Solar Energy for Education and Jobs

Award winning project of the United Nations! This project provides affordable stand-alone solar solutions designed for the needs of households and small-businesses.

This climate protection programme implements high-tech solar home systems including a GSM modem that deliver a clean, affordable alternative to fossil fuels for low-income households and small enterprises in Africa. The technology reduces carbon emissions effectively, owing to an innovative monitoring approach. The first project activity is implemented in Tanzania.

![Image](image_url)

**Project type:** Solar  
**Project location:** Tanzania  
**Project status:** In operation, credits available  
**Annual CO₂ reduction:** 9,981 t CO₂  
**Situation without project**  
Use of kerosene lamps and diesel generators for lighting and electricity generation  

**Contribution to the SDGs**

- **3 GOOD HEALTH AND WELL-BEING**
- **7 AFFORDABLE AND CLEAN ENERGY**
- **8 DECENT WORK AND ECONOMIC GROWTH**

**Awards**

- Gold Standard™ VER

2.5 billion people worldwide live without a reliable electricity source to fill their daily energy needs. They use inefficient and costly fuel-based lighting sources such as kerosene lamps, which greatly curtail their activities once darkness sets in. Mobisol, the programme developer, combines solar energy with innovative mobile technology and microfinance to provide high-tech solar home systems (SHS) to remote households across Africa.

The SHSs include a solar panel, battery, lights, as well as a cell phone charger. The systems are currently available in four different sizes meeting the needs of low income households as well as of small

500,000 people benefit from better air  
85,922 solar systems distributed  
467 jobs created
The smallest unit can light two rooms and charge four mobile phones per day. The largest system powers multiple lights, consumer appliances such as laptops, televisions or solar powered refrigerators and charges up to ten mobile phones simultaneously. Mobisol provides service for system installation with local trained technicians. Through the Global System for Mobile Communications (GSM) modem included in the solar controller, technical data concerning the panel, battery and energy consumption can be tracked and monitored by local technicians in a web-based interface. This remote monitoring technology allows potential maintenance problems to be addressed swiftly.

I enjoy seeing our customers happy. We install an easy-to-use and durable product with wide ranging after-sales services and warranty.

Binde Mohammed, Certified Mobisol Technician

A pay-as-you-go system circumvents the initial investment hurdle for customers who previously could not afford high-quality solar home systems. Using mobile banking the cost can be paid off conveniently via their mobile phones in a microfinanced 36-month installment plan. Customers without a personal bank account can purchase a system and relatives from other locations can help to finance it.

Thanks to this modern information and communications technology (ICT) solution, this PoA will reduce greenhouse gas emissions by the displacement of fossil fuel use, such as in fuel-based lighting systems and/or stand-alone power generators. By substituting poor kerosene lamps with strong solar powered LED lights and reliable energy, environmental but also social and economic benefits can be achieved. Taking advantage of longer light hours achieved by the electrification of their houses, beneficiaries can greatly increase their productivity through working in the evening.

Carbon finance will be invested in activities that facilitate project scale-up to reach remote locations as well as local partner capacity building, developing marketing and outreach resources, and enhancing distribution channels. The programme has been replicated in Rwanda and Kenya and has further potential in Ghana and other African Countries.

More Information about the project on the official site of the UNFCCC

Contribution to the SDG:

- **SDG 1**: A household with a solar home system saves 167 liters of kerosene/134 USD on kerosene expenditures and 42 USD on mobile phone charging costs per year.
- **SDG 3**: On average 6 persons benefit from clean and bright light of one solar home system which adds up to 500,000 persons. Solar light reduces the risk of burns, fire hazards and poisoning from kerosene.
- **SDG 4**: A solar home system increases children’s study time by 2 hours per day and therefore helps to improves school grades. Over 800 beneficiaries trained on solar installation.
- **SDG 5**: The programme empowers women by providing green jobs and encouraging solar-powered businesses run by women.

Light increases the sense of security of the rural people and allows children to do their school work even in the evening hours.
- **SDG 7**: 85,922 solar home systems distributed since project start. 24 market hubs and information centres in Tanzania help to spread access to clean energy.
- **SDG 8**: 467 jobs and 280 freelance marketing agents
- **SDG 12**: A solar home system produces 110 kWh of renewable power per year.
- **SDG 13**: A solar home system saves on average 411 kg CO₂ per year.
- **SDG 17**: The programme partners with local, regional, or national partners building on organisational strengths and partner competencies to increase reliable access to energy and open new markets.

The larger solar home systems can power small businesses enabling entrepreneurial customers to create additional income like this tailor shop...

...this solar powered barber shop...