

# Solar Light for the Churches of Africa (SLCA)

**Location:** Countrywide  
**Type:** Alternative energy generation (solar)  
**Size:** 5,000 facilities  
**Funding:** Total: US\$6,000,000  
 Private: US\$6,000,000  
**Objective:** To provide electric light in areas unconnected to the electric grid.  
**Duration:** 2000–2020  
**Scale:** Rural

## Summary

This program, an ecumenical church development collaboration between primarily the Catholic and Anglican Churches for East Africa and the United States (US), is providing electric light and radio to areas of rural Uganda where electric grid extension is unlikely. The goal is to electrify 5,000 churches, schools, health clinics, community centers, and homes over two years. By replacing existing kerosene lanterns, the quality of life of residents is enhanced and carbon dioxide (CO<sub>2</sub>) emissions are reduced. Project success is expected to lead to replication elsewhere and to reduce costs due to improved skills in design and installation of the systems.

## In-Country Principles That Attracted Nondonor Financing

- Capacity building and informed decision making
- Public participation in, and support of, sustainable development

Key principles that helped attract private-sector financing included the ability to have a management team independent of the government, and increased awareness, knowledge, and skills, facilitated through the incorporation of popular input.



A central element for energy-sector reform efforts is increased public knowledge of, and participation in, energy decision making. Activities that support such knowledge, and also helped attract private-sector interest, included programs in public education and communication, executing intervention models to increase the impact of education and outreach, and educating citizens so they can play improved roles in shaping the policies, markets, and institutions that affect their lives.

## Financing

Total project investment is about US\$6,000,000, all of which comes from the private sector. About US\$3,000,000 is from the nonprofit Hathaway Foundation, US\$2,400,000 is from the Church of Uganda, and US\$600,000 is from users.

There is a 50/50 matching arrangement by which both the Catholic and Anglican Churches request solar-powered electric lighting kits by placing a 10% cash deposit with a Kampala solar equipment distributor, Solar Energy for Uganda, Ltd. SLCA, the ecumenical church development collaboration between the Catholic and Anglican Churches for both East Africa and the US, then provides 50% funding for solar lighting kits to requesting diocesan coordinators in the East African countries of Uganda, Tanzania, Congo, Rwanda, and Kenya. Solar Energy for Uganda finances the remaining 40%, which is paid back over two years by the receiving church.

## The Project

Each of the 5,000 units consists of a solar lighting kit powered by a 60-W roof-mounted solar module, with a battery for nighttime use. By replacing the existing kerosene lanterns with solar lighting, each system will save approximately 526 kg of CO<sub>2</sub> emissions per installation per year.

The project provides numerous health, environmental, educational, and other benefits, including the following.

Eliminating kerosene lanterns removes the noxious fumes that are inhaled by the home dwellers — estimated as the equivalent of smoking two packs of cigarettes a day per person.

The successful administration of a national solar electrification program may reduce the pressure to build a third dam on the Nile River, which is home to some of the Earth's most famous natural wonders, including Murcheson Falls National Park.

The project improves education. In Uganda, competition for college education is intense, with a relatively modest number of first-year college slots available to millions of potential

students. Students raised in households or attending local schools without electric light cannot compete with their peers who can read an additional four hours per night because of available electricity. By electrifying schools with solar lights, students in rural areas now have the ability to compete with students from the electrified urban cities.

The solar electric lighting systems also afford enough power for small televisions, radios, and in some cases, for computers and Internet connections. They also extend the workday by up to four hours per evening. This allows residents to undertake micro enterprise activities and increase income opportunities. Light also increases yields from farms whose owners depend on food for livelihood. For example, solar electric light allows chickens to see their food, receive an extra feeding a day, and double egg production.

### Technical Data

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Each kit includes a 60-W solar module, six compact 8-W fluorescent medium base screw-in lights (with in-line electronic ballast adapter), a charge controller, a 100-amp-hour deep-cycle battery, switches, wiring, disconnect, and medium base sockets. The installation takes roughly two to three hours and once completed, provides the facility with complete hard-wired, wall-switch-controlled lights for up to six rooms. The price per kit is US\$1,200, which includes kit purchase price, international shipping, tariff, in-country shipping, and installation.

### Performance Data

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Estimated CO<sub>2</sub> emissions reductions will total approximately 52,600 metric tons over the 20-year lifetime of the project.

A May 23, 2000, letter from the Ministry of Foreign Affairs indicated that the Government of Uganda is “confident that the project ... will help promote sustainable development.”

### Participants and Roles

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Solar Energy for Uganda, Ltd., is responsible for system installation and maintenance; SLCA, the Hathaway Foundation, and the Church of Uganda provide financing.



### Partner Contacts

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