**Training Concepts for the Use of Renewable Energies**

**Didactic Solutions for Africa**

**Project Objective:**
Self-sufficient electricity supply – PV solutions from small units to entire villages

**The Christiani Training Concept:**
Activity-based lessons teach both the basic theoretical knowledge of photovoltaics as well as the manual skills for building reliable power supplies, from small up to large electrical power systems. The development of global solar energy usage will also serve climate protection.

**Key Words**
- Professional training
- Training concepts, hands-on learning
- Basics of electrics and photovoltaics
- Use of renewable energies, solar power and PV
- Improve electricity supply in remote areas
- Self-sufficient electricity supply small and big scale
- Training of teachers / multipliers
- Construction of solar supply units
- Didactics and teaching manuals available in English and French
In order to teach basic electrical engineering knowledge and the fundamentals of photovoltaics, the course participants mount the didactically prepared kits of the Solar Work Case and therefore create small scaled solar power units in a two-week training course. The participants will be able to build other small power supply units on their own using the available construction kits.

The entire training concept is ideally suited to qualify teachers to serve as multipliers for the transfer of knowledge and skills in the construction of solar energy supply units. At the same time, the Solar Work Case offers teachers a practical teaching and experimentation laboratory for teaching the basics of electrical engineering.

The teaching materials „Basics of Electrical Engineering for the Use of Renewable Energies“ are offered as a book or digitally. The didactic concept consists of teaching materials to convey the theoretical basics, as well as tasks and exercises and the corresponding solutions. On the one hand, the teaching concept enables professional qualification and, on the other hand, promotes self-learning processes, which can be made through practical hands-on experience using the construction kits.

The didactic material, consisting of an information, exercise and solution section, provides all energy and safety-relevant content for the construction of three-phase power supply systems with 230/400 V.

The didactic material is also offered as an action-oriented pedagogical concept. The material required for the exemplary construction of such a power supply system is also available as a construction kit. With this, a self-sufficient solar power system of different sizes (from 7.5 kW up to 45 kW) can be built and operated within the framework of a professional qualification of skilled workers based on the course contents. This can provide electricity for an entire village.

More information at: christiani-international.com/100861

1. Example: The Solar Work Case

2. Example: A self-sufficient village power supply