

Case study 9

Mobisol GmbH

Combining solar energy, micro-financed mobile payments and comprehensive after-sales services
TANZANIA

Mobisol's Tanzanian technicians cleaning a PV panel



The company

Mobisol combines solar energy with micro-financed payment methods via mobile phone and a comprehensive customer service. The German company distributes high-quality solar home systems (SHSs) to low-income customers in developing countries.

The challenge

In the semi-urban and rural off-grid areas of Tanzania, electricity is needed mainly to illuminate homes, charge mobile phones, power household appliances and run small businesses. However, the solution of implementing off-grid energy systems entails two main problems: a lack of efficient 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

Tanzania's recent reform in the power sector created a more preferable climate for larger-scale employment of privately funded off-grid electrification schemes. Arusha region was identified due to already existing contacts to the local partner organisation Kakute Ltd.

Renewable solution

Using mobile banking services, payments can be made conveniently via customers' mobile phones following a 36-month instalment plan. Mobisol SHSs are available in four different sizes ranging from 20 to 200W. The smallest unit can light two rooms, run a radio and charge four mobile phones per day. The largest system powers multiple lights and consumer appliances like a laptop, a television or a DC refrigerator. Excess electricity can be used to run Mobisol's business kits such as mobile phone charging businesses or barbershops. Mobisol SHSs come with an extended warranty and a full service package for three years including free maintenance. Through the GSM modem included in the solar controller, technical data are tracked and monitored by local technicians in a web-based interface. The remote monitoring technology allows for addressing potential maintenance problems swiftly and enables systems to be locked automatically in case of theft or overdue repayment. All technicians, sales staff and marketing agents receive regular training. Besides, capacity building is furthered by customer education courses.

Project financing and costs

The total project investment to date is \$5 million. Mobisol was able to attract private investors, as well as grants and preferential loans by the Finance and investment section of the German Development

Cooperation (DEG), the Energy & Environment Partnership / Southern & East Africa (EEP) and the Africa Enterprise Challenge Fund (AECF). Other partners include the mobile network operators Vodacom, Airtel and Kakute Ltd.

The fixed and upfront costs are mostly spent on pre-financing of the SHS, on wages for 50 employees in Tanzania and 20 employees in Berlin, on rent for the offices and on travels. The costs vary according to system size.

The total sales price of an installed SHS is the cumulative amount returned over the three-year period via monthly instalments. Payments are based on customers' previous traditional energy source spending behaviors. Due to expected growing cash flow, the project will reach breakeven in 2014.

Project outcome

Mobisol has installed over 1,000 SHSs in Tanzania. Customers reported that efficient, bright LED bulbs and longer light hours increased their families' productivity. One third of customers used their excess electricity to generate additional income. Thanks to this successful pilot phase, since then, Mobisol has received numerous requests to venture different markets and is currently considering various options. They presently target the installation of over 3,000 systems in Tanzania, Kenya and Ghana for 2013.

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