



CTPD'S MONDAY OPINION

This is a weekly column aimed at sharing CTPD's perspective and steering public debate on various issues pertaining to Trade & Investments Law, Public Finance Management, Extractives and Human Development.

TODAY'S TOPIC

SCALING UP CLEAN ENERGY ACCESS: LESSONS FROM KENYA, RWANDA, AND GHANA FOR ZAMBIA AND SUB-SAHARAN AFRICA



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Access to affordable and clean energy is crucial in sub-Saharan African (SSA) countries like Zambia, where cost is a significant barrier. To achieve universal electrification by 2030, estimates suggest the region requires a minimum annual investment of US\$31 billion. Unfortunately, many lack access to reliable energy supply, and per capita use of modern energy is the world's lowest in this region. Around 600 million individuals in sub-Saharan Africa lack electricity, while 890 million rely on traditional fuels for cooking. To address this, countries like Kenya, Rwanda, and Ghana have implemented successful reforms, providing valuable insights for Zambia and other sub-Saharan nations. This week's Monday Opinion highlights these strategies and initiatives.

Kenya has emerged as a frontrunner in the sub-Saharan African region for improving access to electricity. The country's success in this regard is due to a comprehensive blend of policy frameworks, market-based incentives, and an effective use of its energy resources. By enhancing access to renewable energy, both on and off-grid, Kenya has been able to meet 88 percent of the domestic demand in 2020. Kenya relies heavily on geothermal, hydro, wind, and solar power for renewable energy. The Lake Turkana Wind Plant is the largest on the continent with 365 turbines and provides 14% of Kenya's total installed capacity. The plant's average capacity factor of 58% is well above the global average. Kenya aims to decrease its greenhouse gas emissions by 32% by 2030. Its energy access initiatives offer valuable insights for other African countries, such as Zambia, to improve access to clean and affordable energy.

Kenya has also achieved success in providing energy access through solar home systems (SHS), with approximately 200,000 rural homes utilizing them. The country is the second most vibrant commercial solar marketplace globally after India, selling 25,000 to 30,000 photovoltaic modules annually. Despite challenges such as connectivity and cost, Kenya's energy landscape serves as a model for other African countries looking to scale up clean generation for sustainable development. With a national access rate of 71.4 percent, including 62.7 percent for rural areas and

94 percent for urban areas, Kenya has the highest electricity access rate in East Africa and a diverse energy mix that prioritizes renewable resources.

Similarly, Rwanda has made significant progress in improving access to electricity by utilizing a combination of strategies, including grid expansion, mini-grids, and off-grid solutions, to provide electricity to remote and rural areas. Despite the government's limited financing towards energy initiatives, Rwanda has invested in renewable energy sources such as solar power to increase access to clean energy and decrease dependence on non-renewable sources. As a result of several policy and strategic reform, Rwanda's electricity access has increased from 19 percent in 2014 to 59 percent by December 2020.

In addition to grid expansion and off-grid solutions, the Rwandan government is expanding its electricity grid and promoting off-grid renewables to increase access to affordable and clean energy. As of 2022, 61% of households have electricity, with 47% connected to the national grid and 14% using off-grid systems like solar power. The government aims to achieve 100% household electrification by 2024, with 70% connected to the grid and 30% using off-grid solutions. This approach can be applied to other sub-Saharan African countries like Zambia, which also faces challenges in providing electricity to its citizens.

Ghana aims to achieve universal access to electricity by 2025 through the National Electrification Scheme, which includes grid extension, off-grid solutions, and renewable energy deployment. The government

encourages private sector investment in the energy sector through policies such as the Renewable Energy Act. Electricity access rates are at 85.9%, with 74% in rural areas and 94% in urban areas. Ghana has an opportunity to balance its energy mix with natural gas reserves and renewable resources, but the sector's financial sustainability is hampered by state-owned power companies' debts and insufficient revenue collection, similar to

Kenya.

Improved access to affordable and clean energy remains a critical challenge for many sub-Saharan African countries, including Zambia, due to the surge in energy demand with population growth. However, countries like Kenya, Rwanda, and Ghana have provided valuable insights into the strategies and initiatives that can be implemented to increase access to electricity, both on and off-grid. By prioritizing the development of renewable energy resources and implementing comprehensive and integrated approaches, these countries have achieved significant progress towards universal electrification. Therefore, it is essential for Zambia and other sub-Saharan African countries to learn from these experiences and take similar measures to address the challenges associated with energy access.

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