Barʼaaro Center
FOR SOCIOECONOMIC AND DEVELOPMENT RESEARCH

Policy Brief

Access to Electricity in the East African Community Region

Somalia's Status within the Community

December, 2023

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Executive Summary

The East African Community (EAC) has expanded to incorporate Somalia as its eighth member, extending its geographic reach from the Atlantic to the Indian Ocean. With expected future expansions, the EAC is poised to become an economic powerhouse with a market of approximately 800 million people. However, the industrial growth and economic transformation of the region are heavily constrained by limited access to affordable electricity, which critically enables manufacturing and development.

Somalia stands out within the EAC in terms of electricity access, ranking among the top three member states, with 49% of its population connected to power. Urban access is remarkably high at 71%, whereas rural electrification is 31%, reflecting steady progress in infrastructure expansion. Security improvements in recent years have considerably expanded electricity access, allowing new projects to reach previously underserved areas. In addition, Somalia's extensive use of mobile money has driven the demand for electricity, leading to the widespread adoption of mini-grid solar systems in rural communities.

Despite these advancements, Somalia's energy sector remains highly dependent on imported fossil fuels, with >95% of its electricity generated through off-grid diesel-powered networks. The lack of domestic oil refineries forces Somalia to rely on expensive fuel imports, making its energy costs unsustainable for long-term industrialization. Compared with regional peers such as Kenya and Tanzania, which have successfully diversified their energy mix with geothermal and hydropower, Somalia lacks the adaptation of renewable energy solutions.

The country has immense potential for renewable energy development, with solar radiation levels of 5–7 kWh/m^2/day and wind speeds of 1.5–11.4 m/s. Additionally, Somalia's hydropower potential along the Juba and Shebelle rivers can generate 100–120 MW. However, these resources remain largely untapped because of financial, institutional, and security barriers. Limited access to affordable capital, weak financial infrastructure, and the absence of a credit registry hinder large-scale energy investment. Furthermore, Somalia's development bank, which is critical for managing national development projects, lacks funding and cannot mobilize considerable investment.

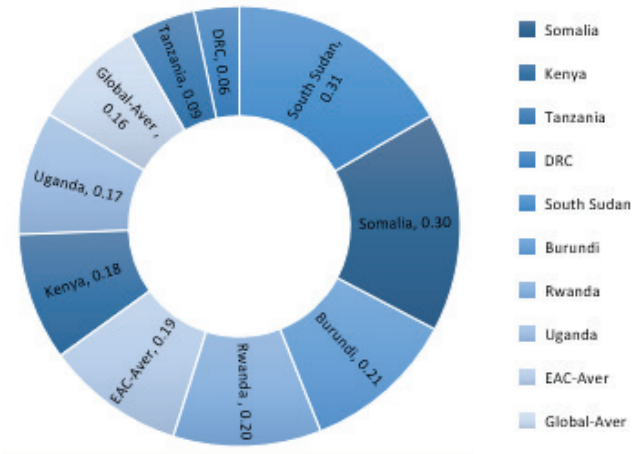
The recent debt relief under the Highly Indebted Poor Countries initiative presents an opportunity for Somalia to secure financing for its energy sector. However, without addressing structural financial constraints—such as investor protection, financial market integration, and regulatory stability—the country risks on the deprivation of critical energy investments. Somalia's recently enacted investor and data protection laws require strong institutional frameworks for effective implementation, ensuring that private sector confidence is restored.

As part of a broad EAC industrialization agenda, Somalia must combine its energy development plans and long-term economic growth objectives. Public–private partnerships should be encouraged to attract investment, and energy targets must be aligned with national industrialization policies. Strengthening the financial sector, enhancing security, and expanding the role of the development bank in the country are essential steps toward achieving sustainable energy access.

1 Introduction

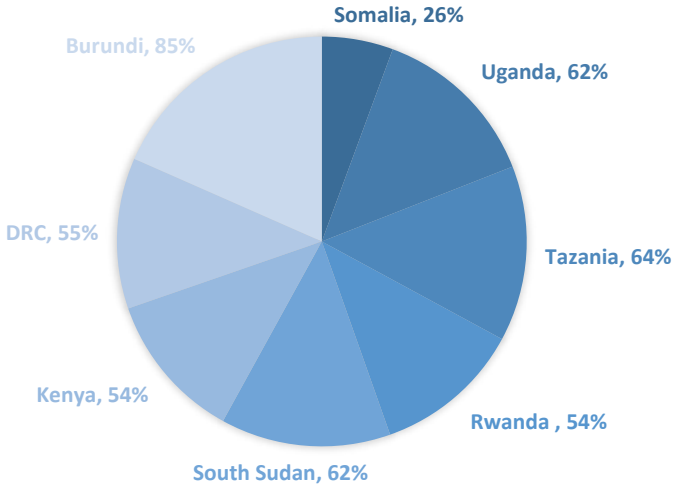
The East African Community (EAC) recently accepted Somalia as the eighth member of the community. It geographically extends from the Atlantic to the Indian Ocean. With the expected accession of Djibouti and Ethiopia, the market size of the community is poised to expand to 800 million people. However, the EAC potential as an economic powerhouse hinges on its market size and supply capacity by developing local manufacturing industries and their supporting environment—energy and electricity being of the utmost importance.

Figure 1: Average Electricity Price 2022



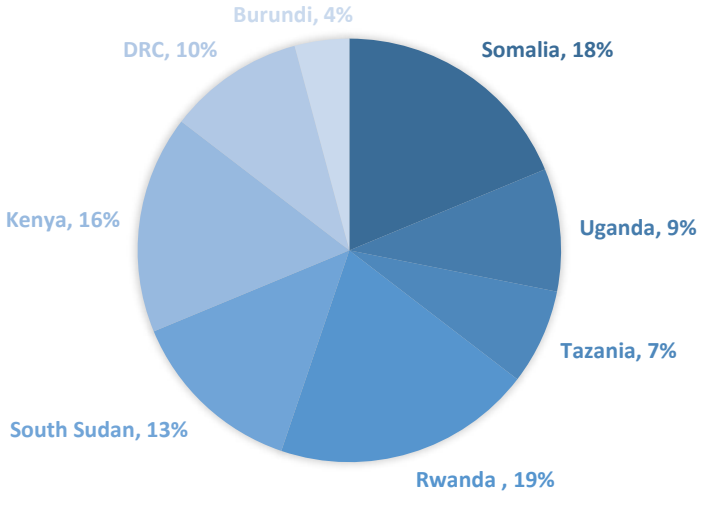
Source: Author's Calculation from Country-Specific Sources

Figure 2: Employment by the Agriculture Sector 2023 (% of total)



Source: World Bank

Figure 3: Employment by the Industry Sector 2023 (% of total)



Source: World Bank

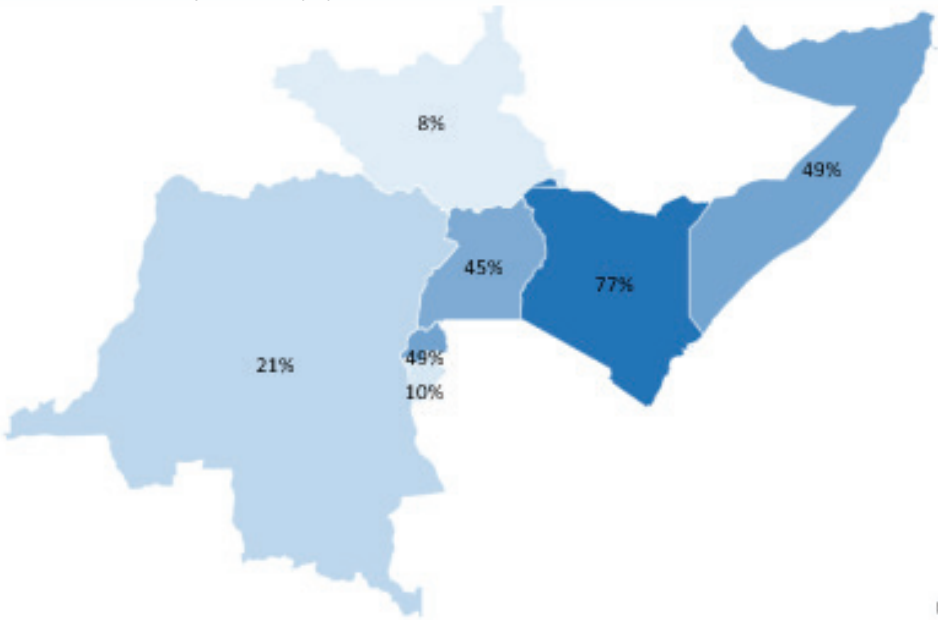
The adoption of common policies and mechanisms to explore, develop, and effectively utilize various energy resources is one of the priorities of the EAC. With a medium-term target of increasing the contribution of the manufacturing industry in the community gross domestic product (GDP), from its current level of 9.7% to an average of 25%, by 2032, cheap energy and easy access to electricity are necessary catalysts for creating a conducive environment for industrialization. The EAC energy sector is thriving but vulnerable because of infrastructural limitations and other economic challenges. Consequently, electricity prices in the EAC are slightly higher than the global average and insufficient to fuel the required industrialization of the member countries; this makes the member countries highly dependent on traditional sectors of employment, mainly the agricultural sector. The agricultural sector employs >50% of the active employees in most member countries, whereas the employment contribution of the industry sector is <20% (Figures 2 and 3). With other factors kept constant, the lack of energy infrastructure and low access to electricity are the main reasons for the weak industrial progress in the EAC region.

2 Access to Electricity: How Does Somalia Compare to its Peers?

The poor electricity generation and transmission infrastructure in the EAC led to low access to electricity by most of the community population. Approximately 50% of population of the each member country lack access to electricity. In South Sudan and Burundi, the percentage of the population that has access to electricity is <15%. However, Kenya has higher access to electricity than the rest of the member states, with 77% of its population having electricity. Somalia is among the top three member states with the highest access to electricity, with 49% of its total population having access to electricity. The Republics of Uganda and Tanzania have slightly lower access to electricity than Somalia and Rwanda, which have same access levels.

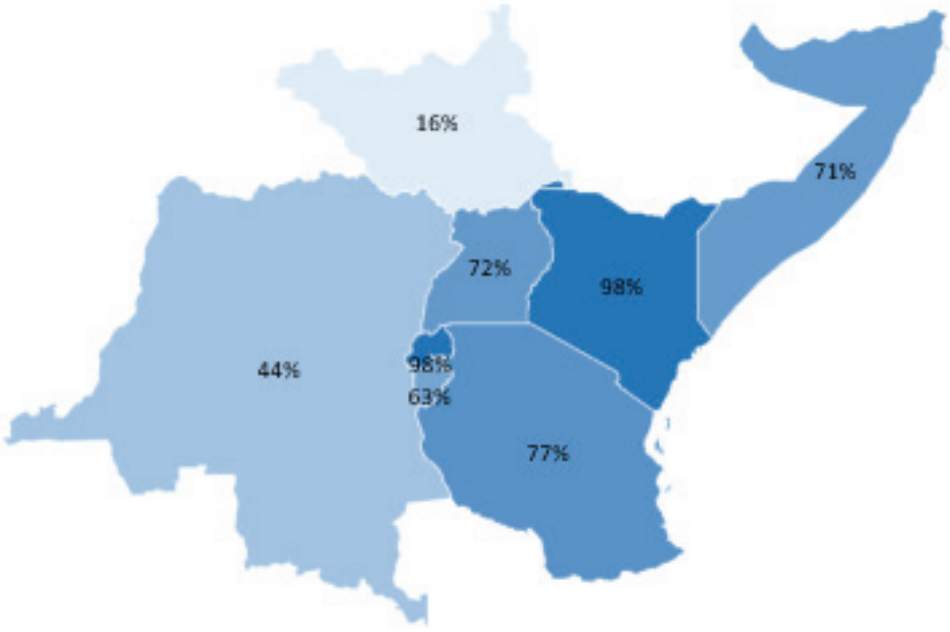
The access to electricity in urban areas is higher for all EAC-member countries compared with rural areas. Somalia ranks among the top countries with 71% of its urban population having access to electricity. Kenya and Rwanda have 98% access to electricity in their urban areas. In rural areas, Somalia is the second largest country with 31% of its rural population having access to electricity. Only two countries—Kenya and Uganda—outrank in this context, with 68% and 36% access to electricity, respectively. Good access to electricity in Somalia has economic and security aspects. First, recent security improvements have enabled the implementation of many energy-related projects in rural areas in South and Central Somalia. Second, the Somali people extensively use mobile money for most economic transactions; this has led most rural population to use mini-grid solar systems for charging their phones and participating in the highly digitalized economy.

Figure 4: Access to Electricity 2021 (% population)



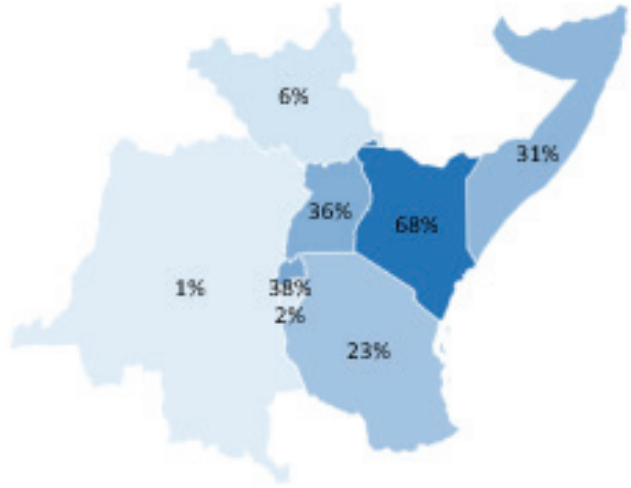
Source: World Bank

Figure 5: Access to Electricity in Urban Areas 2021 (% population)



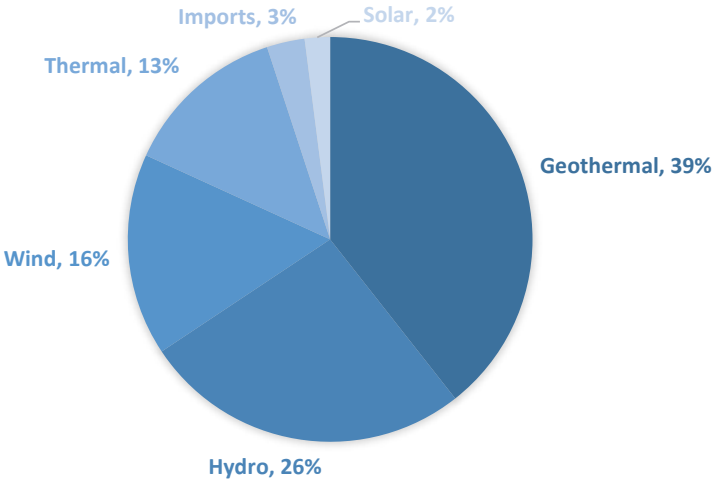
Source: World Bank

Figure 6: Access to Electricity in Rural Areas 2021 (% population)



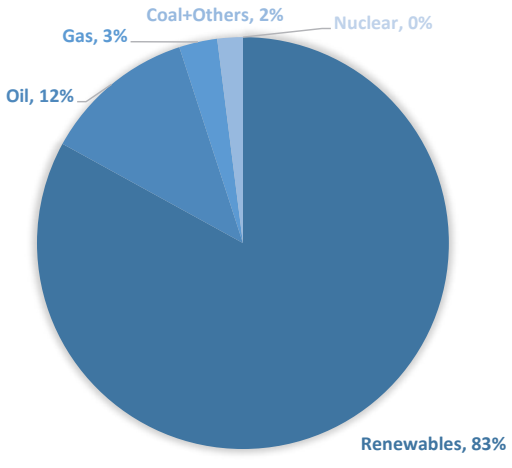
Source: World Bank

Figure 7: Kenya Energy Production Mix



Source: ENERDATA

Figure 8: Tanzania Energy Production Mix



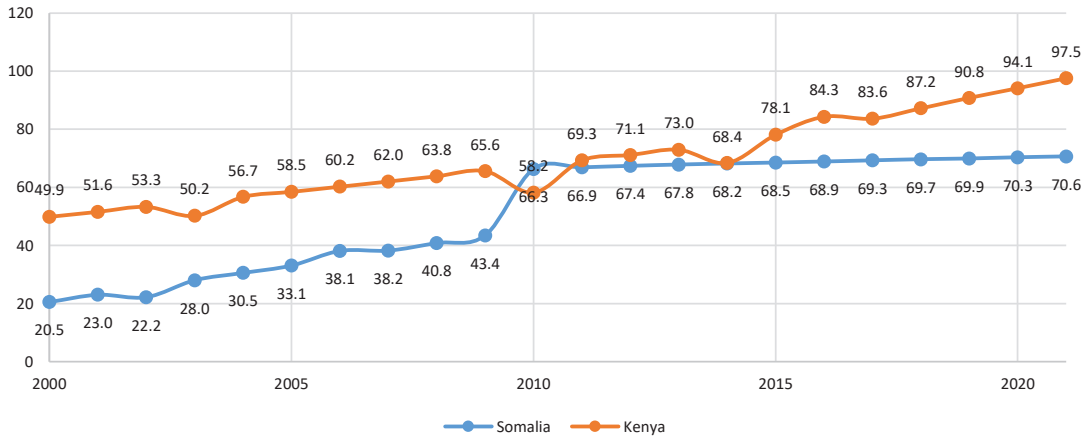
Source: IRENA

The greater exposure of the Somali population to electricity, compared with other EAC members, gives rise to a stronger industry sector in the country. Figure 3 shows that Somalia's industry sector provides 18% of all employment, the second highest rate in the EAC; this gives Somalia a first-mover advantage in its industrialization endeavor. However, Somalia faces limitations in its energy infrastructure and lacks a well-diversified electricity production mix. Somalia's energy supply is highly dependent on imported fossil fuels. The country does not have any oil refineries and must purchase oil and gas from overseas at a competitive market price. This will prove unsustainable if the country must invest in large-scale energy-dependent industries. Further, the huge dependency on fossil fuels will exacerbate the existing climate change problems of the country. Countries such as Kenya and Tanzania highly rely on green energy and have a more diversified energy production mix than Somalia. For instance, 39% of Kenya's energy comes from geothermal energy, and only 3% is dependent on imported energy. Meanwhile, 83% of Tanzania's energy comes from renewable sources, such as hydro and thermal energy, and only 12% and 3% are produced from oil and gas, respectively.

3 Security and Access to Energy in Somalia

Improvements in security encourage the production and access to electricity through the expansion of business activities, government services, and technology. The areas under terrorist organizations experience less or no major business activities that necessitate access to electricity; additionally, there is no systematic service delivery. Similarly, the use of technological services or tools such as smartphones, computers, and the Internet is taboo in such areas. Reportedly, access to electricity gained momentum in early 2010, when terrorist groups were ousted from major cities, including the capital. A speedy recovery of more territories from Al-Shabab and like-minded people will certainly enhance access to electricity for rural communities and reduce poverty by encouraging business activities and enhancing household income.

Figure 9: Access to Electricity in Urban Areas (Somalia vs Kenya- % of Population)



Source: World Bank

4 Energy Investment in Somalia

Despite Africa's richness and potential for cheap green energy, the continent faces energy investment challenges. According to the International Energy Agency (IAE), achieving Africa's energy development and climate requires energy sector investment to double by 2030[1]. The IAE's Sustainable Africa Scenario requires a change in energy sector investment and a shift away from fossil fuel projects. The biggest challenge facing Africa's energy sector is access to affordable capital. With the COVID-19 pandemic and numerous regional conflicts, the cost of capital has considerably increased for African countries, hampering the progress toward the SDG 7 targets and 2030 energy agenda. As a result, only 0.6% of the total global renewable energy investment in 2021 went to Africa, the lowest in 11 years[2].

Somalia electricity generates approximately 128 MW in 2021; with >95% generated from fossil fuels through off-grid networks[3]. Meanwhile, the country has potential for renewable energy sources, including solar, wind, and hydropower energies. The solar energy potential ranges from 5 to 7 kWh/m2/day, with >310 sunny days in a year and 3,000 hours of sunshine per annum. Somalia is also characterized by strong wind regimes, with annual average speeds of 1.5–11.4 m/s and potential for small hydropower (approximately 100–120 MW) along the Shebelle and Juba rivers.[4] As a result, Somalia, similar to the rest of the continent and the EAC-member countries, has enormous renewable energy potential.

Similar to its peers, Somalia must extensively invest in its energy sector to reach the energy and industrialization targets of the continent. However, Somalia must access affordable investment capital and create a conducive environment for large-scale investment in critical sectors, including the energy sector. The recent debt relief under the Highly Indebted Poor Countries (HIPC) initiative is a golden opportunity for Somalia to access much-needed financing for the energy sector, considering it enables easy access to investment capital. However, other environmental issues in the country's financial sector must be addressed.

[1] Financing Clean Energy in Africa

[2] Res4Africa Foundation

[3] https://www.worlddata.info/africa/somalia/energy-consumption

[4] Energy - Somalia Investment Promotion Office (sominvest.gov.so)

According to Somalia's Central Bank, the absence of a credit market structure and effective national registry and identification are critical barriers to a well-functioning financial sector in Somalia.[5] Arguably, the lack of integration with global financial markets and effective investor protection laws are challenging for future investment in critical sectors, including the energy sector.

Although the Somali parliament recently passed investor and data protection laws as part of the HIPC requirements, institutional infrastructure is yet to be established for the implementation of these laws. Meanwhile, Somalia's development bank—the sole national institution mandated to coordinate national development programs—is severely underfunded and in desperate need of reform. In the absence of such important institutional infrastructure, Somalia will find it difficult to effectively manage grants and loans and optimize its national development agenda.

5 Recommendations

To achieve the energy and industrialization goals of the EAC, the Somali government should

1 prioritize renewable energy sources, such as solar, wind, and hydropower energies, because these forms of renewable energy are abundant in the country. Investment in transmission and distribution infrastructure is equally important;

2 develop energy development targets intertwined with the industrialization agenda of the country;

3 create and adopt public–private partnerships to energy sector investment by allowing private capital to be used in major energy development projects;

4 enforce and improve the overall investment environment by strengthening and implementing laws on investor, consumer, and data protections;

5 strengthen the development bank of the country and give it a strong mandate to manage development grants, national debt, and private capital and inject them directly into energy development projects; and

6 enhance security and eliminate terrorist organizations that undermine the investment and development potential of the country.

[5] Central Bank of Somalia

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