



# SOLtrain West Africa

ECOWAS Solar Thermal Energy Training and Demonstration Program

Burkina Faso - Cabo Verde - Ghana - Nigeria - Senegal



## BACKGROUND

In West Africa hot water is used in many schools, hospitals, maternal clinics, residential buildings, hotels and laundries. Also industrial processes in food and beverage industries, tanneries and solar drying of agricultural products need process heat. The good news is that the average solar radiation in most areas of West Africa is very high. However, in the region hot water is mostly generated by fossil energy, biomass or even electricity, solar water heaters are not common and hardly used, but would be a much more efficient and - regarding the life-cycle of solar thermal systems - cheaper alternative. Using electricity for water heating instead of solar water heating is wasted energy, increase black-outs and cannot be easily justified to the majority of the population, who even do not have access to electricity for basic needs.

## SUPPORTED BY



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## OBJECTIVES

The overall goal of the program SOLtrain West Africa is to contribute to the switch from a fossil fuel based energy supply to sustainable energy supply systems based on solar thermal energy in particular. The program focusses on practical capacity building for solar water heating and solar thermal drying of agricultural products, such as cereal, fruits, coffee, cacao, herbs, fish and meat.

SOLtrain West Africa is a 4 year practical training program leading to demonstration systems planned and installed by trained local technicians and installers who passed the exams positively. The technical capacity building follows a train-the-trainers approach for 7 participating training institutions from Burkina Faso, Cabo Verde, Ghana, Nigeria and Senegal. These partner institutions shall become competence centres for solar thermal energy and be enabled to conduct further trainings themselves.

## PROJECTS & ACTIVITIES

- Capacity Building by practical train-the-trainer courses by English and French speaking trainers, manuals also available in Portuguese (training started in 2015, manuals available)
- Market reports in 5 countries (done in 2015)
- Identify, monitor, analyse and improve existing solar thermal systems together with the partner institutions (2016)
- Technical support of local producers (2016 - 2017)
- Design and install solar thermal systems on training institution buildings of the partner institutions for teaching and demonstration (2016 - 2017)
- Partner institutions offer trainings to companies, installers, producers and training institutions within their countries (2016-2018)
- Installation of 25 Demonstration systems per country (total 125) at schools and hospitals and drying systems engineered by the partner institutions and installed by national practitioners (2017-2018)
- Trainings to administrative, political and financial stakeholders in each country (2016-2018)
- Installation of a solar thermal testing facility in one of the countries (2017 - 2018)

## IMPACT

The skills of training institutions and finally of technicians, installers and producers in ST systems, and solar drying of agricultural products will increase strongly. The training institutions are enabled to conduct autonomously further trainings in their countries. These dissemination training courses are also part of the program. They can use the comprehensive training manuals, slides which will be provided in English, French and Portuguese and simulation tools for building up own curricula by free. Besides technically and practically trained professionals also administration and financial institutions are trained.

Local producers increase their capability to produce components and systems in a high quality. Two demonstration systems are installed at the training institutions for teaching and demonstration purpose. Trained professionals plan and install 25 demonstration systems per country.

The beneficiaries besides training institutions are planners, installers, practitioners, craftsmen, local producers, as well as administration and banks. Last, but not least, the population, social institutions and farmers benefit from solar thermal water heating or drying of agricultural products.

### NATIONAL PARTNERS



### TECHNICAL ASSISTANCE



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