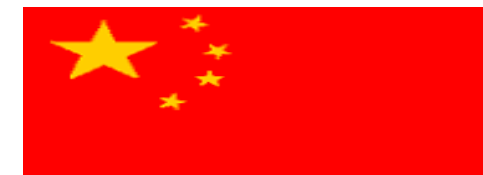




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OVERVIEW OF INVESTMENT OPPORTUNITIES

Investment opportunities in Kenya are many across all sectors and the 47 Counties. The opportunities range in size from mega to small projects. There is something for everyone and the returns are highly competitive.

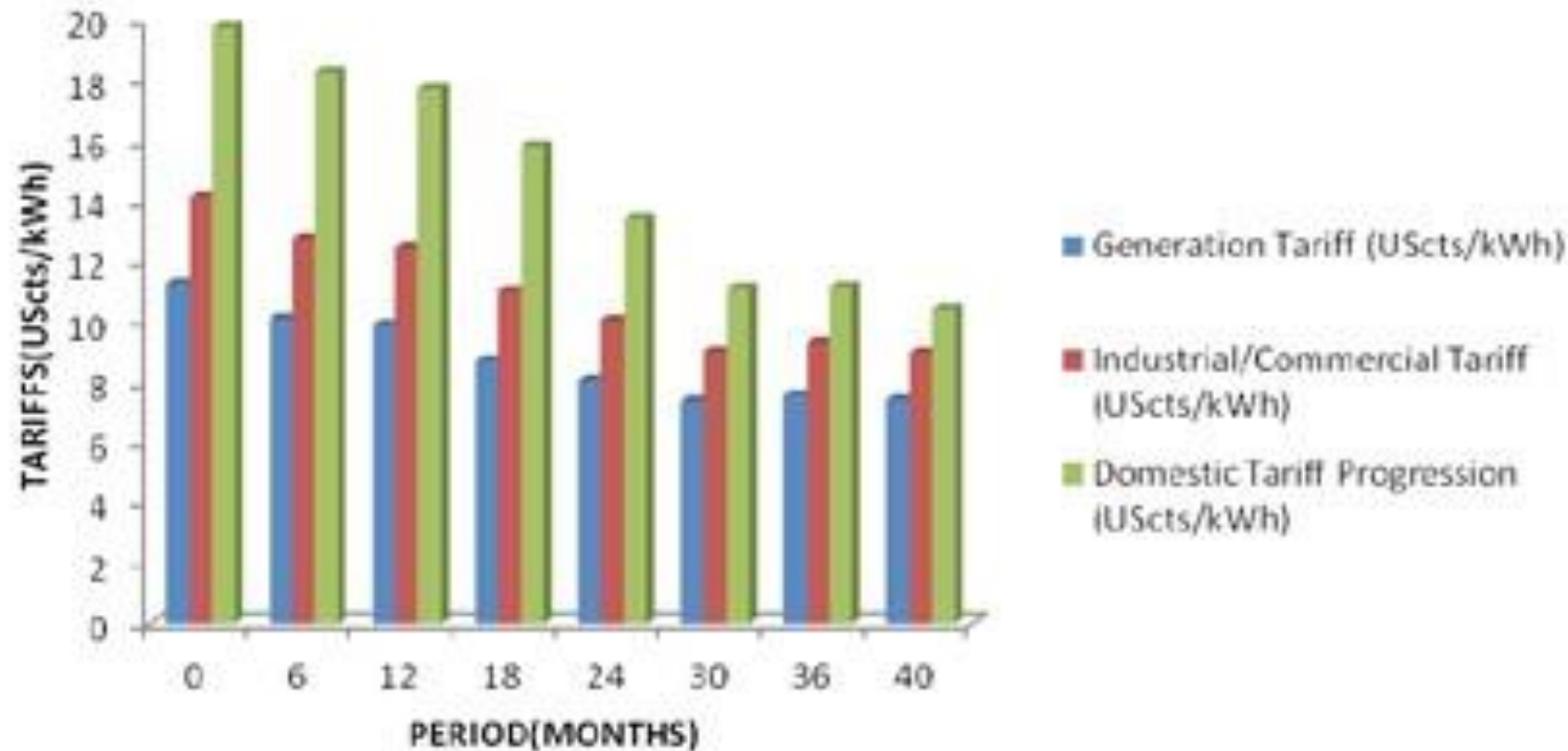
- On 27 October 2015, UNCTAD in partnership with the Kenya Investment Authority (KenInvest), organized a stakeholders' workshop on the promotion of FDI in the solar energy sub-sector in Kenya. The workshop brought together 29 participants, including stakeholders in the energy sector
- The objective of this stakeholders' workshop was to share findings of an UNCTAD advisory project for KenInvest on investment projects in the solar energy sector in Kenya.
- At the workshop, a guide prepared by UNCTAD on the preparation and promotion of solar energy projects, as well as a template proposal for FDI projects in the sector, were presented and discussed. KenInvest is currently using the template for projects profiling.

Promoting Solar Energy in Kenya

- ▶ Total installed capacity currently is 2,511MW
- ▶ The peak load is projected to grow to 15,026MW in 2030.
- ▶ Long term focus is on green energy.
- ▶ Currently there are over 500MW investment proposals in solar energy by private investors in different stages.

Power Situation in Kenya

TARIFFS 2013-2016



Off-Grid Solar

Off- grid systems are established where power line extensions are not economically viable because of:

- ▶ Distance
- ▶ Demand
- ▶ Customers ability to pay

Policy and Regulatory Framework for Mini-grid Development in Kenya

- ▶ Kenya's energy policy and law are currently being reviewed (a bill is currently in parliament) to reflect the adoption of the Kenya Vision 2030 and the promulgation of the Constitution of Kenya 2010. The policy direction is clear in respect of accelerating universal access to electricity, both through grid extensions and isolated mini-grids.
- ▶ It is intended that renewable energy will play an increasingly important role in mini-grids. The development of hybrid mini-grids is one of Kenya's important projects within the Scaling-Up Renewable Energy Program (SREP).

- ▶ Institutional responsibility for rural electrification has been allocated to the **Rural Electrification Authority (REA)**.
- ▶ REA works closely with the national distribution company **Kenya Power**. Other key institutions involved are the **Energy Regulatory Commission (ERC)** and the **County Governments**. For the future development of mini-grids, technical support and capacity-building are particularly needed by the County Governments, covering technical aspects, administration and financial management.

Existing mini-grids

At present, there is provision for different types of mini-grids in Kenya:

- Public mini-grids - these are developed by REA which owns the assets; KPLC operates the systems on exclusive concessions; uniform national tariffs.
- Private mini-grid concessions - generally full private concessions, but O&M agreements are possible; scheme-specific tariffs.
- Community mini-grids - new policy to promote community schemes; at present only a few micro-grid community schemes operating with NGO-support.

operating with NGO-support

- ▶ New policy directions are for the public mini-grids to be privatized and for Counties to develop schemes which can later be transferred to operators other than KPLC (private or county government).
- ▶ The policy and regulatory framework is evolving in Kenya, broadly towards good practice that is evident from regional and international experience.

Off-Grid Solar

- ▶ ***Solar PV (Photovoltaic)***: used widely in the country in off grid electrification (lighting, powering electronic equipment, telecommunications, water pumping, refrigeration and electric fencing).

Solar PV (Photovoltaic)

- ▶ Annual market for solar PV panels estimated at 500 kW and projected to grow at 15%
- ▶ One company (UBBINK in joint venture with Chloride Solar) has set up assembly plant for solar panels in Naivasha, Nakuru County with estimated production of 100 kW peak annually.
- ▶ The Solar PV System installation in institutions, has resulted in the installation of off-grid solar PV systems in about 1,000 institutions across the country at a total of KShs.2 billion. The total output of installed solar PV systems in public institutions is 2MW_p

Solar PV (Photovoltaic)

- ▶ Currently the government has projected to install electricity and solar PV (in areas far from the grid) in all primary schools to provide power for the Laptop Programme and also for the last mile connectivity to households.
- ▶ Mandatory Solar PV Regulations have been gazetted and are enforceable.

Solar Hybrid Systems and Mini-grids

- ▶ Currently there are 18 operational micro grids operated by Kenya Power with a total installed capacity of 19MW
- ▶ In Kenya there are also some private micro grids as well as private home systems - mainly solar.
- ▶ Six sites of the 18 off grid sites in Kenya have solar generation with installed capacities of 10, 30, 50, 60, 60 and 300kW

Solar Hybrid Systems and Mini-grids

- ▶ There are plans to expand these as well as hybrid to all the diesel stations
- ▶ Solar hybrids at Lodwar (60kW), Hola (60kW), Merti (10kW)
Solar/Wind hybrid at Habaswein (50kW wind, 30kW solar)
- ▶ Lodwar is a small town located in the N.W. part of Kenya. It has a population of about 20,000 people, Elwak (50kW)

Solar Hybrid Systems and Mini-grids

- ▶ Electricity generation is through Solar-Diesel hybrid, at Lodwar generating Station
- ▶ The future plan is to expand the solar generation of Lodwar station by 250KW.

Incentives

- ▶ Duty waiver on RE plant and equipment (capital goods)
- ▶ Resource assessment and feasibility studies availed to investors through a bidding process (for projects that above 40MW)
- ▶ No licensing (but permits) required for small power plants less than 1 MW

Incentives

- ▶ Determined Power Purchase Agreement (PPA) / Feed-in-Tariff Policy (for National Grid projects)
- ▶ Possibility of Public Private Partnership (PPP) Arrangements
- ▶ National Solar atlas is available to guide potential investors

Conclusion

- ▶ Expand solar generation in off-grid areas from current 610kW to 6,150kW in the next two years
- ▶ There are plans to hybrid all the micro-grids in Kenya and expand the existing RE plants so as to increase the saving on fuel costs.
- ▶ KenInvest with support from DFID is currently profiling solar projects in the counties that are bankable and investor ready.