



Market Creation for Private Sector Operated Mini-Grids in Kenya

Country	Kenya
Technology	Solar PV Hybrid Mini-Grids (SHMGs)
EnDev 2 Period	2014 - 2018
Budget	€ 1.55M as direct incentives to private sector
Partners	Ministry of Energy and Petroleum (MoEP), Barclays Bank of Kenya (BBK) and Private Sector
Objective	Development of up to 20 SHMGs to facilitate improved access to clean energy services to 22,500 people
Achieved until June 2016	Proposals for development of the first 3 SHMGs sites are under evaluation.

these areas as the most appropriate solution to meet its electrification target. The private sector will play a key role in development and operation of the mini-grids.



A 40 kW_p solar hybrid mini-grid pilot project implemented by GIZ ProSolar in Talek trading centre, Narok County – Kenya.

Background

Currently, about 53% of the Kenyan population has access to grid electricity. In remote counties far away from the national grid this figure falls to as low as 5%. Here, many people light their houses with fuels such as kerosene and firewood that are not only very expensive, but have negative impacts on health and environment. The Kenyan Government is targeting to increase electricity connection to 70% of the population by 2017 and 100% by 2020. However, extension of the grid to serve citizens in far-flung off-grid settlements is very costly and not economically feasible. The government is therefore considering stand-alone mini-grids for

RBF Intervention

The Mini-Grids Results Based Financing (RBF) project aims at facilitating the implementation of up to 20 mini-grids in rural Kenya through private sector participation. RBF incentives will trigger private sector investment and support the development of Solar Hybrid Village Mini-Grids (SHMGs).

The project is funded by the UK Department for International Development (DFID) and supported by Energising Development (EnDev), a programme implemented by Deutsche Gesellschaft für

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Internationale Zusammenarbeit (GIZ) GmbH, and managed by the GIZ Promotion of Solar Hybrid Mini-Grids (ProSolar) project. Barclays Bank of Kenya (BBK) is responsible for the execution of the RBF project, with technical support from GIZ.

Project approach

The Mini-Grids RBF is a private sector support mechanism to motivate companies to move into this emerging business area in renewable energy. The RBF project offers performance-based financial incentives to private firms to develop and manage mini-grids that supply electricity to customers in areas far from the national grid.



Community sensitization in Kataboi trading centre, Turkana County which is one of the target RBF sites for the development of a SHMG.

The key feature of RBF is the provision of financial incentives in the form of grants upon verified delivery of pre-agreed, clearly defined and measurable results. Results could include successful construction, commissioning and operation of the mini-grid, connection of new customers as well as amount of clean energy generated and supplied to customers.

Participating companies take full investment risk and will have to pre-finance their projects, through private equity, bank loans or other sources of funds. Incentives shall be paid out after verification of results.

Technology

Private companies will build and operate solar powered mini-grids hybridized with diesel generators, wind or battery storage systems generating up to 50 kW_p. A low voltage distribution network will be set up to supply electricity to consumers via prepaid meters at a service level agreed between the mini-grid operator and the consumer. This will increase local capacity for managing mini-grids and encourage their spread across the region.

Impacts

The RBF fund will support the development of up to 20 solar PV hybrid mini-grids, which will supply approximately 22,500 people with clean energy.

It will contribute to accelerating the rural electrification rate in comparison to the business-as-usual scenario. Rural households will have access to affordable, reliable and eco-friendly electricity, significantly improving their living conditions.



Connected customers at Talek Centre enjoy extended hours of doing business.

Furthermore, availability of electricity will initiate income generating activities and job creation opportunities will emerge which contribute to the inclusive development of the target areas. The project will have a positive environmental impact from solar power generation. The Kenyan economy will benefit from the strengthening of the private sector and rural retail structures.

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