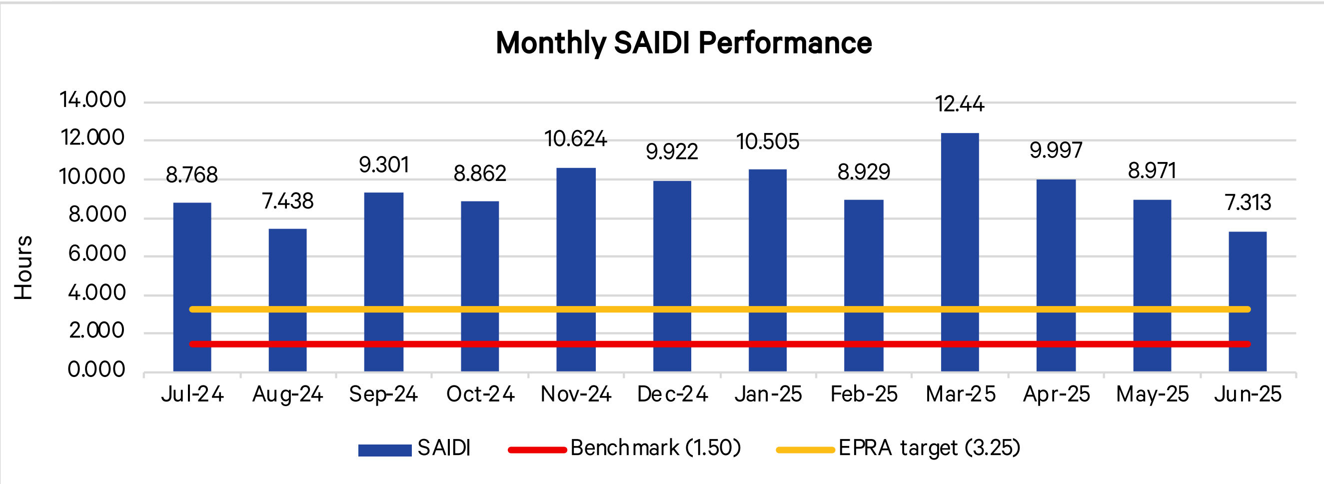


Figure 2.20: A trend of the monthly SAIDI performance for the financial year 2024/25

In the period under review, customers experienced total average interruptions lasting 9.42 hours. This is a 0.72-hour improvement from the 10.14 hours recorded in the year ended June 2024. March recorded the highest total interruption durations at 12.44 hours. This could be attributed to the many breakdowns occasioned by the onset of the long rains that normally result in trees falling on distribution lines. The lowest total interruption durations were recorded in June 2025 at 7.31 hours, a month characterized by low rainfall and cold weather. Figure 2.21 shows the trend in this index for the last five years.

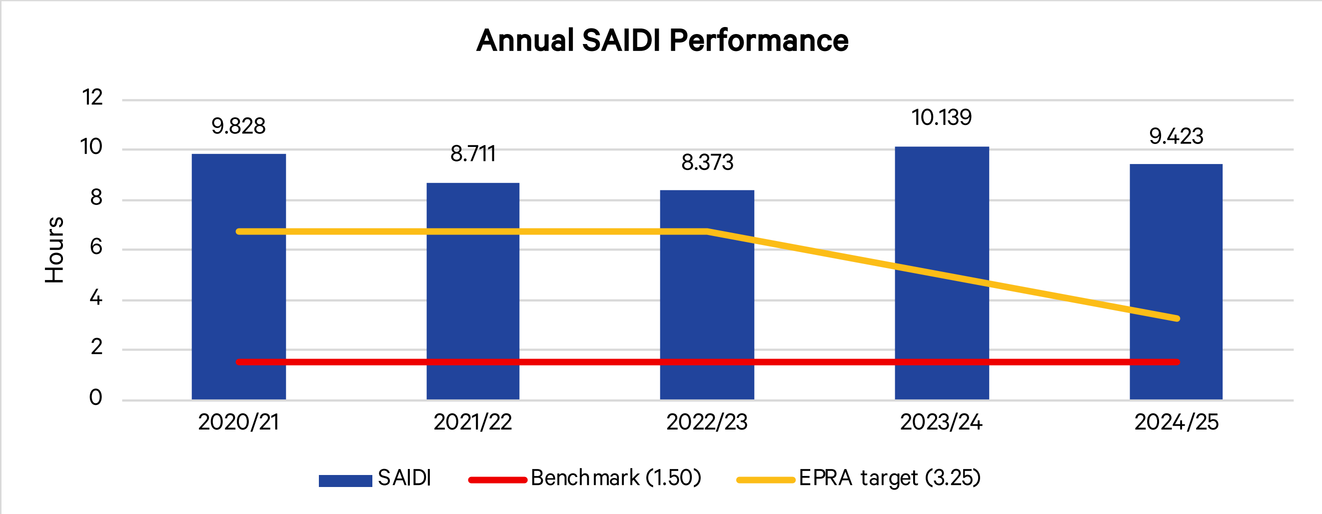


Figure 2.21: A trend of the SAIDI performance from the financial year 2020/21 to 2024/25

SAIDI has over the last five years been above both the EPRA threshold and the regional benchmark. The highest SAIDI was 10.14 recorded in the financial year 2023/24 while the lowest was 8.373 recorded in the financial year 2022/2023.

c) System Average Interruption Frequency Index (SAIFI)

SAIFI refers to the average number of interruptions that any given customer experiences in each reporting period as seen from a system point of view. This index does not consider the duration of the interruptions but rather the number of interruptions. It has no units. For instance, if customer A experienced 3 outages in a month and customer B experienced no outage, SAIFI for that power system would be 1.5. Figure 2.22 shows the progression of this index in the period under review.

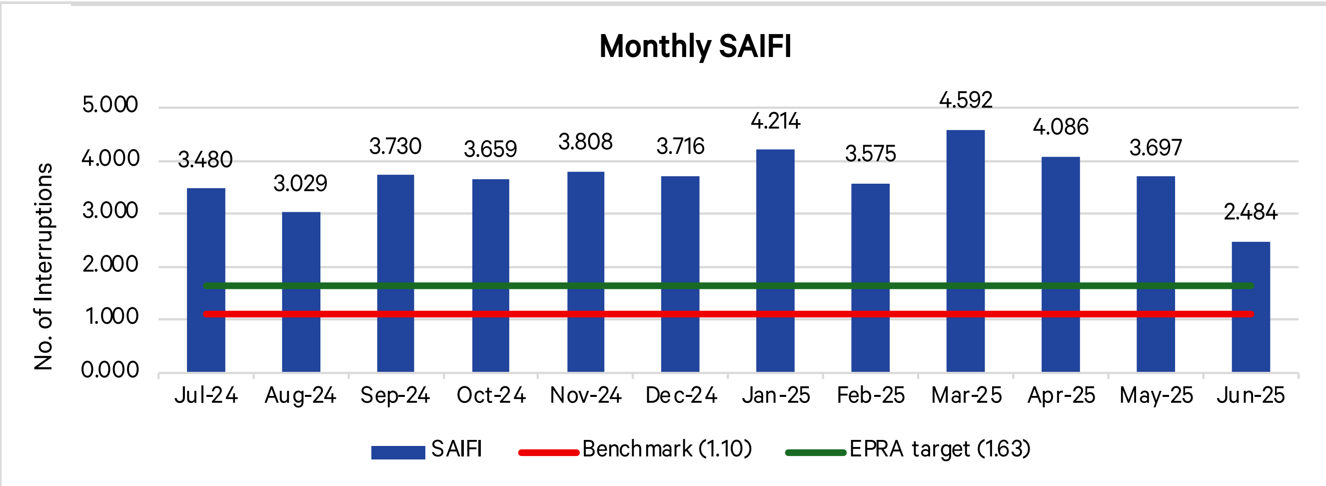


Figure 2.22: Monthly SAIFI trend during the financial year 2024/25

In the period under review, Kenyans experienced an average of 3.57 outages per month down from 3.96 outages per month experienced in the previous financial year. The highest number of outages were recorded in March 2025 while the lowest were recorded in June 2025. The fluctuation in frequency of outages in the power system in this reporting period was weather related, with rainy months having more outages and dry months having less outages.

This index is 1.94 outages higher than the EPRA prescribed benchmark of 1.63 outages per month and 2.47 outages per month higher than regional benchmark of 1.10 outages per month. Figure 2.23 shows the progression of this index for the last five years.

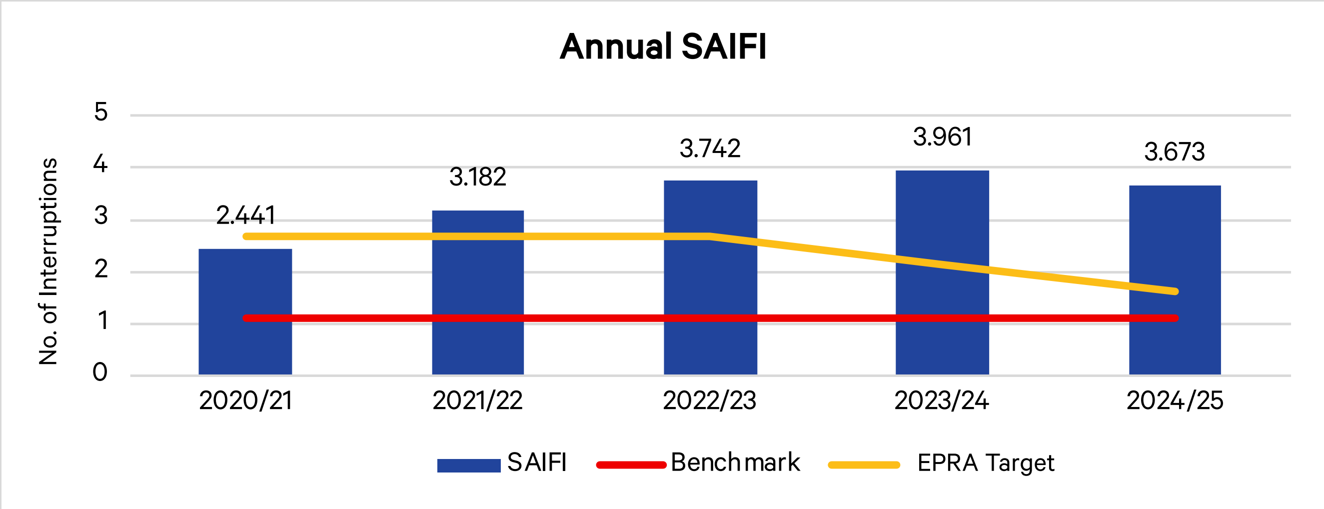


Figure 2.23: A trend of the SAIFI performance from the financial year 2020/21 to 2024/25

The number of interruptions has been on the rise since 2020 and 2024. The first annual reduction for this index in the last five years was recorded in the year ending June 2025. Interruptions were at their lowest in the 2020/21 financial year at 2.44 interruptions per month. The highest interruptions were 3.96 per month recorded in the 2023/24 financial year.

2.2 Electricity Pricing

The pricing framework is designed to reflect the cost of power generation, transmission, distribution, retail, and the applicable taxes and levies. This section outlines the Power Purchase Agreements (PPAs) approved during the review period and the various components that make up electricity prices including base tariffs and passthrough costs. It also outlines the performance of the Time of Use (TOU) tariff, which provides incentive to encourage electricity consumption in the commercial industrial sector.

2.2.1 Power Purchase Agreements (PPAs)

A PPA is a contract between power generators and the off taker that defines the terms for selling electricity, including the amount of power and its cost. PPAs are essential for providing long-term price stability by setting a fixed electricity price for the duration of the contract. This stability safeguards both generators and consumers by reducing the risks associated with market price fluctuations. During the period under review, the Authority approved the following contracts:

1. The energy exchange agreement between Kenya Power Lighting Company Limited (KPLC) and Tanzania Electric Supply Company (TANESCO);
2. A power purchase agreement between Kenya Power Lighting Company Limited (KPLC) and Orpower Twenty-Two Limited;
3. The 3rd Supplemental Agreement to the PPA between Kenya Power Lighting Company Limited (KPLC) and Kenya Electricity Generating Company Plc (KENGEN) for the Isolated Thermal, Small Hydro and Wind Power Generating Plants;
4. The Energy Exchange Agreement (EEA) between Kenya Power Lighting Company Limited (KPLC) and Uganda Electricity Transmission Company Limited (UETCL);
5. The PPA between Chania Power Company (Seller) and the Kenya Tea Development Agency (KTDA) Power Company Limited (Sponsor) and Kenya Power Lighting Company Limited (Buyer);
6. The PPA between Metumi Power Company (Seller) and KTDA Power Company Limited (Sponsor) and Kenya Power Lighting Company Limited (Buyer);
7. The PPA between Nyakwana Power Company (Seller) and KTDA Power Company Limited (Sponsor) and Kenya Power Lighting Company Limited (Buyer);
8. The PPA appeals between KPLC and KenGen for the isolated thermal wind and small hydro plants and;
9. The Wheeling Agreement Between Kenya Electricity Transmission Company Limited (KETRACO) and Tanzania Electric Supply Company Limited (TANESCO).

2.2.2 Base Electricity Tariff

The Authority approved the Retail Electricity Tariff for the fourth Tariff Control Period spanning from 2022/23 to 2025/26 in March 2023 with an effective date of 1st April 2023. This tariff approval set the stage for adjustments in electricity pricing aimed at ensuring a balance between cost recovery and consumer affordability. The applicable base tariff for the period under review is presented in table 2.4.

Table 2.4: Approved electricity retail tariffs for the financial year 2024/25

Customer category	Voltage at connection	Energy Limit (kWh/month)	Base Tariff (Ksh)	Demand Charge (Ksh)
Domestic	240 Volts/415 Volts	0-30	12.23	0
		30-100	16.54	0
		>100	19.08	0
Small Commercial	240 Volts/415 Volts	0-30	12.23	0
		30-100	16.34	0
		>100	19.40	0
Electric Mobility	240 Volts/415 Volts	200-15,000	16.00	0
Commercial/Industrial	415 Volts	>15,000	13.74	1,100
	11,000 Volts	No Limit	12.44	700
	33,000 Volts	No Limit	11.92	370
	66,000 Volts	No Limit	11.68	300
	132,000 Volts	No Limit	11.40	300
	220,000 Volts	No Limit	10.00	200
Street Lighting	240Volts/415 Volts	No Limit	9.23	0

Small commercial customers (consuming above 100 kWh per month), electric mobility customers and the commercial and industrial customers are eligible for an off-peak Time of Use (TOU) tariff which offers a 50% discount on their base energy tariff once their consumption thresholds are met.

2.2.3 Pass-through Costs

In addition to the base tariffs outlined in the previous section, the Authority also approves monthly pass-through costs that are passed to consumers by the utility provider in response to fluctuations in specific cost components. These pass-through costs account for variations in the Fuel Energy Charge (FEC), Foreign Exchange Rate Fluctuation Adjustments (FERFA), Inflation Adjustments, and the contributions to the Water Resources Authority (WRA). A summary of the applicable pass-through costs during the review period is presented in table 2.5.

Table 2.5: A summary of pass-through costs during the financial year 2024/25.

Month	FEC (Ksh./Kwh)	Forex Adj. (Ksh./Kwh)	Inflation Adj. (Ksh./Kwh)	WRMA Levy (Ksh./Kwh)
Jul-24	3.25	0.9833	0.38	0.0169
Aug-24	3.48	1.171	0.38	0.0178
Sep-24	3.43	1.0332	0.38	0.0156
Oct-24	3.39	1.1489	0.38	0.0139
Nov-24	3.72	0.6904	0.38	0.0134
Dec-24	3.57	1.014	0.38	0.0135
Jan-25	3.55	0.8308	0.4	0.0145
Feb-25	3.36	0.6964	0.4	0.0138
Mar-25	3.49	0.807	0.4	0.0128
Apr-25	4.14	1.007	0.4	0.0134
May-25	3.67	1.2818	0.4	0.0146
Jun-25	3.8	0.7015	0.4	0.0163

The FEC caters for the cost of fuel used in electricity generation by thermal power plants. In the period under review, FEC was highest in April 2025 at 4.14 Ksh./kWh and lowest at 3.25 Ksh./kWh in July 2024.

FERFA exhibited fluctuations throughout the period under review with May 2025 recording the highest value of +1.2818KSh/kWh. This is attributed to the depreciation of the local currency during the period and the large volume payments made by both KPLC and KenGen towards settling their foreign currency denominated financial obligations.

The inflation adjustment cost is reviewed semi-annually to account for changes in economic conditions and ensure that electricity prices reflect the prevailing inflationary rates and the cost of living. From July to December 2024, the applicable inflation adjustment cost was 0.38 Ksh./kWh which increased to 0.4 Ksh./kWh during the second half of the financial year.

WRMA levy fluctuated during the period with the highest recorded in August 2024 at 0.0178 Ksh. /kWh and lowest in March 2025 at 0.0128 Ksh. /kWh. The fluctuations in WRMA levy reflect variations in hydro generation over the period.

2.2.4. Evolution of the overall electricity tariff

The overall retail tariff consists of the base tariff, pass-through costs, taxes and levies. During the review period, electricity prices varied, primarily due to changes in the monthly pass-through costs. Prices peaked in April 2025 and were lowest in July 2024. Figure 2.24 illustrates the trend in electricity prices for various customer categories during this period.

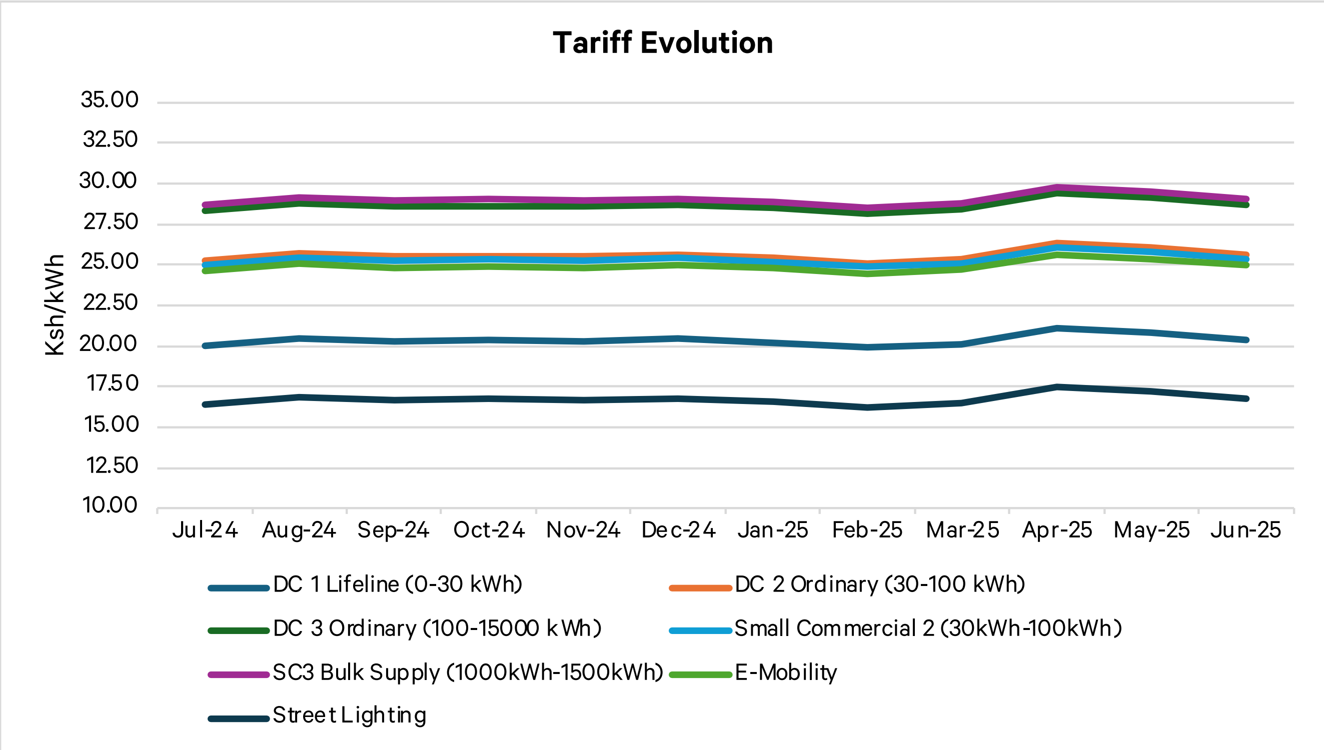


Figure 2.24: A trend of retail tariff for various customer categories during the financial year 2024/25

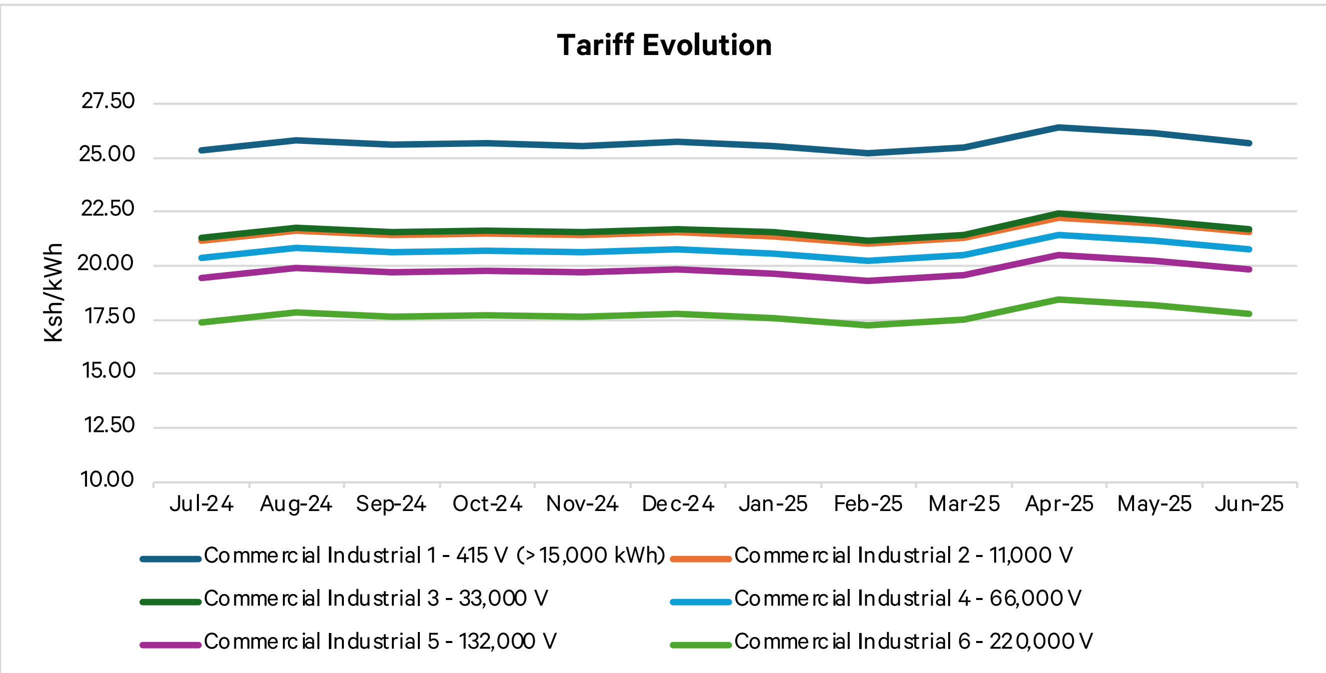


Figure 2.25: A trend of retail tariffs for the commercial industrial customers during the financial year 2024/25

In all the customer categories, the tariff peaked in April 2025 and were lowest in July 2024 largely reflecting the changes in the FEC.

2.2.5 Time of Use (TOU) Tariff

The TOU tariff was introduced in December 2017 to encourage increased electricity consumption by commercial industrial customers during off-peak hours. The tariff aims to flatten the demand curve thereby enhancing grid stability and optimizing the utilization of available generation capacity. It also seeks to balance affordability for consumers with efficiency in power system operations, while supporting sustained revenue growth for the utility.

Further, in April 2023 the Authority introduced the TOU tariff for the small commercial customer categories and electric mobility tariff customers. The TOU tariff provides a 50% discount on the energy charge rates during the off-peak periods (2200hrs to 0600hrs during weekdays, 0000hrs to 0800hrs and 1400hours to 0000 on Saturday and on public holidays and the whole day on Sundays on premises that electricity consumption thresholds are met. Table 2.6 shows the monthly performance of the ToU tariff in the period under review.

Table 2.6: Monthly performance of the TOU tariff scheme during the financial year 2024/2025

Description	Savings by Customers	Increase in Sales	Increase in demand
Unit of measure	Ksh. Million	GWh	MW
Jul-24	149.7	19	52.4
Aug-24	98.5	11.5	31.2
Sep-24	88.2	10.8	30
Oct-24	100.6	12	32.3
Nov-24	117.1	14.2	40
Dec-24	134.6	17.5	43.9
Jan-25	173.8	21.5	59.3
Feb-25	76.1	9.2	28
Mar-25	150.4	19.9	52.6
Apr-25	91.3	11.8	32.3
May-25	155.2	20.1	53.9
Jun-25	102.5	12.8	35.6

The energy consumption under the TOU category reached a cumulative 180.3 GWh, with the beneficiaries saving a total of Ksh. 1.438 billion.

Table 2.7: A summary of TOU performance from the financial year 2021/22 to 2024/25

Description	Unit of Measure	Customers in Tariff	2021/22	2022/23	2023/24	2024/25
Total no. of customers benefited by tariff category				Average No. of Beneficiaries		
SC3	No	4,736	0	495	1,168	1,229
EM	No.	30	0	0	22	44
CI-1	No	3,277	1,211	1,091	843	864
CI-2	No	539	216	197	177	155
CI-3	No	86	27	34	27	28
CI-4	No	47	19	16	16	15
CI-5	No	50	9	10	4	4
Savings By Customers	**Kshs 'M (VAT Inclusive)**		**1,575**	**1,417**	**1,838**	**1,438**
Total Increase in Sales (Low Rate)	**GWh**		**270**	**255**	**225**	**180.1**

2.3 Market Share and Competition Analysis

The market share in the electricity sector is determined by the proportion of total electricity generated by each company. Kenya's electricity is supplied by KenGen, IPPs and imports from Uganda, Ethiopia and Tanzania. KenGen supplies the bulk of the country's electricity drawing from a diverse renewable energy portfolio consisting of geothermal, solar and wind as well as thermal plants. IPPs' capacity has been increasing steadily, primarily generated from wind, solar, and geothermal, thereby increasing private sector participation in the energy mix.

A summary of the market shares within the electricity sector is depicted in figure 2.26.

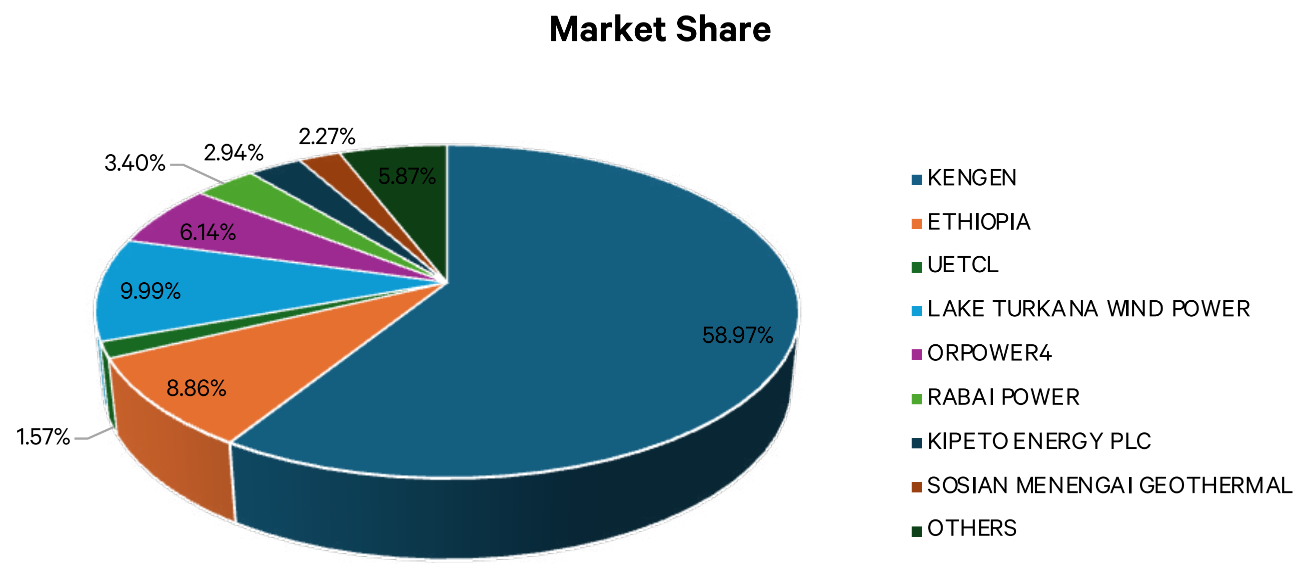


Figure 2.26: A graphical representation of the electricity market share during the financial year 2024/25.

During the review period, KenGen was the leading contributor, accounting for 58.97% of the total energy generated in the country. Other notable companies with substantial market share included Lake Turkana Wind Power (LTWP) with 9.99%, imports at 10.66% and Orpower at 6.14%.

Table 2.8: A summary of the electricity sector market share from the financial year 2020/21 to 2024/25

Company	2020/ 2021		2021/ 2022		2022/ 2023		2023/ 2024		2024/ 2025	
Company	GWh	% Share	GWh	% Share	GWh	% Share	GWh	% Share	GWh	% Share
KenGen	7,695.58	63.94%	7,921.02	62.91%	8,026.86	60.74%	8,383.50	61.66%	8,481.13	58.97%
Lake Turkana Wind Power	2,594.88	21.56%	1,572.83	12.49%	1,678.32	12.70%	1,325.88	9.75%	1,436.57	9.99%
Imports	123.78	1.03%	337.50	2.68%	644.07	4.87%	1,196.06	8.80%	1,533.85	10.66%
Orpower	891.45	7.41%	975.80	7.75%	939.23	7.11%	793.5	5.84%	883.24	6.14%
Rabai Power	237.54	1.97%	501.77	3.98%	446.01	3.38%	440.62	3.24%	489.29	3.40%
Kipeto Energy PLC	87.59	0.73%	425.68	3.38%	466.1	3.53%	404.44	2.97%	422.52	2.94%
Sosian Menengai Geothermal	-	-	-	-	6.17	0.05%	281.6	2.07%	326.2	2.27%
Thika Power	43.98	0.37%	210.97	1.68%	194.38	1.47%	120.6	0.89%	133.47	0.93%
Alten Kenya Solar Farm	-	-	-	-	79.17	0.60%	100.27	0.74%	107.57	0.75%

Company	2020/ 2021		2021/ 2022		2022/ 2023		2023/ 2024		2024/ 2025	
Company	GWh	% Share	GWh	% Share	GWh	% Share	GWh	% Share	GWh	% Share
Malindi Solar Group	-	-	53.64	0.43%	98.91	0.75%	98.7	0.73%	96.57	0.67%
Cedate	-	-	88.11	0.70%	93.85	0.71%	95.52	0.70%	92.24	0.64%
Selenkei Solar Farm	1.50	0.01%	88.56	0.70%	85.74	0.65%	94.47	0.69%	93.73	0.65%
REREC	79.85	0.66%	82.38	0.65%	85.86	0.65%	84.3	0.62%	82.88	0.58%
Gulf Power	19.25	0.16%	81.45	0.65%	170.42	1.29%	53.01	0.39%	42.29	0.29%
IberAfrica	40.26	0.33%	85.77	0.68%	115.52	0.87%	37.85	0.28%	59.58	0.41%
Triumph Power	20.72	0.17%	69.50	0.55%	35.11	0.27%	25.56	0.19%	46.91	0.33%
Regen-Terem	18.81	0.16%	15.43	0.12%	20.32	0.15%	22.88	0.17%	21.98	0.15%
North Mathia Shp (Metumi)	11.13	0.09%	9.91	0.08%	14.48	0.11%	16.99	0.10%	15.06	0.10%
Gura	10.52	0.09%	19.60	0.16%	11.1	0.08%	13.89	0.02%	12.81	0.09%
Kiathumbi Small Hydro	0.36	0.00%	2.00	0.02%	1.46	0.01%	3.22	0.01%	3.15	0.02%
Gikira Small Hydro Power Station	1.69	0.01%	0.89	0.01%	0.99	0.01%	1.55	0.01%	1.4	0.01%
Chania	1.07	0.01%	0.56	0.00%	0.25	0.00%	1.18	0.00%	0.81	0.01%
Imenti Tea Factory Co.	0.46	0.00%	0.15	0.00%	0.25	0.00%	0.11	0.00%	0.01	0.00%
Biojules Biogas Power Plant	0.30	0.00%	0.38	0.00%	0.21	0.00%	0.11	0.00%	0.003	0.00%
Strathmore	0.08	0.00%	0.05	0.00%	0.08	0.00%	0.08	0.00%	0.07	0.00%
Kipevu II	154.53	1.28%	47.76	0.38%	-	0.00%	-	0.00%	-	0.00%
Total	**12,035.33**	**1.00**	**12,591.72**	**1.00**	**13,214.86**	**1.00**	**13,595.89**	**1.00**	**14,383.33**	**1.00**

Over the years, Kenya's electricity market has remained largely dominated by KenGen, although its overall share has gradually declined as more players enter the market. KenGen's market share has declined over the last five years, from 63.94% in the financial year 2020/2021 to 58.97% in the financial year 2024/2025.

LTWP's market share reduced from 21.56% in financial year 2020/2021 to 9.99% in 2024/2025. Imports market share has grown from 1.03% in the financial year 2020/2021 to 10.66% in 2024/2025. The increase in imports contribution is attributed to the 200MW from Ethiopia that was added to the grid in December 2023.

2.4 Herfindahl Hirschman Index (HHI)

The Herfindahl Hirschman Index (HHI) analyzes competition by measuring the concentration of firms in a market thereby giving insight on the state of competition. It is calculated by squaring the market shares of all firms in the market and summing the squares as follows;

$$HHI = \sum_{i=1}^{K} (MS_i)^2$$

Where MSi represents the market share of the ith firm and k represents the total number of firms in the market.

A market with a HHI of less than 0.1 is considered competitive, a HHI of 0.15 to 0.25 is moderately concentrated, and a HHI of 0.25 or greater is highly concentrated.

The HHI for electricity generation during the review period stood at 0.375, indicating a slight increase in competition compared to 0.404 recorded in the financial year 2023/2024. This figure remains significantly above the Authority's benchmark of 0.1.

The HHI for the electricity sector has been decreasing over the years, indicating improved competition. This is attributed to entry of new suppliers in the generation market particularly the IPPs. Figure 2.27 shows the HHI trend in electricity generation over a five-year period.

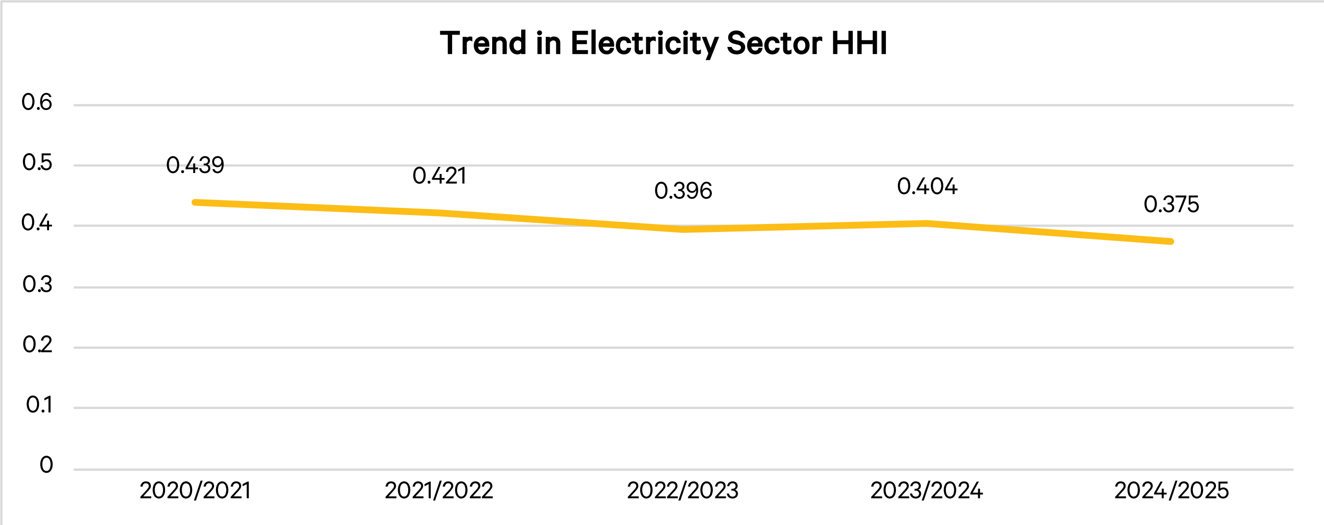


Figure 2.27: HHI trend for electricity generation from the financial year 2020/21 to 2024/25

2.5 Greenhouse Gas Emissions

Kenya is a party to the United Nations Framework Convention on Climate Change (UNFCCC) and its Paris Agreement. As a party, it has various obligations to mitigate against the adverse effects of climate change. This has led to implementation of various initiatives such as renewable energy generation, promotion of electric mobility, energy efficiency and clean cooking.

In its second Nationally Determined Contribution (NDC) (2031-2035) Kenya has committed to abate her Green House Gas (GHG) emissions by 35% by 2035 relative to the business-as-usual scenario of 215 MtCO2eq in 2035 resulting in the abatement of 75.25 MtCO2eq. To achieve this target, the country aims to increase renewable energy generation by 100% by 2035 and promote adoption of clean and efficient energy use for the transport industry, agriculture and domestic sectors.

In the period under review, the carbon dioxide emissions were estimated at 786,643.96 tCO2 from an annual grid electricity generation of 14,384,041.20MWh. This translates to a grid emission factor of 0.055 tCO2/MWh. Figure 2.28 presents a trend of carbon dioxide emissions for the last five financial years.

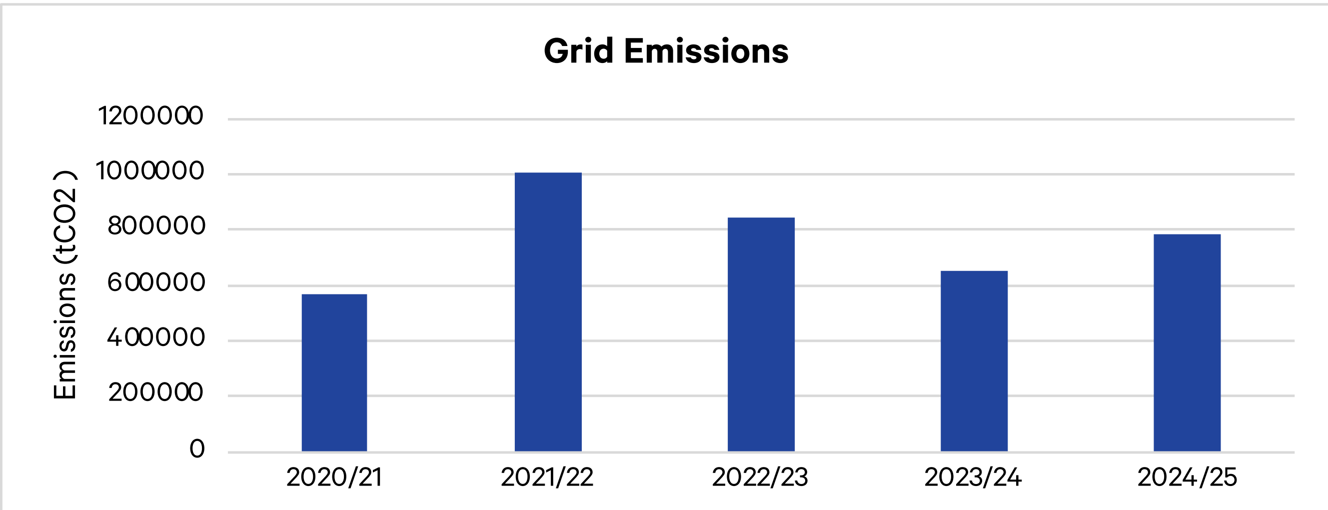


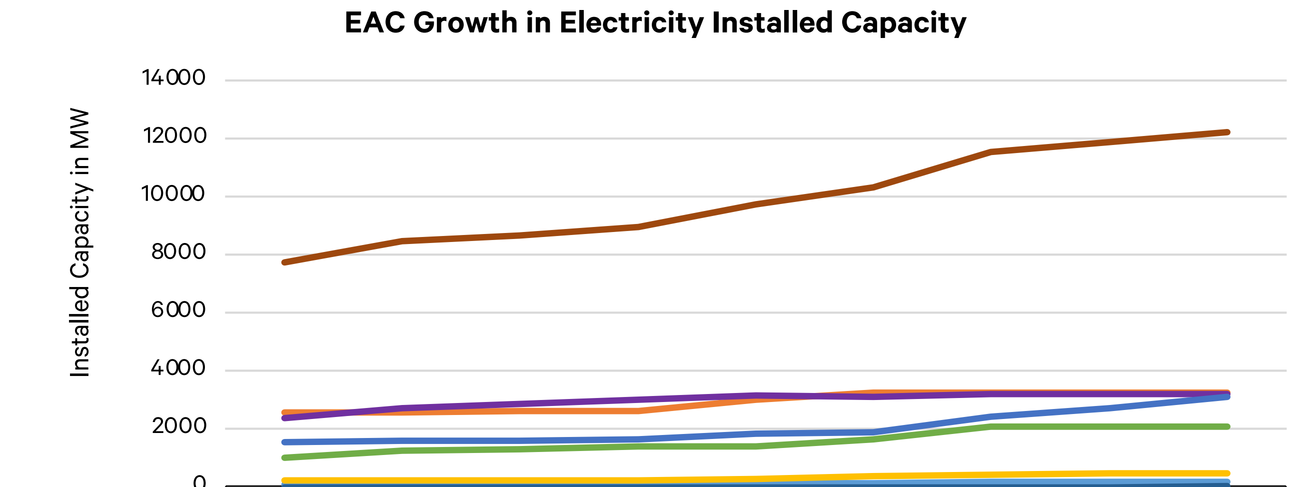
Figure 2.28: A trend of grid carbon emissions from the financial year 2020/21 to 2024/25

The emissions increased by 15% from the previous financial year which recorded a grid emission factor 0.048 tCO2/MWh. The carbon dioxide emissions increased by 20.60% from 652,285.12 tCO2 to 786,643.96 tCO2. This is attributed to a 19.76% increase in grid thermal generation from 1,042,031 MWh to 1,247,928 MWh during the period under review.

2.6 Electricity sector performance in the East African Community (EAC)

2.6.1. Installed capacity

As of June 2025, the installed interconnected capacity for the EAC region stood at 12,230.31MW up from 11,509.85MW. This 720.46MW increase represents a 6.26% growth in installed capacity. The increase is largely attributed to Tanzania, where installed capacity increased by 681.44MW due to the commissioning of some generating units at the Julius Nyerere Hydro-Electric Power plant on River Rufiji.



	2018	2019	2020	2021	2022	Jun-23	Jun-24	Dec-24	Jun-25
Burundi	91.36	91.36	98.86	113.86	112.377	112.377	159.82	159.82	159.82
DR Congo	2569.8	2569.8	2608.8	2625.8	2980.7	3238.9	3238.9	3238.9	3238.90
Kenya	2351	2712	2840	2984	3121	3084.65	3199.9	3199.9	3192.00
Rwanda	208.68	225.8	228.418	238.37	276.07	353.4	406.4	466.402	466.40
Tanzania	1518.2	1602.71	1601.8	1609.25	1824.2	1862.85	2410.27	2692.332	3091.71
Uganda	984	1252.6	1269.1	1365.2	1401.96	1609.85	2069.56	2069.56	2056.35
Zanzibar	25	25	25	25	25	25	25	25	25.13
Total	7748.04	8479.27	8671.98	8961.48	9741.31	10287.03	11509.85	11851.9	12230.31

Figure 2.29: A trend of the installed electricity capacity in the EAC

The Democratic Republic of the Congo (DRC) had the region's highest installed capacity of 3,238.9MW. Tanzania's installed capacity grew from 2,410.7MW to 3,091.71MW in June 2025. Kenya's installed capacity decreased by 7.90MW from 3,199.90MW to 3,192.0MW in June 2025. Uganda's also recorded a reduction in installed capacity by 7.21MW to 2,056.35MW.

2.6.2 Electricity sources in the EAC region

Figure 2.30 shows the share of renewables and non-renewables in the EAC region.

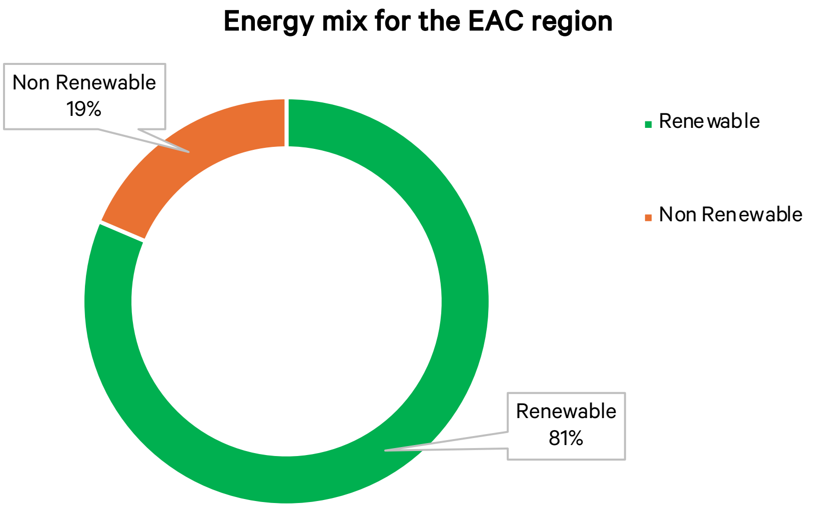


Figure 2.30: Proportion of renewable and non-renewables in the EAC region energy mix

The EAC region's energy landscape is dominated by renewable energy sources which account for 81.41% of the region's installed capacity. Renewable energy sources in the region include hydro, geothermal, wind, solar and biomass. Fossil fuels, that is natural gas, heavy fuel oil and diesel, accounted for 18.59% of the region's capacity. Figure 2.31 shows the sources of electricity for the EAC installed capacity.

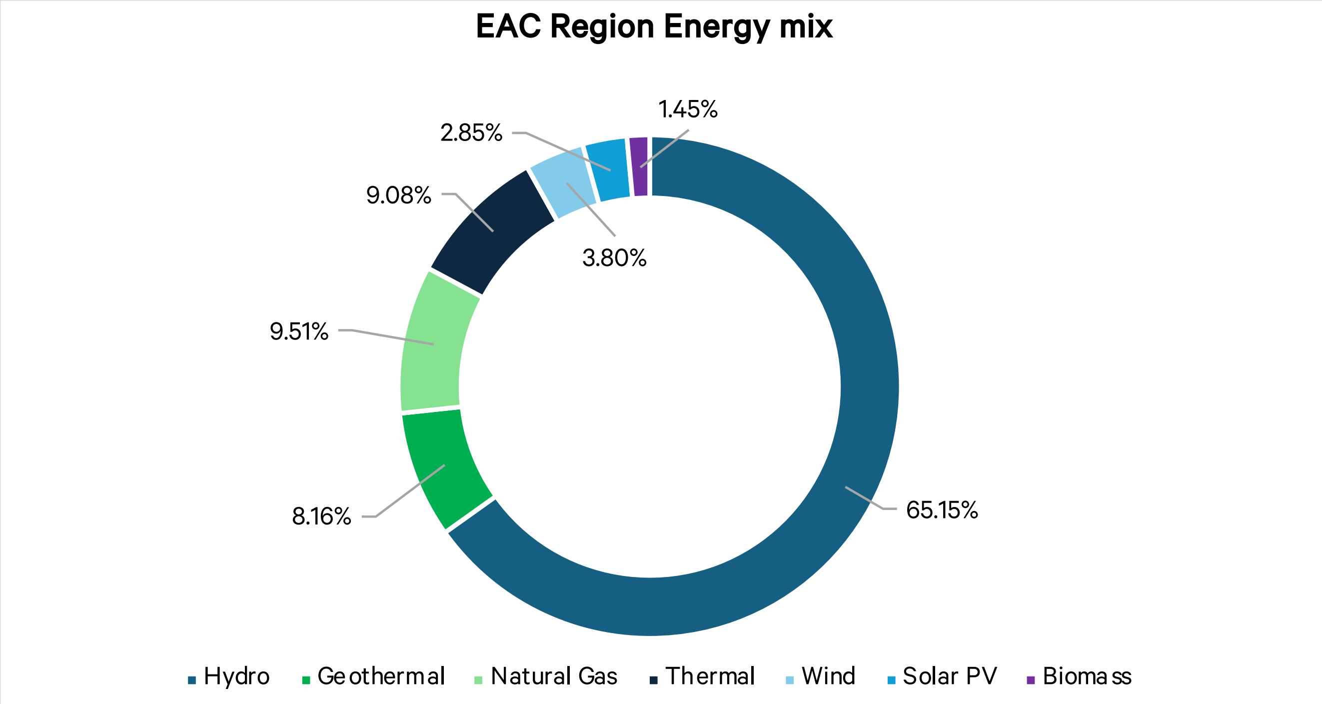


Figure 2.31: EAC regional energy mix as of June 2025

Hydro is the dominant source of electrical energy in the EAC region representing two thirds of the region's electrical power source. It accounted for 65.15% of total installed capacity in the region. The DRC, Uganda and Tanzania are the leading three countries in installed hydro capacity with installed capacities of 2,901MW, 1,718MW and 1,519MW respectively.

Thermal sources came in second accounting for 18.59% of total installed capacity. Tanzania is the only country with natural gas generation in the region with an installed capacity of 1,010MW. This accounts for 9.51% of the region's installed capacity. Other thermal sources include Heavy Fuel Oil (HFO), Medium Speed Diesel (MSD) and Kerosene fired turbine generation. Kenya accounts for most of the HFO generation with an installed capacity of 572MW.

At an installed capacity of 940MW, geothermal is the third ranking source of electrical power accounting for 8.16% of the region's capacity. All this capacity is in Kenya.

Wind and solar PV generation accounted for a combined 6.75% of the region's capacity. The installed capacity of wind generation stood at 439MW accounting for 3.85% of installed capacity. Kenya has the highest wind generation capacity at 99.46 % with the balance in Tanzania.

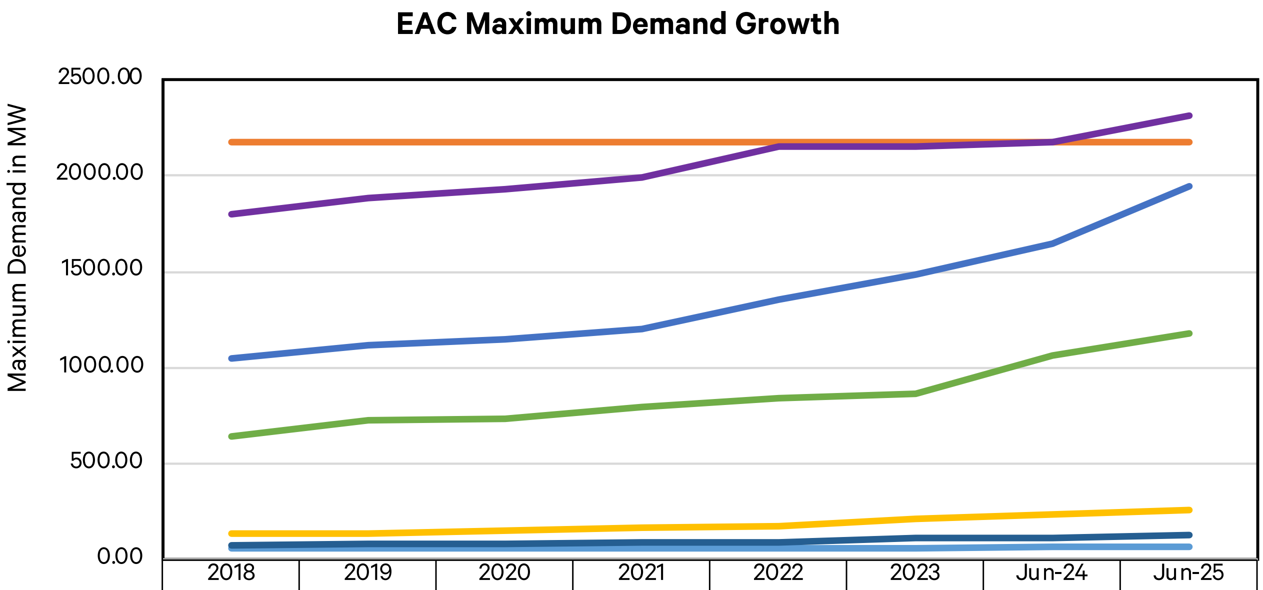
Solar PV generation accounted for 2.85% of the region's capacity with 329MW installed as of June 2025. Kenya also leads on this with 210MW. Uganda has 87MW while Rwanda has 12MW of solar generation. The remaining 20MW in Tanzania, DRC and Burundi. Generation from biomass accounted for 1.45% of the region's capacity.

Table 2.9: A summary of the EAC energy mix as of June 2025

Source	Capacity (MW)	%
Hydro	7,508.84	65.15%
Natural Gas	1,095.61	9.51%
Thermal	1,046.63	9.08%
Geothermal	940.00	8.16%
Wind	438.50	3.80%
Solar PV	328.71	2.85%
Biomass	167.49	1.45%

2.6.3 Peak demand

Each country in the EAC region registered a growth in peak demand except the DRC and Burundi. Figure 2.32 illustrates the progression of peak demand for countries in the region.



	2018	2019	2020	2021	2022	2023	Jun-24	Jun-25
Burundi	65.20	65.20	65.20	65.20	65.20	65.20	70.00	70.00
DRC	2174.17	2174.17	2174.17	2174.17	2174.17	2174.17	2174.17	2174.17
Kenya	1802.00	1882.00	1926.00	1994.00	2149.00	2149.00	2177.00	2316.00
Rwanda	138.71	140.61	151.00	164.40	178.71	210.94	234.00	262.00
Tanzania	1045.70	1116.58	1151.66	1201.02	1354.61	1482.80	1645.00	1944.00
Uganda	645.40	723.80	736.70	794.00	843.00	863.00	1063.00	1176.00
Zanzibar	76.50	85.35	80.67	88.44	90.00	112.13	112.00	131.00

Figure 2.32: A trend of peak demand in Countries within the EAC region during the financial year 2024/25

Kenya had the region's highest peak demand of 2,316MW having improved by 139MW from 2,177MW in the previous financial year. In the same period, the DRC's peak demand remained at 2,174MW while Tanzania's peak demand increased by 301MW from 1,645MW in June 2024 to 1,944MW in June 2025. Uganda's peak demand also grew by 113MW to 1,176MW as of June 2025. Rwanda peak demand grew by 28MW to 262MW while Zanzibar's peak demand grew by 19MW to 131MW.

2.7 Electricity Regulatory Index (ERI) 2024 Performance

The African Development Bank (AfDB) Electricity Regulatory Index (ERI) measures the level of development of electricity sector regulatory frameworks in African countries and the capacity of regulatory authorities to effectively conduct their regulatory functions. The ERI consists of three pillars or sub-indices: The Regulatory Governance Index (RGI); the Regulatory Substance Index (RSI); and the Regulatory Outcome Index (ROI). The Regulatory Governance Index (RGI) assesses the level of development of the legal and institutional set up of the regulatory framework of a country. The RSI assesses how the regulator has operationalized the mandate bestowed on it by the RGI in developing and implementing key regulatory instruments and frameworks for the sector. The ROI assesses the outcomes of regulatory decisions, actions and processes on the sector from the perspective of regulated entities.

The ERI assessment has been undertaken for six years from 2018 to 2024. The 2024 ERI featured forty-three countries with established regulatory authorities that were assessed on the various indices. Kenya emerged second with a score of 0.8915 an improvement from fifth position in the previous assessment. Table 2.10 shows a summary of the performance of the top ten (10) countries.

Table 2.10: ERI 2024 Top 10 Ranking

Country	RGI	RSI	ERIGS	ROI	ERI	RANK
Senegal	0.927	0.949	0.938	0.848	0.8920	1
Kenya	0.916	0.946	0.931	0.854	0.8915	2
Uganda	0.963	0.988	0.976	0.749	0.8550	3
Namibia	0.871	0.883	0.877	0.788	0.8310	4
Tanzania	0.927	0.773	0.850	0.797	0.8230	5
Zimbabwe	0.813	0.822	0.817	0.818	0.8180	6
Rwanda	0.909	0.990	0.949	0.691	0.8100	7
Benin	0.889	0.849	0.868	0.747	0.8050	8
Liberia	0.864	0.801	0.833	0.769	0.8000	9
Niger	0.881	0.746	0.813	0.785	0.7990	10

Source: AfDB, ERI Report 2024

Kenya's improved performance is attributed to implementation of various regulatory reforms that have translated into better outcomes such as higher electricity connection rates, improved financial stability of utilities and gains in service reliability. Over the last five years Kenya's score has consistently improved as indicated in figure 2.33.

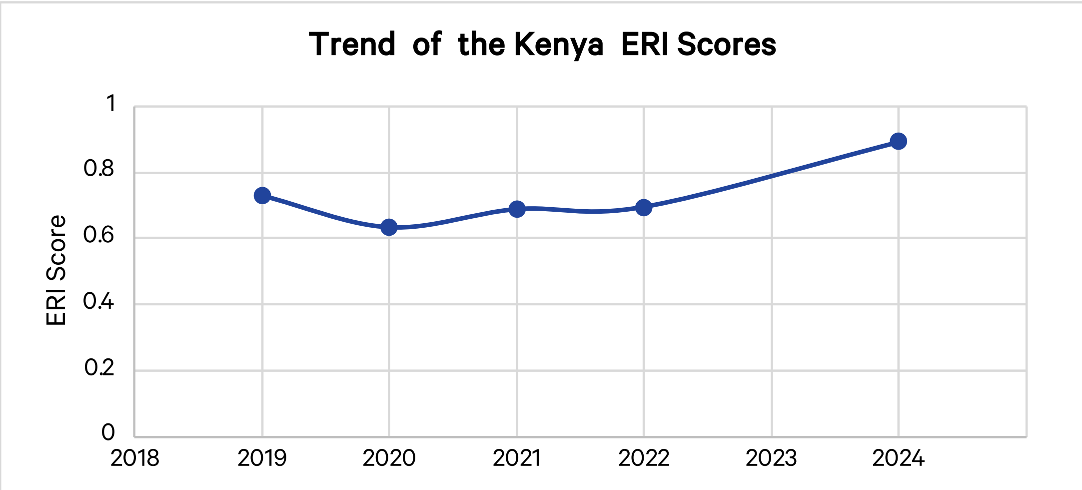


Figure 2.33: A trend of Kenya's ERI score from 2019 to 2024

3 RENEWABLE ENERGY

3.1. Installed capacity

The installed capacity of renewable energy sources as of June 2025 was 2,930.2 MW, which accounts for 80.48% of Kenya's total installed capacity. This consists of 2,427.2 MW of interconnected renewable energy capacity and 499.0 MW of captive renewable energy capacity.

The period under review saw additions in captive solar PV plants to an installed captive capacity of 300.5 MW. Table 3.1 shows the country's installed renewable energy capacity by technology as of June 2025.

The Government of Kenya has instituted various policies aimed at having 100% of the electrical energy generated from renewable energy sources by 2030.

Table 3.1: Kenya's installed renewable energy capacity as of June 2025

Technology	Interconnected Capacity (MW)		Captive Capacity (MW)	Offgrid Capacity	Total Installed Capacity	% Total Installed
	Installed	Effective				
Hydro	839.5	809.7	33.0	0.1	872.5	23.97%
Geothermal	940.0	876.1	3.7	0.0	943.7	25.92%
Wind	435.5	425.5	-	0.6	436.1	11.98%
Solar	210.3	210.3	300.5	3.4	514.1	14.12%
Bioenergy	2.0	2.0	161.8	0.0	163.8	4.50%
Total	**2,427.2**	**2,323.6**	**499.0**	**4.0**	**2,930.2**	**80.48%**

The energy mix for the period under review is presented in figure 3.1

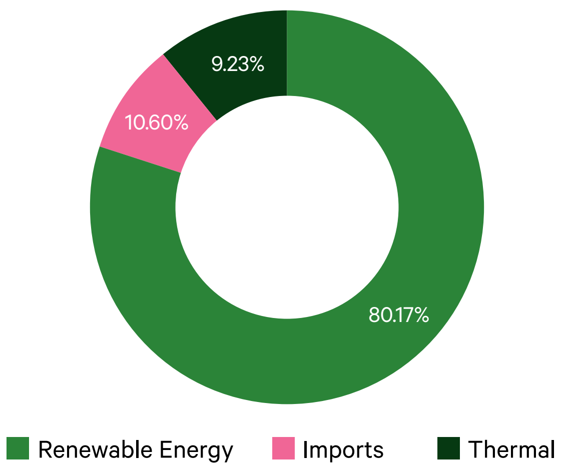


Figure 3.1: Kenya's energy mix as of June 2025

Kenya's electricity mix continues to be dominated by renewable energy sources at 80.17% a decrease from 83.00% in the previous review period. The country obtained 10.60% of its energy through electricity imports from Ethiopia, Uganda and Tanzania up from 8.77% in the previous financial year. Thermal sources contributed 9.23% up from 8.23%. The increased share of thermal generation is as a result of a rise in electricity demand during peak periods which occurs between 7.00 P.M and 10.00 P.M daily.

Among the renewable energy sources, geothermal energy generation continues to supply the majority of Kenya's electric energy demand accounting for 39.51% of the total energy generation. Hydro and Wind generation were second and third accounting for 24.21 % and 13.18 % respectively. Utility scale solar generation contributed 3.27 % to the energy mix.

3.2 Source performance summary

3.2.1 Geothermal Energy

Kenya's installed geothermal capacity remained unchanged during the period under review at 943.7 MW. Figure 3.2. displays monthly geothermal energy generation over the review period.

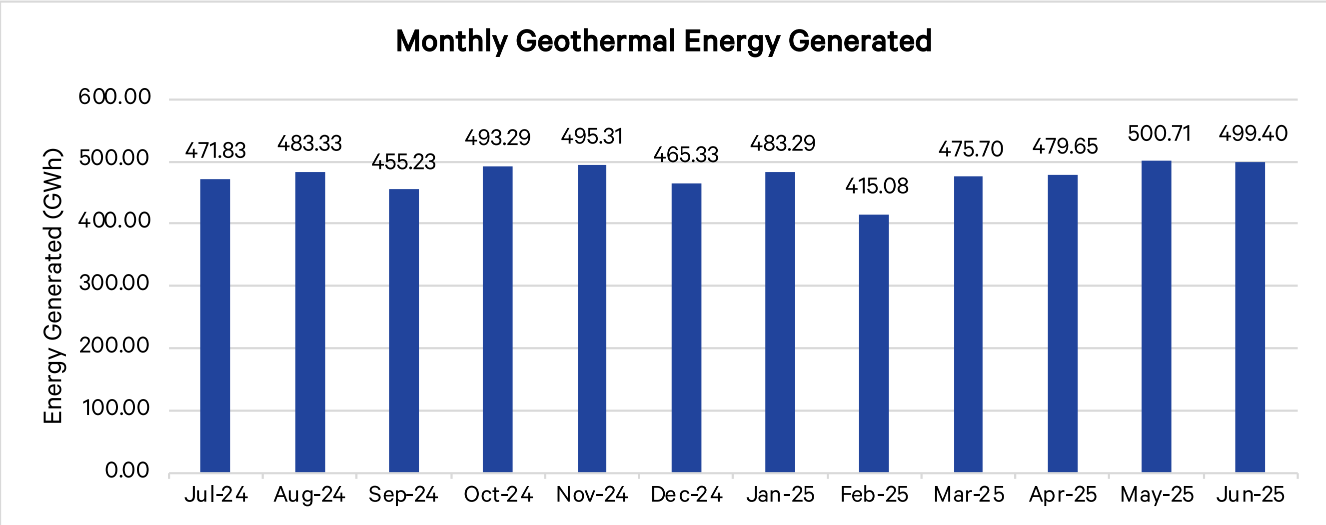


Figure 3.2: Geothermal energy generated per month during the financial year 2024/25

In the period under review, the monthly geothermal energy generation varied from 415 GWh in February to 500GWh in May. Geothermal energy generation remained fairly constant during the review period with the second half having a marginal decrease of 0.37% compared to the first half. The variation in geothermal generation is attributed to variation in electricity demand. Geothermal power plants in Kenya are operated as base load facilities. Figure 3.3 presents a trend in geothermal energy generation over a five-year period.

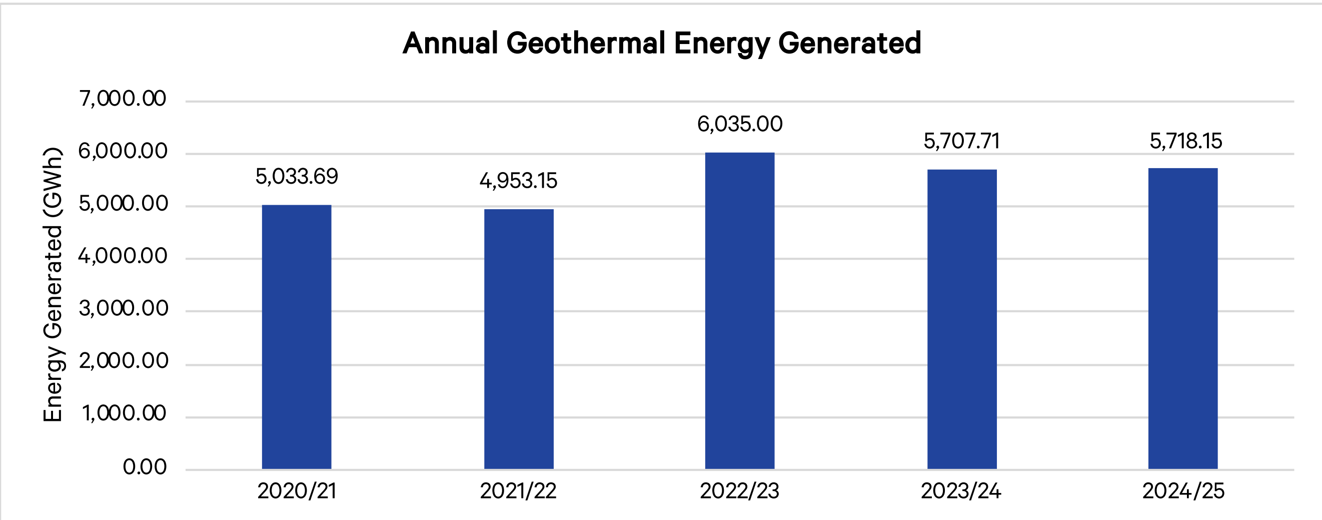


Figure 3.3: A trend of geothermal energy generated from the financial year 2020/2021 to 2024/25

In the financial year, 5,718.15 GWh of electricity was generated from geothermal sources accounting for 39.51% of electricity demand. There was a marginal increase in geothermal energy generated by 0.18% in the period under review as compared to the previous review period.

3.2.2 Hydro Power

Kenya's installed hydro capacity as of June 2025 was 872.5 MW comprising of 839.3 MW of interconnected capacity, 33 MW of captive capacity and 0.1 MW of off grid capacity. Figure 3.4. illustrates the hydro energy generated over the period under review.

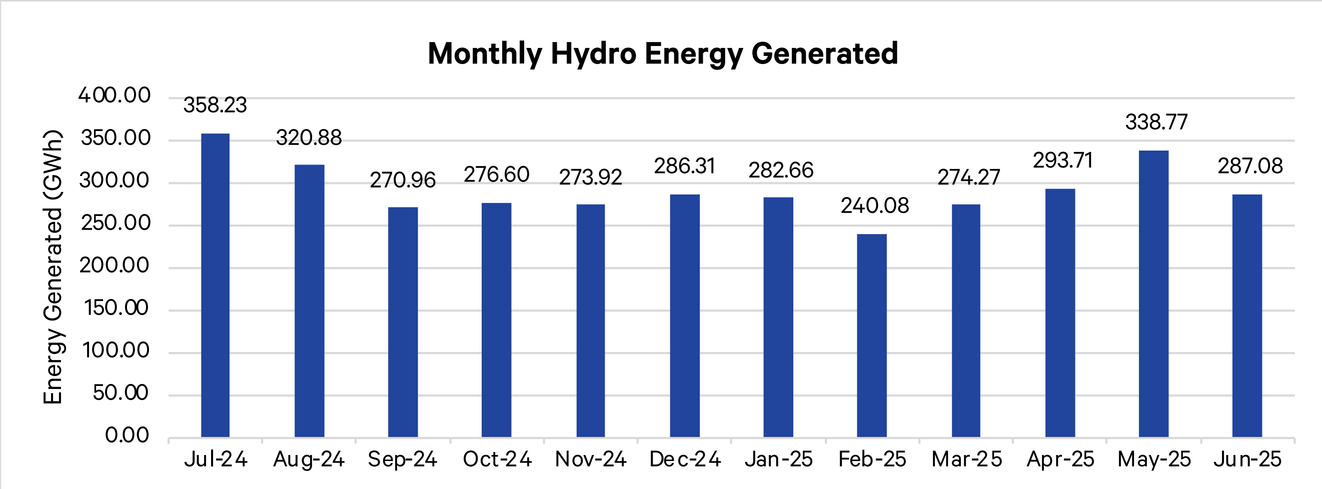


Figure 3.4: A trend of the hydro energy generated per month during the financial year 2024/25

Hydro energy generation closely reflects rainfall patterns and electricity demand. High hydro generation usually occurs during the long rains between April and August. In the period under review, July had the highest energy generated at 358.23 GWh while February had the lowest at 240.08 GWh. The second half of the review period saw a fall in hydro energy generated by 3.94%.

Figure 3.5 presents a trend of hydro energy generation from the financial year 2020/21 to 2024/2025.

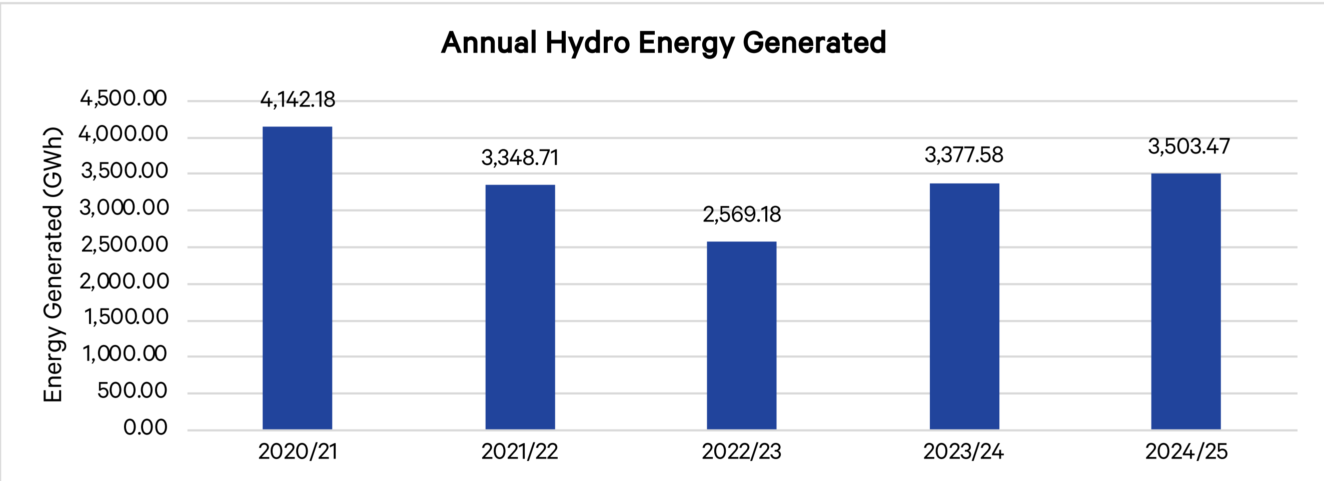


Figure 3.5: A trend of the hydro energy generated from the financial year 2020/21 to 2024/25

In the period under review, 3,503.47 GWh was generated from hydro projects accounting for 24.21% of total electricity generation. This was a marginal increase in hydro energy generated by 3.73% from the previous review period. The rise is attributed to better hydrology.

3.2.3 Wind Energy

The country's installed wind generation capacity remained constant at 436.1 MW. Figure 3.6 shows the monthly wind energy generation during the review period.

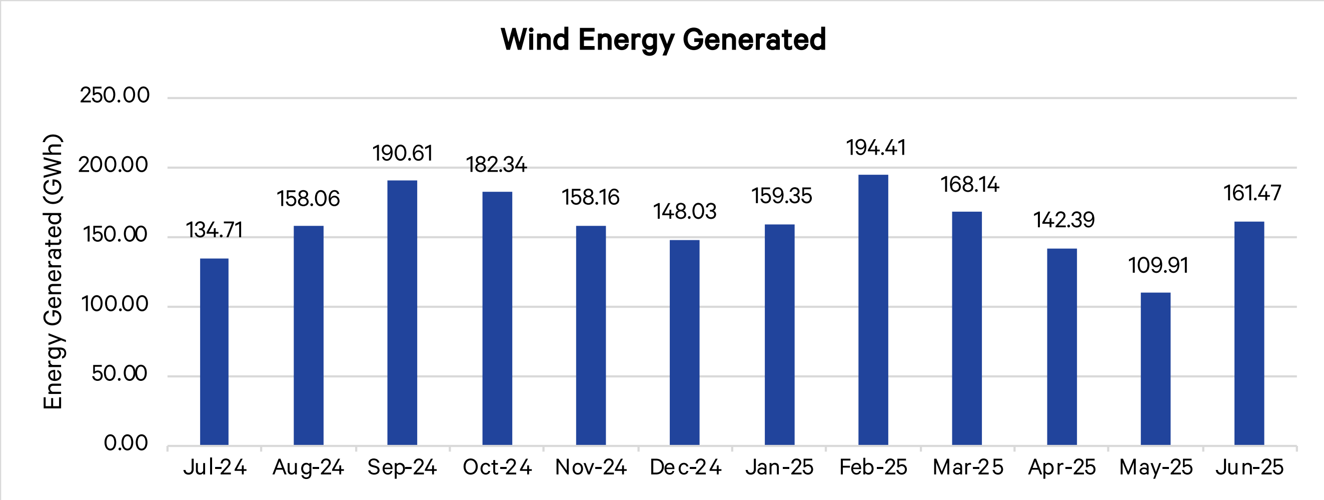


Figure 3.6: A trend of the monthly wind energy generation during the financial year 2024/25

February had the highest wind generation at 194.41 GWh while May had the lowest wind energy generated at 109.91 GWh. The variations in wind generation are attributed to wind resource patterns which have an inverse correlation with rainfall patterns. Periods of heavy rainfall such as May have low wind speeds.

The trend of annual wind energy generated from the financial year 2020/21 to 2024/25 is presented in figure 3.7.

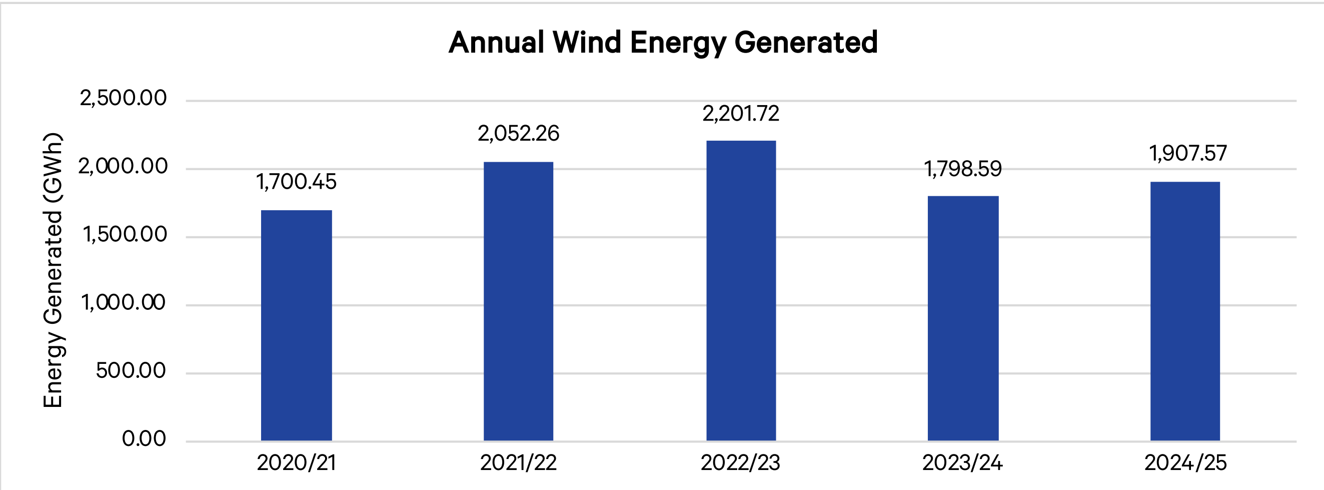


Figure 3.7: A trend of the annual wind energy generation from the financial year 2020/21 to 2024/25

Wind energy contributed 1,907.57 GWh to the interconnected grid during the period under review, constituting 13.18 % of the country's total electricity mix. The wind energy generated increased by 6.06% from 1,798.59 GWh in the previous review period.

3.2.4 Solar Energy

As of June 2025, Kenya's solar installed capacity was 514.1 MW, comprising 210.3 MW of utility scale capacity, 300.5 MW of captive capacity and 3.9 MW of off grid capacity.

Kenya has five utility scale solar photovoltaic plants with a combined capacity of 210.3 MW. The solar plants include Garissa Solar (50 MW) Selenkei (40 MW), Cedate (40 MW) Alten (40 MW) and Malindi Solar (40 MW). Figure 3.8 displays the monthly solar energy generated by these plants

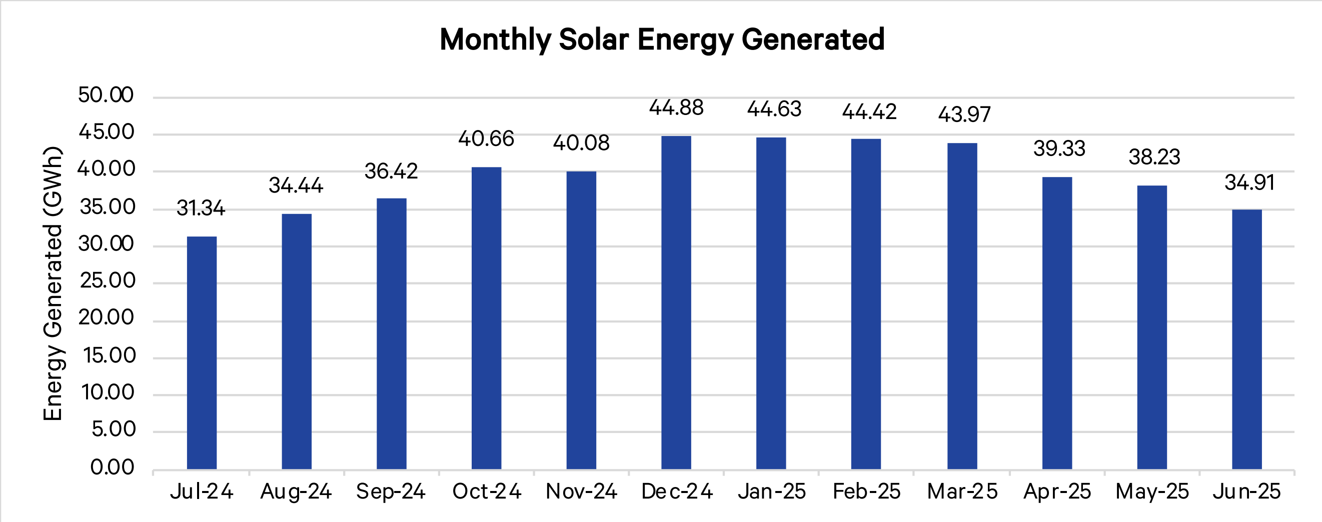


Figure 3.8: A trend of the monthly solar energy generation during the financial year 2024/25

The solar energy generated varied from 31.34 GWh in July 2024 to 44.88 GWh in December 2024. The fluctuations in energy generation are attributed to variations in solar insolation. Energy generation increased in the second half of the review period by 7.76 % due to high solar insolation between December 2024 and March 2025. Figure 3.9 presents a trend in utility scale solar energy generation over a five-year period.

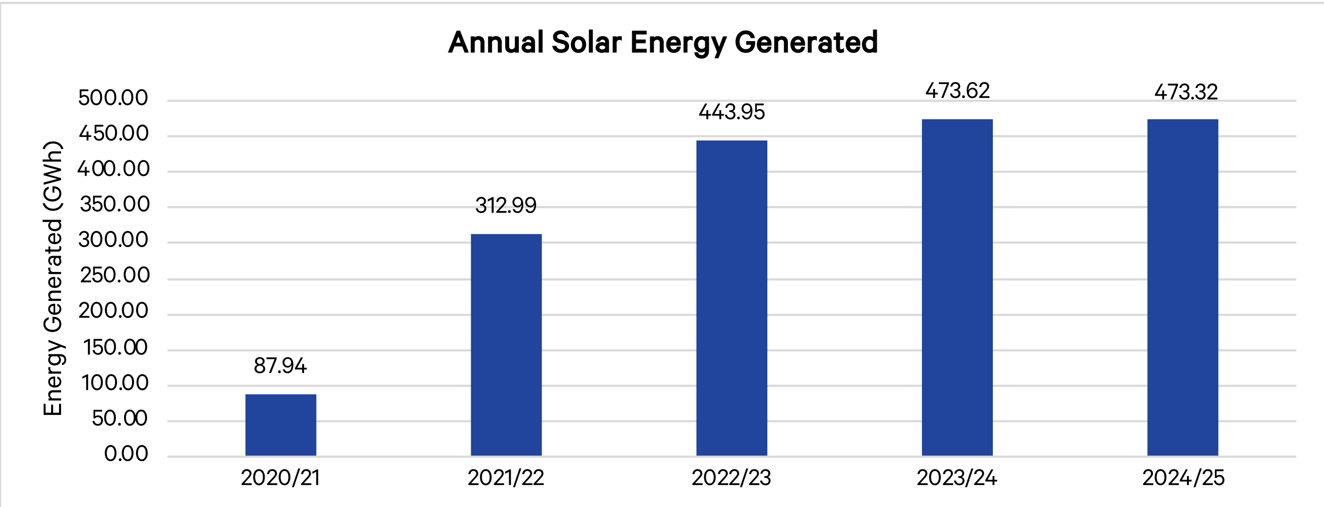


Figure 3.9: A trend of the annual solar energy generation from the financial year 2020/21 to 2024/25

In the period under review 473.32 GWh was generated from utility scale solar systems accounting for 3.27% of the country's electricity demand. This was a slight decrease of 0.06% from the previous review period.

Solar photovoltaic systems make the highest contribution to the country's captive generation capacity at 300.5 MW, which accounts for 49.76 % of the total captive capacity. The review period saw additions in captive capacity of 71.3 MW. The preference for this technology can be attributed to several factors, including the ease of setup, advantageous solar insolation levels in many regions, cost-effectiveness in terms of energy production, and supportive government policies.

3.2.5 Bioenergy

Bioenergy refers to sustainable energy derived from organic matter and can take various forms such as firewood, biochar, briquettes, bagasse, biogas, syngas, bioethanol, and biodiesel. In Kenya, these diverse forms of bioenergy find applications in open-fire cooking, improved cook stoves, industrial biomass boilers, furnaces, internal combustion engines, lighting lamps, and electricity generation. Notably, bioenergy constitutes the most substantial portion of final energy consumption in Kenya.

As of June 2025, the installed capacity for electricity generation from bioenergy was 163.8 MW, comprising 161.8 MW of captive capacity and 2 MW of grid-interconnected capacity.

4 OTHER ENERGY SOURCES

4.1 Electricity Imports

Kenya imports 200 MW of electricity from Ethiopia Electric Power Company (EEP) and has energy exchange contracts with Uganda Electricity Transmission Company Limited (UETCL) and Tanzania Electricity Supply Company (TANESCO). The energy exchange contract between KPLC and TANESCO was approved during the period under review. These contracts allow Kenya to obtain competitively priced renewable energy from its neighbors while increasing the interconnected grid's reliability. Figure 4.1 displays the monthly electricity imports over the review period.

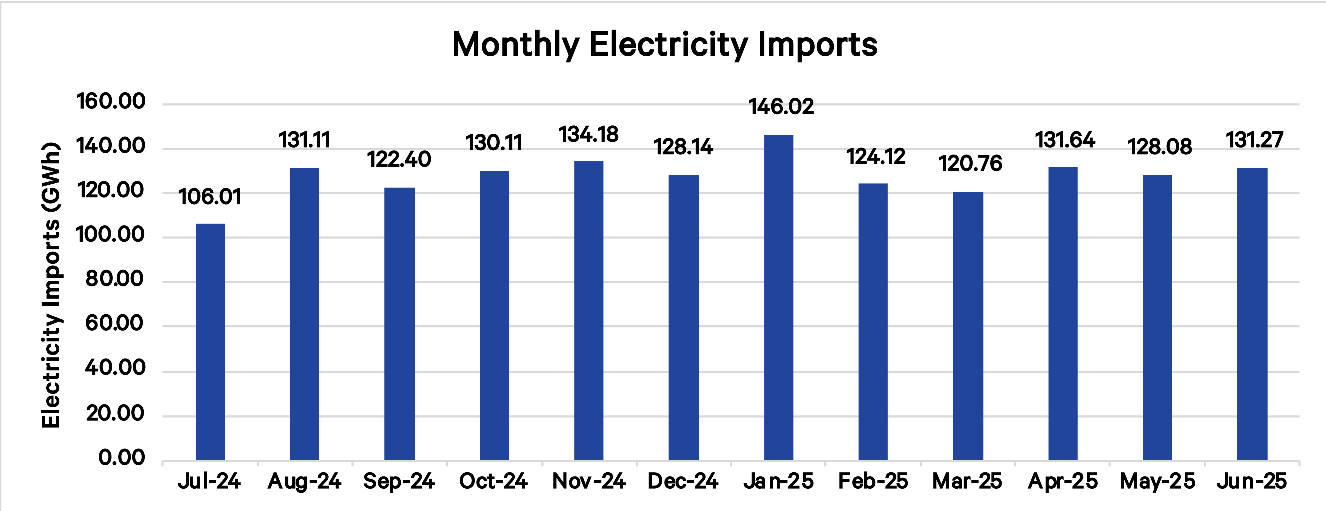


Figure 4.1: Monthly Electrical Energy Imports during the financial year 2024/25

The highest electricity imports were in January 2025 at 146.02 GWh, while the lowest were recorded in July 2024 at 106.01 GWh. The monthly variations in electricity imports are attributed to changes in electricity demand. Figure 4.2 provides a trend of the electricity imports from the financial year 2020/2021 to 2024/2025.

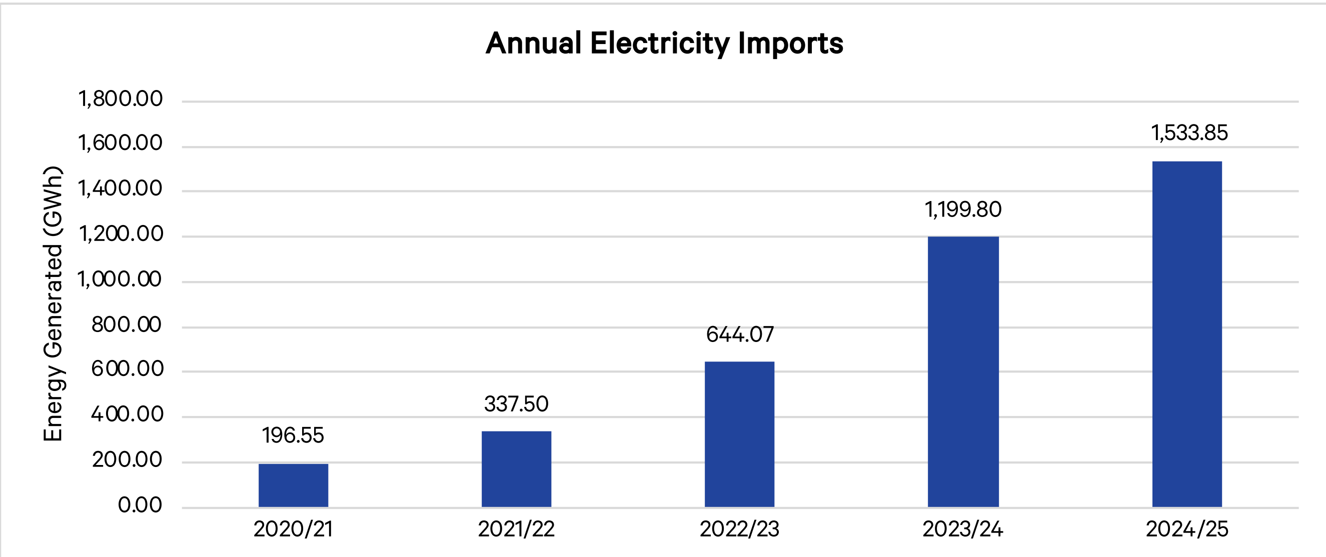


Figure 4.2: A trend of the electricity imports from the financial year 2020/21 to 2024/25.

In the period under review, Kenya imported 1,533.85 GWh of electricity accounting for 10.60 % of the country's energy mix. Electricity imports had the highest increase amongst the electricity supply sources rising by 27.84 % from the previous review period. This increase is attributed to the fact that this period marked the first complete year of the full commercial operation of the power purchase agreement between EEP and KPLC.

4.2 Thermal Energy

Kenya has an installed thermal capacity of 564.8 MW, 512.8 MW of Medium Speed Diesel and 52 MW of gas turbines. Thermal energy resources are utilized to meet peak demand, for voltage support and to counter the intermittence of variable renewable energy resources. The period under review saw a decrease in thermal capacity from 572.8 MW in the previous review period. Figure 4.3 shows the monthly energy generated from thermal sources.

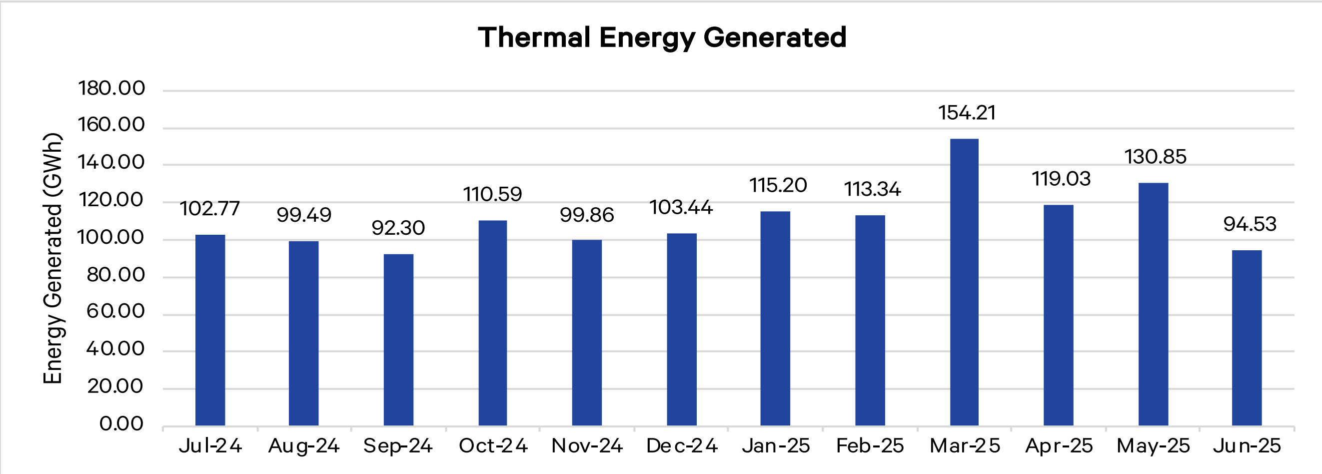


Figure 4.3: A trend of the monthly thermal energy generated during the financial year 2024/25

Thermal energy generation varied from 92.3 GWh in September 2024 to 154.21 GWh in March 2025. The high energy generation from thermal sources in March 2025 is attributed to lower generation from hydro and wind resources. Figure 4.4 shows the energy generation by thermal sources from the financial year 2020/2021 to the 2024/2025.

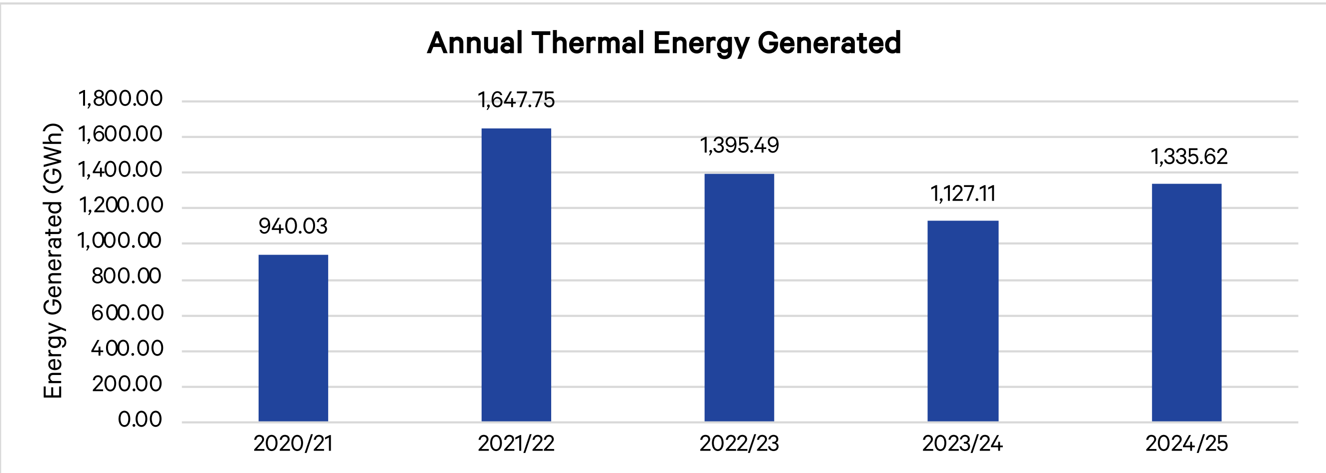


Figure 4.4: A trend of the thermal energy generated from the financial year 2020/21 to 2024/25

In the period under review, 1,335.62 GWh of energy was sourced from thermal energy sources, accounting for 9.23% of Kenya's electricity demand. This was an 18.5% increase from the 1,127.11 GWh generated in the previous review period attributed to higher demand at peak hours.

4.3 Coal

Coal deposits in Kenya were first documented in the 1940s in the Mui Basin, Kitui, with serious exploration efforts beginning in the late 2000s. While prospecting for other minerals, coal was also discovered in Kwale, Kilifi, Garissa, and Taita Taveta counties. Kenya has delineated 31 coal blocks for exploration, with the Mui Basin being the most advanced, having 62 exploratory wells drilled, with approximately 450 million tons of coal reserves in one block.

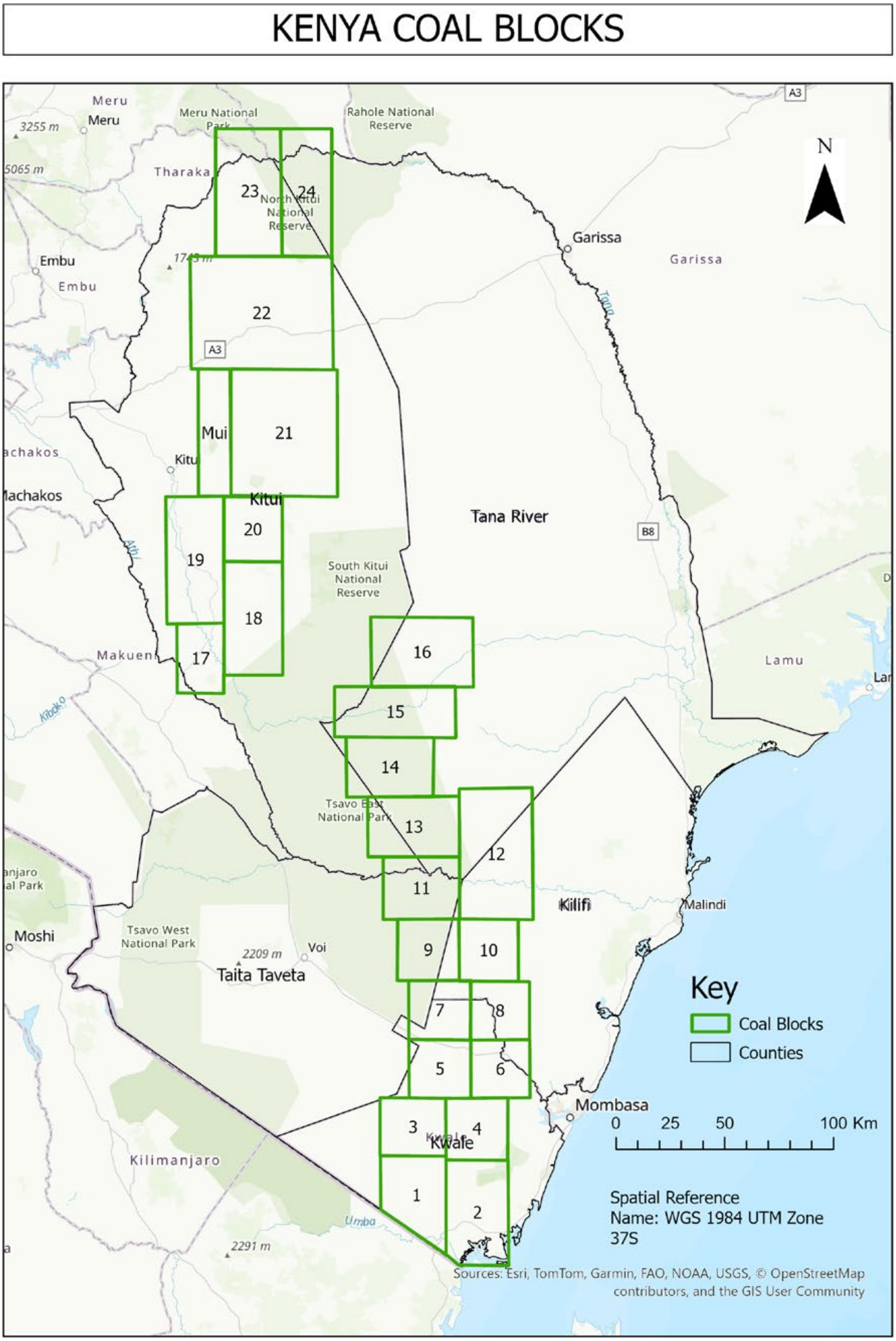


Figure 4.5: A map of coal basins in Kenya

Coal is a critical component of Kenya's energy landscape, primarily for industrial applications such as cement manufacturing, steel production and ceramics. Kenya imports approximately 2 million tonnes of coal annually to meet demand. Approximately 66.6% of these imports are consumed by cement industry, 28.9 % is consumed by steel industry, and the remaining 4.5% by the ceramics industry.

Most of the coal is imported from Tanzania, Mozambique and South Africa. Figure 4.6 illustrates the distribution of coal imports by source country in 2024.

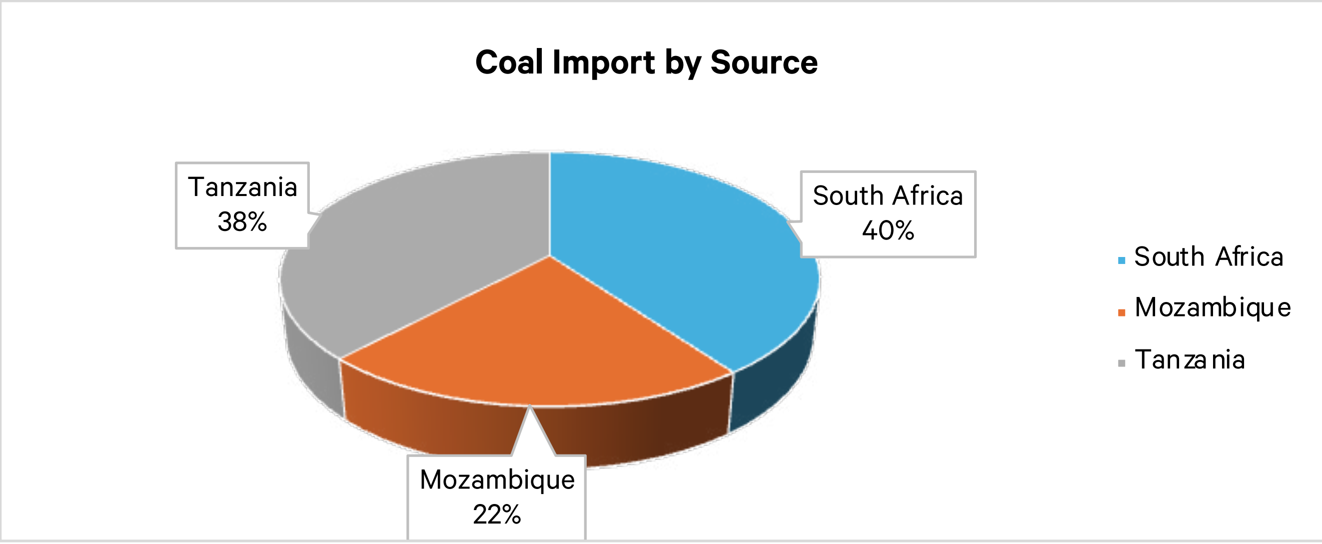


Figure 4.6: Distribution of coal imports by source country

5 ENERGY EFFICIENCY

The Authority has instituted two key regulations to promote energy efficiency: The Energy (Energy Management) Regulations, 2025 and the Energy (Appliances' Energy Performance and Labelling) Regulations, 2016.

The Energy (Energy Management) Regulations, 2025 were gazetted on 7th February 2025. These regulations aim to promote energy efficiency among industrial, commercial and institutional facilities with an energy consumption threshold of at least 180,000 kWh. The new regulations introduced obligations aimed at accelerating energy efficiency programs in the designated facilities. Key among the new provisions include: conducting energy audits and implementing conservation measures that achieve at least 50% of projected savings; establishment of energy performance benchmarks for various sectors; licensing of Energy Service Companies (ESCOs). These regulations reaffirm the Authority's commitment to promoting energy efficiency and supporting industries in identifying opportunities to reduce consumption and enhance competitiveness.

Based on their energy consumption, facilities are classified into three categories: small facilities, which consume less than 180,000 kWh; medium facilities, which consume between 180,001 kWh and 1,200,000 kWh; and large facilities, which consume more than 1,200,000 kWh. In the period under review, 237 facilities comprising of 49 small, 125 medium and 63 large energy consumers conducted energy audits. These audits identified estimated annual energy savings amounting to 115.14 GWh that can be achieved through implementation of recommended energy conservation measures.

The Energy (Appliances' Energy Performance and Labelling) Regulations, 2016, on the other hand, aim to ensure that the regulated electric appliances manufactured or imported into the country meet Kenya's Minimum Energy Performance Standards (MEPS). The regulated appliances are: household refrigerators, non-ducted air conditioners, motors and lamps. During the period under review, 330 appliance models were registered comprising of 226 household refrigerators, 103 air conditioners and 1 motor.

The Authority also issues energy efficiency labels for the registered appliances based on a star rating system. The star rating system range from 1 to 5 in the ascending order of energy efficiency, with 5 stars for the most efficient appliances.

Figure 5.1 presents the distribution, by star rating, of the household refrigerators models registered during the period under review.

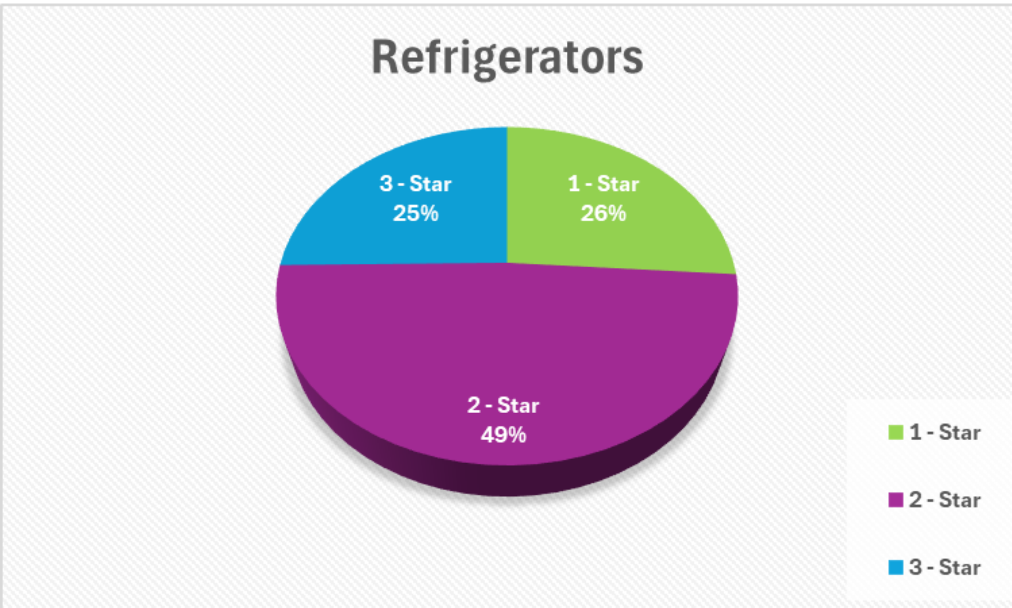


Figure 5.1: Distribution, by Star rating, of the registered household refrigerators models

As shown in figure 5.1, 2-Star rated refrigerator models constituted a majority of the models registered in the period under review. Fifty-nine 1-Star rated refrigerator models were registered accounting for 26.1% of the models registered. One hundred and ten 2-Star rated refrigerator models were registered accounting for 48.7% of the models registered. On the other hand, fifty-seven 3-Star rated refrigerator models were registered representing 25.2% of the models registered.

Figure 5.2 shows the distribution, by star rating, of non-ducted air conditioners (AC) models registered during the period under review.

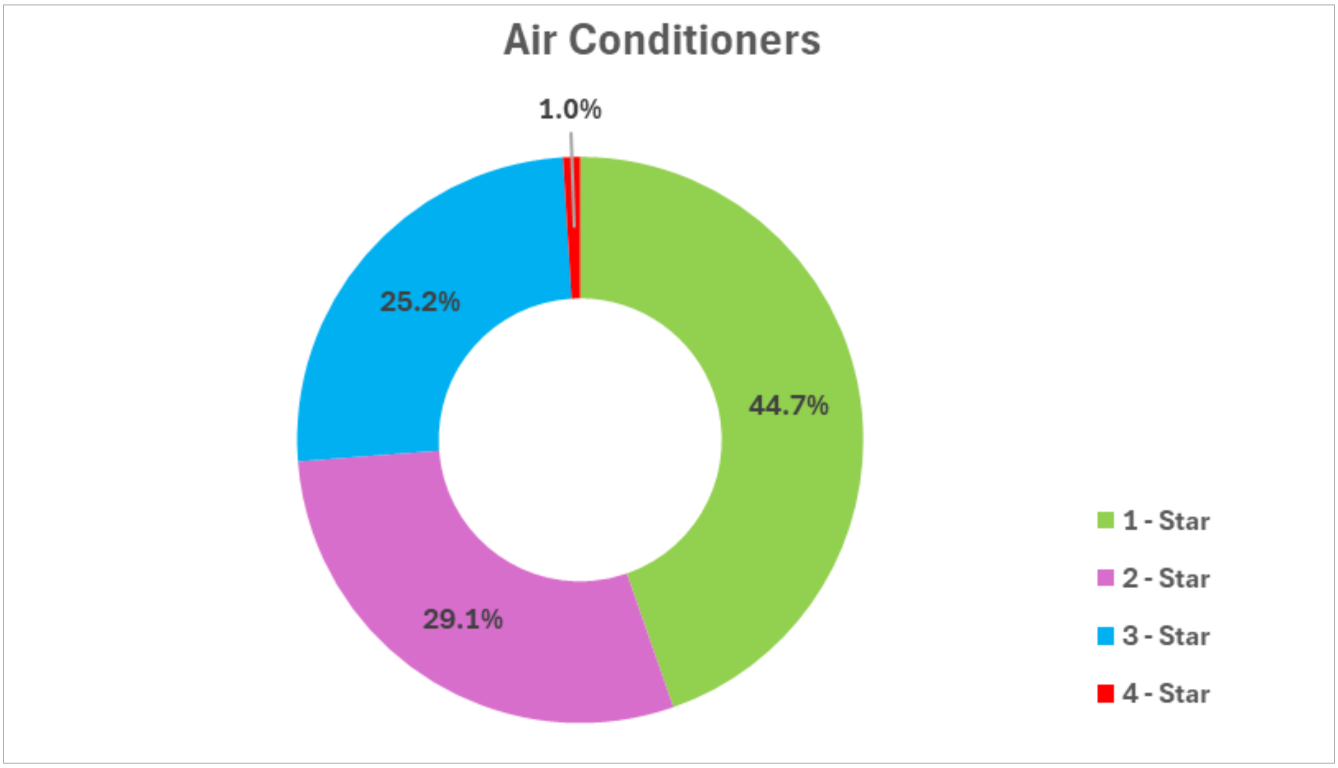
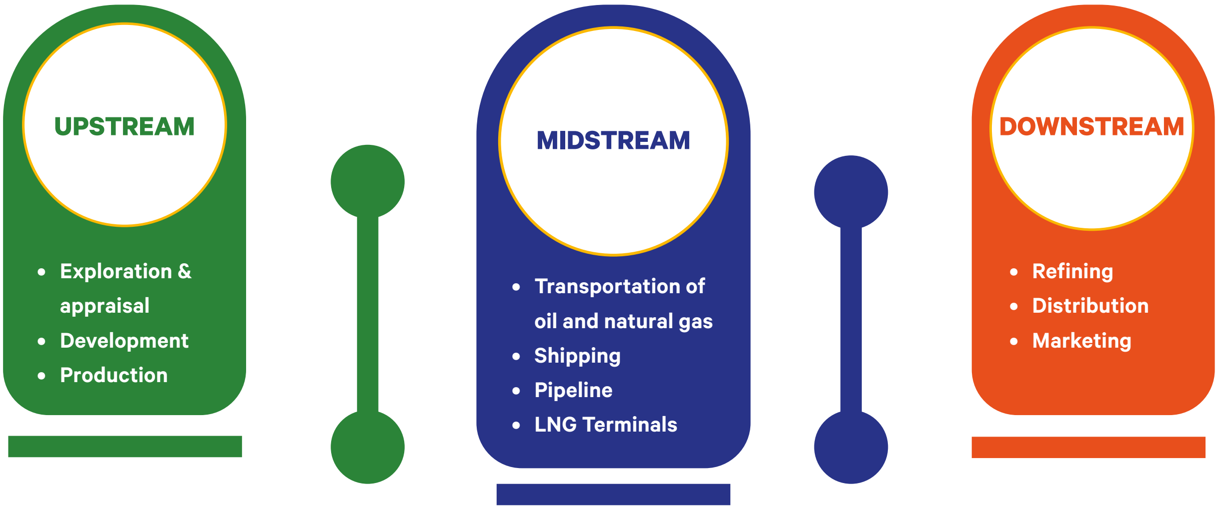


Figure 5.2: Distribution, by Star rating, of the registered non-ducted AC models

As illustrated in figure 5.2, 1-Star rated AC models were the dominant models registered during the period under review. A total of forty-six 1-Star rated AC models were registered accounting for 44.7% of all registered models. In addition, thirty 2-Star and twenty-six 3-Star rated AC models were registered, accounting for 29.1% and 25.2% of the registered models respectively. Only one 4-Star rated AC model was registered in the period under review.

6 PETROLEUM SUBSECTOR

The petroleum subsector comprises upstream, midstream and downstream petroleum segments.



This section presents a summary of the performance of the various segments entailing supply, domestic consumption, pipeline transport, pricing, and competition.

6.1 Upstream Subsector

Upstream Petroleum Operations involve all or any of the operations related to the exploration, development, production, separation and treatment, storage and transportation of petroleum up to the agreed delivery point. Such operations are undertaken at the initial stage of the petroleum value chain. The success of these operations is crucial for ensuring a steady supply of petroleum, which is essential for the energy security and economic development of Kenya. Exploration activities are active both onshore and offshore in Kenya.

To date ninety-four (94) exploration wells have been drilled by various oil exploration companies in the four sedimentary basins. The four sedimentary basins have a total surface area of 485,000 km2, encompassing the following:

- Lamu Basin: 261,000 km2
- Mandera Basin: 43,000 km2
- Anza Basin: 81,000 km2
- Tertiary Rift Basin: 100,000 km2

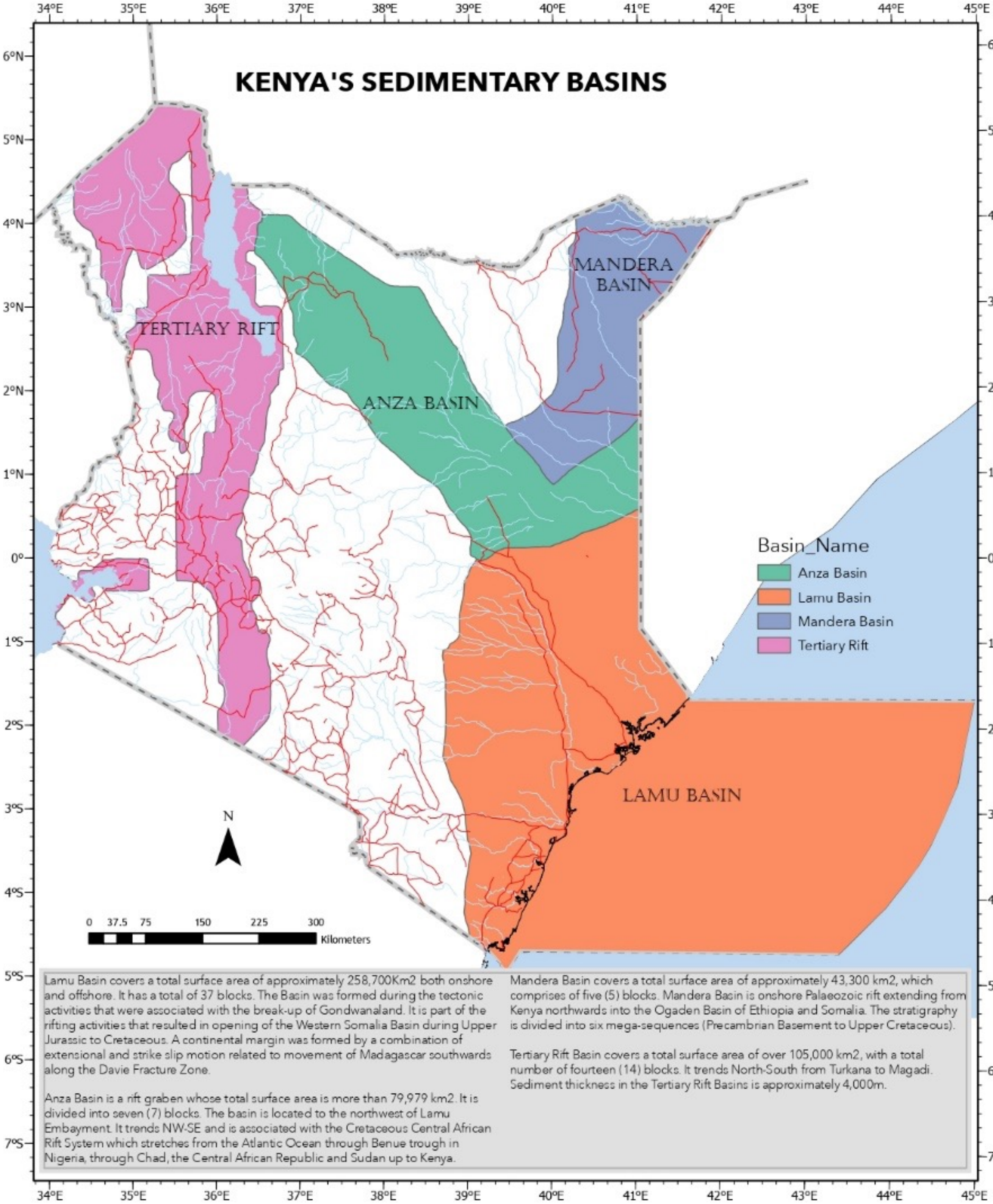


Figure 6.1: Sedimentary Basins in Kenya

The Ministry of Energy and Petroleum initiated a strategy to reconfigure Kenya's petroleum blocks, aligning it with exploration potential and best industry practices, to attract investment and promote exploration.

The Blocks were reconstituted in line with the requirements of Section 15(1) of the Petroleum Act, 2019 that provides for the Cabinet Secretary to, in consultation with the National Upstream Petroleum Advisory Committee, redefine the blocks by issuing a Gazette Notice. In reconstituting the blocks the following considerations were taken: -

1. Merging of low and medium prospectivity blocks to include at least one lead with sufficient probability of success and un-risked in place volumes;
2. Designing high prospectivity blocks to attract investors and prioritize them for licensing;
3. Optimizing block size to encourage prospect de-risking, lead identification and maturation;
4. For blocks in the transition zones, ensure sufficient continuity between onshore and offshore for ease of further Geoscientific data acquisition;
5. Sizes of the blocks are optimized to ensure work programs and budgets are manageable and achievable within the exploration periods to be provided in the Production Sharing Contracts (PSCs);
6. Enhanced exploration focus: The reconfiguration prioritized regions with sufficient geoscientific indicators of hydrocarbon presence;
7. Enhance data acquisition, processing and interpretation: Some currently gazetted blocks have limited geoscientific data, making them less attractive for exploration. These blocks were reconstituted by merging with areas of better prospectivity from other blocks and optimizing acreage for ease of data acquisition ranking, and;
8. Well results have shown varied outcomes, with some wells yielding limited or no commercial hydrocarbon shows. Based on these well results the acreage was redistributed into blocks that show more promising exploration potential.

The reconstitution of Kenya's petroleum exploration blocks yielded the following outcomes:

1. Optimized exploration blocks

The total number of exploration blocks was reduced from 63 to 50 ensuring optimum block sizes for effective exploration as shown in table 6.1 and figure 6.2. Block demarcation aligns with best petroleum industry practice to make Kenya's upstream sector more attractive to investors.

Table 6.1: Evolution of block number across all Basins

Basin	Current Number of Blocks	Proposed Number of Blocks
Tertiary Rift	13	12
Anza	8	6
Mandera	5	3
Lamu	37	29
TOTAL	**63**	**50**

2. Renamed exploration blocks

Renaming of blocks was based on best petroleum industry practice and features a prefix depending on the Basin's name appended to the block name for ease of identification.

3. Enhanced geological targeting

Tailored strategies were applied to each basin, ensuring focus on regions with sufficient geological indications of hydrocarbon presence. Integration of geoscientific data, including seismic data and well results, improved block boundary definitions and geological confidence.

4. Increased exploration potential

This included categorization of Lamu Basin blocks, as presented in table 6.2, to guide future production sharing contract negotiations.

Table 6.2: Categorization of Lamu Basin Blocks

Category	Blocks within the Category	Total No. of Blocks Within the Category
Onshore	L29, L28, L27, L26, L27, L24, L23, L13, L14, L12, L11	11
Transition	L9, L15, L22, L21	4
Offshore	L10, L6, L5, L1, L4, L7, L8, L3, L2, L18, L17, L16, L20, L19	14

The reconstitution resulted in creation of high-potential blocks, particularly in the transition zone and offshore Lamu and in Anza basin. Figure 6.2 shows a map of the reconstituted petroleum blocks.

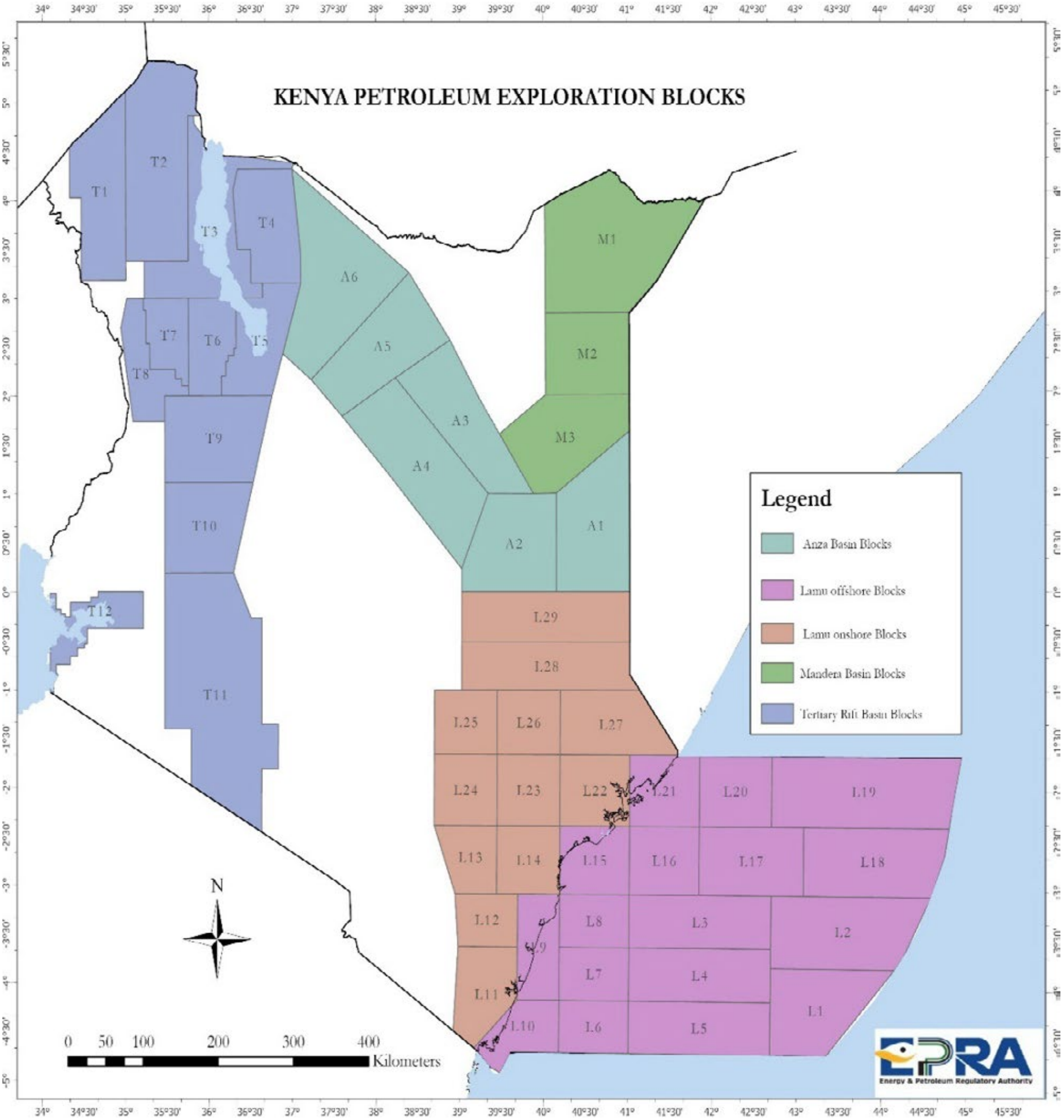


Figure 6.2: A map of petroleum exploration blocks

The government is working to accelerate the development of the fields in Block T6 (formerly Block 13T) and Block T7 (formerly Block 10BB). To enable this, the Authority is developing seven regulations that will guide upstream operations. The regulations cover aspects such as access to land, cost management, midstream crude oil and natural gas pipeline and storage operations, management and administration, local content and Environmental, Health and Safety (EHS).

6.2 Midstream and Downstream subsector

6.2.1. Petroleum supply

6.2.1.1. Petroleum Import Infrastructure

Petroleum products imported into the country are primarily received through the Kipevu Oil Terminal (KOT) II jetty. The jetty can handle up to 120,000 DWT. It is currently connected to three primary receiving terminals; Kipevu Oil Storage Facility (KOSF), Vitol Tank Terminal International Kenya (VTTI) and Kenya Petroleum Refineries Limited (KPRL). The Shimanzi Oil terminal (SOT) receives slightly smaller vessels of capacity up to 18,000 DWT and is connected to private terminals in Shimanzi.

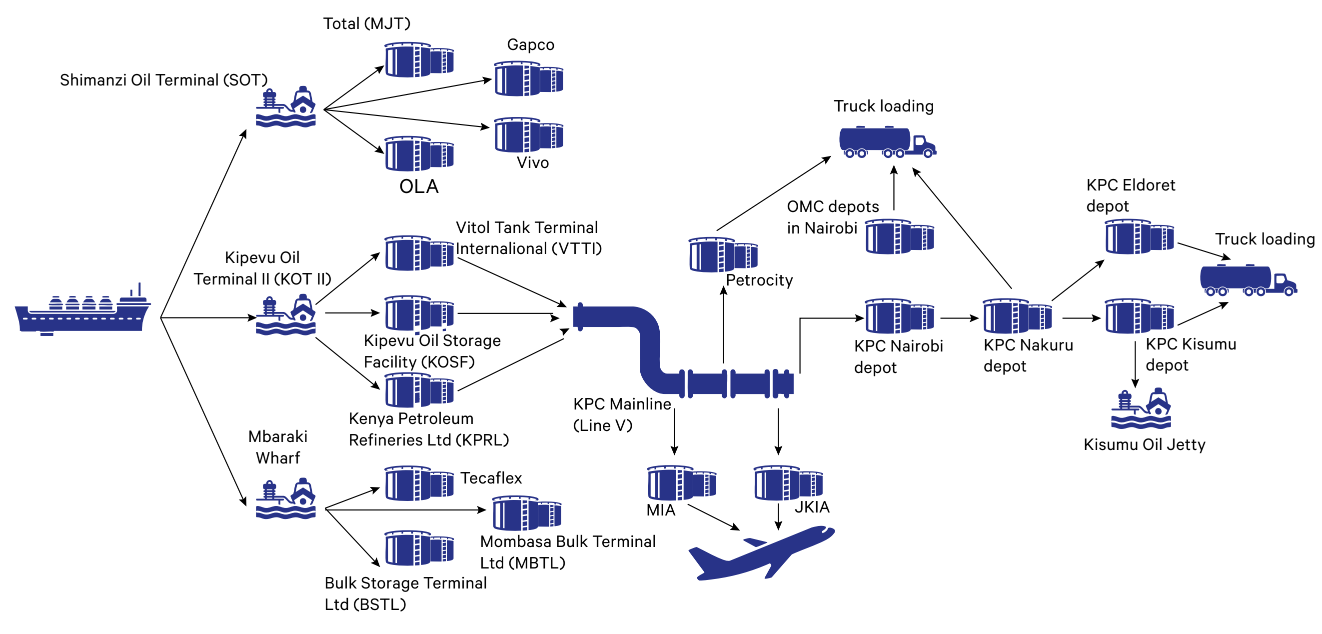


Figure 6.3: Downstream petroleum bulk supply and distribution infrastructure

The rehabilitation of Port Reitz tanks was completed in April 2025. This involved conversion of the existing crude oil tanks to store Automotive Gas Oil (AGO). Table 6.3 shows the capacity of bulk storage facilities within the Mombasa port.

Table 6.3: Bulk petroleum storage facilities within the Mombasa port

No.	Name of Facility	Capacity (Cubic meters)	Location
1.	KOSF	326,230	Kipevu
2.	KPRL	264,438	Changamwe
3.	VTTI Kenya Limited	111,057	Kipevu
4.	GAPCO Kenya Limited	105,000	Shimanzi
5.	Vivo Energy Kenya Limited	100,000	Shimanzi
6.	KPRL (Port Reitz)	100,000	Kipevu
7.	Total Energies Marketing PLC (MJT)	44,460	Shimanzi
8.	Ola Energy Kenya Limited	42,200	Shimanzi
9.	Mbaraki Bulk Terminal Limited	36,000	Mbaraki
Total Capacity		**1,129,385**	

6.2.1.2. Petroleum Imports

The Ministry of Energy and Petroleum coordinates the importation of petroleum products into the country. During the financial year under review, 9,756,761.15 cubic meters were imported.

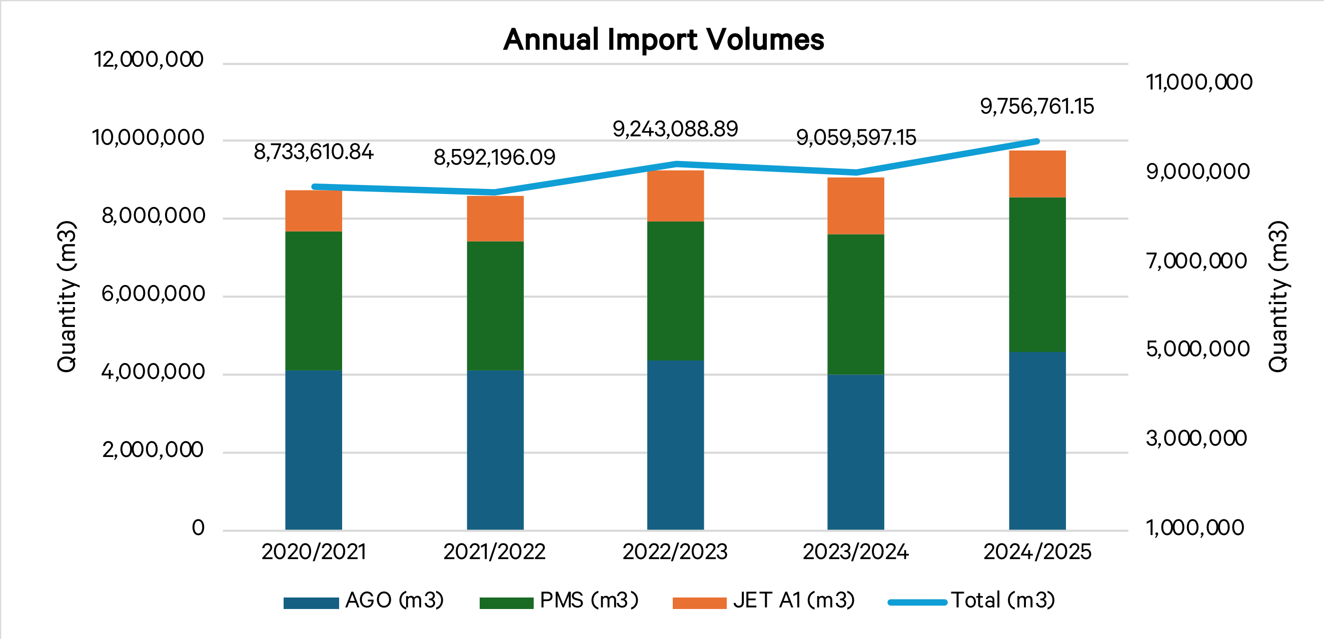


Figure 6.4: A trend of the petroleum import volumes from the financial year 2020/21 to 2024/25.

There was a 7.7% increase in the volumes imported compared to the previous financial year. This is attributed to increased demand locally and in the region. Overall, the share of volumes designated for domestic market consumption accounted for 55.01% of the total import volume. Figure 6.5 shows a comparison of the monthly local and transit volumes.

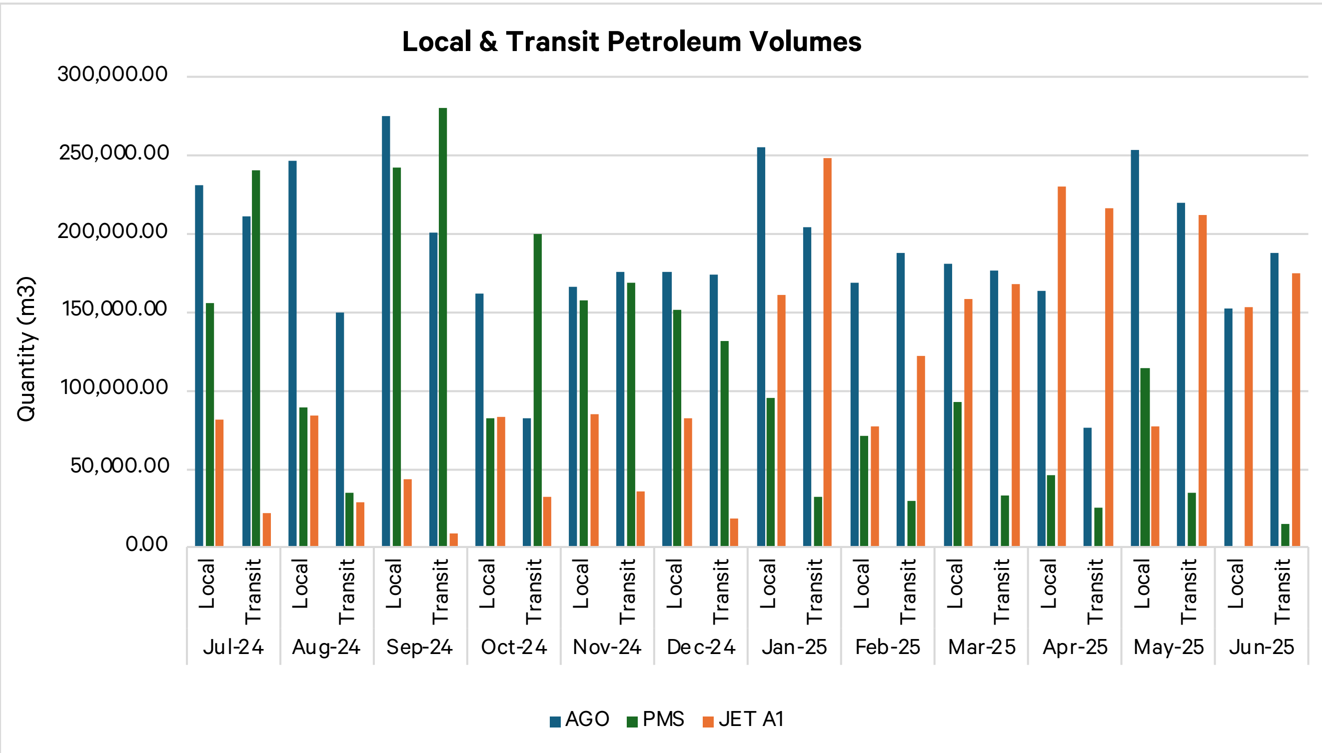


Figure 6.5: A comparison of the monthly local and transit volumes during the financial year 2024/25

6.2.2. Petroleum Demand

6.2.2.1 Domestic Petroleum Consumption

The total domestic demand for petroleum products increased by 6.94% to 5,839,464.78 m3 compared to the previous financial year. The increased consumption can be attributed to a slight decline in petroleum prices both locally and internationally during the period as well as heightened economic activities. Figure 6.6 shows the demand trajectory during the period under review.

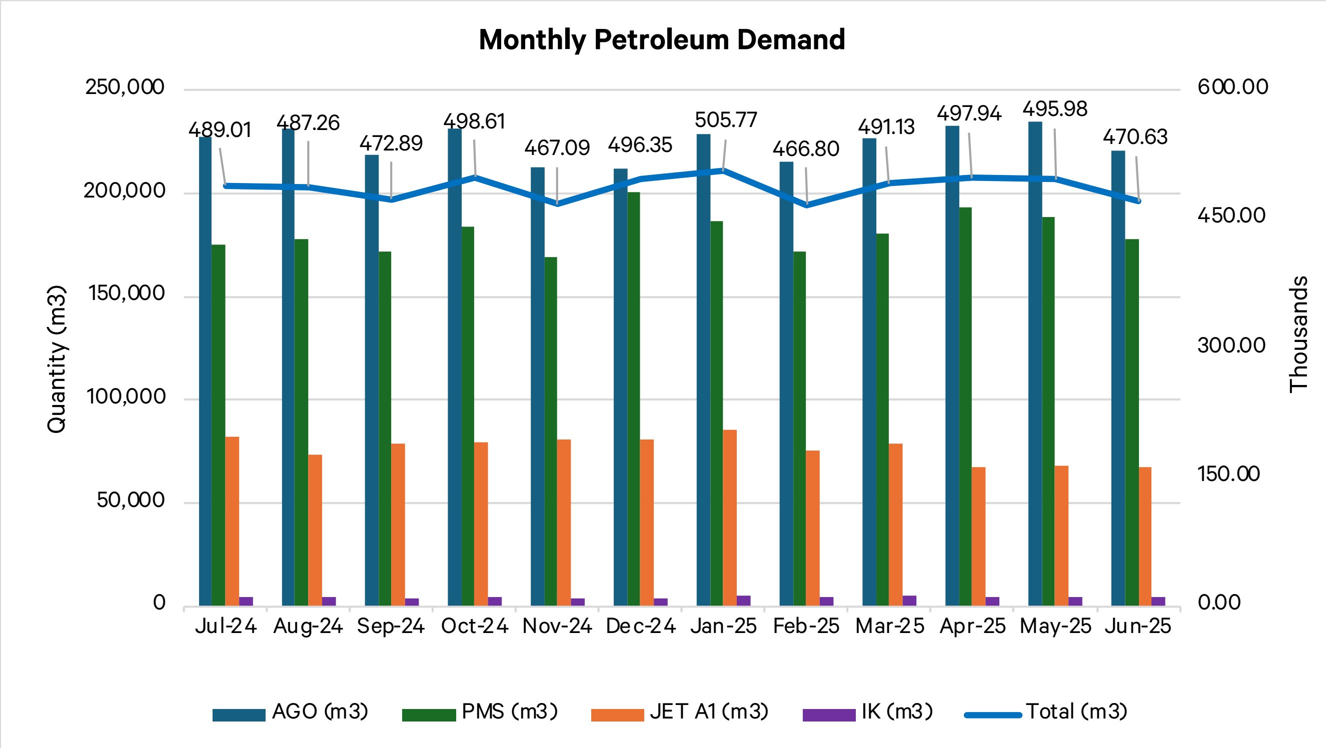


Figure 6.6: A trend of the monthly demand during the financial year 2024/25

The demand for petroleum products remained consistent throughout the review period, with peak consumption in January 2025.

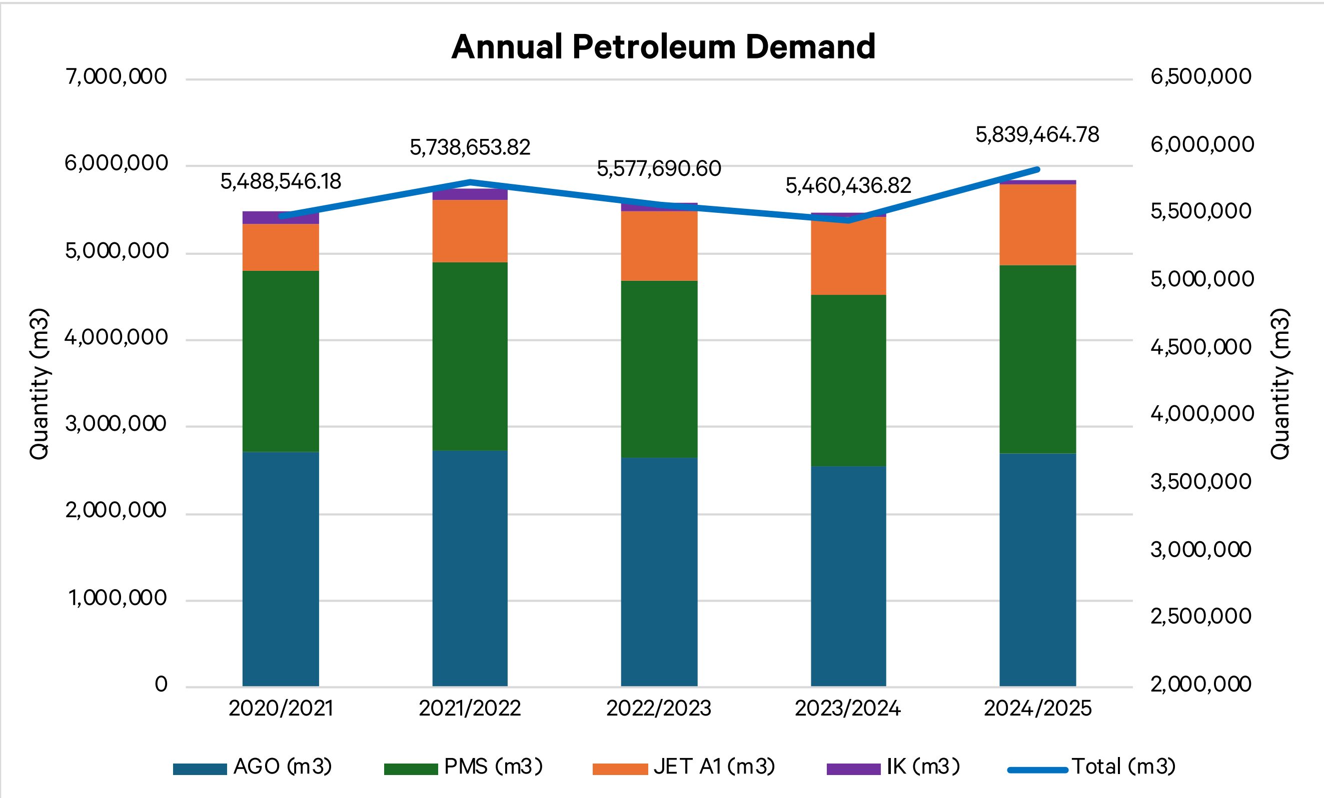


Figure 6.7: A trend in the annual demand for petroleum products from the financial year 2020/21 to 2024/25

6.2.2.2 Pipeline Throughput

The Kenya Pipeline Company (KPC) transports petroleum products from the receiving terminals in Mombasa to the hinterland. During the period under review there was a capacity enhancement on the Nairobi – Eldoret pipeline (line 4) improving its flow rate from 311 m3/hour to 510 m3/hour. Table 6.4 shows the pipeline infrastructure and design flow rates.

Table 6.4: Pipeline infrastructure and design flow rate

Pipeline	Pipeline Diameter (Inches)	Pipeline length (Kilometers)	Flow rate (m3/ hour)
Nairobi – Sinendent – Eldoret pipeline (Line 2)	8/6	325	220
Sinendet – Kisumu pipeline (Line 3)	6	121	140
Nairobi – Eldoret pipeline (Line 4)	14	325	510
Mombasa – Nairobi pipeline (Line 5)	20	450	1,300
Sinendet – Kisumu pipeline (Line 6)	10	121	280

The overall pipeline throughput statistics for the period under review are indicated in figure 6.8.

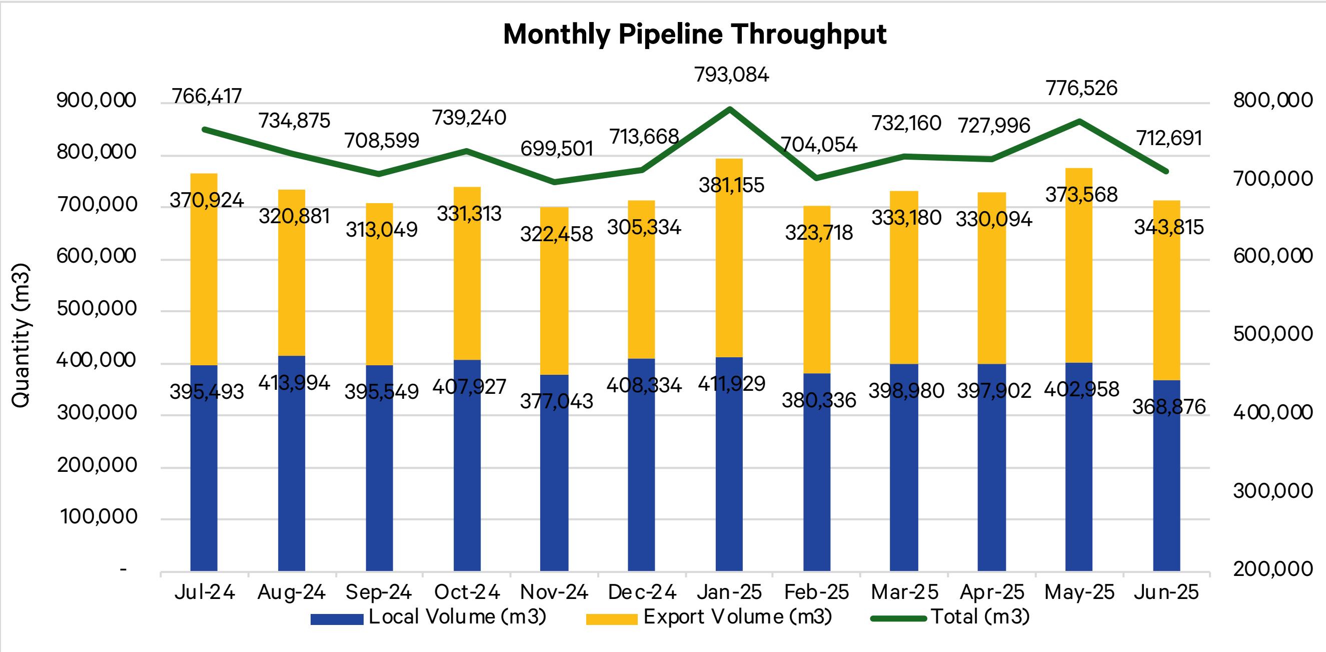


Figure 6.8: A trend of the pipeline throughput during the financial year 2024/25

Figure 6.9 presents a trend of the pipeline throughput over the last five financial years.

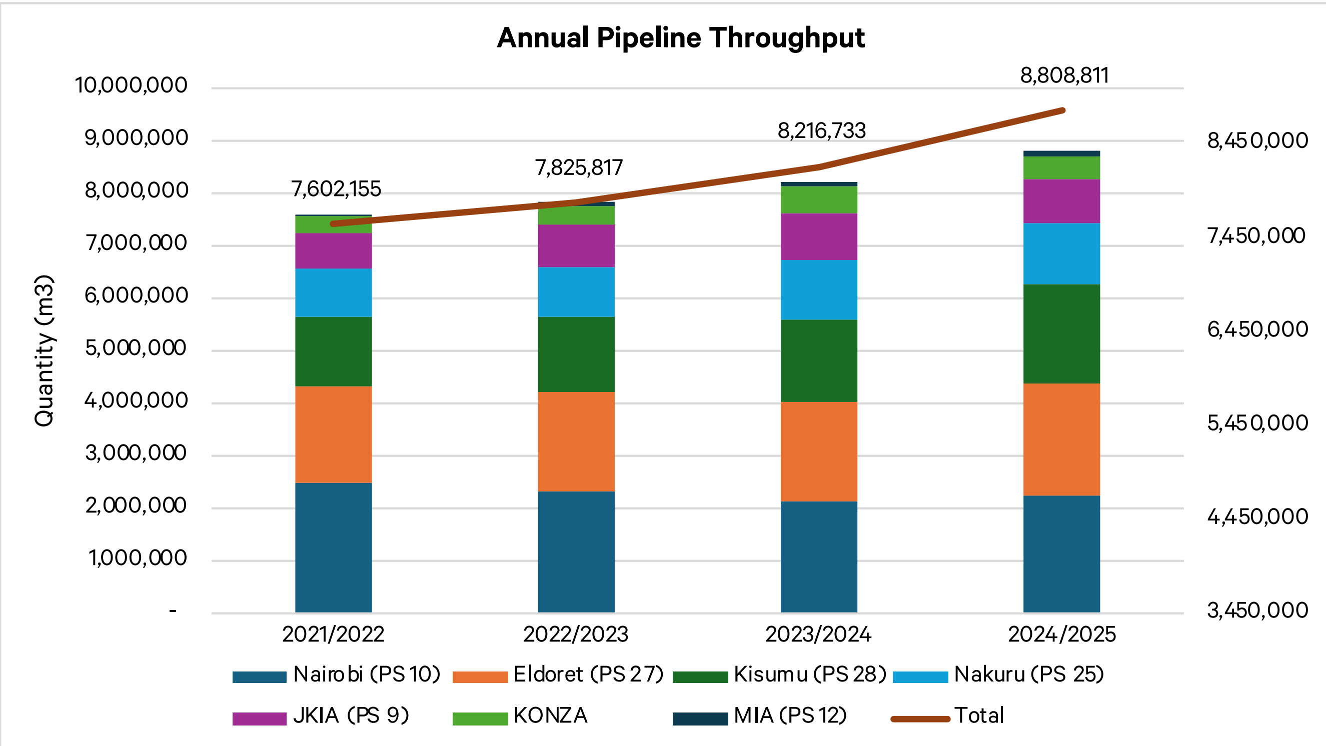


Figure 6.9: A trend of the pipeline throughput from the financial year 2021/22 to 2024/25

There was an increase in the pipeline throughout during the review period. This can be attributed to increased demand in the local and transit markets. Depots in Kisumu, Nakuru, Nairobi, Eldoret, Kisumu and Mombasa International Airport (MIA) recorded increased throughput during this period.

6.3 LPG Supply and Demand

6.3.1 LPG Import and Bulk Storage Infrastructure

During the period under review, LPG was imported through several routes, with most of it entering through the Mombasa port. Figure 6.10 shows a representation of the distribution of imports by route.

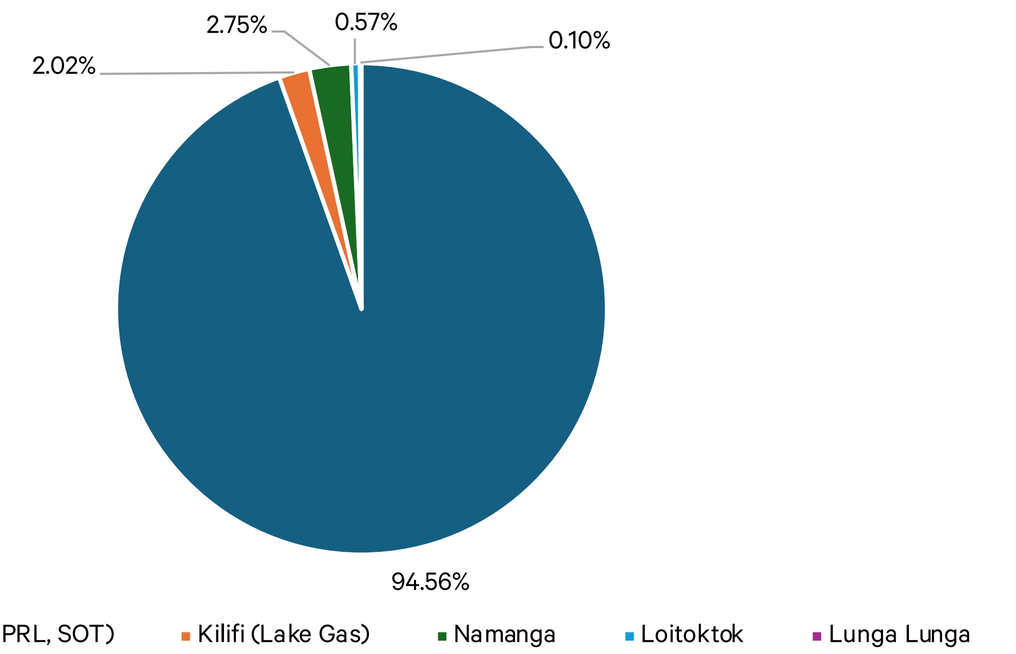


Figure 6.10: LPG imports routes

There are three (3) jetties; Shimanzi Oil Terminal (SOT), African Gas and Oil Company Limited (AGOL) and Lake Gas, which receive LPG into bulk storage facilities. AGOL has the largest bulk storage capacity of 25,000Mt followed by Lake Gas with a storage capacity of 10,000Mt. SOT connects to 5 LPG bulk storage facilities as indicated in table 6.5.

Table 6.5: Bulk LPG storage facilities connected to SOT

No.	Facility	Capacity (metric tons)	Location
1.	Kenya Petroleum Refineries Limited	1,195	Changamwe
2.	Vivo Energy Kenya Limited	50	Shimanzi
3.	Hashi Energy Limited	400	Changamwe
4.	Total Energies Marketing Kenya PLC	240	Changamwe
5.	OLA Energy Kenya Limited	450	Shimanzi
Total Capacity		**2,335**	

The total LPG import receiving infrastructure capacity within Mombasa and Kilifi currently stands at approximately 37,335 Mt.

There are 139 LPG bulk storage and filling plants distributed in various parts of the hinterland as indicated in table 6.6.

Table 6.6: Bulk LPG storage and filling facilities in the hinterland

No.	Region	No. of Facilities	Combined Capacity (metric tons)
1.	Nairobi	45	3,215
2.	Rift Valley	26	1063
3.	Central	25	964
4.	Eastern	19	592
5.	Coast	7	460
6.	Nyanza	8	412
7.	Western	5	104
8.	North Eastern	4	85
Total		**139**	**6,895**

6.3.2 Consumption of LPG

Demand for LPG increased by 15% from 360,594 metric tonnes in 2023 to 414,861 metric tonnes in 2024. The trend in the consumption of LPG is illustrated in the figure 6.11.

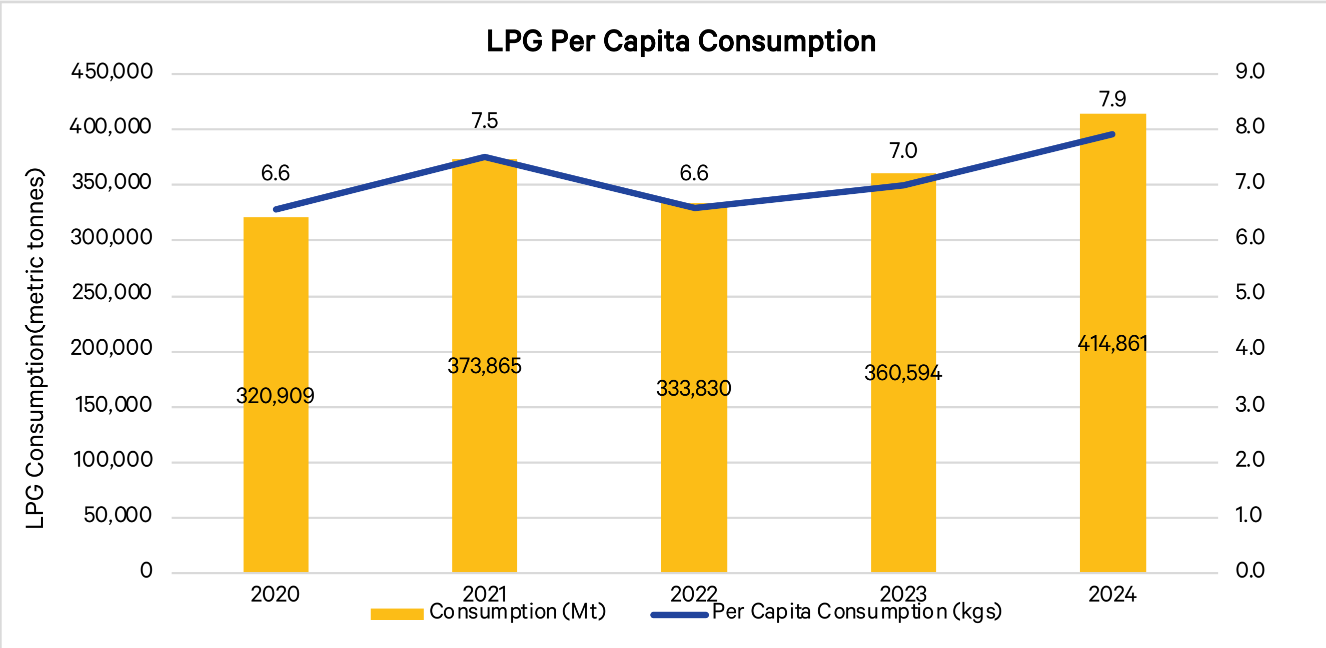


Figure 6.11: A trend in the Consumption of LPG (Metric Tonnes) and Per Capita Consumption of LPG (Kgs) from 2020 to 2025

The demand for LPG has been on an upward trend as a result of government policy incentives including the zero-rating of LPG. This demand is expected to grow further with the implementation of the National LPG Growth Strategy. The strategy stipulates the use of LPG in public learning institutions, reticulation in households and cylinder distribution to low-income households. Figure 6.12 shows the monthly trend in LPG consumption.

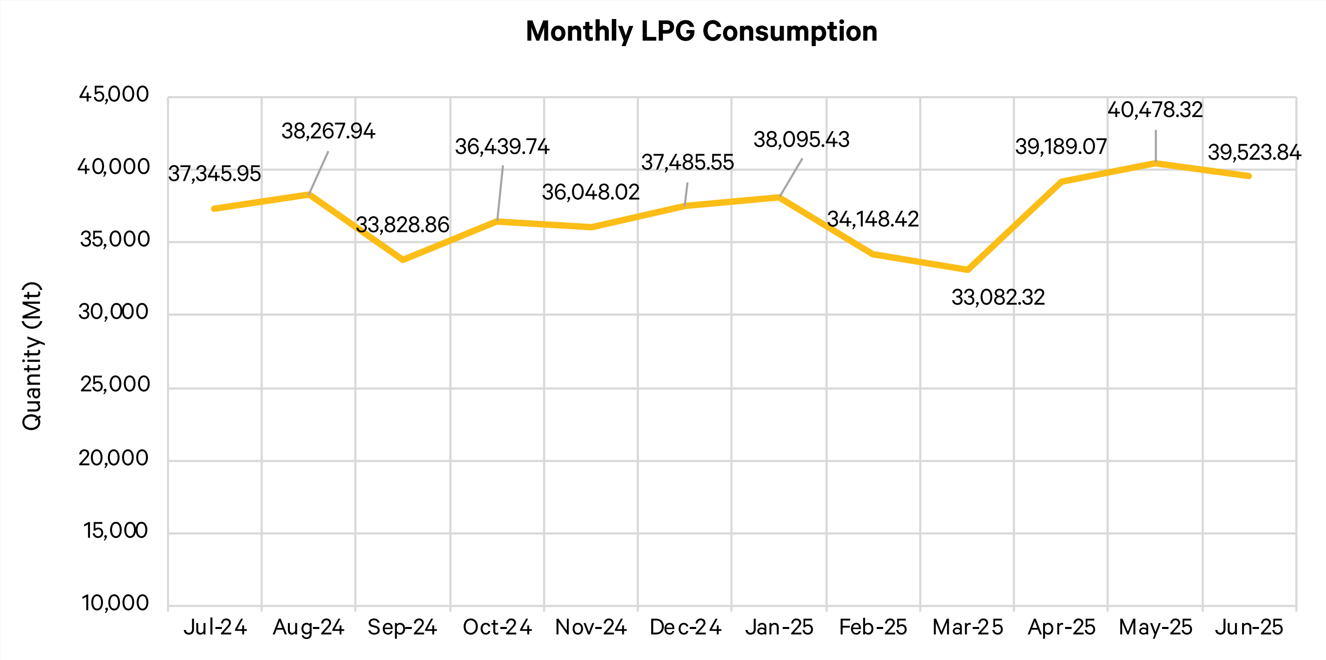


Figure 6.12: Monthly consumption of LPG (Metric tonnes) during the financial year 2024/25

6.4 Local and International Petroleum Prices

6.4.1 Evolution of International Crude Oil Prices

Figure 6.13 presents a trend of the Murban Crude Oil prices.

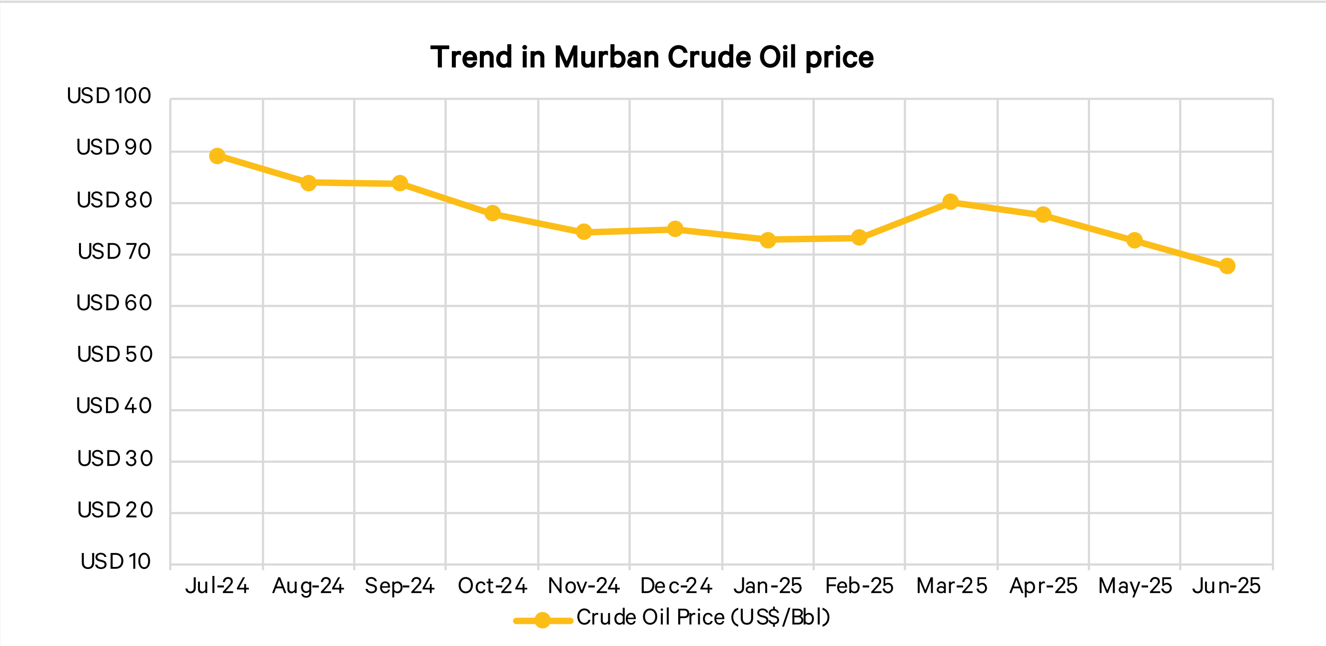


Figure 6.13: A monthly trend in the Murban Crude oil prices during the financial year 2024/25

Murban Crude Oil recorded a maximum price of $89.14/bbl in July 2024 and the lowest price of $67.73/bbl in June 2025. The price of crude was on a general downward trend during the period under review, which can be largely attributed to slower demand growth and increased OPEC+ production.

6.4.2 Local Retail Petroleum Prices

Fuel prices in Kenya are determined by factors such as landed costs, distribution costs, taxes and levies, demurrage costs and margins accrued by Oil Marketing Companies (OMCs). The Authority computes these costs and publishes monthly prices for super petrol (PMS), Diesel (AGO) and Illuminating Kerosene (IK) on the 14th day of every month.

Figure 6.14 shows the monthly trend of the Nairobi pump prices during the review period.

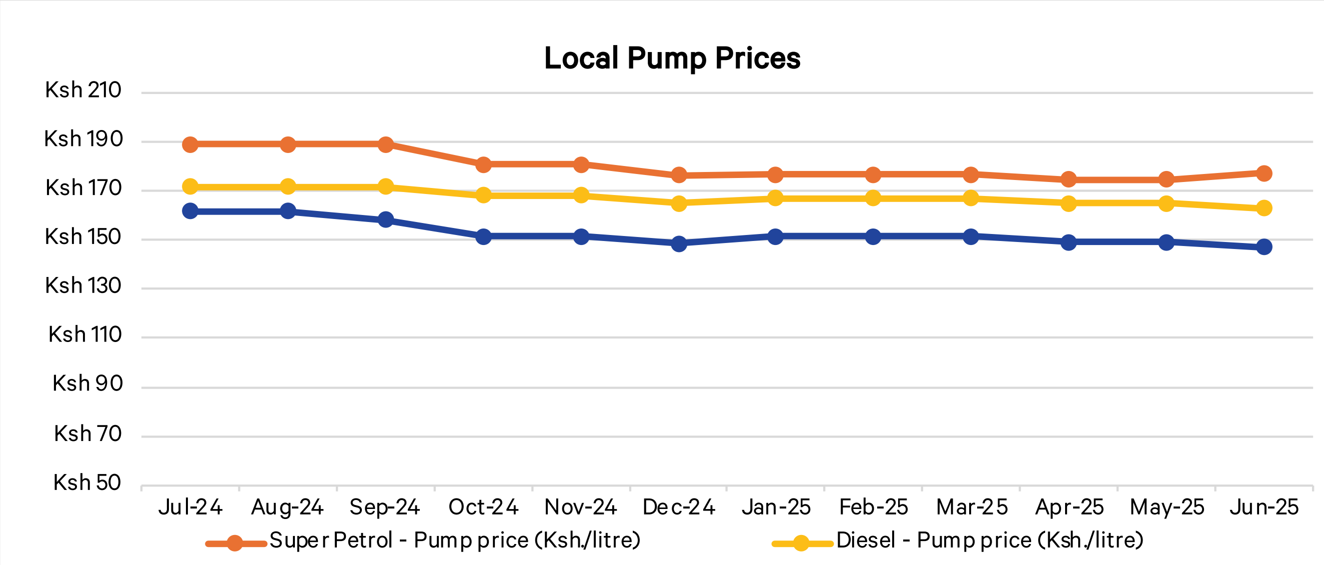


Figure 6.14: A monthly trend in the local petroleum pump prices for Nairobi during the financial year 2024/25

The highest prices were observed in July, August and September 2024 with PMS retailing at Ksh.188.84 per litre, AGO at Ksh. 171.60 per litre and IK at Ksh. 161.75 per litre. The lowest pump price for AGO was 162.91 per litre in June 2025. PMS and IK recorded the lowest retail prices in May 2025 at Ksh. 174.63 per litre and Ksh.146.93 per litre respectively.

6.5 Competition in the Petroleum Sector

6.5.1 Market Share

There were 146 registered OMCs as at June 2025, an increase from 140 in the previous financial year. These companies market AGO, PMS and dual purpose kerosene.

Table 6.7 presents the market shares of the OMCs during the review period.

Table 6.7: A summary of the OMCs' market share

OMC	Local sales volume for imported products (m3)	% Share
Vivo Energy Kenya Limited	1,214,553.77	20.80%
Rubis Energy Kenya Plc.	900,478.87	15.43%
TotalEnergies Marketing Kenya Plc.	866,102.80	14.84%
Ola Energy Kenya Limited	250,715.00	4.30%
Be Energy Limited	205,369.84	3.52%
Galana Energies Limited	187,095.01	3.21%
Hass Petroleum Kenya Limited	183,966.22	3.15%
Stabex International Limited	153,862.94	2.64%
Lake Oil Limited	112,301.62	1.92%
Dalbit Petroleum Limited	104,457.89	1.79%
Petro Oil Kenya Limited	101,986.00	1.75%
Tosha Petroleum (Kenya) Limited	96,541.99	1.66%
Zacosia Trading Limited	92,260.47	1.58%
Aftah Petroleum(K) Limited	90,584.00	1.55%
Towba Petroleum Company Limited	86,557.43	1.48%
Astrol Petroleum Company Limited	78,174.55	1.34%
Gapco Kenya Limited	67,134.00	1.15%
Vitalac International Limited	65,974.81	1.13%
Oryx Energies Kenya Limited	65,665.29	1.13%
Others	915,682.26	15.85%
Total	**5,839,464.78**	**100%**

6.5.2 Herfindahl-Hirschman Index (HHI)

The HHI for the downstream petroleum subsector stood at 0.0981, a reduction from 0.1079 in the previous financial year, signifying reduced dominance of the top three players controlling approximately 51% of the market. The Authority continues to monitor competition within the sector to promote equity and fairness.

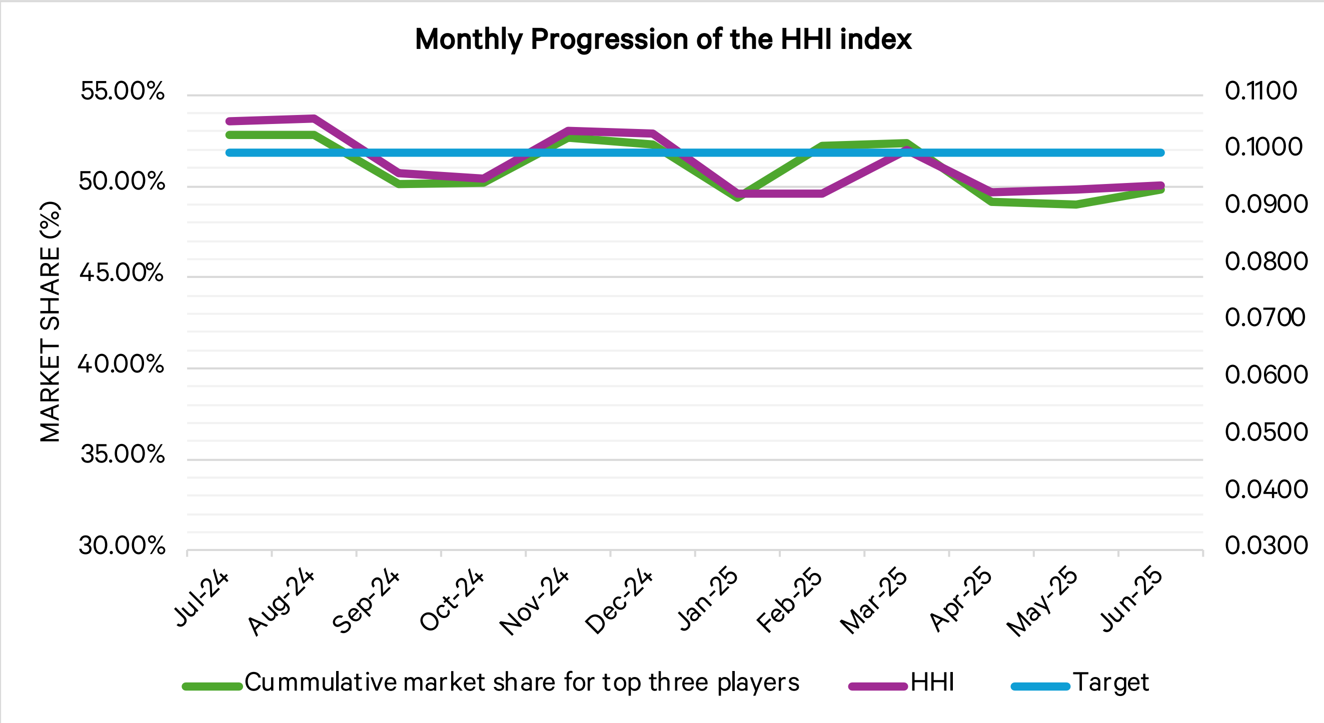


Figure 6.15: A monthly trend of the HHI index for the downstream petroleum subsector during the financial year 2024/25

7 KENYA'S ENERGY BALANCE

7.1 Structure of the Energy Balance for Kenya

Energy balance is a framework used to track and account for the flow of energy within a given geographical area in a specified period usually one year. It provides an overview of how energy is produced, transformed, distributed, and consumed within the country. It outlines the quantities of electricity generated, biomass produced, petroleum products and coal imported, energy lost and consumption by different sectors. For comparison across different energy sources, a common accounting unit, Tonne of Oil Equivalent (TOE) is used. Three core components describe the movement of energy from source to user: total energy supply, total indigenous production and final energy consumption.

7.2 Total Energy Supply

This component refers to the overall amount of energy available within a country for conversion such as electricity generation or refining for final consumption. It is calculated as indigenous production plus imports, minus exports and fuels supplied to international transport (bunkers), adjusted for stock changes. The total energy supply in the country stood at 33,851.73 Ktoe in 2024, a 3.09% increase from 32,836.46 Ktoe in 2023.

7.3 Indigenous Energy Production

This is the total amount of energy a country produces from its own natural resources before any processing or conversion. It covers all energy extracted within the national borders, including fossil fuels like crude oil and natural gas, as well as renewable sources. In Kenya, indigenous production is majorly from renewable sources particularly biomass, Geothermal, hydro, wind and solar.

In 2024, the country's indigenous energy production was 33,025.35085 Ktoe, an increase from 32,105.37 Ktoe in 2023. Most of this energy, 97%, was derived from biomass while the balance was produced from various renewable sources. Figure 7.1 illustrates the contribution of each primary energy source.

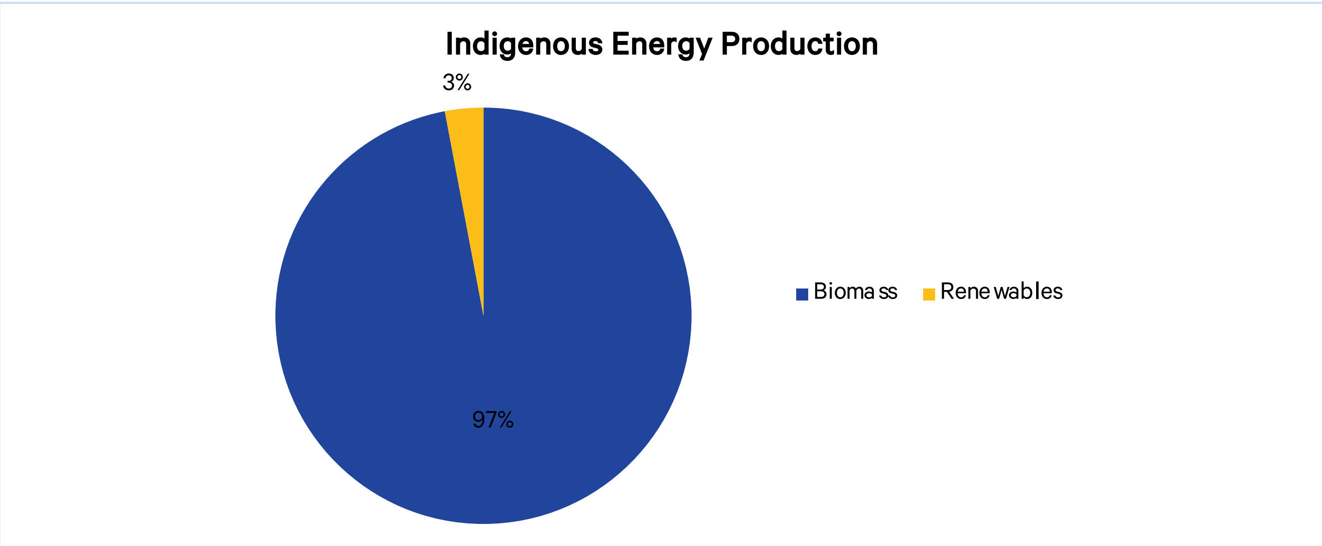


Figure 7.1: Total primary energy production in Kenya

7.4 Final energy consumption

This is the energy that is utilized by end-users after all conversion, transmission, and distribution losses are excluded. It captures the energy that directly powers economic and social activities. It covers the fuels and electricity households, industries and commercial sectors, transport, and agriculture use for heating, cooling, cooking, lighting, motive power, and production. Examples include LPG, firewood, charcoal, kerosene and electricity for household cooking, lighting, and appliances; diesel, petrol, and jet fuel for vehicles and domestic aviation; electricity, steam, or fuel oil for industrial machinery and processing; electricity and LPG for lighting, cooling, and catering in the service sector; and diesel or electricity for tractors, pumps, and other agricultural operations. Figure 7.2 presents the trend in the total final annual energy consumption from 2020 to 2024.

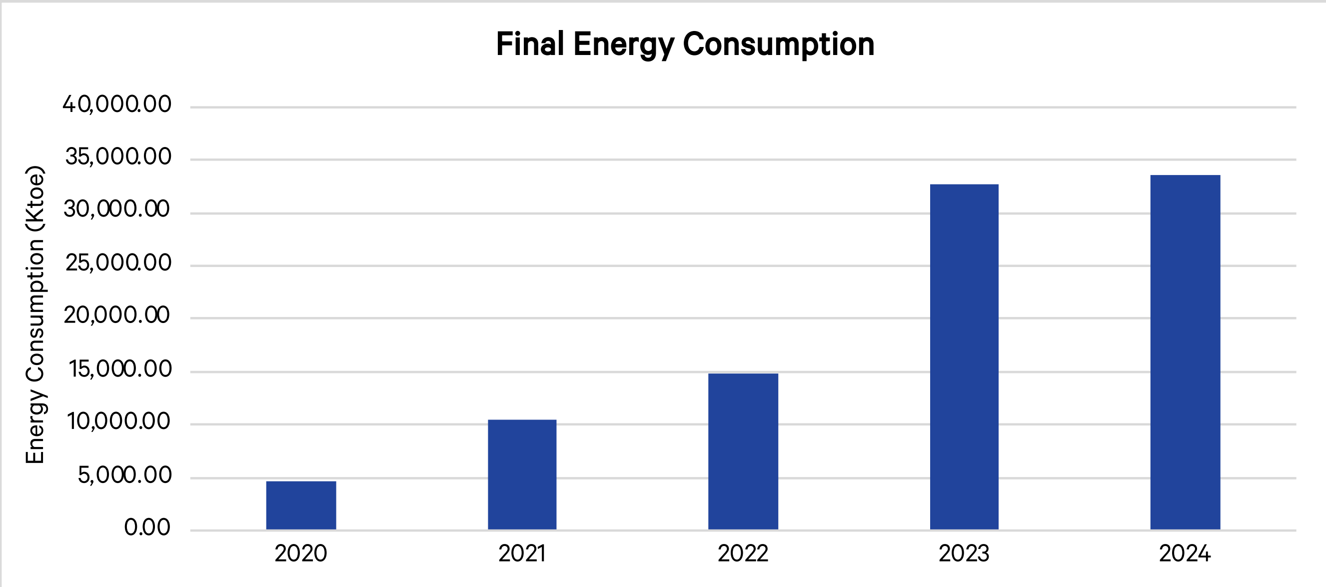


Figure 7.2: A trend of the final energy consumption from 2020 to 2024

The final energy consumption increased by 2.88%, from 32,634.59 Ktoe in 2023 to 33,575.54 Ktoe in 2024. An overall analysis of the energy balance shows that the indigenous production, primary energy supply and total final energy consumption have generally been increasing. This increase can be attributed to both population growth and the expansion of the economy.

8 CONSUMER PROTECTION IN THE ENERGY AND PETROLEUM SECTORS

The Authority is mandated to protect consumer interests within the energy and petroleum sectors. This is achieved through functions such as licensing, economic regulation, monitoring the quality of energy and petroleum products, addressing complaints and disputes, investigating accidents and incidents, as well as public education and advocacy.

8.1 Licencing

8.1.2 Petroleum and LPG Licensing

The Authority grants licenses, permits or certificates to any person intending to undertake the importation, exportation, bulk storage or transportation of petroleum products. Table 8.1 summarizes the licenses issued in the financial year under review.

Table 8.1: Petroleum and LPG licenses issued during the financial year 2024/25

Type of license	No. of licenses issued
Bunkering of Petroleum Products (Except LPG)	11
Driver Certification	10,386
Export & wholesale of Jet-A1	49
Export and Wholesale of Crude Oil	0
Export and wholesale of LPG in bulk	55
Export and Wholesale of Petroleum Products (Except LPG)	1,240
Imports of Lubricants	6
Import, Export and Wholesale of Bitumen	23
Import, Export and Wholesale of Fuel Oil	13
Import, Export and Wholesale of LPG in bulk	63
Import, Export and Wholesale of Petroleum Products (Except LPG)	155
Retail of LPG at Autogas Dispensing Station	16
Retail of LPG in Cylinders	1,001
Retail of LPG in Cylinders Via Smart Meters	1
Retail of Petroleum Products (except LPG)	613
Reticulation of LPG	0
Storage & Filling of LPG in Bulk	6
Storage & Filling of LPG in Cylinders	115
Storage & Wholesale of LPG in cylinders	201
Storage of Crude Oil	1
Storage of LPG in Bulk	4
Storage of petroleum products (Except LPG)	37
Transport by Railway of Petroleum Products (Except LPG)	2
Transport of Jet-A1	181
Transport of LPG in bulk by Road	248
Transport of LPG in Cylinders	338
Transport of petroleum products (Except LPG) by Road	2,108
Total	**16,873**

The permits issued during the period under review for the construction of petroleum facilities are detailed in table 8.2.

Table 8.2: Petroleum and gas permits issued during the financial year 2024/25

Permit Category	Permits issued
Petroleum Retail Dispensing Station	76
Autogas Dispensing Station	18
Liquefied Petroleum Gas (LPG) Storage and Filling Facility	9
Fuel Consumer Site	2
Liquified Petroleum Gas (LPG) Consumer Site	1
LPG consumer site for Public Institutions	2
LPG Reticulation System Construction Permit	1
Fuel storage Depot	2
Total	**111**

8.1.2 Electricity and Renewable Energy Sector

During the period under review, the Authority approved the following licences in the electricity and renewable energy sub-sectors.

a) Generation and retail supply licenses

The Authority licenses entities involved in the generation, transmission, distribution, and supply of electricity. Generation licenses include activities in utility supply, captive systems and mini grids. In the period under review, the Authority granted nine (9) generation license with a combined capacity of 13.21 MW. The Authority also licensed five (5) entities in distribution and retail supply licenses.

Table 8.3: Electricity generation and retail supply licences approved during the financial year 2024/25

SN	Name of Licensee	License type	Installed Capacity in MW
1.	Texplast Industries Limited	Generation	3.00
2.	Renewvia Energy Kenya Limited	Distribution and Supply	2.40
3.	Cold Solutions Kiambu Sez Limited	Generation	1.40
4.	Hydrobox Kenya Ltd	Distribution and Supply	0.61
5.	Ecoligo Ltd	Generation	0.24
6.	Hydrobox Kenya Ltd	Generation	0.61
7.	Renewvia Energy Kenya Limited	Generation	2.40
8.	Gusii Tea Solar Company Limited	Generation	0.36
9.	Softcare Kenya Company Limited	Generation	3.00
10.	Be Africa C&I Limited	Generation	0.80
11.	Be Africa C&I Limited	Retail Supply	0.80
12.	Compass Energy Solutions Limited	Retail Supply	0.50
13.	British American Tobacco Kenya	Generation	1.40
14.	Konza Technopolis Development Authority	Distribution and Supply	80.00

b) Electrical Workers and Contractors

The Authority licenses electrical workers and contractors who undertake electrical installation works. In the period under review, 579 electrical workers and 532 electrical contractors were licensed.

Table 8.4: Electrical worker and contractor licences issued during the financial year 2024/25

Licence type	Number of Issued Certificates/Licences					
	C2	C1	B	A2	A1	Total
Electrical Worker	246	203	64	9	57	579
Electrical Contractor	199	163	88	5	77	532

c) Solar PV and Energy Audit Licensing

During the review period, licenses were issued to 457 solar PV firms, 183 solar PV technicians, 4 energy audit firms and 4 energy auditors as outlined in table 8.5.

Table 8.5: A summary of solar PV firms, technicians and energy audit licenses issued during the financial year 2024/25

Category	Class	Number of licences issued
Solar PV Contractor/ Vendor/ Manufacturer	C1	165
	V1	143
	V2	149
Solar PV Technicians	T3	157
	T2	26
Energy Audit Firm	EAF1	4
Energy Auditor	EA1	4

8.1.3 Electrical Appliance Registration Certificates

The Energy (Appliances' Energy Performance and Labelling) Regulations, 2016, are designed to enhance the energy efficiency of electrical appliances. These regulations require both imported and locally manufactured refrigerators, non-ducted air conditioners, lamps, and motors to undergo testing to ensure compliance with the applicable Kenya Standard.

Importers or manufacturers of these regulated appliances are eligible to receive a registration certificate upon demonstrating their compliance with these regulations.

During the period under review, the Authority issued registration certificates for 330 appliance models comprising of 226 refrigerator models, 103 air conditioner models and 1 motor.

8.2 Fuel Quality Monitoring

This process involves adding small amounts of a distinct identifier, commonly a bio-chemical liquid referred to as the marker, to fuel products. This helps identify the presence of fuel adulterants or fuels intended for export.

During the review period, the total volume of all products marked was 4,063,772.850 litres. Of this, 4,015,123,563 litres (98.8%) comprised export and duty-exempt products, while 48,649,287 litres (1.2%) accounted for domestic kerosene. A summary of volumes marked per month is provided in table 8.6.

Table 8.6: Volumes of export and local kerosene marked from July 2024 to June 2025.

Month	Export Marking Volume (Litres)	Kerosene Marking Volume, (Litres)
July 2024	353,484,951	3,818,558
August 2024	320,776,417	3,800,607
September 2024	322,140,761	3,601,641
October 2024	303,099,035	3,308,092
November 2024	323,201,986	3,949,401
December 2024	383,905,191	5,108,864
January 2025	295,079,260	2,983,874
February 2025	329,292,302	4,432,220
March 2025	342,005,614	4,794,563
April 2025	336,379,008	4,496,798
May 2025	318,739,663	3,952,977
June 2025	387,019,375	4,401,692
Total	**4,015,123,563**	**48,649,287**

Apart from fuel marking, the Authority also monitors the petroleum products at retail stations across the county to ascertain fuel quality. When selecting sample sites, the Authority considers various factors, including the need for nationwide coverage, intelligence gathered through surveillance efforts, and feedback from the public.

During the period under review, the Authority conducted 23,946 sample tests at 5,353 petroleum outlets across the country. Of the tests conducted, 5,296 stations (98.9%) were found to be compliant. However, 57 stations (1.1%) were identified as non-compliant, and appropriate penalties were imposed in accordance with the relevant legislation.

8.3 LPG Compliance

The Authority conducts technical and environmental, health and safety audits of LPG Storage and Filling facilities, to assess their adherence to regulatory requirements, operational safety standards, maintenance of plant and equipment, emergency preparedness, and risk management practices.

These audits assess compliance with national legislation and standards including Energy Act Cap 314; Petroleum Act Cap 308; Environmental Management and Co-ordination Act, 2015; Occupational Safety and Health Act, 2007; Kenya Standards relevant to petroleum sub-sector; and international standards, sector best practices and maritime guidelines.

During the review period, an LPG compliance inspection program was conducted, covering a total of 1,144 retail and wholesale sites. These included branded service/petrol stations, supermarkets, and retail sites stocking more than and fewer than 50 LPG cylinders. Additionally, 320 LPG road tankers and 93 LPG storage and filling plants were inspected. Where non-compliance issues were identified, the respective facilities were required to prepare corrective action plans. Follow-up inspections are scheduled to verify the implementation of these corrective actions and ensure continued compliance with LPG safety and regulatory standards.

8.4 Complaints and Dispute Handling

The Authority is mandated to investigate complaints and disputes arising from petroleum and electricity operations and to protect consumers, investors, and other stakeholders.

A total of 356 complaints were reported to the Authority, out of which 338 were resolved while 18 complaints were under review at the close of the financial year. In addition, the Authority handled 115 disputes which were subjected to the dispute resolution process. At the close of the review period, 74 disputes had been resolved while the remaining 41 were at different stages of the dispute resolution process.

8.5 Public Education and Advocacy

The Authority undertakes nationwide public education and advocacy initiatives aimed at raising awareness and addressing knowledge gaps within the energy and petroleum sector. These efforts primarily focus on informing the public about energy and petroleum issues, regulatory awareness, promote compliance with regulations, and engage various stakeholders to advocate for safe practices and adoption of sustainable clean energy solutions.

The Authority through the Public Education and Advocacy department conducted 106 forums across nineteen counties in Kenya, along with two national online forums during the review period. These engagements targeted key strategic stakeholders, including petroleum tanker drivers, licensees, National Government Administration Officers (NGAO) and security committees, county government staff, students from institutions of higher learning and the public.

Additionally, the Authority conducted the Kaa Safe Mtaani Campaign, a behavior-change initiative aimed at promoting responsible use of electricity, LPG and petroleum products. The campaign reached Kenyans through multiple platforms and touchpoints including workshops, grassroot activations and digital platforms and media outreach. The Authority estimates that tens of millions of Kenyans were reached by the campaign. Further, 792 community champions were trained through 16 grassroot workshops and will be expected to promote safe energy and petroleum use in their communities.

9 FUTURE OUTLOOK

Kenya's energy sector future will be characterized by strategic investments, regulatory reforms, and regional integration initiatives. The energy policies in place and investments by both public and private institutions points towards a strong emphasis on expanding access to clean and reliable energy, optimizing infrastructure, and diversifying revenue streams while positioning the country as a regional hub for energy trade. The projects highlighted in this session will shape the energy sector in the upcoming financial year and beyond.

1. Growth of the LPG subsector

The LPG sector is set for significant expansion, driven by both infrastructure and policy interventions. The commissioning of the Lake Gas facility in Vipingo, Kilifi County, has boosted storage capacity for LPG receiving terminals, improving supply security. In tandem, the government's planned implementation of an Open Tender System (OTS) for LPG will enhance competitiveness, transparency, and efficiency in imports.

Further growth is expected through the implementation of the National LPG Growth Strategy, which prioritizes the adoption of LPG in public learning institutions, household reticulation, and cylinder distribution to low-income households. The government's zero-rating of LPG will continue to stimulate demand, particularly among households transitioning from traditional biomass fuels. These initiatives will accelerate Kenya's journey toward universal access to clean cooking solutions.

2. Strengthening of the Petroleum Subsector

The petroleum sector outlook is underpinned by the implementation of the Cost-of-Service Study (COSSOP) study recommendations, which are expected to enhance infrastructure development, supply security, and access to quality petroleum products. The Implementation of the study will be done in phases with the first phase commencing in March 2025.

The government is also actively marketing open petroleum exploration blocks by preparing data packages, block atlases, and block rankings in readiness for bidding rounds and licensing, as provided under the Petroleum Act, 2019. These efforts are designed to attract new investments in exploration and production, thereby strengthening Kenya's petroleum resource base.

Additionally, the forthcoming Kenya Pipeline Company (KPC) tariff review for the 2025/2026–2027/2028 period will aim to strike a balance between cost recovery for KPC's capital and operational expenditure, and affordability for consumers. This cost-reflective tariff system will be key in sustaining investment in petroleum transport infrastructure.

3. Evolution of Electricity Tariff Structures

A major milestone will be the proposed update of the E-Mobility tariff, which will remove the current consumption limit of 15,000 units per month. This adjustment will address challenges faced by electric mobility customers and further support Kenya's clean transport agenda.

4. Leveraging Renewable Energy and International Renewable Energy Certificates (I-RECs)

Kenya's high share of renewable energy, currently at 80.48% of installed capacity, positions the country uniquely in the global sustainability landscape. In December 2024, the Authority was approved as the local issuer of I-RECs for electricity. Several producers, including Alten Solar, Malindi Solar Farm, Zena Roses, Vision Plaza, Consolbase, and Summit Fibres, have already registered to issue certificates.

This framework offers renewable generators an opportunity to diversify revenue streams, while enabling local and multinational companies to purchase I-RECs in pursuit of their environmental, social, and governance (ESG) targets. The I-REC system is expected to elevate Kenya's renewable energy market to international standards, enhance investor confidence, and create a new frontier of value addition in electricity trade.

5. Expansion of Geothermal and Cross-Border Power Trade

Installed geothermal capacity is expected to exceed 1,000 MW in the coming year with the commissioning of the QPEA GT 35MW and OrPower 22 35MW geothermal plants in Menengai, Nakuru County. This expansion reinforces Kenya's global leadership in geothermal development.

At the regional level, electricity imports are projected to rise with increased purchases from Uganda, following the revision of the EEA with UETCL from 80 MW to 120 MW. Moreover, the commencement of wheeling power between Ethiopia and Tanzania through Kenya's grid in the financial year 2025/2026 marks a significant milestone in operationalizing the East Africa Power Pool. This will not only enhance supply reliability but also boost KETRACO's revenues and Kenya's role as a key energy transit country.

6. Strengthening of Transmission Infrastructure

The reliability and stability of the national grid will benefit from several upcoming transmission projects, including:

1. Mariakani 400/220kV Substation, enabling full operation of the Isinya-Mariakani 400kV line at its design voltage.
2. Konza 400/132kV Substation and intertie, which will provide an alternative supply path to Nairobi and strengthen supply to Machakos and Makueni.
3. Nanyuki-Isiolo 132kV line, completing the Mt. Kenya 132kV ring to improve reliability in the region.
4. Sondu-Ndhiwa 132kV project, completing the South Nyanza transmission ring and easing congestion on the Kisumu-Muhoroni-Chemosit line.

These projects will significantly improve system flexibility, reduce transmission losses, and expand access to underserved regions.

7. Battery Energy Storage Systems

The Kenya electricity sector is characterized by a high proportion of variable renewable energy (VRE) systems, high geothermal installed capacity, low night demand and low reserve margin at peak.

The installed capacity of solar photovoltaic and wind systems has grown by over 900 MW in the last 10 years from both utility scale and captive systems. VREs, while preferred for their renewable nature, increase the vulnerability of the interconnected network.

The country's electricity consumption patterns indicate high demand at peak (6 p.m. to 9 p.m.) and low demand during off-peak periods (10 p.m. to 6 a.m.). This leads to load shedding at peak and curtailment during off peak periods.

Battery Energy Storage Systems (BESS) have been proposed as a possible solution to these challenges. They improve the reliability of the interconnected system by smoothening the output of VRE plants. Further, the excess energy generation during off peak periods can be stored in utility scale batteries and provided during peak. It is projected that both plant level and utility scale BESS will play a significant role in Kenya's energy sector in future.

1. **Head office**
   Energy and Petroleum Regulatory Authority
   Eagle Africa Centre, Longonot Rd, Upperhill
   P.O. Box 42681-00100 GPO, Nairobi
   Telephone: +254 709 336 000/ / +254 020 284 7000
   Email: info@epra.go.ke or statistics@epra.go.ke
   Website: www.epra.go.ke

2. **North Rift Region – Eldoret**
   7th Floor, Eldoret Daima Towers
   P.O. Box 6950-30100, Eldoret.
   Tel: +254 709 336 527 / +254 020 284 7527

3. **Central Region - Nyeri**
   4th Floor, KDS Centre, Kimathi Way
   P.O. Box 1670-10100, Nyeri
   TEL: +254 709 336 552 / +254 020 284 7552

4. **Coast Region - Mombasa**
   3rd floor, Kilindini Plaza Building, Moi Avenue
   P.O. Box 83315-80100, Mombasa.
   Tel: +254 709 336 577 / +254 020 284 7577

5. **Nyanza & Western Region - Kisumu**
   2nd floor, Lake Basin Mall
   P.O. Box 7540-40100, Kisumu.
   Tel: +254 709 336 501 / +254 020 284 7501

6. **North Rift Region – Lodwar**
   Former WFP Office, Along Lodwar Airport Road,
   P.O. Box 447 – 30500, Lodwar.
   +254 709 336 652 / +254 020 284 7652

7. **North Eastern Region – Isiolo**
   BarsalingaTowers, 2nd Floor Along Isiolo Moyale Road.
   P.O. Box 55 – 60300, Isiolo.
   +254 709 336 626 / +254 020 284 7626

8. **South Rift Region – Nakuru**
   Jennifer Riria Hub, Kipchoge Road, Opposite Bontana Hotel
   P.O. Box 785 – 20100, Nakuru
   +254 709 336 601 / +254 020 284 7601

www.epra.go.ke EPRA Kenya @EPRA_Ke Energy & Petroleum Regulatory Authority

PUBLISHED IN SEPTEMBER 2025