PUBLIC UTILITIES
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Comparative Analyses of Electricity & Water Tariffs in Africa: The Case of Ghana

OCTOBER 2025

KEY HIGHLIGHTS

- Ghana's lifeline tariff is among the lowest in the region.
- Average residential tariffs are lower than Liberia, Sierra Leone, Mali, Burkina Faso, Togo, Benin, Senegal and Cote D'Ivoire.
- Average commercial tariffs are moderate, lower than Liberia, Sierra Leone, Togo, Mali, Burkina Faso and Côte d'Ivoire, but higher than Benin and Nigeria.
- Overall, Ghana's electricity tariff structure balances affordability for low-income users with cost recovery for the utility sector.
- Ghana's residential water tariff is mid-range, comparable to Mali and lower than Liberia and Burkina Faso.
- Ghana's commercial/industrial water tariff is the highest in the region.

These outcomes indicate that Ghana's water tariff framework relies heavily on cost recovery from commercial and industrial users.

1. Executive Summary

The Public Utilities Regulatory Commission (PURC) has been established by the PURC Act1997, Act 538, to serve as the economic regulator and oversee the provision of utility services in Ghana. In accordance with section 3(g) of the PURC Act 538, this brief presents a comparative analysis of Ghana's electricity and water tariffs relative to selected African countries. It is aimed at providing comprehensive and evidence-based tariff information to guide decision-making by examining regional tariff structures and pricing mechanisms across the continent. The study used a cross-sectional tariff data of the selected countries. By situating Ghana's tariff framework within the broader African context, the brief offers valuable lessons that can inform regulatory policy, promote transparency in tariff determination and support efforts toward achieving cost-reflective and sustainable electricity pricing. The analysis assesses affordability for residential and commercial/industrial consumers and contextualizes tariff outcomes within each country's energy mix. Findings from available data indicate that Ghana maintains competitive electricity tariffs, particularly for lifeline and residential consumers, supported by a relatively balanced energy mix. However, average water tariffs in Ghana—especially for commercial and industrial consumers—are among the highest in the region

2. Introduction

Across Africa, electricity industry structures vary from traditional vertically integrated utilities to fully unbundled systems, with an increasing shift toward structural separation to enhance efficiency and attract private investment. Most countries now allow Independent Power Producers (IPPs) to participate in generation, reflecting a broader move towards liberalisation. Notably, countries such as Ghana, Burkina Faso, Cape Verde, etc. have enacted legislation permitting open access to transmission networks, enabling greater competition and regional power trade within the continent.

The electricity sector governance and regulatory models in Africa differ widely, with no single uniform approach. In most countries, independent regulatory authorities, rather than government ministries, are responsible for setting and approving electricity tariffs, reflecting a gradual move toward greater transparency and professional oversight. Countries such as Ghana, Nigeria and South Africa demonstrate strong regulatory involvement, where regulators play a central role in price determination and sector supervision. These countries also exhibit higher levels of structural separation, having unbundled generation, transmission and distribution functions to enhance efficiency, attract private investment, and promote accountability within the power sector.

Electricity tariff-setting methodologies vary widely across the continent but remain largely grounded in cost-based approaches designed to ensure utilities recover efficient costs while earning a fair return on investment. In several West African nations such as Côte d'Ivoire, The Gambia and Mali, regulators continue to apply the cost-plus (rate-of-return) model, allowing utilities to recover costs with an approved margin. Elsewhere, countries like Cape Verde, Niger, Senegal, and Kenya have adopted price-cap frameworks, which set upper limits on tariff adjustments to promote efficiency and protect consumers. A few systems such as those in Burkina Faso, Togo, and Tanzania use revenue-cap models, focusing on total allowable revenues rather than price per unit. More advanced markets, including Ghana, Nigeria, and South Africa, employ hybrid approaches that combine elements of cost-of-service and incentive regulation to balance affordability, financial sustainability, and service quality. In addition, several regulators such as in Ghana, Mali, Niger, Morocco, Egypt and South Africa explicitly calculate the Weighted Average Cost of Capital (WACC) to guide investment remuneration, aligning tariff structures with capital market conditions and promoting long-term sector stability.

Ghana applies a Hybrid tariff setting framework, where the Public Utilities Regulatory Commission (PURC) determines tariffs based on the actual costs of generation, transmission, and distribution. This approach ensures financial sustainability for utilities such as ECG, NEDCo, and VRA, while attempting to minimize undue burdens on consumers. Many other African countries, such as Kenya, Uganda, and South Africa, have adopted similar methodologies. However, in some regions, tariffs remain politically influenced or subsidized, leading to price distortions. For instance, Ethiopia and Sudan maintain highly subsidized tariffs, making electricity relatively cheap but unsustainable for long-term investment. South Africa by contrast, operate more market-driven systems where tariffs reflect near-full cost recovery. Thus, Ghana's cost-reflective framework places it among the more reform-oriented countries on the continent.

In most parts of the continent, block tariff structures are commonly applied to residential electricity consumers. Under this system, households are charged different rates depending on the level of consumption, with lower tariffs for basic usage (lifeline blocks) and higher rates for higher consumption levels. This approach is intended to promote equity, ensuring affordability for low-income households while encouraging energy efficiency and cost recovery from higher-usage customers. However, the diversity of tariff structures ranging from multi-tiered residential blocks to flat-rate systems for commercial and industrial users makes direct cross-country comparison difficult. To ensure consistency and comparability in this analysis, the study therefore adopts a single average residential tariff value to represent household consumers and a single composite tariff to represent both commercial and industrial categories. This methodological simplification provides a standardized basis for comparing electricity pricing patterns and affordability levels across different African countries while recognizing underlying structural differences in tariff design.

3. Discussion of Ghana's tariff compared to the rest of the African Continent.

3.1 Focus on Ghana and West Africa

In West Africa, electricity tariffs vary depending on the extent of government subsidy, energy mix, and regulatory maturity. Ghana applies a cost-reflective tariff determined by the Public Utilities Regulatory Commission (PURC), which integrates generation, transmission and distribution costs. Côte D'Ivoire and Senegal have similar tariff structures, reflecting a mix of hydropower and thermal sources. However, these countries often provide limited subsidies to protect consumers from global fuel price volatility. Nigeria, by contrast, has a fragmented tariff system (the Multi-Year Tariff Order) where tariffs vary across distribution companies and are frequently below cost-recovery levels due to political intervention. Sierra Leone and Liberia maintain some of the highest tariffs in the subregion, primarily due to smaller generation capacity and high operational inefficiencies. Overall, Ghana's tariffs are moderate within West Africa higher than in subsidized Nigeria but lower than in smaller systems like Liberia or Sierra Leone. Ghana's relatively strong regulatory structure contributes to tariff stability and cost recovery compared to its neighbours.

Table 1: Ghana's Average Electricity Tariffs (USD/kWh)

Category	Tariff (USD/kWh)
Lifeline	0.065
Residential	0.136
Business/Commercial	0.149

Table 2: Regional Comparison of Average Electricity Tariffs (USD/kWh)

Country	Lifeline	Residential	Commercial
Nigeria	-	0.034	0.044
Liberia	0.150	0.264	0.242
Sierra Leone	-	0.224	0.291
Togo	0.110	0.219	0.233
Benin	0.152	0.160	0.130
Senegal	-	0.194	—
Mali		0.233	0.169
Burkina Faso	—	0.206	0.190
Côte d'Ivoire	0.140	0.142	0.252

Figure 1: Regional Comparison of Average Electricity Tariffs (USD/kWh)

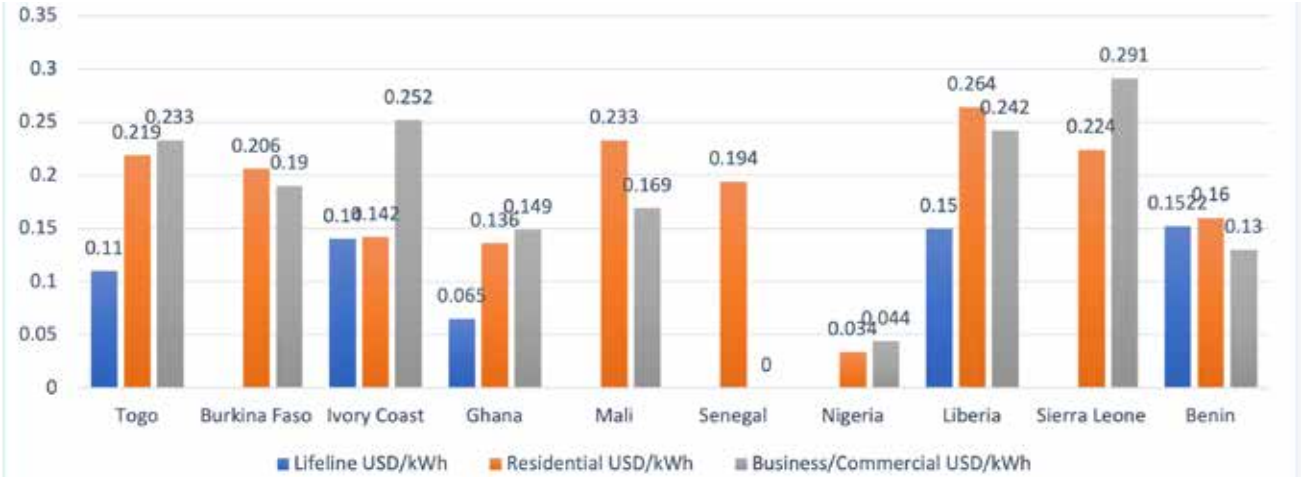


Figure 2: Average Electricity Tariffs for Ghana Compared to the Total Average for the Other Countries (USD/kWh)

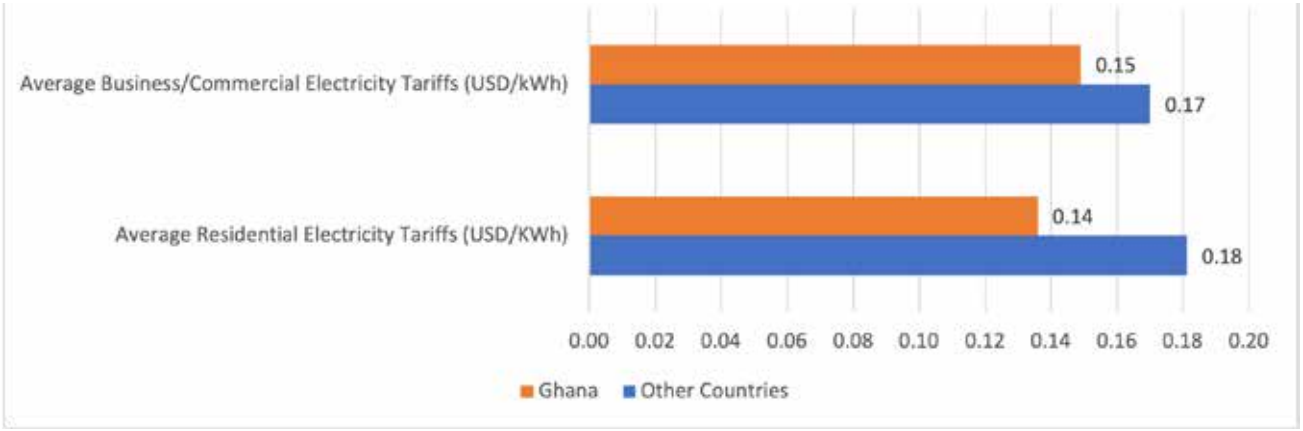


Table 3: Ghana's Water Tariff (USD/m³)

Category	Tariff (USD/m³)
Residential	0.59
Commercial/Industrial	2.29

Table 4: Regional Comparison Water Tariff (USD/m³)

Country	Residential	Commercial
Nigeria	0.07	0.18
Liberia	0.925	1.06
Sierra Leone	0.12	0.30
Togo	0.62	0.78
Benin	0.36	0.36
Senegal	0.45	0.45
Mali	0.59	—
Burkina Faso	0.73	2.16
Côte d'Ivoire	—	—

Figure 3: Regional Comparison of Water Tariffs (USD/m³)

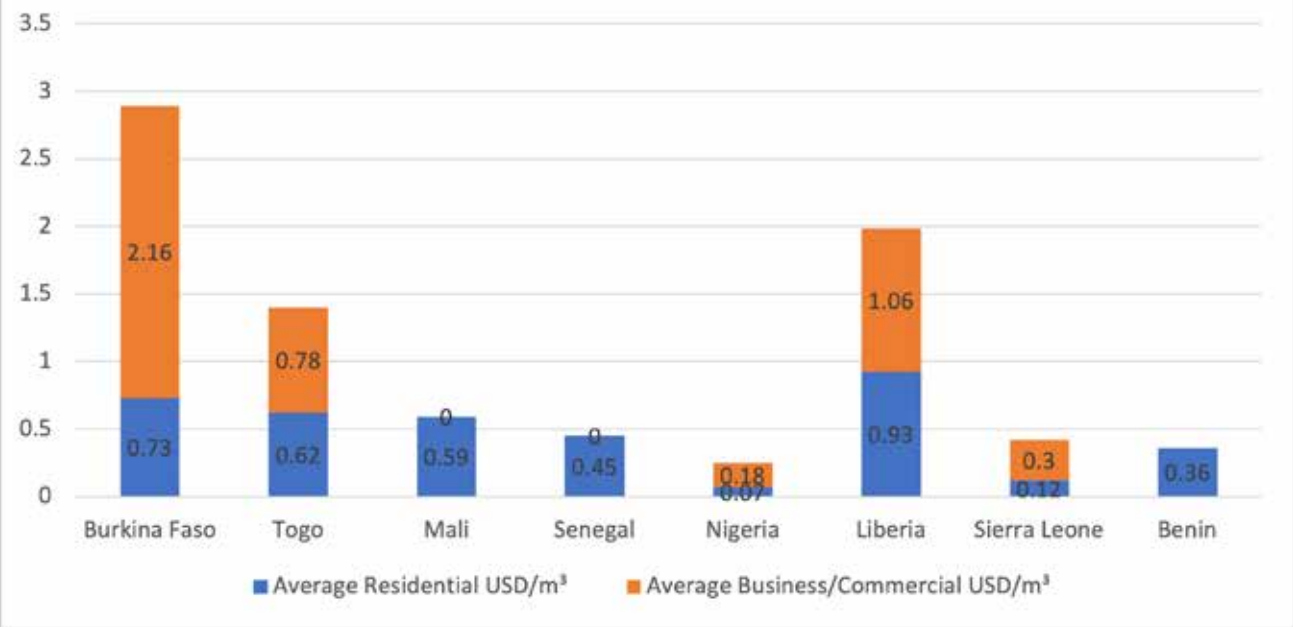


Figure 4: Average Water Tariffs for Ghana Compared to the Total Average for the Other Countries (USD/m³)

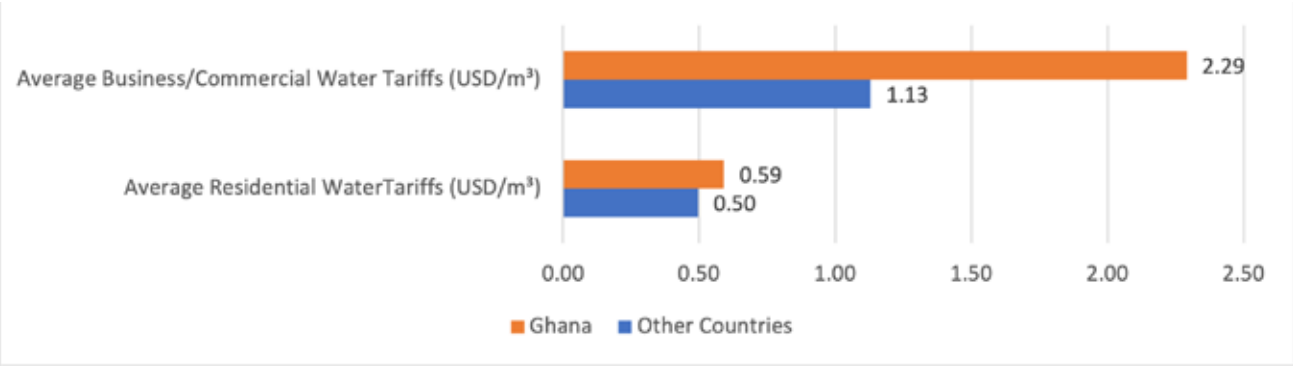


Table 5: Energy Mix

Country	Fossil Fuels (%)	Hydro (%)	Solar (%)
Ghana	66.06	33.36	0.58
Nigeria	78.38	21.48	0.14
Togo	75.00	18.80	6.82
Liberia	66.00	33.00	1.00
Sierra Leone	61.20	18.90	7.80
Senegal	75.29	4.05	10.98
Benin	83.60	—	16.40
Mali	61.25	37.94	0.81
Burkina Faso	68.83	15.58	15.58
Côte d'Ivoire	69.47	30.34	0.18

Figure 5: Energy Mix

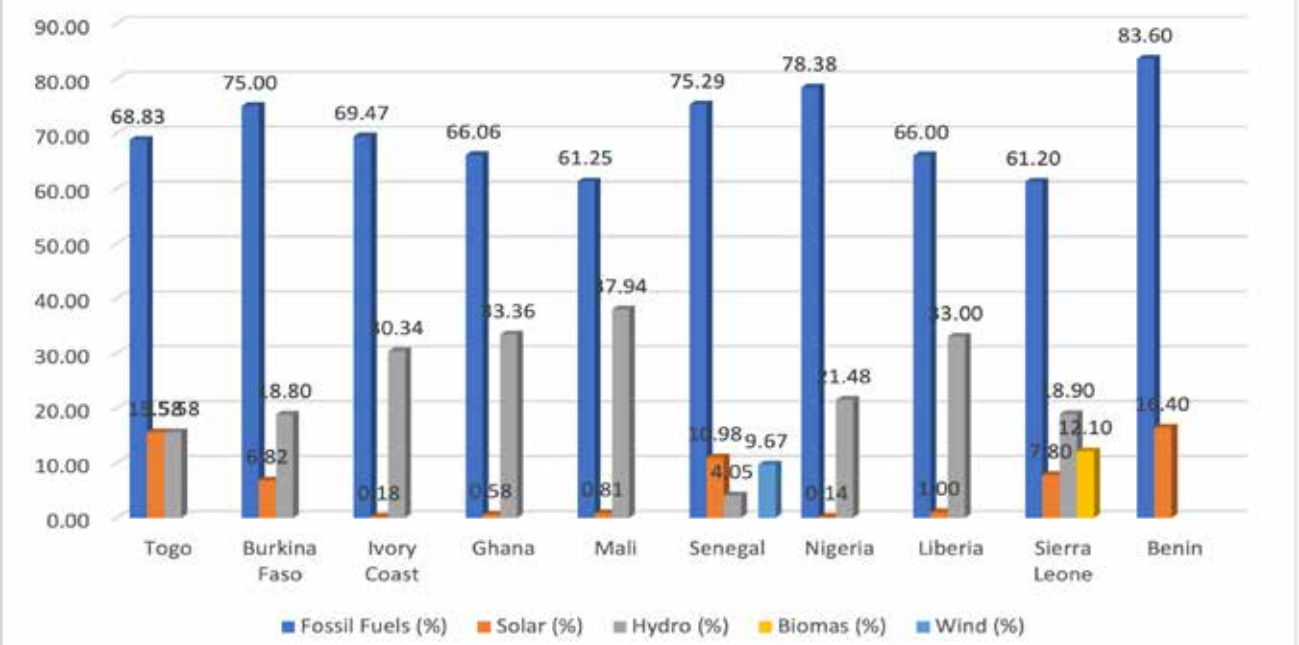
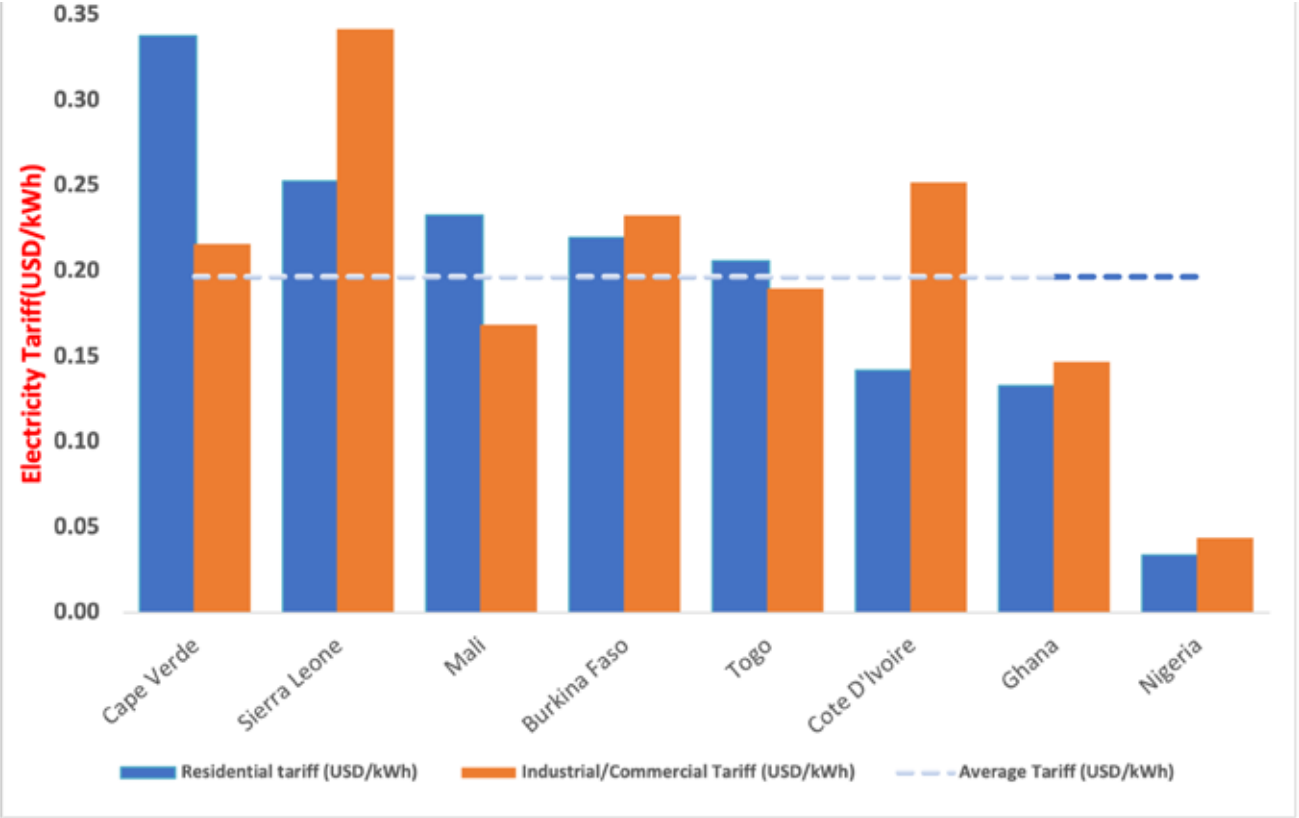


Figure 6: Electricity Tariff of Selected Western African Countries Compared to Ghana



To sum it up, in the context of West Africa, Ghana's electricity tariffs remain regionally competitive, particularly for lifeline and residential users, reflecting effective policy design and a balanced generation mix. Ghana's commercial electricity rates are moderate and consistent with its peers in the region.

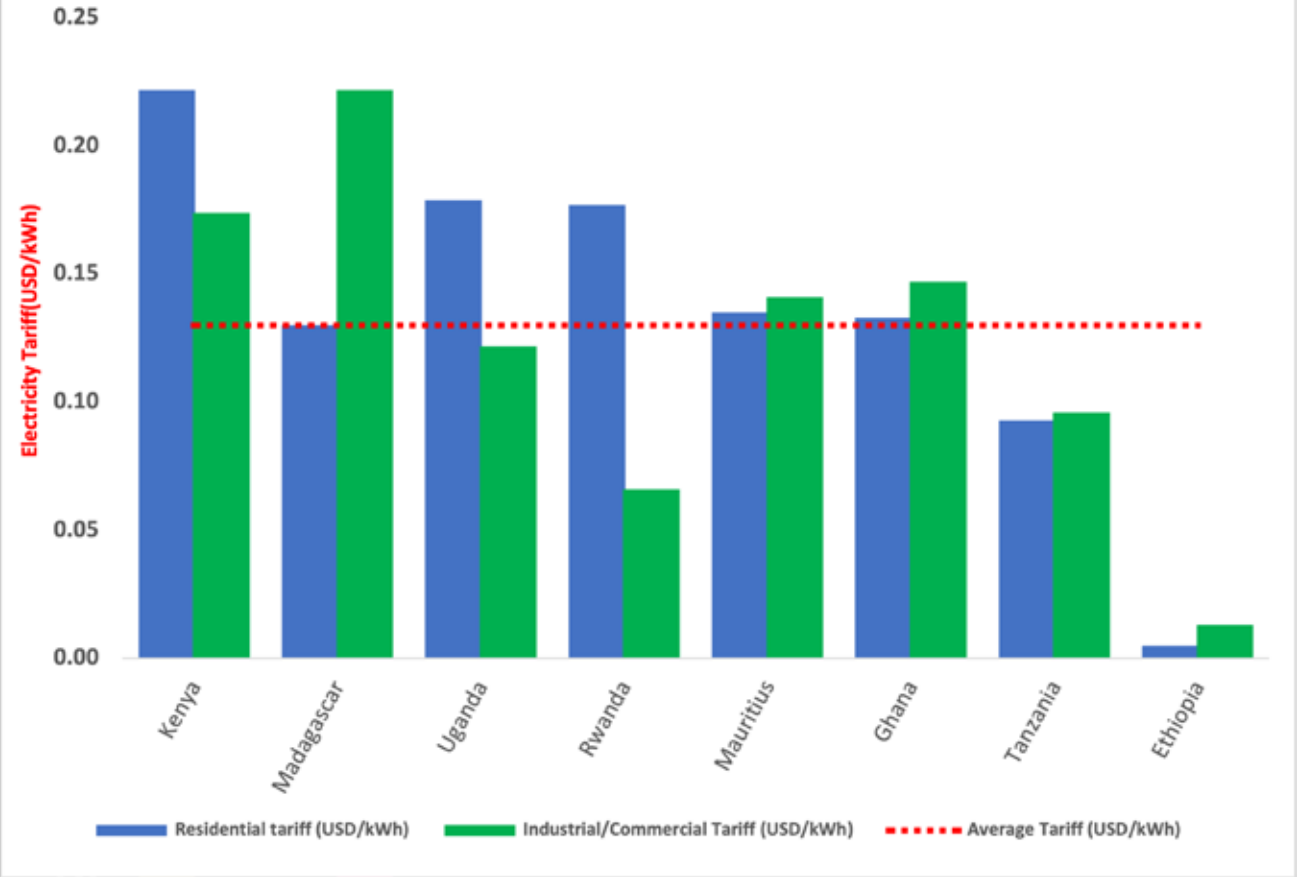
Conversely, Ghana's water tariffs—especially for commercial and industrial consumers—are among the highest in the region. This underscores the need to review tariff-setting mechanisms in the water sector to enhance efficiency and balance affordability with sustainability.

Overall, Ghana demonstrates strong performance in electricity affordability but faces challenges in water pricing, which could affect industrial competitiveness and long-term sectoral equity.

3.2 Ghana Compared to East Africa

East African countries generally maintain lower average tariffs than those in West Africa due to a heavier reliance on hydropower and donor-supported energy programs. Ethiopia offers some of the lowest electricity tariffs in Africa, largely because of abundant hydropower resources and extensive government subsidies. Kenya, Tanzania and Uganda have gradually adopted cost-reflective tariffs, similar to Ghana, although the absolute tariff levels remain slightly lower. This is as a result of reduced generation costs and external funding for energy projects. When compared to the Eastern African region, Ghana's electricity tariffs are relatively higher, mainly reflecting its thermal generation component and foreign exchange exposure in fuel procurement. Nonetheless, Ghana shares a similar commitment to cost-based pricing and regulatory transparency as seen in Kenya and Uganda.

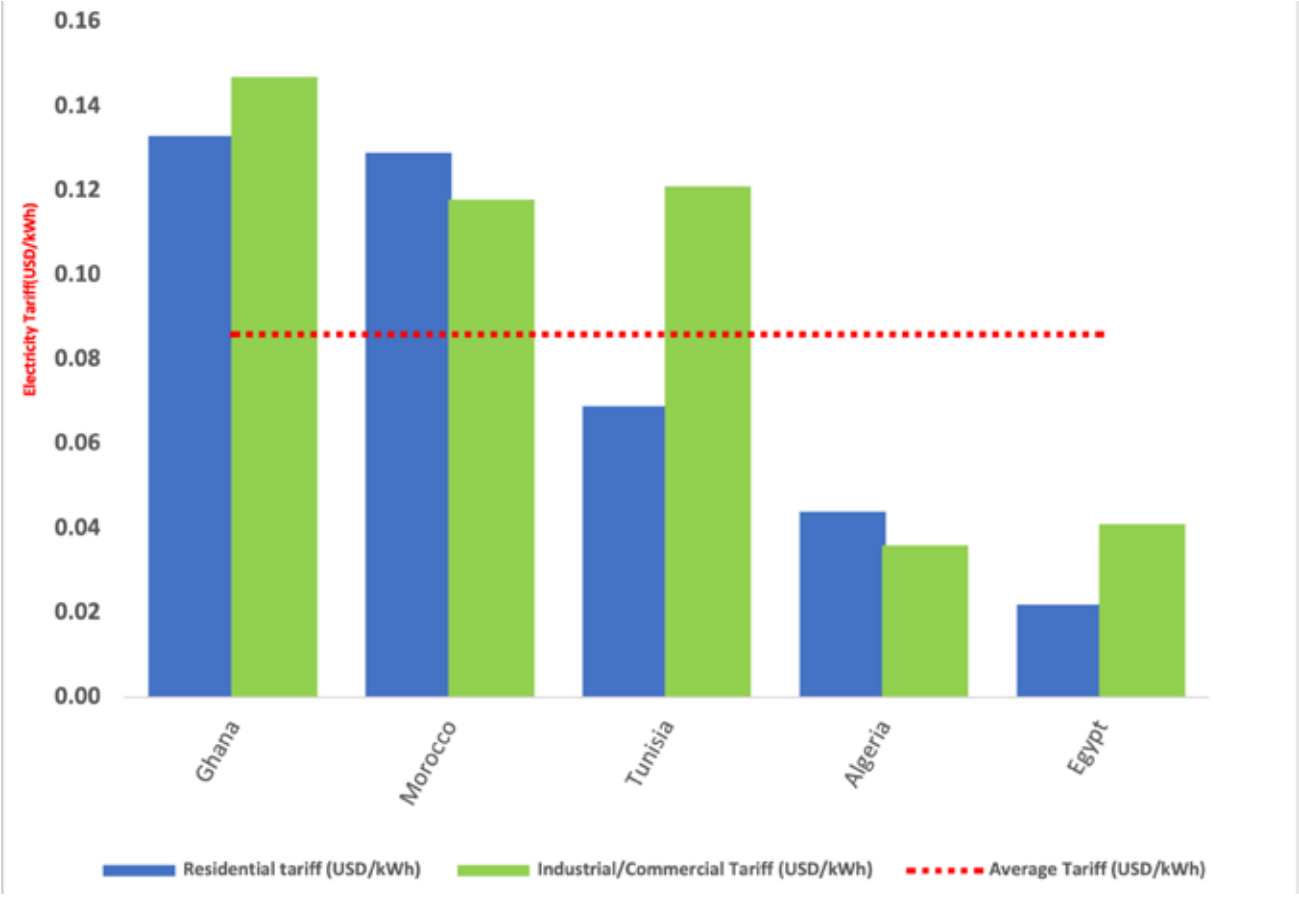
Figure 7: Electricity Tariff of Selected Eastern African Countries Compared to Ghana



3.3 Ghana Compared to North Africa

Electricity tariffs in North Africa, are generally the lowest on the continent, mainly due to large-scale government subsidies and state-owned energy systems. Egypt, Algeria and Morocco maintain low residential and industrial tariffs through direct fiscal support and state-controlled pricing. The region's dependence on low-cost gas and oil for generation further reduces generation costs. Relative to these economies, Ghana's tariffs appear significantly higher, especially for residential consumers. However, North African tariffs often fail to reflect the true cost of supply, resulting in financial burdens on governments. Ghana's model, therefore, is relatively sustainable, even though it results in higher consumer prices.

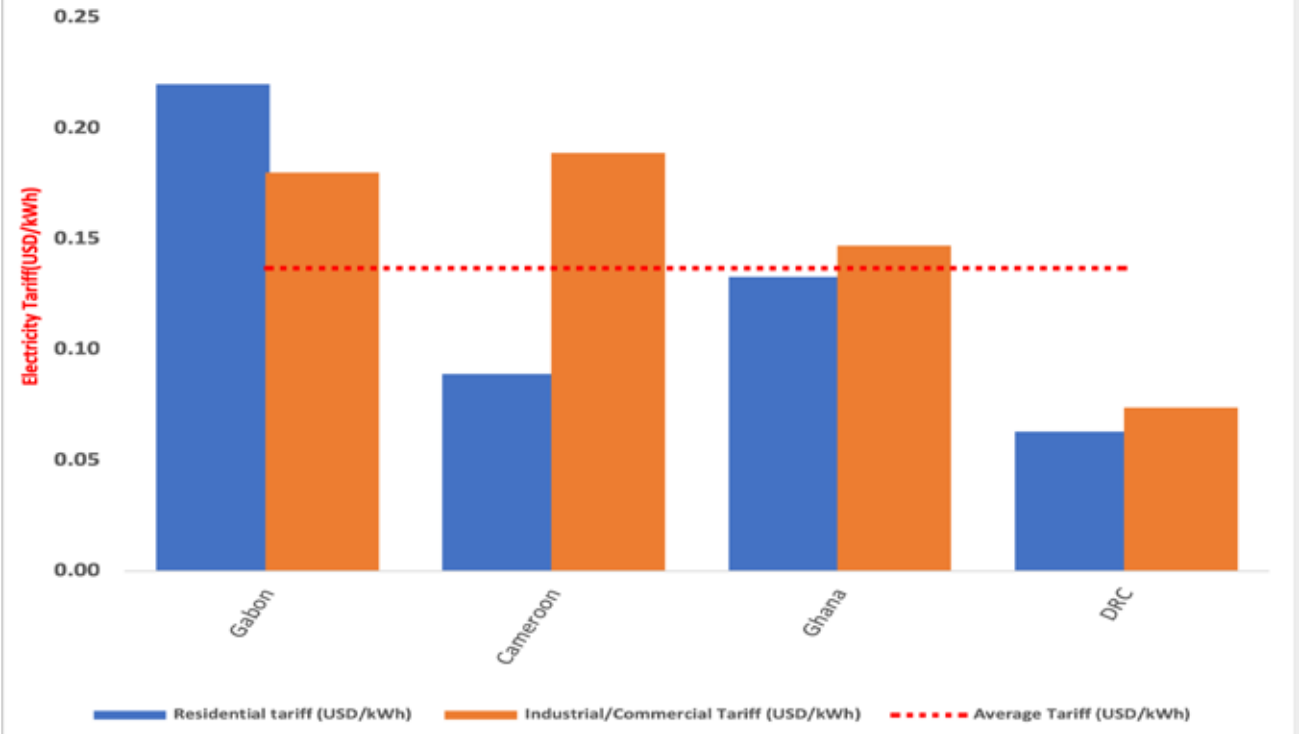
Figure 8: Electricity Tariff of Selected Northern African Countries Compared to Ghana



3.4 Ghana Compared to Central Africa

Electricity tariff levels in Central African countries are among the highest and most volatile on the continent, reflecting low economies of scale, infrastructural challenges, and political instability in the energy sector. Cameroon, DR Congo and Gabon face persistent generation shortfalls and limited transmission coverage. Despite rich hydropower potential, underinvestment has kept costs high and access limited. When compared to Central Africa, Ghana's tariffs are considerably lower, and its electricity access rate and service reliability are much better. Ghana's regulatory consistency and periodic tariff reviews ensure predictability, which many Central African nations lack.

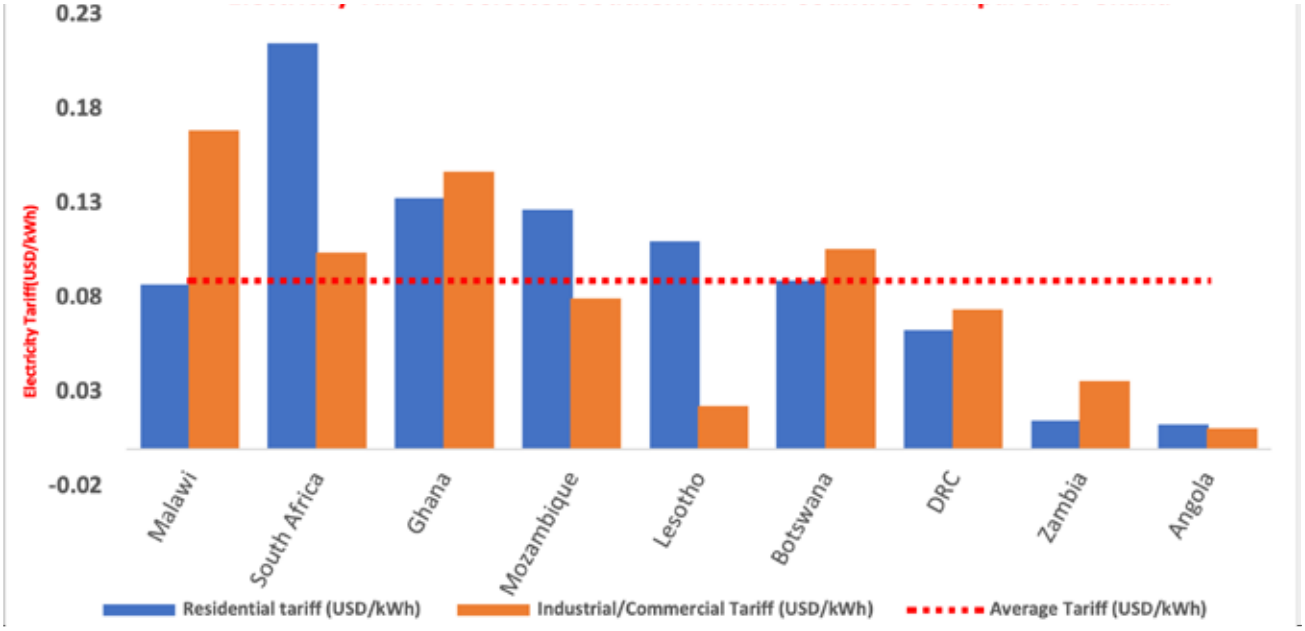
Figure 9: Electricity Tariff of Selected Central African Countries Compared to Ghana



3.5 Ghana Compared to Southern Africa

Southern Africa hosts some of the most mature electricity markets on the continent, however, they record some of the highest tariffs, particularly for industrial consumers. South Africa and Botswana have largely deregulated, cost-reflective pricing systems. Tariffs in the region are high because they incorporate environmental levies, IPP contracts, and infrastructure expansion costs. Zambia and Zimbabwe, on the other hand, have fluctuating tariffs affected by currency instability and fuel costs. Ghana's tariffs are lower than in South Africa, but slightly higher than in Zambia or Malawi. Structure wise, Ghana aligns closely with the Southern African models, which emphasize cost recovery and financial sustainability over blanket subsidies.

Figure 10: Electricity Tariff of Selected Southern African Countries Compared to Ghana



4.0 Conclusion

In a broader continental context, Ghana's electricity tariffs sit near the African median. Its residential tariffs are higher than those in heavily subsidized economies such as Egypt, Ethiopia, Sudan, but lower than those in market-based systems for example South Africa. Ghana's commercial and industrial tariffs also align with the continental average, ensuring competitiveness for businesses without compromising utility viability. Ghana's cost-based regulatory framework, coupled with its lifeline subsidy, positions it as a balanced model between affordability and sustainability. The quarterly tariff reviews in between major tariffs in Ghana reflect currency fluctuations, fuel price changes and operational efficiency targets, which are essential for maintaining sector stability and viability.

Figure 11: Electricity Tariff of Selected African Countries

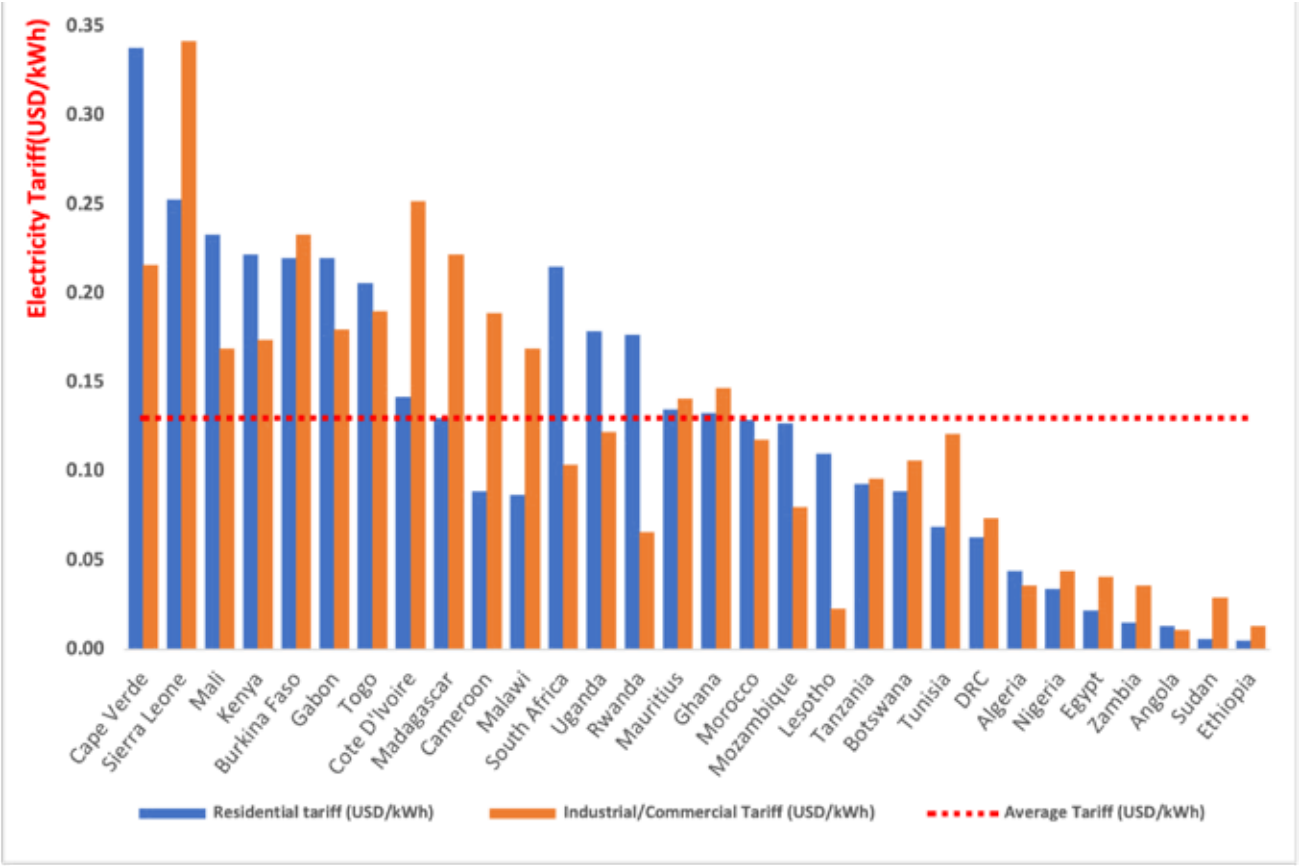


Figure 12: Residential Tariff in Africa

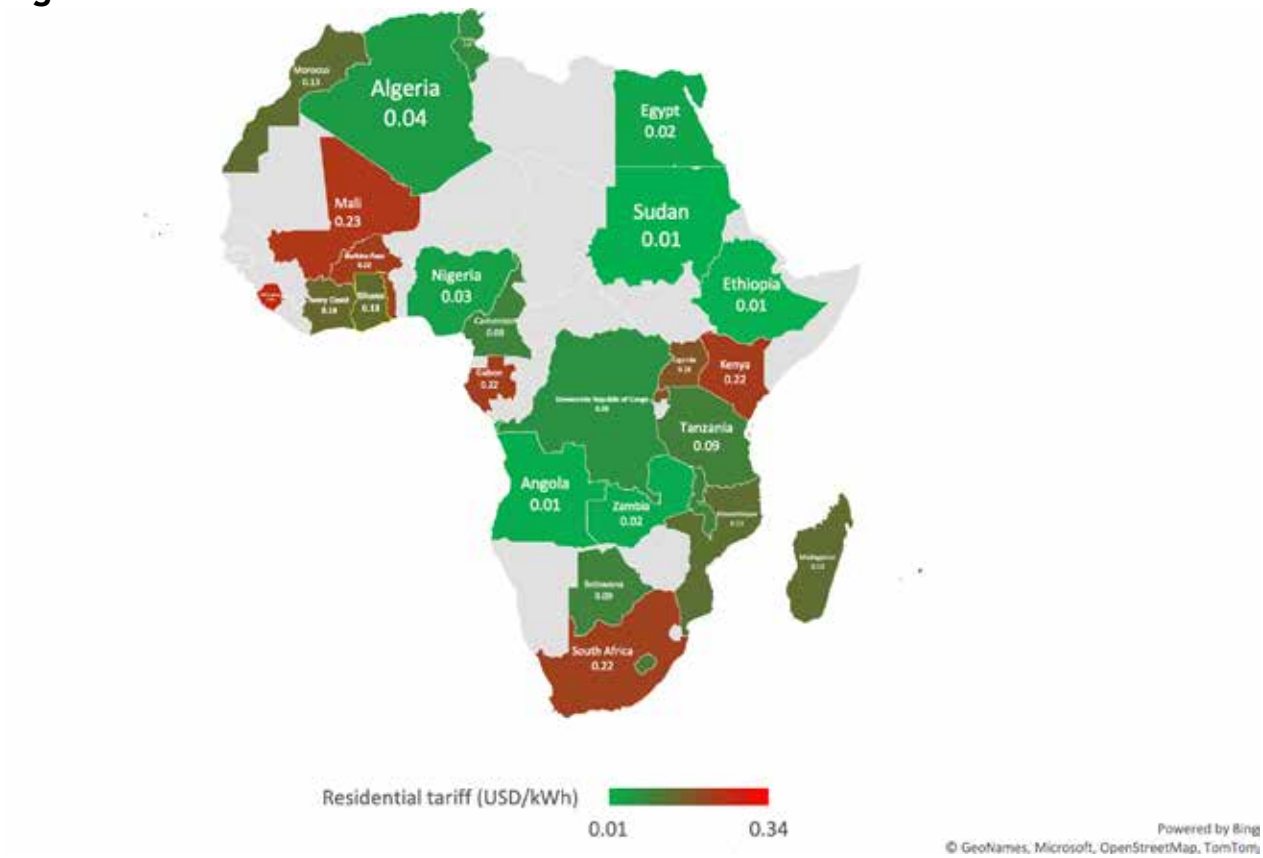
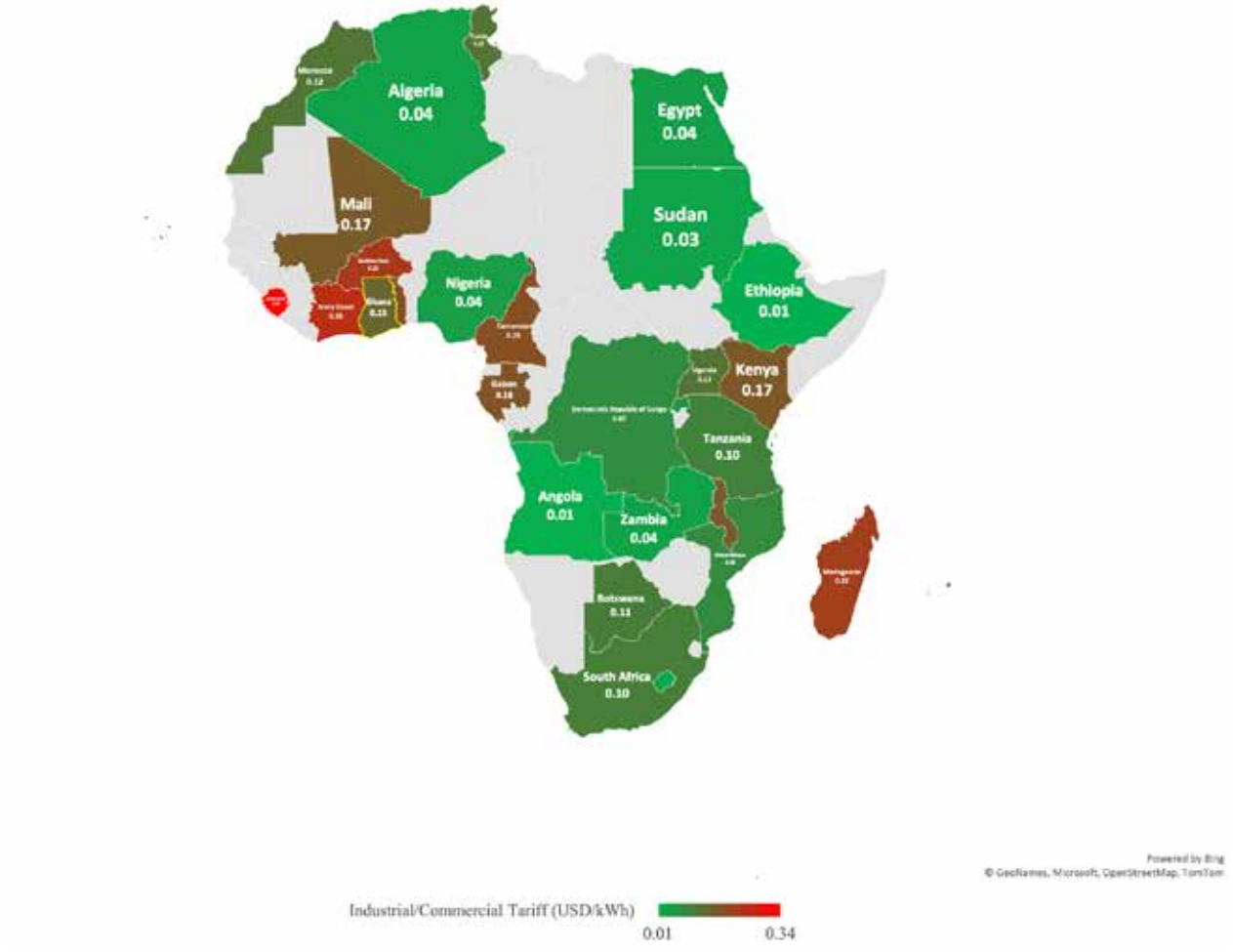


Figure 13: Industrial/Commercial Tariff in Africa



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