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Estimations by the Kenya Renewable Energy Assocation (KEREA) put the number of solar systems installed at rural residences in the country at around 300,000, with annual sales somewhere between 10,000 and 20,000.

Kenya's PV regulatory framework

Kenya: Ulrike Brückner of German law firm Rödl and Partner dissects Kenya's regulatory framework for PV power generation, and examines whether it is currently sufficient to support the country's anticipated solar growth.

Kenya offers one of the largest and most dynamic markets for solar energy in Africa. The Kenya Renewable Energy Association (KEREA) estimates that approximately 300,000 rural households in the country have solar home systems installed, and between 10,000 and 20,000 PV systems are currently being sold annually. Although PV is not explicitly mentioned in the "5,000+ MW by 2016 – Power to Transform Kenya" government program, the use of solar energy is increasing, thus prompting the need for further regulation in the sector in order to promote the growth.

Energy regulations and policy

Established in 2007, the Energy Regulatory Commission (ERC) is responsible for the economic and technical regulations and their enforcement in the renewable energy sector. To promote fair business practices, ensure quality as well as a given level of standards, the commission developed "The Energy Solar Photovoltaic Systems Regulations, 2012" (hereafter referred to as: "the 2012 Regulations") in line with the provisions of the Energy Act, 2006. Section 5 (a) Clause (iii) of this Act authorizes the Commission to regulate the production, distribution, supply and the use of renewable energy. The 2012 Regulations not only specify the licensing and registration requirements for solar PV system technicians, manufacturers, importers, vendors and contractors, but also outline the design, installation, repair and maintenance procedures for solar PV systems.

Licensing

With regards to licensing, the 2012 Regulations generally require that:

All persons designing and installing solar PV shall be licensed by the ERC. The ERC prescribes certain qualifications, experience and certification, and can grant various classes of licenses.

All manufacturers, vendors, distributors and contractors of solar PV systems shall be licensed by the ERC.

A vendor or contractor shall take certain specified requirements into consideration before submitting the solar PV system design tools to the ERC for approval.

Solar PV systems and components shall have specified minimum warranty periods as provided for in the Fourth Schedule of the 2012 Regulations.

All manufacturing, sale, installation, use, and disposal of solar PV systems and components shall be in accordance with the provisions of the Environmental Management Coordination Act, No. 8 of 1999 and the Occupational Safety and Health Act, No. 15 of 2007.

Although the ERC has provisionally granted licenses for a couple of solar projects already, many of the projects are still in the pre-phase of "feasibility study." Due to the fact that the ERC and the Min-

istry of Energy are entitled to withdraw a license after two years, it is unclear for a lot of projects at the moment whether or not they will be successfully implemented. Until the survey of the pending licenses is completed, the issuance of new licenses may be delayed.

The feed-in tariff

To attract private sector capital in the generation of electricity using solar energy, the Kenyan Ministry of Energy introduced the feed-in tariff (FIT) for solar-generated electricity.

The initial FIT policy that was enacted in 2008 was designed to cater only for wind energy, hydropower and bioenergy. Although the FIT policy provides for a review every three years from the date of publication, mid-term adjustments were necessary. Accordingly, the first revision was undertaken in 2010 and now included power generated using geothermal, solar and biogas energy.

Small-scale projects (500 kWp – 10 MWp): In the case of small renewable energy projects connected to the grid (with a capacity of up to 10 MWp), the power purchase agreement (PPA) will be a standardized one, which is also applicable for projects from all other types of technologies.

The tariffs for the sale of the energy to the Kenya Power and Lighting Company (KPLC) are valid for a 20 year period from the date of the first commissioning of the solar-based power plant. There is no bidding for renewable sites and resources – a first come, first served system applies to all applicants.

The PPA is offered to projects that demonstrate technical and economic viability, meet the grid connection requirements and are able to secure all necessary legal and regulatory approvals and financing.

Large-scale projects (10.1 MWp – 40 MWp): A standardized PPA is also provided for larger renewable energy generators with a capacity of more than 10 MWp. There are load flow/dispatch and system stability requirements that are expected to be met in the case of the larger renewable energy projects. The capacity for these larger solar installations is capped at 40 MWp per PV project.

The tariffs available apply to utility-scale, grid-connected solar plants and are valid for a 20 year period from the date of the first commissioning of the solar-based power plant.

Photo: Solarcentury

Large-scale solar PV projects in Kenya greater in size than 10 MWp can receive a standardized power purchase agreement (PPA) of 20 years with the Kenya Power and Lighting Company (KPLC).

Net metering

Kenya is also considering a net metering policy for PV systems. The Energy Act 2006 itself does not provide the legal basis for net metering but the recommendations to the act and the new 2012 regulations foresee the preparation of a draft bill. An assessment study by the Kenyan government, the European Union and the Africa-EU Renewable Energy Cooperation Program was prepared to provide information necessary in the formulation of regulations for net metering. The drafting of the regulatory framework shall also be supported by three case studies such as the solar PV power plant for the SOS Kinderdorf in Mombasa (developed by Asantys Systems GmbH with local African Solar Designs Ltd) and the rooftop power plant on top of the UNEP building (implemented by Energiebau Solarstromsysteme GmbH) in Nairobi.

Taxes

Since May 2014, solar products have been exempt from the standard 16% VAT, which is generally levied on goods in Kenya. Additionally, imported solar equipment is tax exempt. The VAT (Amendment) Act 2014 provides under Part 1, Section A of the first schedule that the following solar products will be exempted: Specialized solar equipment and accessories including deep cycle sealed batteries that exclusively use and/or store solar power. This is an effort by the government to encourage investment, particularly in the field of on-grid generation.

Foundation for growth

The regulatory frameworks, in particular the standardized PPAs as well as the FIT, will support the further growth of the private sector in the solar PV arena in Kenya. The introduction on licensing and quality control with the 2012 regulations are likewise encouraging in terms of introducing higher standards in the market. Finally, but equally importantly, once net metering regulations are in place, one can expect a significant jump in demand in the Kenyan market for approval-free solar PV power plants with a capacity of up to 500 kW. ◆

Ulrike Brückner

Solar energy projects	Installed capacity	Off-grid/ grid-connected	Standard FIT ($/kWh)	Percentage escalatable portion of tariff	Min. capacity (MWp)	Max. capacity (MWp)
Small	0.5 – 10 MWp	Grid-connected	0.12	8%	0.5	10
		Off-grid	0.20	8%	0.5	10
Large	10.1 – 40 MWp	Grid-connected	0.12	12%	10.1	40

Overview of the FIT values for small-scale solar PV projects (up to 10 MWp of installed capacity), and large-scale projects (above 10 MWp of installed capacity) connected to the grid.