

Energy – Cameroon

Improved Access to Solar Energy through a Base of the Pyramid Approach

Problem: Solar lighting is viable, but its economic infrastructure is missing

Access to modern energy for lighting continues to be a major challenge in Africa. It is estimated that of the approximately 110 million off-grid households (with 580 million individuals), more than half use kerosene lamps as their primary light source. It is estimated that \$17 billion are spent annually in Sub-Saharan Africa on kerosene for lighting, clearly demonstrating the willingness of users to pay. Other non-renewable off-grid alternatives include candles, biomass fuels, battery powered light devices, and diesel generators. These traditional lighting alternatives are typically expensive and often both dangerous and environmentally harmful.

With comprehensive grid expansion being a long-term objective, appropriate solar lighting products can contribute substantially to narrowing the access gap in the near future. Recent technological improvements in lighting, particularly in the area of Solar Lighting Products, create opportunities for delivering affordable and appropriate technological solutions tailored especially to the needs of off-grid African consumers. However, substantial obstacles remain. The cost is still too high for many rural and poor customers, in particular since solar energy implies almost 100% upfront investment. Besides, typical African entrepreneurs are neither able to apply significant scale to supplies and outreach nor can they finance the required business expansion. Solar lighting products will also require appropriate recycling systems, which are not yet in place.

Our partners

Total Access to Solar (TATS) SCS is a 100% subsidiary of Total SA of France, an energy concern with over 90.000 employees and an annual turnover of around € 160 billion. TATS is concerned with supply, distribution, marketing and social services of solar devices adapted to low income populations in emerging markets and operates among other countries in Cameroon and Kenya.

Contribution by TATS

- Personnel for coordination and implementation of the partnership: international staff (based in Paris) and national staff (based in Cameroon)
- Consultants for monitoring & evaluation, recycling
- Costs e.g. for printing and dissemination of materials for end-user awareness creation, training venues, local travel and accommodation of trainees

Contribution by GIZ

- Provision of expertise on energy market development for the poor, project scaling-up and dissemination of results

Strategy and activities

The project will adopt a market-oriented approach with the solar lighting customers (end-users) and solar lighting entrepreneurs as immediate target groups. It will target especially the rural and urban poor at the bottom of the pyramid. Suitable solar entrepreneurs will be identified and capacitated to act competently along the supply chain (distribution, installation, maintenance and after





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sales services). To this effect, training on technical introduction to solar lighting, sales & marketing, business development & book keeping, financial management and maintenance & recycling, will be provided. Appropriate awareness creation interventions will be targeted at the end-user level. They will be introduced to solar lighting and its benefits (monetary, comfort, health etc.) in a generic manner, without being specific to any particular product or producer.

While the above will stimulate demand and enhance capacity to supply, it is recognized that access to finance remains a substantial challenge for market development for solar lighting products. A baseline assessment with input from stakeholders and value chain actors at the beginning of project implementation shall inform a review of the project scope and design, particularly regarding suitable interventions to facilitate access to finance.

Relevance for the partners

The private sector has identified this market as a growth opportunity. Total endeavours to move into the solar lighting market for a mix of commercial and social responsibility reasons, but lacks specific experience in the access to energy market for the poor. Moreover, Total wishes to maximize information and awareness about the Total approach for solar lighting. This contributes to scaling-up the company's access to the energy markets.

Interim Outcomes

It is planned that 100.000 solar lighting products are sold to Cameroonian end users of which 40 000 are sold to the B.O.P by the end of the project. The required supply chain structure is being established. Current sales figures are encouraging and already stand at 90.000 lighting devices. Around 50 SME,

with up to 200 staff member or self-employed persons (thereof 75% youths (<30y) and 10% women) are expected to become involved in this supply chain. So far 35 contractors (35% youths, 63% women) were identified and training was conducted for 28 people.

A baseline study on the sector and the project's impact is underway and the results will be shared to relevant stakeholders. In order to sensitize the public for solar products, media and marketing materials have been developed and will be disseminated. A specific study on options and recommendations for a recycling system for solar lighting products is in progress. So far basic prerequisites and two potential partners specialized in recycling electrical waste are identified.

Overall, the project will contribute to an accelerated uptake of the market for modern and clean lighting products. Once applied on a larger scale significant reduction of hazardous emissions, including pollutants and greenhouse gases, will have positive effects on the environment and climate change. It also reduces individual health hazards by indoor air pollution from kerosene, avoids the risk of burns and fires from accidents with kerosene lamps and leads to savings in the disposable income.



- **Objective:** Improved access to solar energy for low income people by enhancing their market supply chain for solar lighting products
- **Partner:** Total Access to Solar SCS
- **Duration:** 2011 – 2013

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