

## ENERGY FOR LIFE - BEST PRACTICE AWARD 2011

**System / Location**

**CERC - Community Energy Resources Center / Tanzania**



The Community Energy Resources Center (CERC) was created to give access to renewable, efficient, and affordable energy technologies to the rural isolated community of Oldonyosambu (3 villages, 20000 people). It offers: information and technical skills for sizing, quotation and implementation of solar and biogas systems or improved stoves of different types and sizes; computer/internet and printing services; mobile charging; solar torches; solar dried vegetables; jatropa soap made by women cooperatives; restaurant using energy efficient stoves; a small library focused on energy and environmental issues; a tree nursery. The CERC is managed by the community in particular by an "energy committee" consists of trained local technicians of each technology, women cooperative and village representatives, which meet every week. The electricity for lighting, radio, using computer and printer is provided by a PV system of 369 Wp. Any villager entering to the CERC can have information or buying any energy technology system/service. The CERC is located near the main market of the area and is open from Monday to Sunday, 9am - 5pm.

### Planning/Installation

Istituto Oikos [www.istituto-oikos.org](http://www.istituto-oikos.org)  
[www.best-ray.com](http://www.best-ray.com)

### Donation/Support

European Union

### Operator

Istituto Oikos, Oikos East Africa  
[www.istituto-oikos.org](http://www.istituto-oikos.org)  
[www.best-ray.com](http://www.best-ray.com)

### PROJECT DATA SHEET

Year the installation started operating	2009
Type of system	Solar
Type of energy produced	Electricity
Location	Tanzania, Arusha region, Aumeru district, Oldonyos-ambu ward, Oldonyosambu village
Geographical position	3° 8'47.07"S, 36°41'35.18"E
Size of installation	2,8 m2
Power of installation	369 Wp (3 x 123 Wp)
Use of energy produced	Lighting, mobile charging, computer, printer, internet for the community services
Quantity of energy produced per day	1476 Wh per day
Type of financing	Grant
Source of financing	European Union, 9th European Development Fund
system investment cost	2900 USD
System cost per watt	7,8 USD per Wp
Income generated from installation	1500 USD (savings on diesel for generator)
Maintenance cost per year	150 USD
Fossil fuel savings per year	2000L (diesel)
CO2 reduction per year	Approx. 5,4t of CO2 per year
Number of beneficiaries	~ 20000 people
Presence of renewable energy country programme	No



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#### LEGAL FRAMEWORK

The establishment of the CERC is part of the BEST RAY (Bringing Energy Services to Tanzanian Rural Areas) project, which aims to provide energy services through renewable/efficient technologies (solar, biogas, improved stoves, etc.) in an isolated rural area of north Tanzania. One of the project's main actions was to create 2 CERCs for the 2 communities of the operation area (Ngarenanyuki and Oldonyosambu), that are small building (like a shop) set in the central area of each community (near the main market) aimed to give access to renewable, efficient, and affordable energy technologies to these rural isolated communities. The CERC is managed by the community "energy committee" with the supervision of the local governmental authorities, i.e. the village, ward and district that were also supporting the project since the creation of the center for the logistic and legal aspects.

#### FEASIBILITY, SUSTAINABILITY AND REPLICABILITY

Since the CERC's establishment, the community had a real improvement on their energy access:

- installation of about 10 Biogas plants, 30 PV systems and 100 improved stoves in households;
- creation of local technicians operating at the CERC (2 Biogas, 2 solar, 10 women for improved stoves, etc);
- every day villagers enter to the CERC to buy items (e.g. solar torches, small stoves), use services (battery charging service; computer and printing) or just to get information.

The CERC can likely be replicated in any rural area in need of energy services. Other organizations coming to visit the center showed strong interest on it. The center is sustained by its own profit coming from the selling of items, systems and services. The local authorities are also involved on the management and supervision of the center, to ensure a better sustainability.

#### SOCIAL IMPACTS

Social benefits:

- income generation for the CERC, thus for the community, through the business of energy technology and various services offered by the center;
- creation of local expert (for biogas, solar, improved stoves, computer, tree nursery, etc.) which works through the CERC; in particular local women cooperatives are selling their products through the CERC (solar dried vegetable, stoves, Jatropha soap)
- training for the community organized by the CERC (e.g. on computer and internet use)
- general improvement of awareness on alternative energy and environmental issues.

The target community is totally electrically isolated from the town, which also leads to a slow development. Having now an easier access to energy services will contribute to the social and economical development of the area.

#### FINANCING AND FINANCIAL IMPACT

The financial support to create the CERC was totally provided by the Best Ray project. The operation and management aspects were done with a strong involvement of the community and local institutions. The CERC is managed by an "energy committee" consists of trained local technicians of various technologies, women cooperative and village representatives, which meet every week to make decisions on the general management and also the financial aspects. The center is sustained by its own profit coming from the selling of items, systems and services. Every technician that implements a system is giving a percentage of its profit to the center. The "energy committee" was also trained on ways to be sustainable as a community owned entity, and on how to apply for financial support from relevant parties. The financial initial investment to establish the CERC, showed its results with a strong impact on the improvement of the energy access and awareness of the local community, which is connected to its social and economic development.

#### ADDED VALUE

Gender equality was a central issue promoted in different ways:

- the energy committee includes community representatives from both genders equally;
- the trained local technicians that serve the CERC, are both men and women: local women cooperatives members are the technicians for the improved stove construction, solar drier products, etc.

The alternative energy technologies activities in the CERC are always in relation with the promotion of environmental conservation. In the centre there is a tree nursery managed by trained people. The library has books focused on both energy and environmental issue; the energy committee members are trained to be experts on energy and environmental problems in order to also be a source of information and awareness for the community.

