

## Case study 9

### Mobisol GmbH

Mobisol Solar Home Systems: Combining solar energy, micro-financed mobile payments and comprehensive after-sales services

TANZANIA

Mobisol Tanzanian technicians installing PV panel



Presentation Kikafiti Maasai market



#### The company

Mobisol is a German renewable energy service provider dedicated to facilitating the sustainable electrification and supporting the economic development of rural households in developing countries with solar home systems (SHS).

#### The challenge

Current electrification rate in rural Africa stands at around 15% to 20%. The high costs of grid extension adversely impact the pace of grid services, especially for rural households. These households rely on kerosene for lighting and generators for appliances and productive use. Off-grid solutions exist, but often entail two main bottlenecks: a lack of micro-payment methods and the inability to offer long-term loans needed to purchase a quality system complete with after-sales services.

#### Opportunities for renewables

Mobisol SHS increase living standards by leapfrogging the non-existent electricity grid and replacing the usage of kerosene and/or diesel. Combining solar energy with micro-financing schemes reduces the barriers usually faced by the rural poor to access the finance needed to shift from fossil, fuel based energy sources to renewable energy technologies.

#### Renewable solution

By using mobile money services, payments can be made conveniently via customers' mobile phones following a 36-month installment plan. Systems are available in different sizes ranging from 30 W to 200 W. The smallest unit can light two rooms, run a radio and charge four mobile phones per day. The largest powers multiple lights and appliances like a laptop, a television or a DC refrigerator. Excess electricity can be used to run Mobisol business kits to charge businesses and barbershops. Mobisol SHS come with an extended warranty and a full service package for three years including free maintenance. Through an integrated GSM modem, technical data are tracked and monitored by local technicians in a web-based interface. The remote monitoring allows potential maintenance problems to be swiftly addressed and enables systems to be

locked automatically in case of theft or overdue repayment. As a result, the Mobisol Akademie was established in 2014 to train local entrepreneurs working as Mobisol technicians and sales staff to effectively service customers and to represent Mobisol as a leader in the sustainable energy industry in East Africa.

#### Project financing and costs

The total project investment to date is 13 million USD. Mobisol was able to attract private investors, as well as grants and preferential loans by inter alia the German Development Cooperation (DEG), the Energy and Environment Partnership (EEP) and the Africa Enterprise Challenge Fund (AECF). Other partners include the mobile network operators Vodacom, Airtel as well as local partners such as Kakute Ltd.

Project costs include the pre-financing of SHS, overhead and set-up costs when establishing a local service infrastructure (including local facilities and capacity, efficient after-sales-maintenance). The total sales price of an installed SHS is the cumulative amount paid over the three-year period via monthly instalments. The project will be economically viable by early 2015.

#### Project outcome

Mobisol has installed over 6,000 SHS in Tanzania. Due to its sustainable business model, grants to replicate the project in Rwanda could be attracted from GSMA Mobile for Development and the European Union. Mobisol entered the Rwandan market in 2014 and has so far installed more than 1,300 systems. All sales and installation processes have been devised to be robust and replicable in order to guarantee a fast scaling to cover the ever-increasing demand.

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