

Case study 5

Fundación ACCIONA Microenergía

Luz en Casa (Light at Home): providing basic electricity services with solar home systems for human development

PERU

Installed PV panel



The company

Fundación ACCIONA Microenergía (FUNDAME) is a corporate foundation of the Spanish company ACCIONA, established for providing basic services to people living in isolated rural areas. FUNDAME started in 2009 ACCIONA Microenergía Peru (AMP) intending to supply electricity to isolated rural communities in the Peruvian Department of Cajamarca by means of solar home systems (SHSs). AMP is the first and only Peruvian electricity provider of SHS exclusively.

The challenge

Luz en Casa brings basic electricity services at an affordable cost to poor and isolated rural Peruvian communities. Grid extension in these areas is operationally and financially very challenging, due to the remoteness and scattering of the locations, as well as due to their low demand levels (average of 7.5kWh per month per household).

Opportunities for renewables

The deployment and use of renewable energy technologies, improved through sustainable management models, enables users to have better basic lighting and communications services than the existing ones and all this at a lower cost.

Renewable solution

AMP installs and maintains SHS comprising one photovoltaic (PV) panel (60-85Wp), one gel sealed lead-acid battery (100Ah), one regulator (10A) and three energy-efficient lamps (12VDC). The system can power low-consumption electrical appliances. A fee-for-service model is applied: it is developed within a regulatory framework based on a regulated tariff (implemented by the Peruvian regulator in 2010, and driven by FUNDAME) and a cross subsidy for exploitation to guarantee the affordability: the present tariff is about \$17/month, of which the user pays less than \$3.5/month. SHS can be used during 20 years. Once the installation is completed, AMP charges users the fee and uses the revenues to pay the operation and maintenance costs. The installation and maintenance tasks are carried out by local people, trained by AMP to become technician-entrepreneurs.

Project financing and costs

During the first phase of the programme FUNDAME donated 1,300 SHSs (average of \$750 each) and the implementation costs of AMP. In 2012, AMP was awarded a long-term credit by FOMIN-IADB to buy additional 1,700 SHSs. With the 3,000 SHSs in use, the sustainability of AMP and the Luz en Casa programme is expected to be reached by the end of 2013.

Project outcome

Approximately 3,000 households are benefitting from an efficient illumination that extends the working day, while avoiding the negative impact of diesel lamp smokes on people's health. The SHSs also powers TV and radios, reducing their degree of isolation.

The programme has reduced the end-user's payoff for alternative electricity components by 33%, has contributed to job creation in rural areas, and has involved national, regional and local governments.

FUNDAME is currently exploring possible collaborations with micro-financing institutions and telecommunications operators (pre-paid system), as well as looking for technology innovations to improve its model.

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