

# Ethiopia

## Access to solar lighting

### Setting the scene

Ethiopia is one of the poorest countries in the world with an estimated population of more than 93 million, of which 83 percent live in rural areas. Rural communities are generally low income, off-grid communities that depend on kerosene (and sometimes biomass) for lighting. Many of these households use wick-based kerosene lamps, which are expensive to run, provide poor lighting and are extremely flammable. This burning of kerosene exposes mainly women and children to harmful particulate matter, causes eye strain for children who attempt to study at night, and decreases the ability of households to undertake livelihood development activities at night.

### Pilot overview

This initiative aims to deliver solar lighting technology to off-grid rural communities in Ethiopia through a network of self-sustaining community cooperatives, thereby contributing to climate friendly socio-economic development. The solar lights will replace kerosene-burning lamps with a clean, renewable source of energy with far reaching health, social, environmental and economic benefits.

A pilot project is currently underway in Ethiopia to test the implementation of the model. It aims to:

- deliver 3,000 solar lights to off-grid households;

- create sustainable income generating opportunities through development of social enterprises, provision of skills training and access to innovative financial services;
- replace kerosene and biomass with environmentally friendly technology, reducing pressure on the environment and greenhouse gas emissions;
- improve the health of women and children through reduction of indoor air pollution and reduce eye strain;
- reduce the risk of household fires;
- increase educational opportunities for children through increased access to light;

## Clean light for the rural poor of Africa

- increase social and economic activities in the evenings;
- increase women's empowerment through engagement in managing community cooperatives;
- provide a clean, renewable source of energy;
- improve household economic status through a reduction in kerosene use.

Each light will replace a kerosene lamp which consumes an estimated average of US\$40 in kerosene per year. These savings will substantially improve the socio-economic status of participating communities.

The pilot will also undertake a carbon feasibility study to help determine the relevance of carbon credits to a self-sustaining social enterprise model. The results of the pilot will be used to scale up the project in the 60 communities in which World Vision Ethiopia works, as well as replicating the model across East Africa. While solar lights are the only renewable energy technology that will be distributed as part of the initial pilot, it is hoped that the model developed can be applied to other renewable energy technologies in the future.



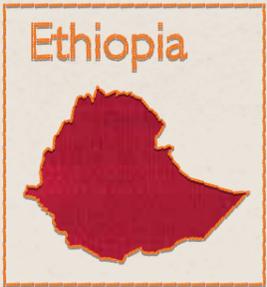
Kerosene burning releases noxious fumes



Solar light – clean, safe, renewable energy



Traditional Ethiopian housing



**Pilot location:** Off-grid rural communities in Ethiopia

### Pilot project partners:

- Government of Ethiopia
- Village cooperatives
- Renewable Energy and Energy Efficiency Partnership
- World Vision Australia
- World Vision Ethiopia

### Social impact:

- Health improvement
- Environmental improvement
- Socio-economic improvement
- Empowerment of women

### Sustainability:

- Educating the community about the project benefits
- Generating revenue through carbon sequestration to reinvest in the cooperatives
- Promoting local participation in sustainable economic development
- Provision of training for local repairs/maintenance

### Climate change mitigation:

0.2 tCO<sub>2</sub>e sequestered per light per year

### Economic benefit (est):

US\$40 saved per light per year through reduction in kerosene use, ie. there is a six-month payback period on the cost of each light

**Number of lives directly impacted (est):** 21,000

**Project status:** Pilot – fully funded for 3,000 solar lights

**Next phase:** Scale up to 350,000 solar lights over seven years

**Funding requirements:** US\$350,000