



# Kenya's Petroleum Sector Statistics: A Brief

## Introduction

Kenya's petroleum sector encompasses the exploration, extraction, refining, distribution, and utilization of petroleum resources within the country. This sector plays a crucial role in Kenya's economy, contributing to revenue generation, job creation, and energy supply. The sector is regulated by the Energy and Petroleum Regulatory Authority (EPRA). It was established under the Energy Act of 2019, succeeding the Energy Regulatory Commission (ERC), and it functions as an autonomous agency under the Ministry of Energy. This brief serves as a comprehensive overview of Kenya's petroleum sector statistics encompassing vital aspects, such as landed costs, international price trends, product pricing, storage, distribution, taxation, and consumption patterns. Understanding these elements of the industry is crucial for all the stakeholders in the country.

## Landed Costs

The EPRA outlines the formula the landed costs of petroleum products are determined by as shown below:

$$C_l = \frac{\sum(V_{irp} * C_{irp})}{\sum V_{irp}}$$

The variable,  $C_l$ , on the left-hand side of the formula represents the weighted average cost in Kenyan Shillings per liter of petroleum products imported through the Open Tender System (OTS) via a designated primary storage depot.

On the right-hand side of the formula,  $V_{irp}$  signifies the volume, measured in litres, of a shipment of petroleum products brought in through the OTS and discharged at the port of Mombasa. This volume is calculated based on the period from the 10th day of the preceding month to the 9th day of the current pricing month.

To elaborate further,  $C_{irp}$  denotes the unit cost of a shipment of petroleum products imported through the OTS and unloaded at the port of Mombasa during the timeframe from the 10th day of the prior month to the 9th day of the present pricing month, expressed in Kenyan Shillings per liter.

The computation of landed costs involves determining the weighted average of imported cargo for each product grade. This process includes aggregating the volumes of imported refined products and multiplying them by their respective unit costs. The resulting values are then divided by the total volume of the imported products, yielding the unit cost of the landed cost per cargo for each product grade.

### The Landed Cost Per Cargo Formula

$$C_l = (FOB + FP + LC) * (FX/CF) + (IWR + KPA + SC + OL + A + I + AR + D)$$

The calculation of landed costs encompasses various financial procedures. It begins with adding the Free on Board (FOB) price to the freight and premium (FP), with the Letter of Credit (LC) factored in to cover monetary transactions and ensure a thorough evaluation of importing goods' financial aspects. Values for FOB, LC, and premium are typically denominated in dollars per metric tonne, requiring conversion into the local currency. This entails multiplying by the USD exchange rate, followed by division with a conversion factor due to differing product densities.

In an Institute of Economic Affairs, Kenya (IEAke) webinar examining a government-to-government oil deal held on April 2023, the Director General of EPRA highlighted a common practice among oil companies due to financial constraints<sup>1</sup>. Typically, these companies obtain a LC from a bank, incurring a nominal fee of approximately 1.2% of the freight cost. Previously, under the OTS, importing Oil Marketing Companies (OMCs) issued a 30-day LC. However, with the shift to government-to-government arrangements, the LC duration has been extended to 180 days, offering a slightly more flexible credit period.

Following the initial calculation of landed costs, insurance is subsequently added to cover transportation risks, such as piracy, which could impact the safe delivery of goods. This

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<sup>1</sup> [Oil import agreement between Kenya and the Gulf](#)

insurance provision ensures protection against potential financial losses incurred during transit. Moreover, additional charges are included to account for various aspects of the transportation process. For instance, the KPA wharfage fee, akin to a parking fee for both oil and dry cargo, is factored in. This fee contributes to the maintenance and operational costs of port facilities, ensuring smooth operations for incoming vessels and their cargo.

Another charge incorporated into the calculation is the SC charge, which aims to reduce costs upon the ship's arrival at the Mombasa Port. This charge is designed to streamline port processes and facilitate efficient handling of goods, ultimately contributing to cost savings for importers. Additionally, the OL charge, addressing product loss during transportation, is also factored into the equation. This charge accounts for potential losses incurred due to spillage, leakage, or other forms of product loss during transit. It's worth noting that the implementation of SC charge practices globally gained traction following the 1989 Alaska Exxon Mobil incident. This catastrophic event highlighted the importance of implementing measures to mitigate environmental risks associated with oil transportation, prompting the adoption of standardized practices to enhance safety and minimize potential damages.

Landed costs also encompass various other components essential to the importation process. Administration costs (A), associated with the OTS process, cover expenses related to tender winners' compensation, invoicing, and bank charges. These costs ensure the smooth administration of the procurement process.

Inspection costs (I) adhere to standard marine practices and involve the inspection of vessels and cargo upon their arrival. These inspections are crucial for verifying the quality and condition of the imported goods and ensuring compliance with regulatory standards.

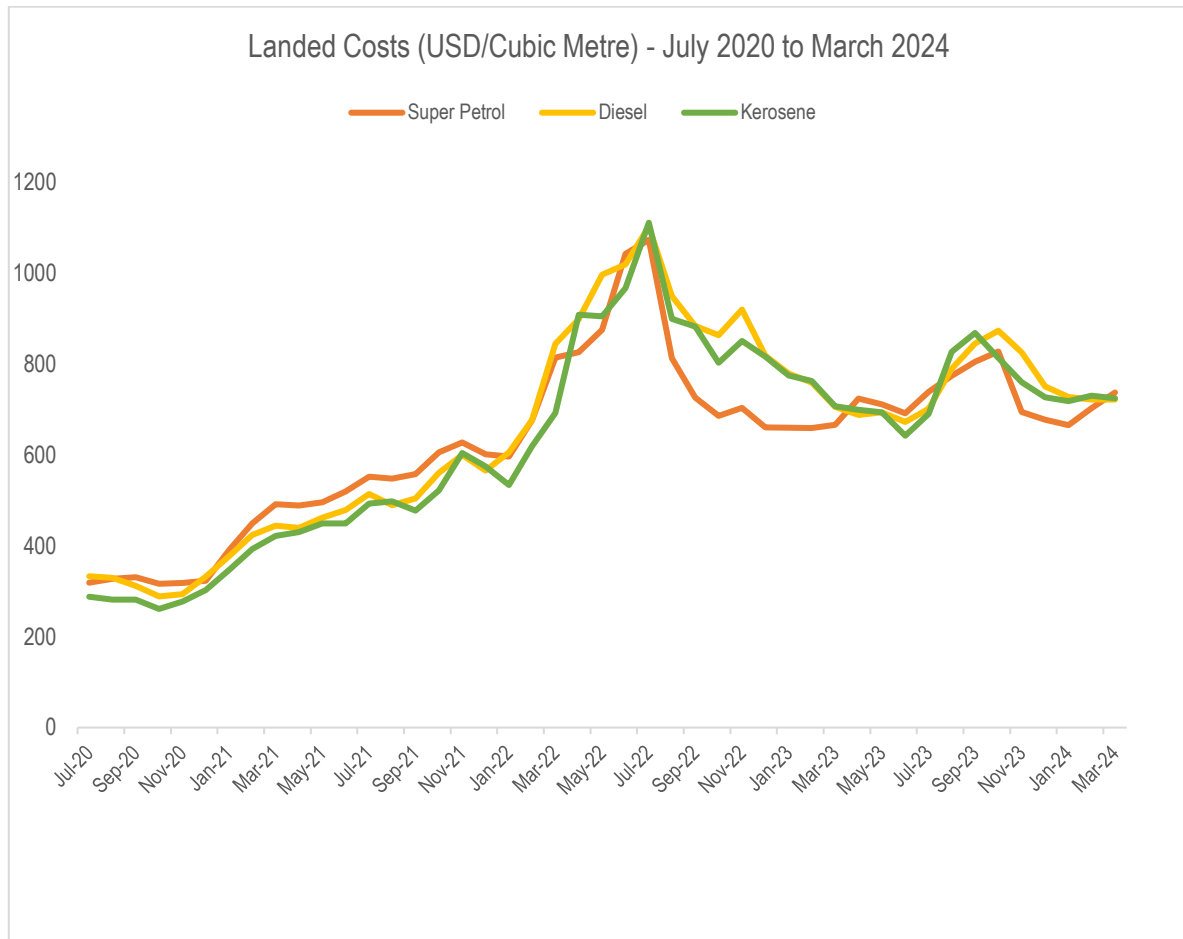
Analysis and recertification costs (AR) are incurred to guarantee compliance with Kenyan standards and regulations. These costs cover the testing and recertification of imported products to ensure they meet the required quality and safety standards.

Demurrage costs (D) may arise in cases of delayed ships, reflecting the opportunity cost of a ship waiting in port. These costs highlight the importance of timely product upliftment and the efficient handling of importation processes to avoid unnecessary delays and expenses. For example, in the special audit report of the Auditor General on supplementary budget expenditure, which includes withdrawals under Article 223 of the Constitution of Kenya, 2010, published in November 2023, it was noted that demurrage charges totaling Ksh 3.182 billion were passed on to consumers through pump prices. These charges are paid to ship owners for delays in vessel berthing exceeding three days.

The government-to-government arrangement aimed to minimize demurrage costs and streamline the timely upliftment of products. Once the landed costs are determined, a

weighted average is calculated to provide an overall assessment, taking into account the various components and their respective contributions to the total cost. This comprehensive approach enables a thorough evaluation of the financial aspects of importing goods and facilitates informed decision-making in procurement processes.

**Chart 1: Landed Costs (USD/Cubic Metre) – July 2020 to March 2024**



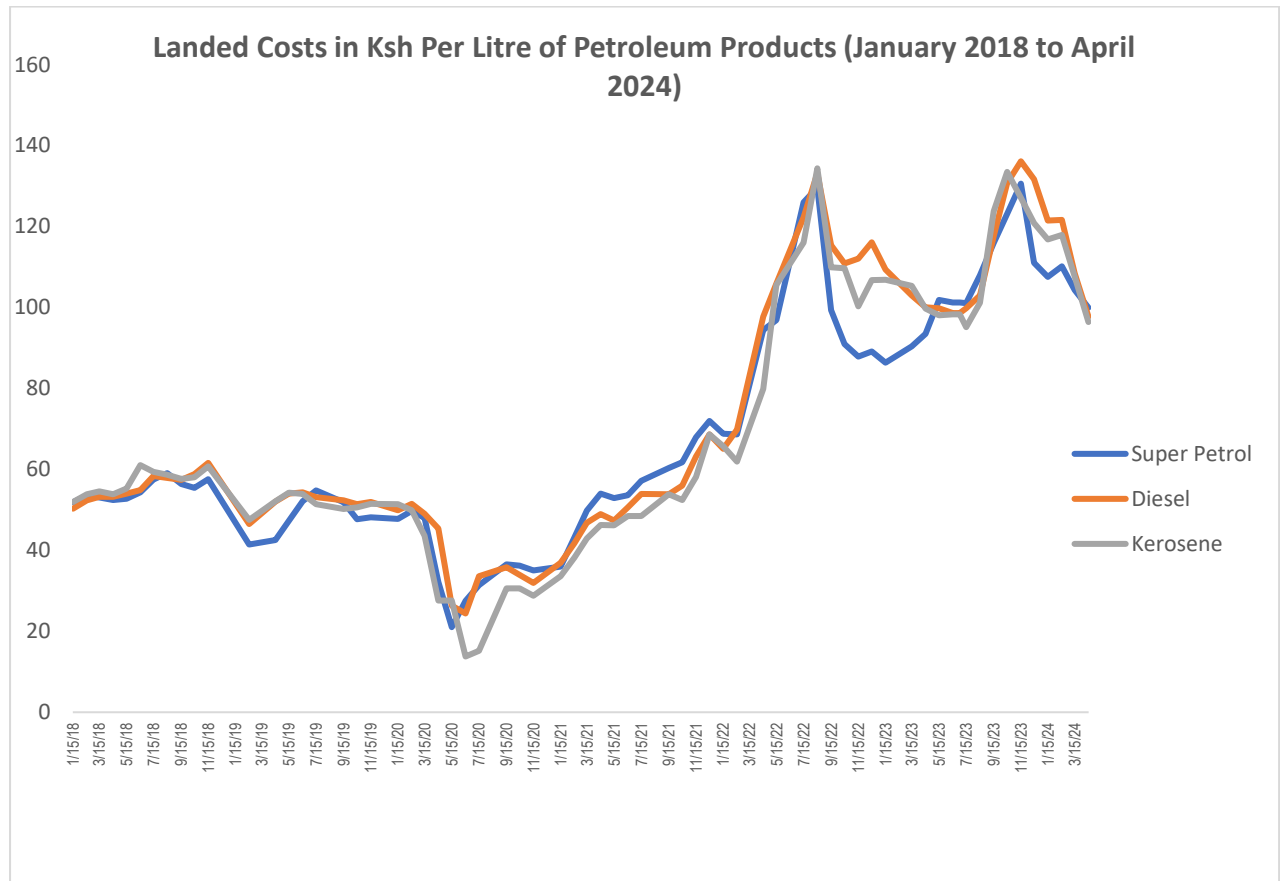
Source: EPRA

As depicted in Chart One above, the average landed cost per cubic metre of imported Super Petrol, Kerosene, and Diesel has experienced a consistent increase, reaching its peak in July 2022 at USD 1,074, USD 1,103.03, and USD 1,111.53 respectively. Subsequently, these costs have shown a decrease in the following months. Upon examining the period from July 2020 to March 2024, it becomes evident that the cost of imported Super Petrol, Diesel, and Kerosene has surged by 131%, 117%, and 152% respectively.

Moreover, as illustrated in Chart Two, EPRA provides data on the landed costs per liter of petroleum products. In January 2018, these costs were recorded at Ksh 51.91, Ksh 50.27, and Ksh 51.94 for Super Petrol, Diesel, and Kerosene, respectively. Since then, these figures have surged to Ksh 99.94, Ksh 97.72, and Ksh 96.38 in April 2024, respectively. Notably, the peak

costs were observed in November, reaching Ksh 130.6 and Ksh 136.12 for Super Petrol and Diesel, while for Kerosene, it peaked at Ksh 134.39 in August 2022. Conversely, the lowest recorded prices were Ksh 21.02, Ksh 24.4, and Ksh 13.77 for Super Petrol, Diesel, and Kerosene, respectively. This fluctuation can be attributed to the depreciation of the USD-Ksh dollar exchange rate, alongside the rise in international Platts prices during that period. Furthermore, insurance costs and freight charges play a significant role and are typically priced in USD, contributing to the overall increase in costs.

**Chart 2: Landed Costs in Ksh Per Litre of Petroleum Products (January 2018 to April 2024)**



Source: EPRA

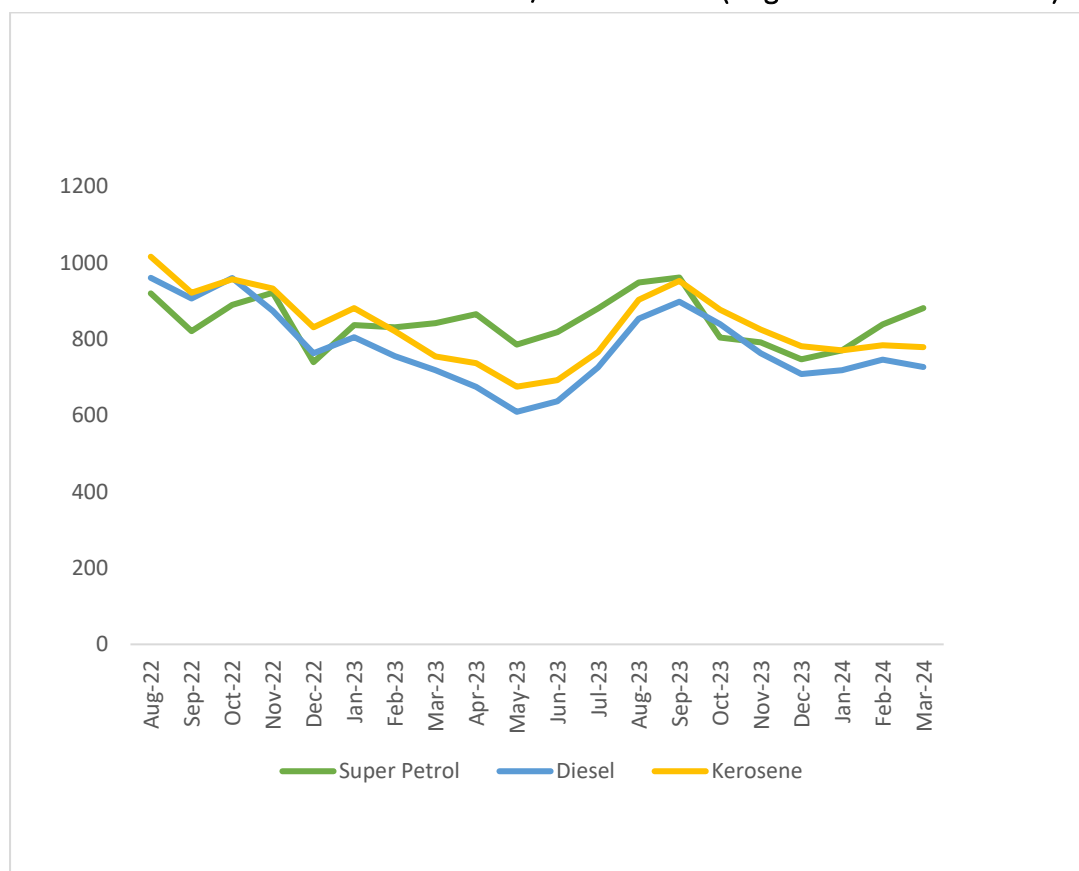
## International Petroleum Prices as Provided by S&P Global Platts

Regarding the international price variable also known as the international platts prices, there were 20 observations recorded from August 2022 to March 2024. It's worth noting that EPRA only began releasing these figures recently, and it did not exist before that in the press releases that are published on a monthly basis.

In August 2022, the international prices for Super Petrol, Kerosene, and Diesel were documented at USD 920.05, USD 960.54, and USD 1015.91 respectively. Since then, these prices have undergone a decline, reaching USD 881.11, USD 726.62, and USD 779.19 for Super Petrol, Diesel, and Kerosene respectively in March 2024. The percentage decrease differences for each fuel type are 4%, 24%, and 23% for Super Petrol, Diesel, and Kerosene respectively.

As depicted in Chart Three below, the international prices peaked in September 2023 for Super Petrol (USD 961), in August 2022 for Diesel (USD 960), and in August 2022 for Kerosene (USD 1015.91). Conversely, the lowest prices were observed at USD 739 for Super Petrol, USD 609 for Diesel, and USD 675 for Kerosene.

Chart 3: International Platts Prices in USD/Metric Tonne (August 2022-March 2024)



Source: EPRA

Examining the standard deviation provides valuable insights into the variability or dispersion in international prices of refined petroleum products. Diesel demonstrates the highest variability with a standard deviation of 105.68, indicating considerable fluctuations in its international prices over the observed period. Following closely is Kerosene, with a standard deviation of 97.18, reflecting significant variability in its prices as well. On the other hand, Super Petrol exhibits relatively lower variability, with a standard deviation of 66.43.

This disparity in standard deviations underscores the differing levels of fluctuation among the refined products. A higher standard deviation suggests greater variability in international prices, indicating a higher degree of uncertainty and potential volatility in the market. Therefore, Diesel's higher standard deviation implies that its prices are more susceptible to fluctuation compared to Kerosene and Super Petrol.

Understanding these variations in variability is crucial for stakeholders in the petroleum industry, as it allows them to assess and manage risks associated with price fluctuations. It enables better decision-making in areas such as procurement, pricing strategies, and risk management, ultimately contributing to more effective and resilient operations within the industry.

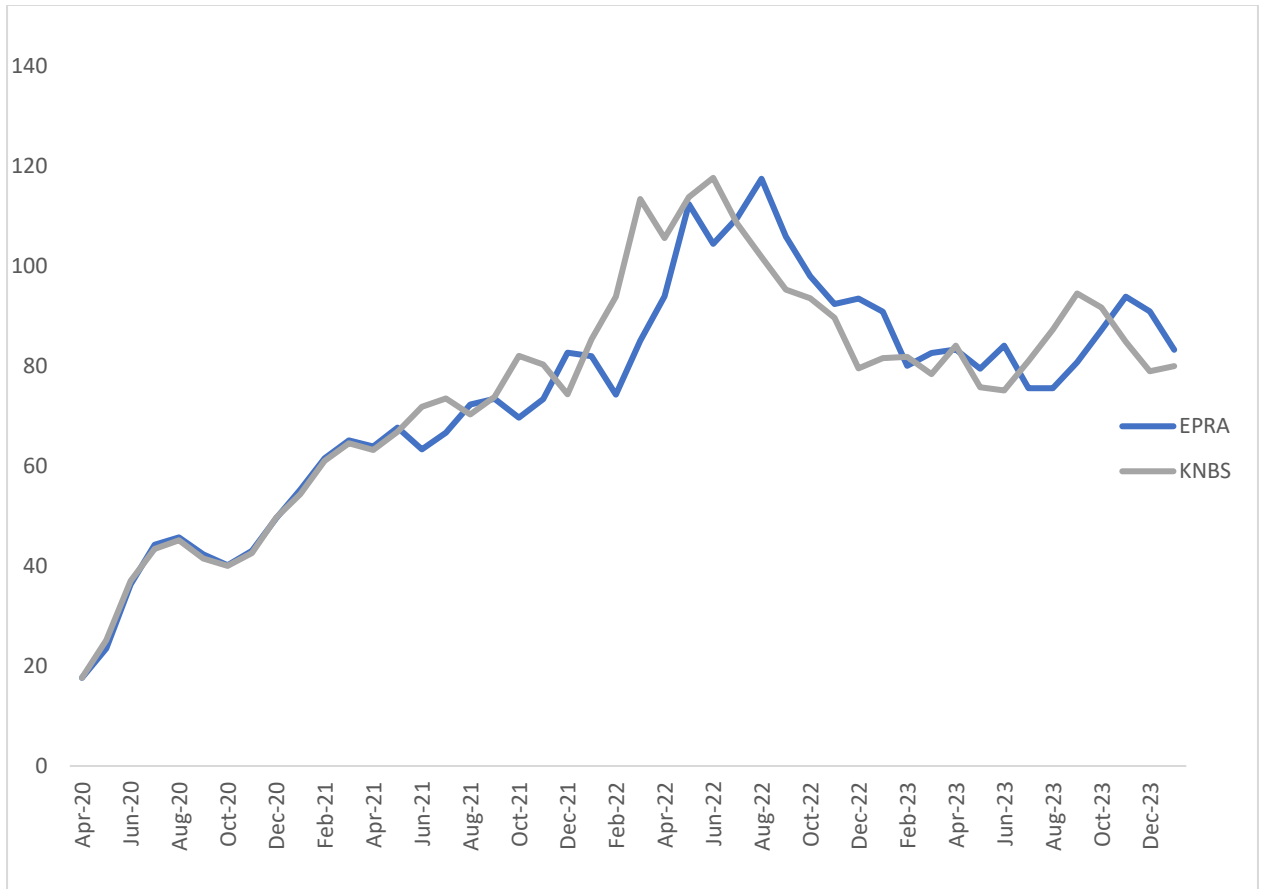
## Murban Prices

Murban crude oil is a high-quality light crude oil produced in Abu Dhabi, United Arab Emirates. Murban crude oil is one of the main crude oil benchmarks in the global oil market and is often used as a pricing reference for crude oil sales in the Middle East and Asia. The prices of Murban crude oil, like other crude oil benchmarks, fluctuate based on various factors, such as supply and demand dynamics, geopolitical tensions, economic conditions, and market speculation. These prices are closely monitored by traders, analysts, and governments around the world due to the significant impact they have on the global economy and energy markets.

The Energy and Petroleum Regulatory Authority (EPRA), when announcing the maximum prices for petroleum products on the 14th of every month, also provides updates on Murban Crude prices. This is despite the fact that Kenya doesn't refine crude oil and it is a net importer of refined petroleum products.

According to the latest data, the price of Murban Crude stood at USD 79.06 per barrel in March 2024. This represents a 2% decline from February 2024, when it was priced at USD 77.68 per barrel. Similarly, the Kenya National Bureau of Statistics (KNBS) publishes updates on Murban Crude prices in its Leading Economic Indicators Issue, which is released monthly, as illustrated in Chart Four below. As can be seen, there is a difference in the values that are registered by the two entities.

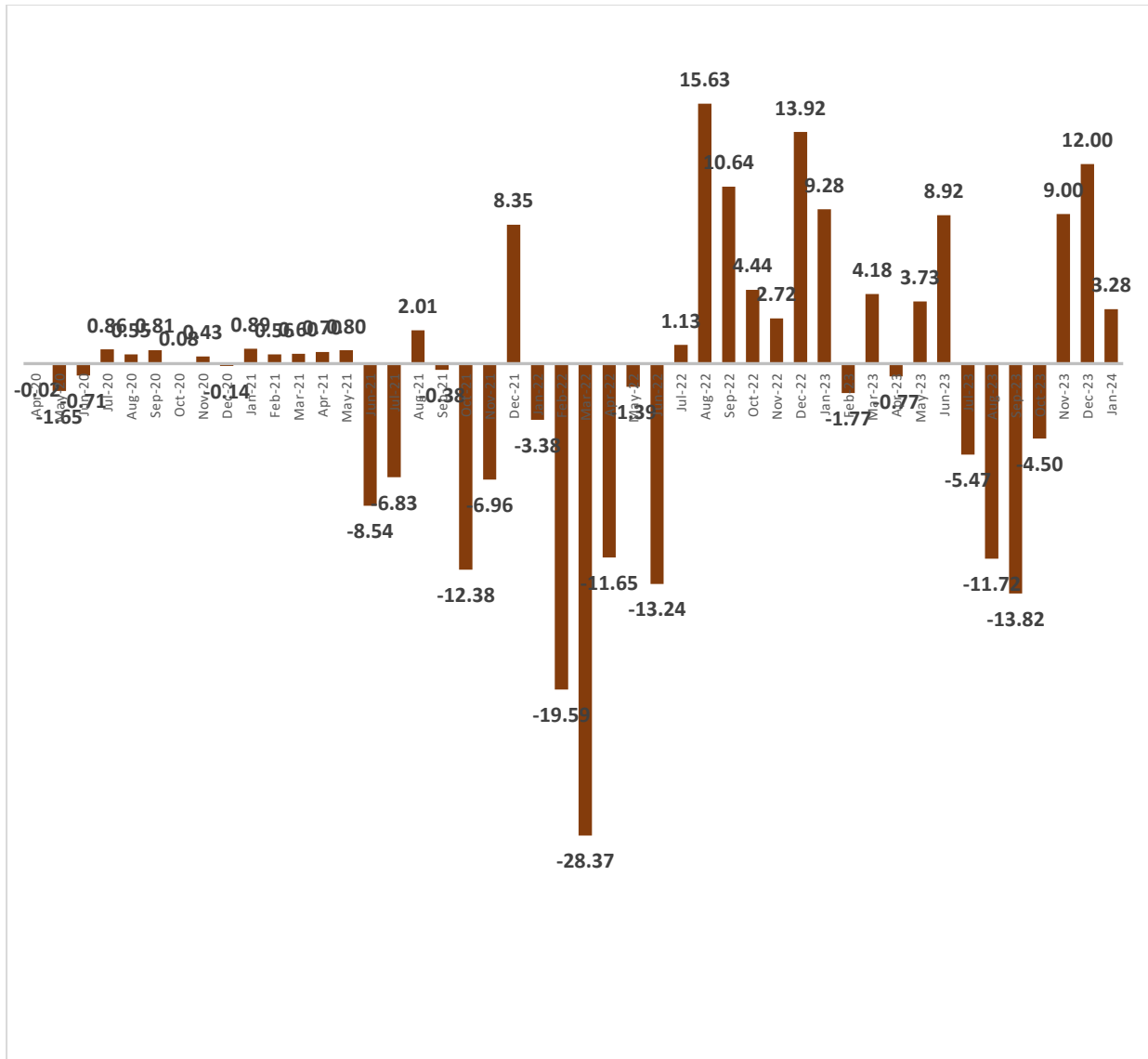
Chart 4: EPRA vs KNBS Murban Prices Trends (April 2020 to January 2024)



Source: EPRA and KBS



Chart 5: Monthly Differences Between EPRA and KNBS Murban Prices in USD per Barrel (April 2020 to January 2024)

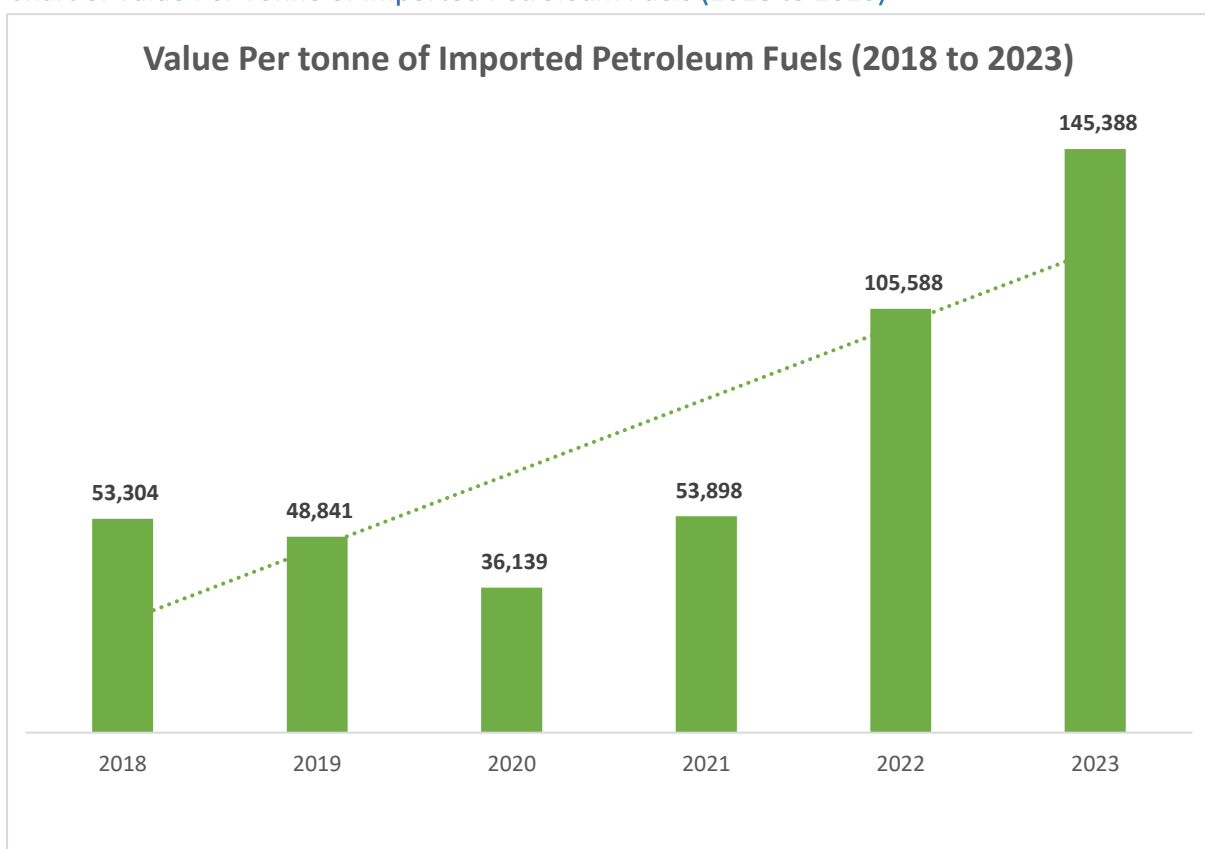


Source: KNBS and EPRA, calculated and compiled by Institute of Economics Kenya

Around May 2021, both institutions (EPRA and KNBS) began registering huge differences in their Murban Crude oil prices with the highest discrepancy as shown in Chart 5 above standing at USD -28.37 in March 2022 per barrel. This is interpreted as the figure that EPRA declared for Murban crude oil prices was less by this amount.

**Value of Imported Petroleum Fuels:** The data on the value per tonne of imported petroleum products from 2018 to 2023 was computed using the information on the value and quantities of imported petroleum products as published by the Economic Survey 2024. The average value per tonne over this period stands at approximately Ksh 73,859.67. The standard deviation of Ksh 42,409.38 indicates significant variability, reflecting fluctuating market conditions or other influencing factors. The minimum recorded value per tonne was Ksh 36,139 in 2020, while the maximum reached Ksh 145,388 in 2023 as shown in Chart Six. The median value is Ksh 53,601, providing a central measure of the dataset.

**Chart 6: Value Per Tonne of Imported Petroleum Fuels (2018 to 2023)**



Source: Economic Survey 2024, Computations; Author's own

### Distribution of Various Costs Per Petroleum Products in Nairobi

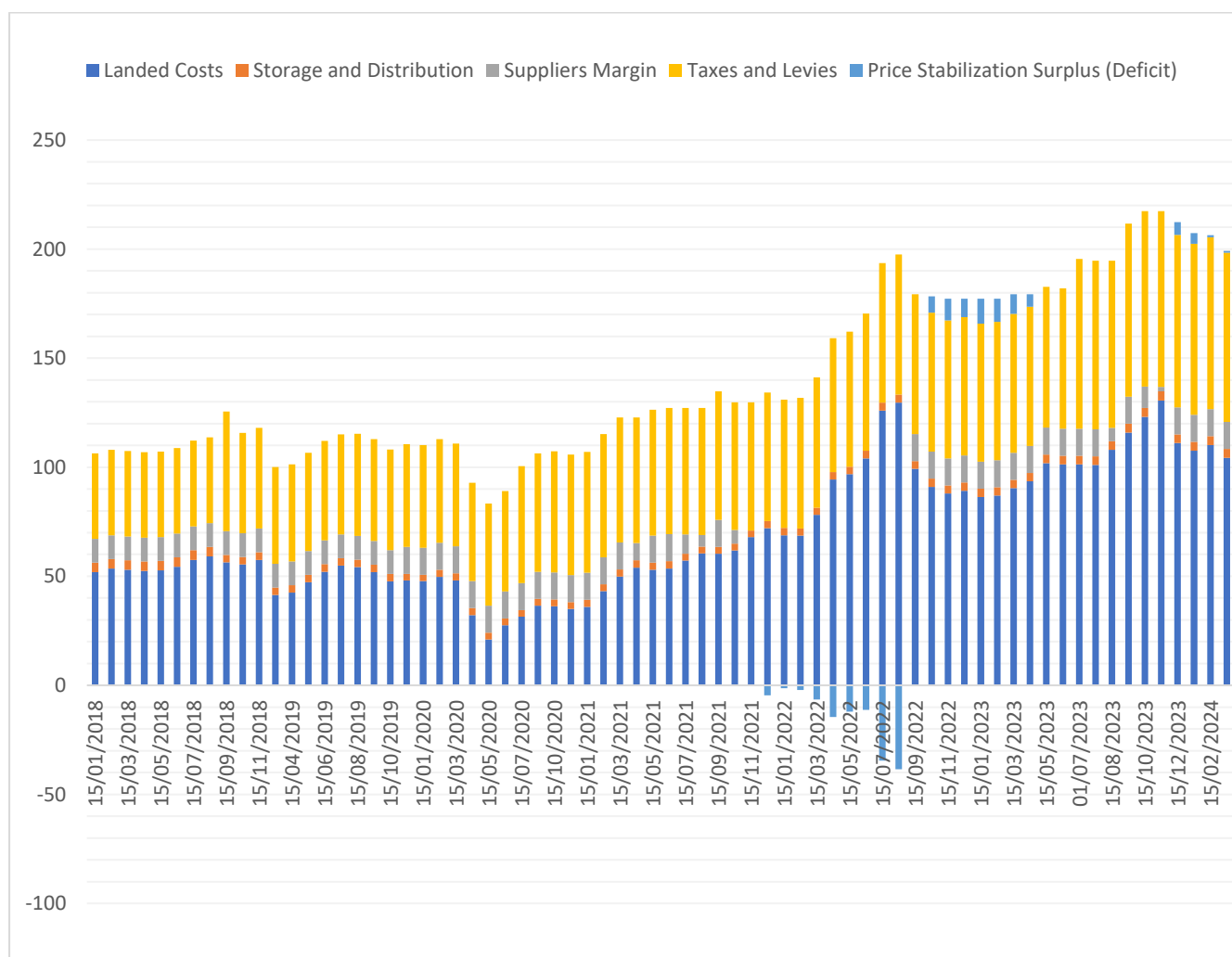
The Maximum Retail Petroleum Prices in Kenya, calculated from the 15th of each month to the 14th of the following month, typically include a breakdown of Nairobi prices for three petroleum products into five main components. These components are: landed costs, storage

and distribution, suppliers' margin, taxes and levies, and the price stabilization surplus or deficit, as visually represented in Chart 7.

With this breakdown, one can analyze which variable holds the highest proportion. In April 2024, the breakdown showed that landed costs accounted for 51.6%, storage and distribution 2%, suppliers' margin 6.4%, taxes and levies 39.5%, and price stabilization represented 0.4%.

Annex One shows the trend of how the distribution has been evolving from January 2018 to April 2024.

**Chart 7: Distribution of Various Costs Per Petroleum Products in Nairobi**



Source: EPRA

The distribution charge covers the transportation of products from a storage facility to a petrol station. However, this distribution charge is based on the proximity to the nearest wholesale depot. For instance, if Nairobi is closer and one obtains the product from Mombasa, they will only be compensated for the distance from the nearest depot. The "last mile" concept stipulates that every 40 km becomes a different pricing region. Within a 40 km radius, the

distribution cost remains constant. Storage and distribution encompass the addition of transportation, storage, and last-mile delivery costs.

The Pipeline Tariff is determined through a board-approved process where Kenya Pipeline applies for a tariff. This involves a comprehensive procedure, including stakeholder consultations with relevant entities such as counties and citizens who may be affected by pump prices. After this, EPRA publishes the applied tariff and expected returns for feedback from stakeholders before the board makes a final decision. Depot losses are benchmarked internationally at 0.51, 0.26, and 0.24 for Super Petrol, Diesel, and Kerosene, respectively<sup>2</sup>.

The Oil Marketing Margin is linked to the oil marketing company margin and involves a stabilization process within the pricing mechanism. The government's decision to keep current prices constant leads to the possibility of reducing the margin, and oil marketing companies are compensated for the balance of this margin. The normal margin for Super Petrol (SP) is Ksh 12.384, comprising a Ksh 4.20 wholesale margin, a retail investment margin of Ksh 4.50, and a retail operating margin of Ksh 4.14. Similar costs have been verified for diesel and kerosene, with their respective total margins being Ksh 12.36. Notably, these costs underwent a stakeholder process for validation.

The pricing formula also includes a price stabilization component that can result in either a deficit or a surplus. A deficit occurs when the government must cover the difference between the expected or budgeted price and the actual market price, subsidizing the cost to maintain stable pump prices for consumers. Conversely, a surplus happens when the actual market price exceeds the expected or budgeted price, resulting in additional revenue for the government. This price stabilization mechanism helps balance market fluctuations, ensuring predictable pricing for consumers and stable revenues for the government.

## Taxes and Levies

Petroleum products in Kenya, are subject to two main taxes: Excise tax and Value Added Tax (VAT). Additionally, there are various levies imposed on these products, including the road maintenance levy, petroleum development levy, petroleum regulatory levy, railway development levy, anti-adulteration levy, merchant shipping levy, and import declaration levy.

The administration of these taxes and levies is determined by the quantity of the petroleum product. For instance, 1,000 liters of regular petrol incur an excise duty of Sh21,522.6, translating to Ksh 21.52 per liter. Similarly, 1,000 liters of diesel and kerosene attract excise duties of Sh11,370.99 and Sh11,370.98, respectively, resulting in Ksh 11.37 per liter for each

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<sup>2</sup> [Rising Fuel Prices in Kenya](#)

product. The road maintenance levy is set at Ksh 18 per liter but does not apply to kerosene, given its primary household use for cooking or lighting.

During the period under examination (January 2018 to March 2024), the excise duty underwent two revisions. Initially set at Ksh 19.9 per litre, it was subsequently adjusted to Ksh 20.92 and ultimately reached Ksh 21.95 per litre for super petrol. This signifies an increment of 10.3% during this period. The revisions that occurred were according to Section 10 of the Excise Duty Act, which empowers the Commissioner to adjust the specific rate of excise duty to take into account inflation following the adjustment formula. In the latest changes, the Commissioner General, through Legal Notice No.194 dated 25 September 2020, published revised rates of excise duty applicable on excisable goods including petroleum products based on an average inflation rate of 4.94%.

The petroleum regulatory levy, which funds the Energy and Petroleum Regulatory Authority (EPRA), in February 2024, was revised to Ksh 0.75 per litre from Ksh 0.25 leading to a 525% increment from January 2018 when it initially stood at Ksh 0.12. According to the Act, EPRA does not receive funding from the exchequer, relying solely on this levy for financial support. This will increase the revenues that EPRA collects on an annual basis. However, the reasons for the increase in this levy were not provided. One might assume it is due to inflation or rising costs of activities for EPRA, but an analysis reveals otherwise. Adjusting the figure for inflation results in a levy of Ksh 0.35, and the latest EPRA annual reports indicate the organization has been recording surpluses<sup>3</sup>.

The Petroleum Development Fund levy maintains a consistent rate of Ksh 5.40 for both super petrol and diesel, with a separate rate of Ksh 0.40 for kerosene. It's important to note that this was not the historical norm, as there was an adjustment in the fiscal year 2020 following the adoption of the Petroleum Development Levy (Amendment) Order, 2020 that came into effect on 15<sup>th</sup> July 2020 which resulted in an increase from Ksh 0.40 to Ksh 5.40 for both diesel and super petrol. This signifies a substantial 1250% increment for these particular petroleum products.

The Anti-Adulteration Levy is specifically imposed on kerosene at Ksh 18 per liter to discourage adulteration practices with diesel. This practice led to a significant reduction in kerosene consumption. The disappearance of demand for kerosene was a direct consequence of this anti-adulteration measure.

The Merchant Shipping Levy is directed to the Kenya Maritime Authority through a legal notice. It was not charged on petroleum products up until the addendum to revise the petroleum

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<sup>3</sup> [Why Kenya's Petroleum Regulatory Levy Authority Levy Should Have Been Ksh 0.35 Per Litre Instead of Ksh 0.75](#)

prices products was released by ERC in September 2018. It was initially set at Ksh 0.02, subsequently adjusted to Ksh 0.03, and currently stands at Ksh 0.04 per liter for Super Petrol as of February 2024. It's worth noting that the figures of Ksh 0.03 and Ksh 0.04 vary every month for other petroleum products. The Road Maintenance Levy is also fixed at Ksh 18. Notably, this is the only levy that has not been adjusted in the period under study since it has been at the same level from January 2018 to February 2024 but there are plans to increase it further to Ksh 25 due to increase of road maintenance costs.

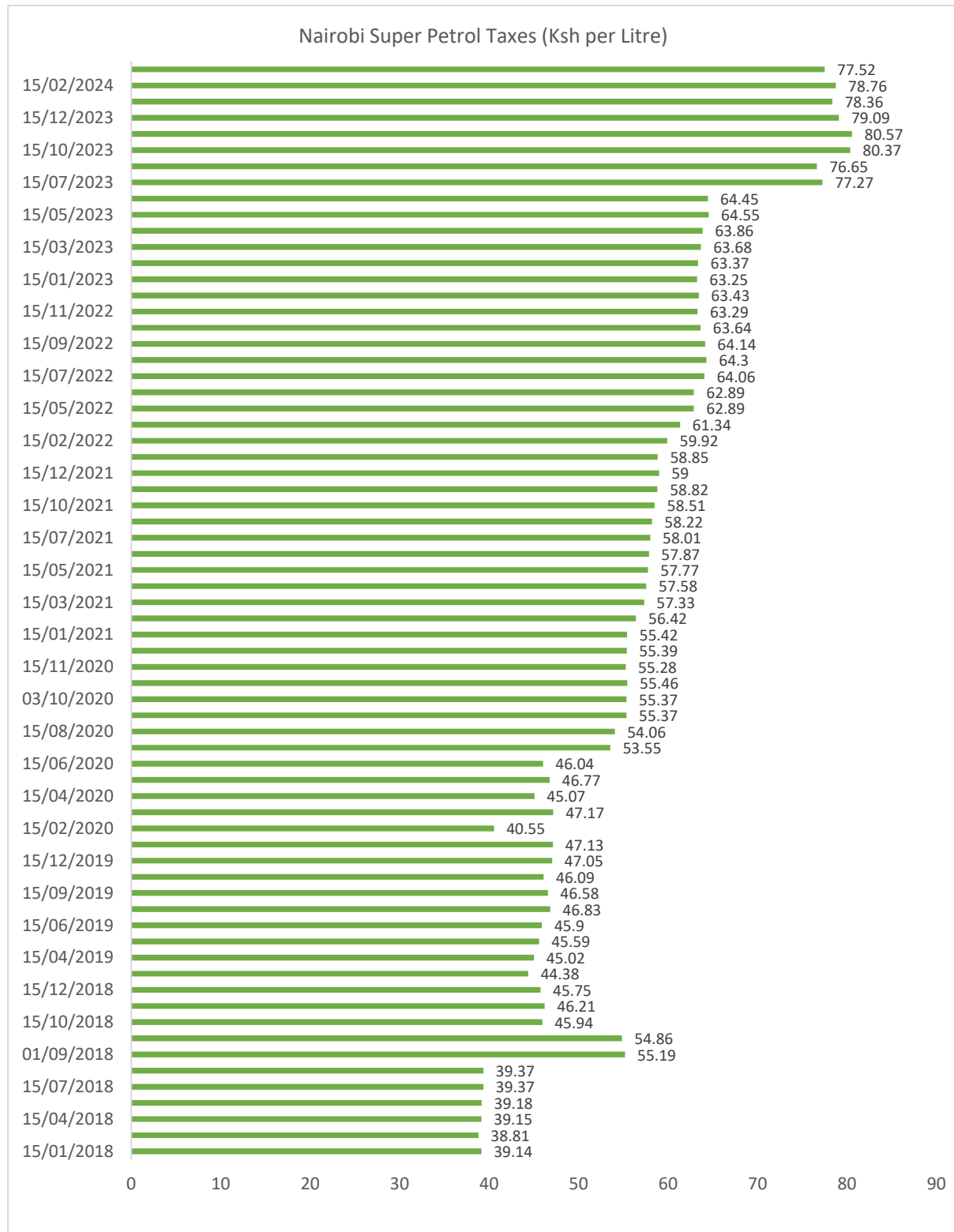
The Railway Development Levy is calculated at a rate of two percent of the customs value of the goods. The Import Declaration Levy is a standard fee equivalent to about 3.5% of the Cost, Insurance, and Freight (CIF). Additionally, a Value-Added Tax (VAT) of 16% is applied to calculate the total tax for each of these individual petroleum products. VAT was initially 8% and was adjusted in 2023. This directive to increase the VAT of petroleum products from 8% to 16% will also lead to an increase in VAT collected depending on the elasticity of demand for the respective petroleum products.

Additionally, these taxes and levies can be categorized into two i.e., fixed and variable taxes. The variable taxes are those that are expressed in percentage form such as VAT which is 16% of the taxable supply; the import declaration levy which is charged at 3.5% of the Cost, Insurance, and Freight, and the railway development levy which is 2% of the customs value of goods. The variable taxes and levies represent a total of Ksh 32.62, Ksh 31.5, and Ksh 31.22 for Super Petrol, Diesel, and Kerosene in February 2024.

The rest, excise duty, road maintenance levy, petroleum regulatory levy, petroleum development fund, railway development levy, merchant shipping levy, and the adulteration levy specifically for kerosene are considered as fixed taxes. The fixed taxes represent a total of Ksh 46.14, Ksh 35.56, and Ksh 30.56 for Super Petrol, Diesel, and Kerosene in February 2024. This shows that they represent 58%, 53%, and 49.46% of the total taxes on petroleum products respectively.

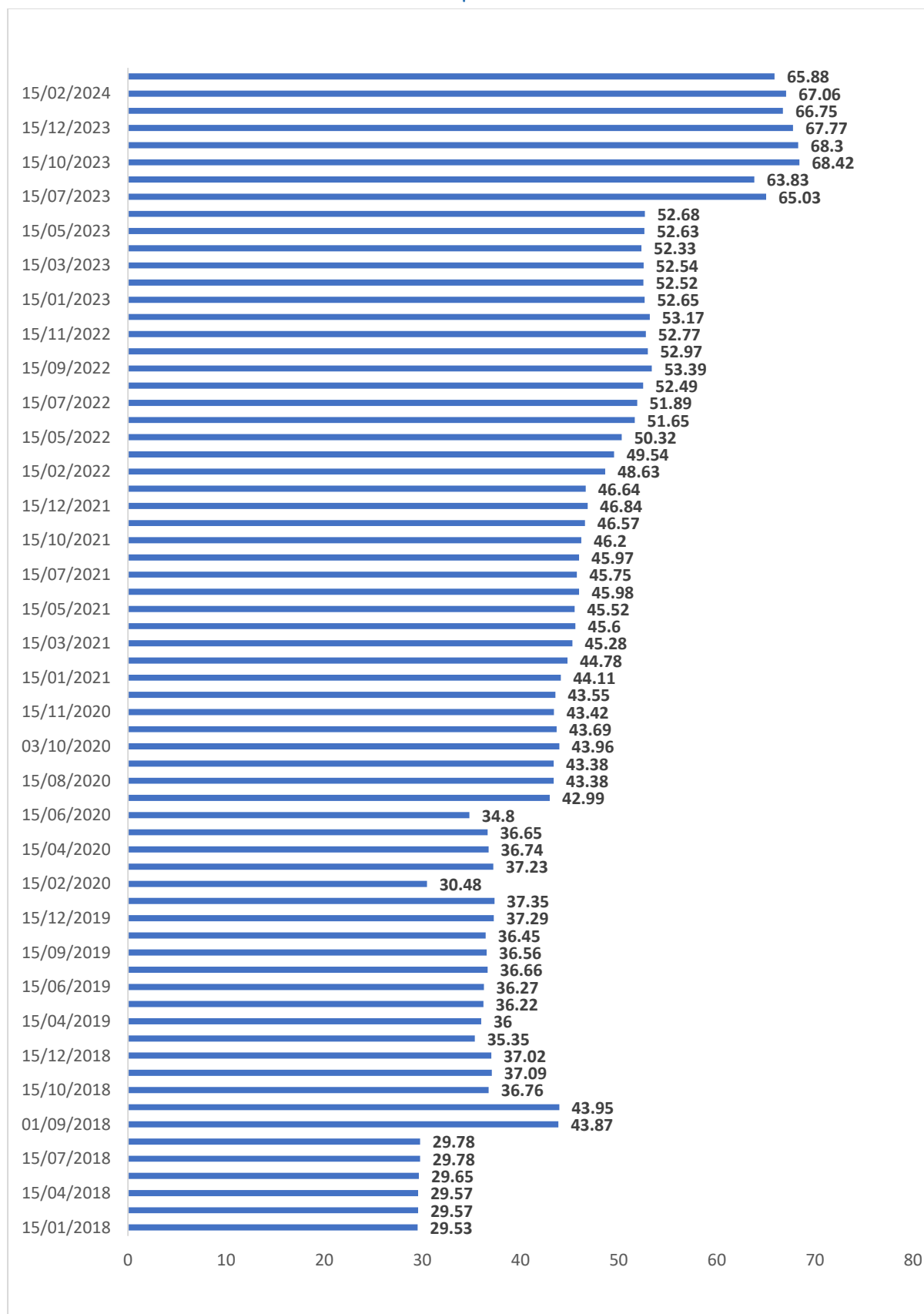
From January 2018 to February 2024, the absolute values of these taxes and levies have exhibited an upward trend, as illustrated in Charts Eight, Nine, and Ten below. For example, in January 2018, the absolute taxes and levies for kerosene, diesel, and super petrol stood at Ksh 8.38, Ksh 29.53, and Ksh 39.14, respectively. Over the ensuing years, these figures have experienced a notable increase, reaching Ksh 61.78, Ksh 67.06, and Ksh 78.76 for kerosene, diesel, and super petrol, respectively, by February 2024.

Chart 8: Nairobi Super Petrol Taxes in Ksh Per Litre



Source: EPRA

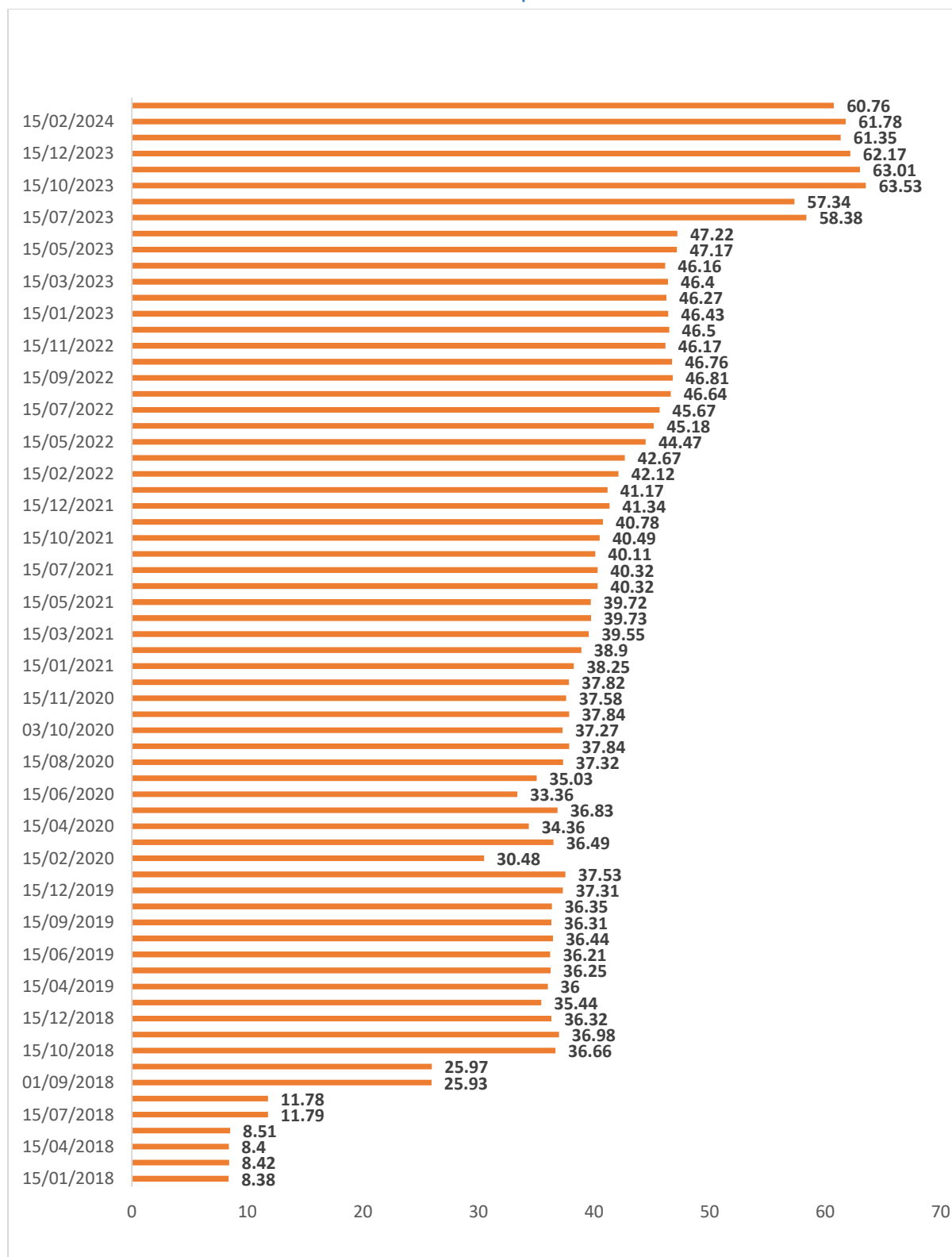
Chart 9: Nairobi Diesel Taxes and Levies in Ksh per Litre



Source: EPRA



Chart 10: Nairobi Kerosene Taxes and Levies in Ksh per Litre



Source: EPRA

## Average Collections Per Petroleum Product from 2019 to 2023

This brief acknowledges that EPRA prices operate from the 15th of one month to the 14th of the next. For consistency, price averages are assumed to cover similar periods, aligning with the monthly fuel consumption data from KNBS, which spans from the 1st to the last day of each month. Nairobi petroleum prices are used as an illustration, clearly outlining the VAT component and the petroleum regulatory levy for each petroleum product. This information is used for the analysis.

Fuel consumption levels are measured in thousand metric tonnes, necessitating conversion to liters. We applied a conversion factor approximating 1 liter to 0.84 kilograms for diesel and fuel oil<sup>4</sup>. For kerosene, the conversion factor that was applied was 1 liter to 0.819 kilograms. Notably, the liters could change with different conversion factors.

Data on VAT and the Petroleum Regulatory Levy for all petroleum products was missing for certain months. Specifically, in 2019, information was unavailable for January, March, August, and November, so the annual calculation accounts for only nine months. In 2020, October had two press releases—on the 3rd and 15th—requiring consumption data for October to be divided and multiplied by the corresponding tax/levy for accurate computation. January 2020 data was also missing. In 2021, the missing data was for September; in 2022, it was for March; and in 2023, it was for September.

### a) Petroleum Levy

Table One below provides an overview of the average collections based on the available information. Examining the total amounts collected reveals fluctuations in the total regulatory levy from 2019 to 2023, with some years witnessing decreased collections while others experienced increases. For example, in 2019, total collections amounted to Ksh 819 million, which decreased by 7.9% to Ksh 757 million in 2020, only to rise again to Ksh 814 million in 2021. Notably, the data indicates a significant decline in petroleum levies collected from kerosene, decreasing from Ksh 51 million to Ksh 16.672 million. This decline is attributed to reduced kerosene consumption over the years. Therefore, from a policy perspective, increasing taxes or levies on kerosene products would likely exacerbate this trend further.

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<sup>4</sup> <https://www.cbs.nl/en-gb/our-services/methods/definitions/weight-units-energy#:~:text=%2D%20Gas%2C%20diesel%2C%20light%20fuel,%3A%201%20litre%20%3D%200.88%20kilogram.>

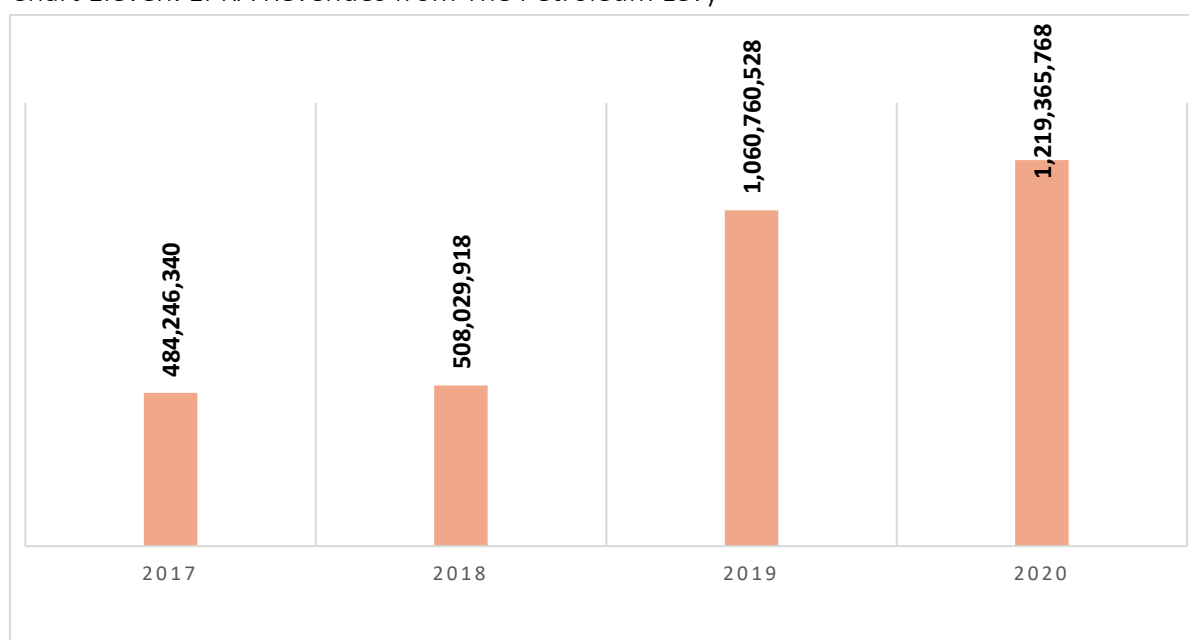
**Table 1: Estimates of Petroleum Levy Collections on an Annual Basis for the Last 5 Years in Ksh**

Date of EPRA Levy	Super Petrol	Diesel	Kerosene	Total
2019	113,919,642.86	654,389,880.95	51,510,989.01	819,820,512.82
2020	80,800,595.24	637,934,523.81	39,249,084.25	757,984,203.30
2021	93,773,809.52	680,955,357.14	40,006,105.01	814,735,271.67
2022	100,315,476.19	675,592,261.90	27,277,167.28	803,184,905.37
2023	111,467,261.90	643,913,690.48	16,672,771.67	772,053,724.05

Source: Institute of Economic Affairs Kenya

Additionally, Chart Eleven below displays the declared petroleum regulatory levy as reported in the Integrated Annual Reports and Financial Statements for different financial years. It's important to note that these figures cover the period from July of the previous year to June of the current year. This temporal discrepancy could account for any disparities between the calculated figures by the Institute of Economic Affairs Kenya and the declared amounts. Another contributing factor is the absence of data for certain months, as mentioned earlier. At the time of this analysis, the EPRA had not published the most recent integrated annual reports and financial statements. Chart Eleven shows that from 2017 to 2020, the revenues from petroleum levies increased by 152%, rising from Ksh 484.2 million to Ksh 1.219 billion on an annual basis.

**Chart Eleven: EPRA Revenues from The Petroleum Levy**



## b) Value Added Tax

VAT is a consumption tax added to the value of goods and services at each stage of production or distribution. In the context of petroleum products, VAT is a tax levied on the sale of these products to consumers. In Kenya, petroleum products are subject to VAT. When consumers purchase items like Super Petrol, diesel, or kerosene, they pay the VAT in addition to the base price of the product. VAT on petroleum products contributes to government revenue and is often used to fund public services and infrastructure projects. However, it can also affect consumers by increasing the overall cost of transportation, and other activities dependent on petroleum products.

**Table 3: Average VAT Collections from Petroleum Products (2019 to 2023)**

VAT Date	Super Petrol	Diesel	Kerosene	Total
2019	1,601,556,428.57	9,128,186,190.48	705,261,294.26	11,435,003,913.31
2020	2,016,061,190.48	14,304,951,309.52	753,856,654.46	17,074,869,154.46
2021	3,213,963,928.57	19,886,773,095.24	917,259,096.46	24,017,996,120.27
2022	4,241,168,928.57	26,034,616,785.71	949,965,445.67	31,225,751,159.95
2023	7,782,211,547.62	49,907,293,928.57	991,446,031.75	58,680,951,507.94

Source: Institute of Economic Affairs, Kenya

The total VAT collected from the three petroleum products has seen a substantial increase from Ksh 11.43 billion in 2019 to Ksh 58.68 billion in 2023, marking a notable 413% surge. Diesel has undergone the most significant escalation during this period, with an 82% increase, followed by Super Petrol at 79%, and finally Kerosene with a 29% rise.

The significant increase in VAT collected from petroleum products can be attributed to tax policy changes. Over time, VAT rates have risen, leading to higher tax collections. For example, in February 2019, the VAT charged on Super Petrol was Ksh 4.42 per liter, but by March 2024, it had more than doubled to Ksh 27.47. Furthermore, higher consumption of a particular petroleum product results in increased VAT collections. Conversely, if market demand and consumption decrease, VAT collections decline accordingly. Moreover, VAT is a percentage-based tax, meaning it fluctuates based on changes in other costs within the price formula. When costs like landed costs increase, they raise the base upon which VAT is calculated, resulting in higher overall costs for consumers.

## Petroleum Product Prices

$$P_r = P_w + T_s + M_{ri} + M_{ro} + VAT$$

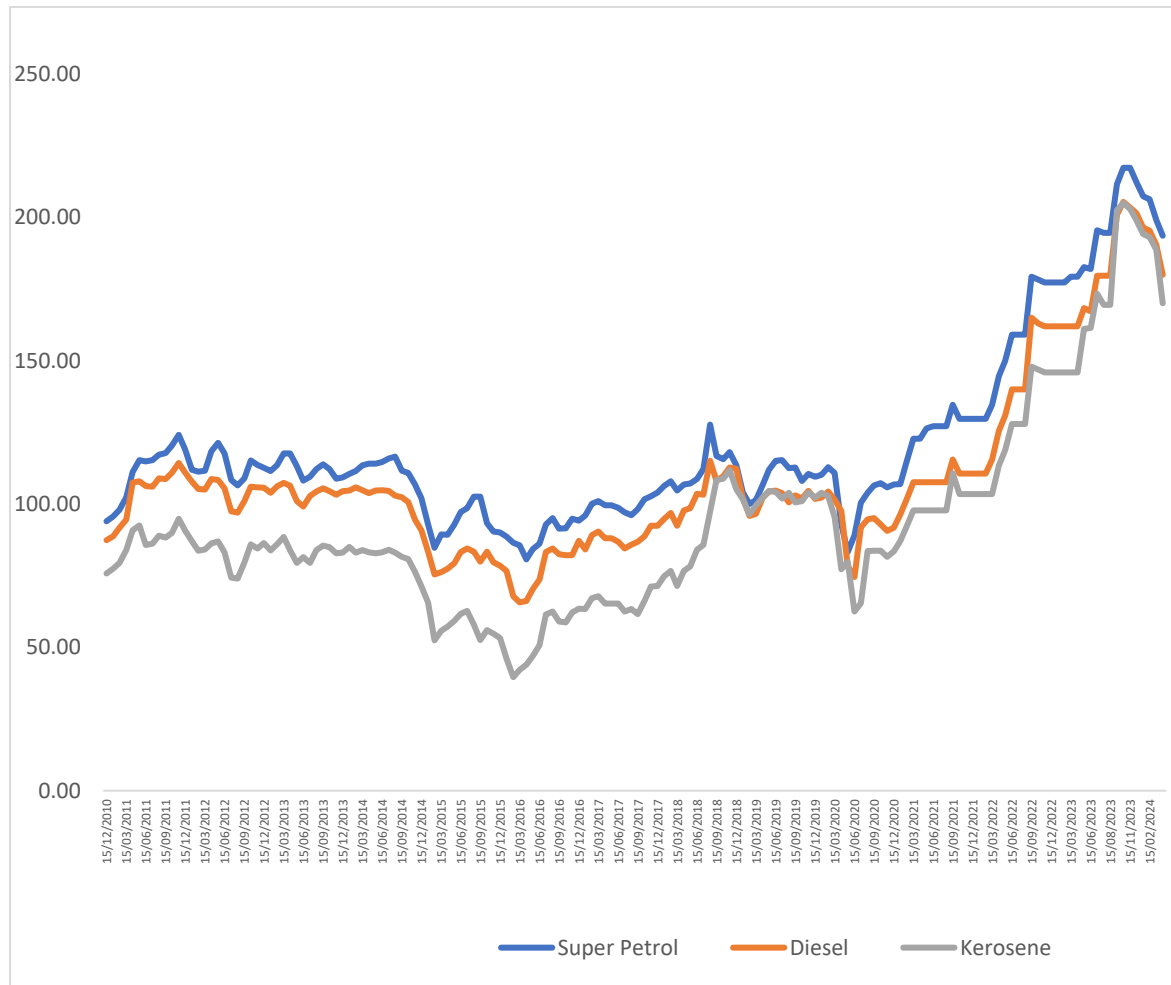
$P_r$  is the maximum retail price of petroleum products. The wholesale price ( $P_w$ ) is augmented by the local distribution cost ( $T_s$ ) since the pipeline network might not be in every location. As mentioned earlier, the distribution charge covers the transportation of products from a storage facility to a petrol station and is based on the proximity to the nearest wholesale depot

Among the margins derived from the Cost-of-Service Study of Petroleum products conducted by EPRA were the MRi (Retail Investment Margin) and MRo (Retail Operating Margin). MRi compensates investors for infrastructure investments in retail stations, with the construction of a standard station costing approximately Ksh 80 million, excluding land<sup>5</sup>. MRo is designed for station operators, providing compensation for utilities, including water and electricity, as well as a small return for their operational efforts. The VAT component is included once again at this point.

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<sup>5</sup> [Rising Fuel Prices in Kenya](#)

Chart 12: Monthly Petroleum Product Price Trends December 2010 to April 2024



Source: EPRA

Chart Twelve above shows the different monthly pump prices in Kenya from December 2010 to April 2024. The fuel price in the period under study has increased by 106%, 106%, and 124% for Super Petrol, Diesel, and Kerosene respectively. The determinants of petroleum product prices in Kenya are primarily shaped by taxes, levies, and the exchange rate. The methodology employed in a previous analysis effectively decomposed retail prices into tax and non-tax components, revealing that taxation costs substantially impact changes in retail prices, underscoring the importance of recognizing the broader spectrum of influences on retail prices<sup>6</sup>.

The computation of the final price involves a comprehensive consideration of various factors, including landed costs, distribution and storage costs, oil marketers' margins, price stabilization

<sup>6</sup> (Okadia, 2024)

surplus or deficit, and taxes and levies. The resulting price can be either subsidized by the government or directly announced to consumers.

An illustrative example is the decision made in November 2023 when the government, in response to the increased landed costs, chose to stabilize pump prices for the November to December 2023 pricing cycle. To offset the impact on consumers from the rise in pump prices, the National Treasury identified resources within the existing resource envelope to compensate oil marketing companies.

The provided Table Four likely displays a comparison between the actual and published prices, showcasing the adjustments made to stabilize pump prices and the financial measures taken by the government to mitigate the impact on consumers. Such interventions are common in the petroleum industry to manage fluctuations in global oil prices and ensure a stable and predictable pricing environment for consumers.

**Table 4: A Comparison Between the Prices Implemented and The Prices Officially Published for November 2023**

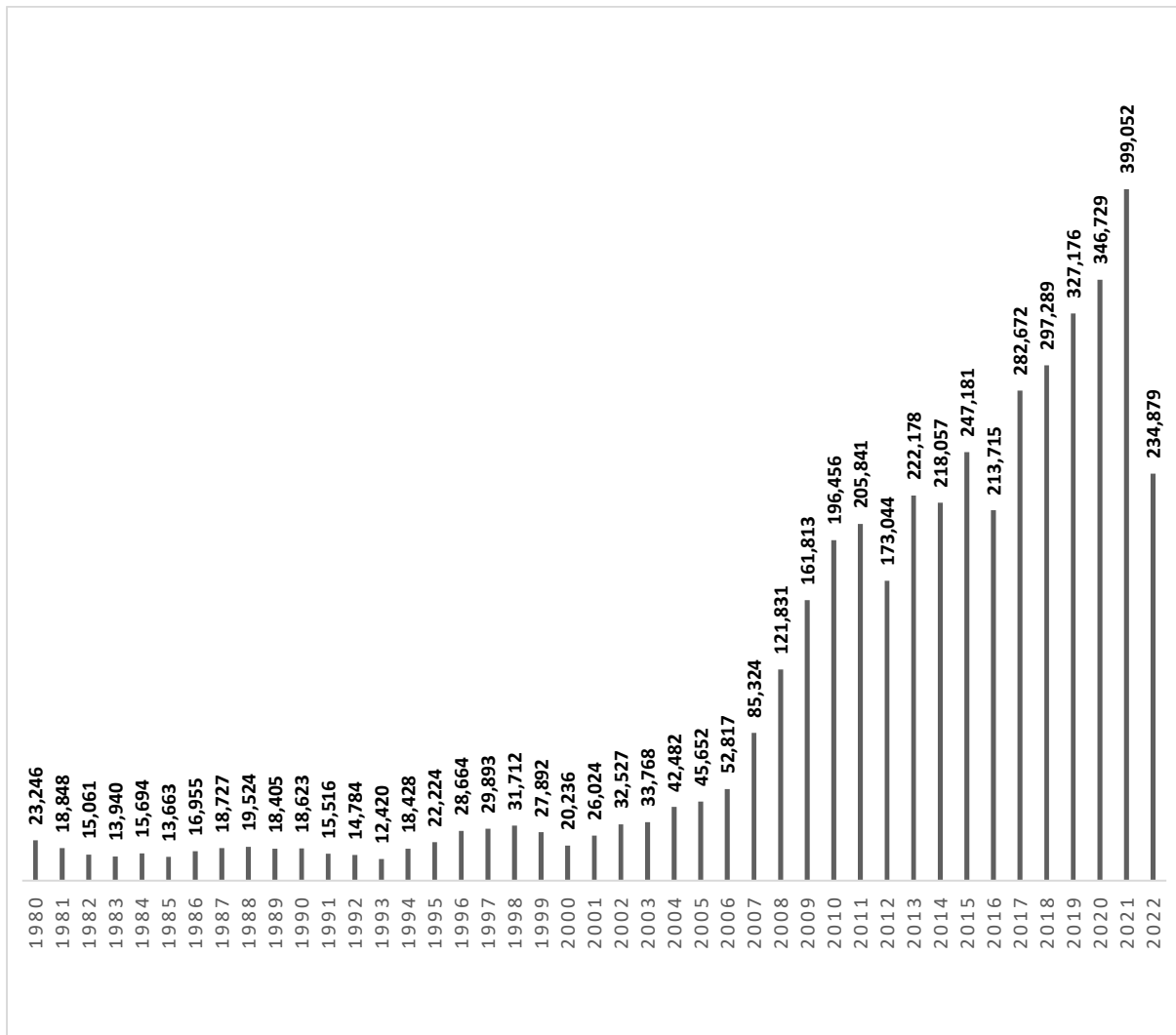
Product	Calculated Price (Ksh/Litre)	Actual Published Price (Ksh/litre)	Difference (To be Compensated from the PDL) (Ksh/Litre)
Super Petrol	229.37	217.36	12.01
Diesel	223.29	203.47	19.82
Kerosene	206.70	203.06	3.64

Source: EPRA

### Consumption of Petroleum Products

The transportation sector stands as the primary consumer of petroleum products in Kenya. Both Diesel and Super Petrol are essential fuels for road transportation including personal vehicles, public transportation, and freight trucks. As urbanization continues and the middle class expands, the demand for vehicles has risen, driving petroleum consumption upward. According to the various statistical abstracts published by the Kenya National Bureau of Statistics, the number of new motor vehicles registered annually has increased from 23,246 in 1980 to 234,879 in 2022 as shown in Chart 13 below. In 2022, the total number of registered vehicles stood at 4,588,770.

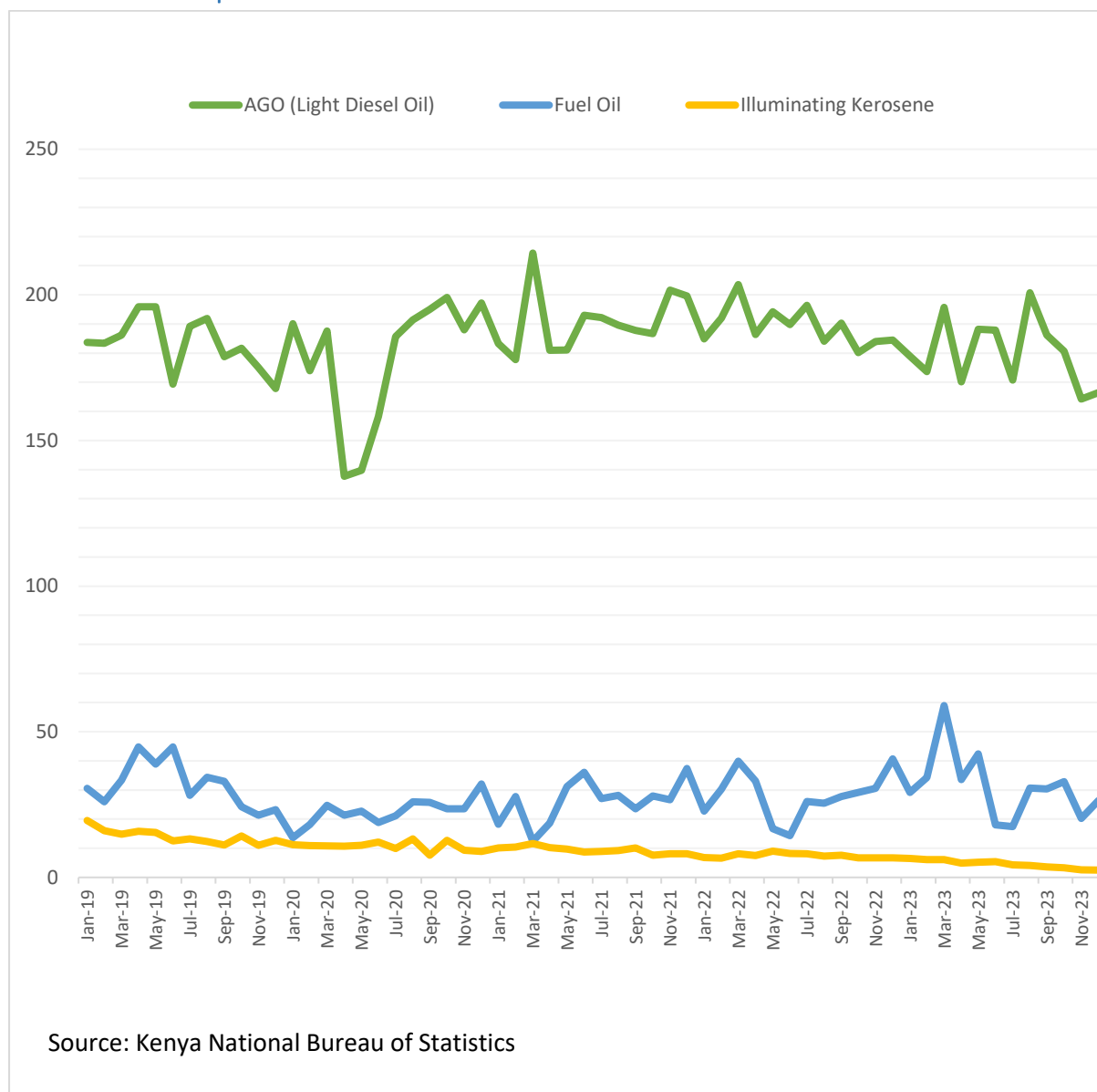
Chart 13: Number of New Registered Vehicles, 1980 to 2022



Source: Various Statistical Abstracts, KNBS



Chart 14: Consumption of Petroleum Products in Thousand Metric Tonnes



All three petroleum products have fluctuating consumption patterns. However, kerosene consumption has been significantly reducing on a month-to-month basis during the period under review. As of December 2023, illuminating kerosene recorded a consumption level of 2.52 thousand metric tonnes. This reveals a nuanced trend indicating a significant 87% decrease in illuminating kerosene consumption from January 2019 to December 2023. When it comes to kerosene products, people are more likely to stop buying them if the price goes up. This is because they have other options, like using charcoal instead. So, when kerosene gets too expensive, they switch to something else.

## Transport Consumer Price Index

The Consumer Price Index (CPI) is a measure used to evaluate changes in the average price level of goods and services purchased by households over time. It's one of the most commonly used indicators for tracking inflation and assessing changes in the cost of living. Among the various goods and services that the Government of Kenya has put in the basket to track prices over time is transport. They also track housing, water, electricity, gas, and other fuels as one variable. According to various consumer price indices published every month by KNBS, from January 2022 to March 2024, transport has maintained a weight of 9.65 in terms of how it affects the general inflation rate while housing, water, electricity, gas, and other fuels have maintained a weight of 14.6124.

**Table Five: Percentage Change Month to Month and On Same Month of the Previous Year-Transport Variable**

	% Change on last month	%change on the same month previous year
Jan-22	-0.11	6.84
Feb-22	0.13	4.54
Mar-22	0.63	3.66
Apr-22	2.84	6.88
May-22	0.8	6.4
Jun-22	0.9	7.1
Jul-22	0.1	7
Aug-22	0.3	7.6
Sep-22	3.6	10.2
Oct-22	1	11.6
Nov-22	-0.1	11.7
Dec-22	2.3	13
Jan-23	0	13.1
Feb-23	0	12.9
Mar-23	0.3	12.6
Apr-23	0.2	9.8
May-23	1.2	10.1
Jun-23	0.2	9.4
Jul-23	3.5	13
Aug-23	0.3	13.1
Sep-23	3.5	13
Oct-23	1.5	13.6
Nov-23	-0.1	13.6
Dec-23	0.5	11.7
Jan-24	-0.9	10.6
Feb-24	0.2	10.8
Mar-24	-0.6	9.7

From Table Five above, the highest percentage change that has occurred in the same month from two different years, under the period under study has been between November 2022 and November 2023 which stood at 13.6%. While, on a month-by-month basis it has been 3.6, which was experienced between August 2022 and September 2022.

## Conclusion

Overall, the analysis presented in this brief brings in the different statistics around Kenya's petroleum sector and the interconnectedness of various factors shaping its evolution over time. Understanding this data is essential for informed decisions of policymakers, industry stakeholders, and consumers on how to navigate the evolving landscape of the sector's interconnected industries.

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## Annexes

### Annex One: Distribution of Various Costs Per Petroleum Products in Nairobi in Percentages

Date	Landed Cost (Share of Total Price)	Storage & distribution costs Share	Supplier Margins Share	Taxes & Levies Share
15/01/2018	48.8%	4.1%	10.2%	36.8%
15/02/2018	49.6%	4.0%	10.1%	36.3%
15/03/2018	49.4%	4.1%	10.1%	36.5%
15/04/2018	49.1%	4.1%	10.2%	36.6%
15/05/2018	49.2%	4.1%	10.2%	36.5%
15/06/2018	50.0%	4.0%	10.0%	36.0%
15/07/2018	51.3%	3.9%	9.7%	35.1%
15/08/2018	51.9%	3.9%	9.6%	34.6%
15/09/2018	44.9%	2.8%	8.7%	43.7%
15/10/2018	47.9%	3.0%	9.4%	39.7%
15/11/2018	48.7%	2.9%	9.2%	39.1%
15/02/2019	41.4%	3.4%	10.9%	44.3%
15/04/2019	42.0%	3.3%	10.7%	43.9%
15/05/2019	44.3%	3.2%	10.2%	42.2%
15/06/2019	46.5%	3.1%	9.7%	40.7%
15/07/2019	47.6%	3.0%	9.5%	39.9%
15/08/2019	47.0%	3.0%	9.4%	40.6%
15/09/2019	46.0%	3.0%	9.7%	41.3%
15/10/2019	44.1%	3.2%	10.1%	42.7%
15/11/2019	43.5%	2.6%	11.2%	42.7%
15/01/2020	43.4%	2.6%	11.2%	42.8%
15/02/2020	44.1%	2.9%	11.0%	42.0%
15/03/2020	43.3%	2.9%	11.2%	42.5%
15/04/2020	34.7%	3.4%	13.3%	48.5%
15/05/2020	25.2%	3.8%	14.9%	56.1%
15/06/2020	30.8%	3.6%	13.9%	51.7%
15/07/2020	31.3%	3.1%	12.3%	53.3%
15/09/2020	34.4%	3.0%	11.7%	51.0%
15/10/2020	33.8%	3.0%	11.6%	51.7%
15/11/2020	33.1%	3.0%	11.7%	52.2%
15/01/2021	33.7%	3.0%	11.6%	51.8%
15/02/2021	37.5%	2.8%	10.8%	49.0%
15/03/2021	40.6%	2.6%	10.1%	46.7%
15/04/2021	44.0%	2.7%	6.5%	46.9%
15/05/2021	41.9%	2.6%	9.8%	45.7%
15/06/2021	42.2%	2.6%	9.7%	45.5%
15/07/2021	45.0%	2.5%	6.9%	45.6%

15/08/2021	47.6%	2.5%	4.2%	45.8%
15/09/2021	44.8%	2.4%	9.2%	43.7%
15/10/2021	47.6%	2.4%	4.8%	45.1%
15/11/2021	52.4%	2.3%	0.0%	45.3%
15/12/2021	55.5%	2.6%	0.0%	45.5%
15/01/2022	53.1%	2.5%	0.0%	45.4%
15/02/2022	52.9%	2.5%	0.0%	46.2%
15/03/2022	58.0%	2.5%	0.0%	44.3%
15/04/2022	65.3%	2.3%	0.0%	42.4%
15/05/2022	64.5%	2.3%	0.0%	41.2%
15/06/2022	65.4%	2.2%	0.0%	39.5%
15/07/2022	79.2%	2.3%	0.0%	40.3%
15/08/2022	81.5%	2.3%	0.0%	40.4%
15/09/2022	55.4%	1.9%	6.9%	35.8%
15/10/2022	51.0%	2.1%	6.9%	35.7%
15/11/2022	49.6%	2.1%	7.0%	35.7%
15/12/2022	50.3%	2.1%	7.0%	35.8%
15/01/2023	48.7%	2.1%	7.0%	35.7%
15/02/2023	49.1%	2.2%	7.0%	35.7%
15/03/2023	50.4%	2.1%	6.9%	35.5%
15/04/2023	52.1%	2.2%	6.9%	35.6%
15/05/2023	55.7%	2.2%	6.8%	35.3%
15/06/2023	55.6%	2.2%	6.8%	35.4%
01/07/2023	51.8%	2.0%	6.3%	39.9%
15/07/2023	51.9%	2.0%	6.4%	39.7%
15/08/2023	55.5%	2.0%	3.1%	39.4%
15/09/2023	54.8%	1.9%	5.9%	37.5%
15/10/2023	56.6%	1.9%	4.5%	37.0%
15/11/2023	60.1%	1.9%	0.9%	37.1%
15/12/2023	52.3%	1.9%	5.8%	37.2%
15/01/2024	51.9%	2.0%	6.0%	37.8%
15/02/2024	53.4%	2.0%	6.0%	38.2%
15/03/2024	52.4%	2.0%	6.2%	38.9%
15/04/2024	51.6%	2.0%	6.4%	39.5%

Source: EPRA, calculated and calculated by Institute of Economics Kenya

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