



Policy Brief

Turning the Tide on Energy Insecurity: The Role of Renewable Energy Policies in Counties

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In Brief

In the face of volatile petroleum prices, dwindling biomass-based fuels supply, and limited access to modern energy services, energy insecurity remains a crucial concern to policymakers and consumers in Kenya. As a response strategy, the national government intends to increase the share of renewable energy (RE) in total energy consumption to 80 per cent by 2030 to ensure energy security. This strategy could benefit significantly from development and implementation of substantive renewable energy policies at the county level. This Policy Brief sheds light on the factors that prevent access to RE services in select counties of Bomet and Homa-Bay and provides key recommendations for development of appropriate RE policies, which could be replicated in all the counties affected by low access to sufficient, reliable, and affordable energy. The resulting improvement in access to RE services is expected to contribute to socio-economic progress in the two counties.

Key Recommendations

- a) *Provide technical support to county governments to enable them develop and implement pro-renewable energy policies and legislations.*
- b) *Provide tailored training programs on renewable energy and policy formulation to County Policy Makers.*
- c) *Develop county-specific implementation framework for renewable energy.*
- d) *Accompanying measures to support implementation of RE policies to ensure success.*

Introduction

Energy is not only needed for production of goods; it also supports provision of essential services such as education, healthcare, transport and communication among services in any country. Nevertheless, Kenya remains energy insecure as evidenced by limited access to sufficient, reliable, and affordable energy services that are capable of satisfying existing demand while minimizing negative environmental impacts. Nearly 68 per cent of Kenyans still rely on pollutant sources of fuel obtained from biomass such as firewood as their main source of energy. Moreover, statistics from Kenya Power and Lighting Company (KPLC) indicates that nearly 37 per cent of the population lacks access to electricity. This means that millions of Kenyans still depend on petroleum fuels such as kerosene for lighting purposes. Petroleum fuels not only contribute to environmental degradation and health risks, but are also characterized by significant price volatility and shocks that negatively affect household incomes.

Drivers of Poor Access to Energy in Kenya

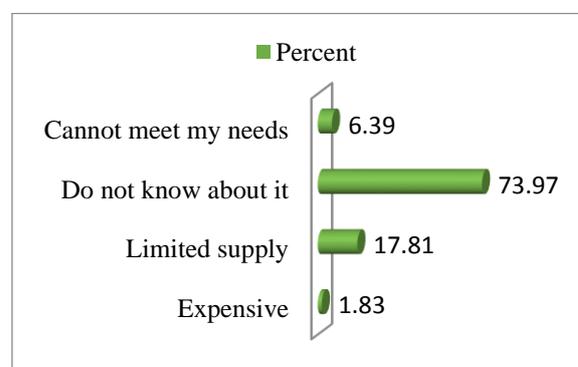
Energy insecurity is a function of several interlinked social, economic, policy, and technological factors.

- ⇒ **Limited financial resources** constitute one of the major challenges that hinder access to sustainable energy services. At the macro-level, both national and county governments have insufficient funds to finance production and delivery of modern energy services.
- ⇒ This is compounded by **limited access to appropriate technologies to provide affordable clean energy services**.
- ⇒ At the household level, **poverty impedes**

access to available modern energy services. For instance, most low-income households can hardly benefit from renewables such as solar because of the high initial investment required to purchase and install the requisite equipment. Thus, majority of Kenyans rely on traditional biomass such as firewood obtained either free or at relatively low prices. Reliance on firewood and charcoal is unsustainable in the face of declining forest resources.

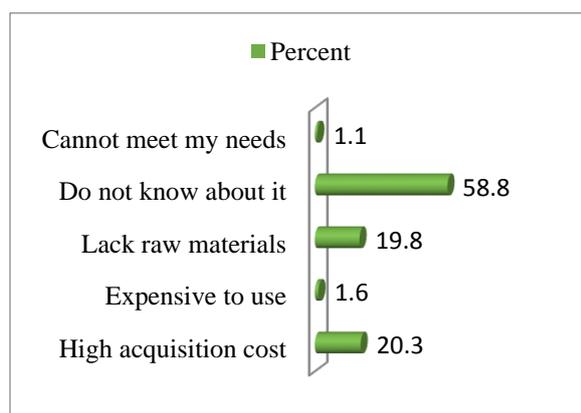
- ⇒ **Limited awareness on available clean energy alternatives** leads to energy insecurity. For instance, a study by CUTS-ARC in 2017 revealed that 58.8 percent and 73.97 percent of the households in Homa-Bay and Bomet Counties did not know about biogas and briquettes respectively as indicated in Figure 1 and 2

Figure 1: Barriers to uptake of briquettes



Source: CUTS-ARC calculations based on survey data

Figure 2: Barriers to Uptake of biogas



Source: CUTS-ARC calculations based on survey data

Other constraints to access to clean alternatives include **lack of well established distribution systems, appropriate credit facilities, and technical support to consumers.**

Access to clean energy alternatives is further constrained by laxity in implementation of Renewable Energy Regulations, which has led to prevalence of substandard renewable energy products (solar, biogas, etc.) and unlicensed/ unqualified technicians who provide low quality services to consumers. The persistence of these challenges means that Kenya will remain energy insecure, thereby delaying realization of its socio-economic development aspirations.

Taming Energy Insecurity

Kenya has adopted a twin strategy to address energy insecurity. On the one hand, the government is focused on **developing brown energy sources** to reduce vulnerability to international oil supply shocks. This strategy is supported by the recent oil finds in Kenya, which has provided the impetus for increased exploration to ensure sufficient supply of petroleum products and revenue from oil exports. The government is also investing in coal plants to

increase electricity generation.

On the other hand, the government is keen on **shifting energy mix towards clean alternatives/ renewables.** This strategy is informed by the need to reduce energy related greenhouse gas emissions, minimize vulnerability to electricity supply shocks occasioned by the negative impact of climate change on hydro sources; and replace relatively expensive electricity generated using fossil fuels such as diesel.

The most notable investments in the renewable energy sub-sector by the government are in **geothermal, wind, and solar.** At 630 MW, geothermal now accounts for 27.3 per cent of Kenya's total power capacity. Wind energy contributed 25 MW to the national grid in 2017 while activities in solar have been for small-scale private consumption. Other renewable energy sources and technologies that are being promoted by both the government and the private sector include biogas, briquettes, clean cook stoves, and solar panels among others. Nonetheless, these sub-subsectors have not been able to attract high investment like geothermal and wind. This slow uptake can be partly explained by the slow pace of regulation approval, bureaucratic processes to get licenses and lack of adequate technical capacity.

Role of County Policies

Provision of energy services is guided by several policies, legislations, and regulations. These include the Energy Act, 2006; Sessional Paper No. 4 of 2004 on energy; and Vision 2030 Second Medium Term Plan (MTP-2). Currently, both the national and county governments are



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responsible for development and provision of energy services. To this end, the national government has prepared a National Energy and Petroleum Policy, 2015 to achieve its energy services provision mandate. The draft policy will address: development of the RE sub-sector through, among other strategies: increased investment, research and development, and improved regulation. Further, a draft Energy Bill, 2015 has been prepared to provide a legal framework for providing energy services.

At the county level, Homa-Bay and Bomet are among the counties that are yet to develop a policy and legal frameworks to enable them provide energy services. This may impede both counties from provision of RE services to ensure energy security. Each county has its unique energy needs, access challenges, and

RE resources, as well as, financial and technical capacity constraints. This means that counties cannot rely on a one-size-fit-all strategy to address their energy challenges. Therefore, it is important that each county develop a renewable energy policy and legal framework that addresses its felt energy needs, while taking into account its resource (energy, financial, technical) endowment. The policies should provide a pathway for breaking the barriers to uptake of RE services. However, although policies are necessary, they are not sufficient conditions for achieving energy security. **County governments must provide the necessary budgetary allocations and political goodwill to facilitate transition to renewable energy.** Most importantly, alleviating poverty should be at the core of the strategy to enhance access to sustainable energy services. This is based on the fact that low-income households will only use clean energy alternatives if they are able to afford

them.

Enactment of RE policies/ legislations is yet to be prioritized at the county level. Further, lack of technical capacity hinders preparation of appropriate RE policies and legislations. This includes limited knowledge on RE among legislators such as Members of County Assemblies (MCAs). Policy

formulation is also constrained by **inefficiencies in key institutions** such as County Assemblies that cause unnecessary delays in policymaking processes. There is also conflict of interest and misunderstandings between County Executives and Assemblies in the legislative and policymaking process



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Recommendations

Developing and implementing RE policies at the county level should be considered as a matter of priority to facilitate provision of sustainable energy for all. To this end, the following measures should be considered:

- **Provision of Technical support** to county governments to enable them develop and implement pro-RE policies and legislations. This includes providing support in key areas such as research and development, mapping RE resources, profiling and prioritizing consumer energy needs, and designing appropriate strategies for delivering RE solutions.
- **Tailored training programs on RE and policy formulation to be provided to County Policy Makers:** County policymakers and legislators should be equipped with technical knowledge on RE and practical skills to enact and implement appropriate RE policies. This can be realized through tailored training programs on RE and policy formulation.
- **Development of a county-specific implementation framework** that clearly outlines the action plans, institutional arrangement, and resource mobilization strategies. This will facilitate seamless implementation of RE policies. The on-going preparation of second generation 2018-2022 County Integrated Development Plans (CIDPs) is an important opportunity to weave-in RE programmes in the Plans.
- **Accompanying measures to support implementation of RE policies** to ensure success. This can be realized through among other strategies, linking RE services to economic activities that provide employment to low-income households.

Further Reading

1. Owino, B., Asher, D., & Mulwa, M. (2017). Barriers to uptake of clean and renewable energy at the county level: Case of Bomet and Homa-Bay County.
2. EED. (2016). Energy access review.

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