

PROMOTING FDI IN RE FOR SUSTAINABLE DEVELOPMENT IN KENYA

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Overview of Kenya Power situation

- Total installed capacity is 2218M.5W
 - * Hydro 820 MW
 - * Geothermal 593 MW
 - * Thermal 728 MW
 - * Co-generation 26 MW
 - * Wind 25.5 MW
 - * Off –grid 26 MW
- Proportion of renewable energy out of the total installed capacity is about 67% while dispatch is about 87%
- Long term focus is on green energy

Policy Framework

- The Policy framework on Energy in Kenya is anchored in Sessional Paper No.4 of 2004, currently under review
- Energy Act No. 2006 contains major policies articulated in the Energy Policy, currently under review
- The energy initiatives including Green Energy are contained in the LCPDP

RE Mandate

- ❖ Policy formulation and review;
- ❖ Promotion and development of Renewable Energy, Energy Efficiency & Conservation
- ❖ Feed-in-Tariff policy formulation and review;
- ❖ Development of technical & energy performance standards, energy rating labels and regulations in collaboration with Kenya Bureau of Standards and other statutory organizations;
- ❖ Feasibility studies on renewable energy, energy efficiency & conservation projects; and
- ❖ Mobilization of funding for renewable energy, energy efficiency & conservation projects.

Feed-in-Tariff (FiT) Policy

- ❖ Instrument to promote generation of electricity from RE sources
- ❖ FiT Policy established in April 2008 and reviewed in January, 2010. Further reviewed in December 2012. Currently under review
- ❖ It applies to geothermal, wind, small hydro, solar (grid and off-grid) and bioenergy (biomass and biogas)
- ❖ The tariffs reviewed every three years to accommodate cost of equipment and money

Feed-in-Tariff (FiT) Policy

- Two Model PPAs are now in place; Upto 10MW and another one for above 10MW
- Connection guidelines also issued

Feed-in-Tariffs (As reviewed in Dec 2012)

Technology	Plant Capacity (MW)	Tariff (\$/KWh)
Geothermal	35-75	0.88
Wind	0.5-50	0.11
Small Hydro	0.5-10	0.105-0.0825
	10.1-20	0.0825
Biomass	0.5-40	0.10
Biogas	0.2-10	0.10
Solar-Grid connection	0.5- 40	0.12
Solar (off-grid only)	0.5-10	0.2

Progress so Far

	Wind	Solar	Biomass / Biogas	Small hydro	Geo-thermal	Total
With PPA approval	4	0	2	12	0	18
PPA negotiations underway	2	7	2	5	0	16
Doing feasibility studies	6	18	6	18	1	49
Total number of approved proposals	12	25	10	35	1	83
Total Capacity (MW)	554	758	122	162	15	1,611

Incentives

- Duty waiver on RE plant and equipment
- Government offers letters of comfort to IPPs
- Resource assessment and feasibility studies availed to investors through a bidding process
- No licensing (but permits) required for small power plants less than 1 MW

Geothermal Resources

- The potential for geothermal resource is over 10,000 MW – located in the Rift Valley
- 593 MW has been developed for electricity generation. Another 187MW scheduled for commissioning in 2015
- Due to uncertainty in the hydrology, geothermal has become the base load
- Geothermal is the least cost source of electricity
- The resources in the country have already been mapped out

Wind Power

- Preliminary wind resource assessment shows good wind regimes ranging from 8 to 14 m/s
- A Wind Resource Atlas giving guidelines on wind regimes for the whole country is available
- Government undertaking wind data logging in high potential areas to obtain actual wind data

Wind Energy Generation

- 95 wind masts and wind data loggers installed in the four years at 40 meter heights
- Installed 5 masts at 100 meters in high potential areas
- Tender for a further 23 being adjudicated.
- Three wind PPAs executed with IPPs for development of 300 MW, 60 MW and 10MW.
- Another two wind PPAs have been initialed and waiting ERC approval.
- Other proposals under consideration

Solar PV

- Annual market for solar PV panels estimated at 500 kW and projected to grow at 15%
- A Government programme started in 2005 to provide basic electricity to boarding schools and health facilities in remote areas
- 1170 solar systems with a capacity of about 2.6 MWp installed in public institutions.
- Solar water pumping provided where water wells exist
- National Solar atlas is available to guide potential investors

Solar PV.....2

- ❖ One company (UBBINK) has set up assembly plant for solar panels in Naivasha with estimated production of 100 kW peak annually
- ❖ 600KW Generated at Strathmore University already connected to the Grid
- ❖ Under the Feed in Tarriff Policy, a total of 25 Solar PV proposals totalling to 758MW are in different stages of implementation

Small Hydropower

- Feasibility studies done for twenty six (26) Small hydro Power sites
- KTDA developing some of these sites for captive use by factories and export of excess to the grid
- Mapping of all Rivers Countrywide to produce a GIS Based National Small Hydropower Atlas has been completed
- Feasibility Studies for ten (10) sites ongoing as part of the National Small Hydropower Atlas consultancy
- Govt continues to offer support to communities to develop small hydropower for own use

Investment Guidelines

-  Feed-in Tariff Policy Guidelines
-  Small hydropower development Guidelines
-  Guidelines on Solar PV installation in public institutions
-  Biogas development guidelines
-  Wind energy development guidelines

Regulations

- Solar water heating regulations gazetted in 2012
- Solar PV regulations- Gazetted in 2012
- Energy Efficient Appliances regulations awaiting gazettelement
- Net-metering regulations drafted

Investment Prospects.....(1)

- Wind energy development prospects in Kenya under the FIT, IPP and PPP arrangements
- Prospects in the development of hybrid mini grids in Kenya
- Solar PV Systems assembly, design, development and installation
- Solar thermal systems assembly, design, development and installation
- Small hydropower development
- Biogas and gasifier technologies development

Investment Prospects.....(2)

- Cogeneration from sugarcane bagasse and agricultural waste
- Net-metering
- Innovation, Research and Development of new and emerging technologies
- Consultancy services
- Etc



Thank you

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