

Scaling Renewable Energy Generation & Access in SSA through Feed-in Tariffs



Kenya's 2012 Feed-in Tariffs Policy on Wind, Biomass, Small-Hydro, Geothermal, Biogas and Solar Resource Generated Electricity

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Overview

This policy brief examines Kenya's 2012 Feed-in Tariffs (FiTs) Policy on Wind, Biomass, Small-Hydro, Geothermal, Biogas and Solar Resource Generated Electricity as a successful example of catalyzing renewable energy generation in Sub-Saharan Africa (SSA) through long-term and fixed-tariff Power Purchase Agreements (PPAs). The brief highlights key elements, successes, and shortcomings of the policy and provides recommendations, best practices for adoption, and a call to action for policymakers.

Background

Feed-in Tariffs (FiTs) are instruments used to promote electricity generation from renewable energy sources. FiTs allow private and public renewable power producers to sell renewable energy-generated electricity to off-takers (i.e., national utilities) at a pre-determined tariff for a given period.¹

Governments introduce FiT policies to achieve the following objectives:¹

- **Incentivize further development of renewable energy generation projects** by allowing private and public developers to earn increased revenue through agreements that enable them to supply energy to the grid
- **Increase investment for renewable energy projects from local and foreign investors** by providing investment security and a stable operating environment through guaranteed offtake agreements for longer durations, fixed tariffs, and clear policy direction, all making investments more secure and profitable
- **Increase the energy supply for national utilities** by sourcing power from distributed producers, further enhancing overall grid supply and reliability for the connected population by reducing dependency on a few centralized power plants minimizing the impact of localized outages or failures
- **Reduce procurement costs and time** as FiTs offer a standardized, streamlined procurement framework, which helps avoid overly complex competitive bidding frameworks which typically involve creation of unique project contracts, extended negotiations over terms, and extensive evaluations.

Policy Overview

Kenya's 2012 Feed-in Tariffs Policy on Wind, Biomass, Small-Hydro, Geothermal, Biogas and Solar Resource Generated Electricity was developed by the Ministry of Energy (MoE), with support from the Kenya Power and Lighting Company (KPLC), the Energy and Petroleum Regulatory Authority (EPRA) and other stakeholders. The policy is subject to review every 3 years to ensure it remains relevant based on market changes in demand and supply and any changing cost factors associated with power generation. The policy aims to **promote and foster investment in renewable energy projects** and has catalyzed significant investments in small and large-scale projects by offering attractive terms, like long-term contracts and fixed, profitable tariffs. Notable successes are 1) the Lake Turkana Wind Power project (310MW), which contributes about 17% of Kenya's installed electricity capacity, and 2) the Kipeto Wind Power Station (100MW) which has 60 installed turbines.^{1,2,3,5}

The policy boosts the creation of small and large-scale renewable energy projects by focusing on five incentives:¹

- 1. Total electricity purchase:** The Kenyan government guarantees the purchase of all electricity generated and supplied by approved renewable energy projects, imposing no caps on production capacities for developers
- 2. Source-specific tariffs:** The policy sets distinct tariffs for renewable energy generated from different sources, based on electricity generation costs and benchmarks from other parts of the world to ensure competitiveness. For example, hydro projects are compensated at a rate of USD 8 – 11 cents per kWh, depending on the installed capacity
- 3. Long-term purchase agreements:** Through the policy, KPLC contracts renewable energy power plants through standardized, 20-year term Power Purchase Agreements (PPAs), which includes fixed tariffs and are approved by the EPRA
- 4. Mandatory project planning:** Developers must conduct detailed feasibility studies to establish the financial and economic viability of projects as well as grid connection studies that consider existing projects and other planned projects in the same locality to avoid project duplication in the same areas
- 5. Clear requirements and guidelines:** The policy stipulates clear requirements and guidelines that developers require for approval including 1) power plants should be permanent, 2) projects must demonstrate technical and economic viability, 3) projects must meet grid connection requirements, and 4) projects must secure all necessary legal & regulatory approvals and financing



Policy Overview Cont'd

Success factors: There are a variety of ecosystem factors in Kenya that have helped this policy to be successful:¹

- **Coherent regulatory framework:** Kenya's 2010 Constitution provides for the formulation of the Integrated National Energy Plan, which in turn led to the revision of the 2006 Energy Act, which is the empowering legislation for the development of the 2012 Feed-In Tariff Policy
- **Diverse renewable energy sources:** Kenya has abundant natural resources, including geothermal, wind, solar, hydro, and biomass, allowing its policies to support various renewable energy technologies
- **A strong private sector:** Kenya boasts a well-established private sector in energy, manufacturing, and investment, driven by the country's commitment to encouraging private sector participation in developing and investing in renewable energy projects. This is supported by progressive policies and incentives that foster a thriving ecosystem for both local and international businesses
- **Institutional capacity and coordination:** Effective coordination between the MoE (formulates national energy policies) and EPRA (regulates energy licensing, tariffs, and compliance with energy standards) ensures a fairly smooth implementation of the FiT framework. A clear delineation of roles prevents overlap or conflict, ensuring streamlined processes

Challenges: Despite the overall success of the policy, there have been some challenges. Specifically:

- **Policy shifts:** While overall government support has been a major strength, recent discussions about transitioning from FiTs to competitive auctions, for larger-scale projects over 20MW, have introduced uncertainty for developers. Developers planning large projects, such as the 105MW Menengai Geothermal Project, have faced uncertainty about tariff structures during this transition^{4,6}
- **Administrative delays:** Despite a streamlined approval process outlined in the policy, developers and investors still face slow bureaucratic approval processes for licensing and grid connections, slowing down project development and deterring investors. Administrative issues have plagued the 2012 FiT policy, therefore, regulatory bodies need to actively monitor these delays to be remedied

Best Practices and Recommendations

Policymakers in SSA countries can leverage key learnings from Kenya's FiT policy to develop or improve similar policies to accelerate renewable energy generation and adoption. The success of FiTs depends not only on their introduction but, more critically, on effective implementation to deliver long-term benefits. Therefore, policymakers should consider the following when designing and implementing FiT policies:

- **Tailor FiT policies to align with local energy needs** by considering the available renewable energy sources and grid capacity, and implement profitable tariffs that factor in all costs involved to attract private sector developers and investors specific to each energy technology
- **Stipulate periodic reviews every 3-5 years to ensure the overall policy and tariffs are working.** This will help ensure policies stay up to date and continue to maximize impact, but adjustments need to be clear on their implications to new developers and agreed upon with key renewable energy stakeholders
- **Establish clear renewable energy plans that allow private developers to easily identify opportunities** for renewable energy projects by providing data on existing, already-approved, and planned projects to help developers select development locations to avoid duplication of efforts and grid competition.

FiT policies can be effectively implemented in high-potential countries that exhibit the following characteristics:

- 1) **Abundant renewable energy resources** that can be exploited to generate clean energy
- 2) **Growing energy demand** from growing population and industrialization
- 3) **Stable political and regulatory frameworks** that foster long-term investments
- 4) **Buy-in from key legislators and government officials** and willingness to maximize transparency during development and delivery of the policy
- 5) **Basic grid infrastructure** that can properly absorb a robust FiT program

German and other international policymakers can support SSA policymakers to institutionalize effective FiT policies through:

- **Direct advocacy:** Engaging in bilateral discussions to promote the adoption of tailored FiT policies
- **Technical support:** Assist in the design and implementation of FiT policies and support drafting clear and transparent regulatory frameworks that ensure investor confidence and policy consistency
- **Offering incentives:** Incentivizing German developers to set up operations in SSA

Sources: 1) EPRA, 2012 Feed-in Tariffs Policy, [link](#); 2) DLA Piper Africa, Africa Energy Futures: Kenya, 2022, [link](#); 3) AIIM Africa, 100MW Kipeto wind power project reaches financial close, [link](#); 4) DLA Piper Africa, The FiT Policy, 2021 and the Renewable Energy Auctions Policy, 2021, [link](#); 5) Lake Turkana Wind Power, [link](#); 6) Geothermal Development Company, 2021, [link](#)

Notes: There is limited information on policy implementation