

## Effective light in solar plants

The controller for secondary voltage control in PV-systems is ready !

**Fr. 13.6.2008** all day: Invitation for presentation on the booth of LuzLicht **B6.410G**

The energy in solar plants, particularly in isolated solutions (SHS - SolarHomeSystems)) is precious, because only limits available! Therefore if possible little energy should be applied for light production. The first step exists in the correct shining means. In 12 V-plants present themselves for it:

- 1) Compact fluorescent lamps **CFL** and CCFL lamps
- 2) Light emitting diode lamps (LED)

Both have their specific authorisation, CFL as room lighting, similarly as the employment of bulbs and light emitting diode lamps as spots for object lighting and for reading.

CFL lamps are electronically expressed wash and wear apart from their long starting procedure, because they can deal with the voltage fluctuations arising in SHS problem-free.

The life span of LED lamps however depends strongly on the correct voltage and warmth. Therefore on the commercial lamps you will find regulating electronics, which cushions voltage peaks. This electronics is large-scale, wastes energy, produces warmth and is expensive.

A central, unique regulation of constant voltage can save **20%** of the produced energy. The idea is simple, because the overvoltage is not burned, but is intelligently regulated. The automatic controller infers in other words only the energy quantity from the battery, which is concretely used and sends this to the consumer.

This way **11.6 KW/h** energy (or 7 kg CO<sub>2</sub>) can be saved in a 80 W PV-system with 105 Ah battery and 40 W light energy. With this computation the lamps „are on “4 hours on the day. With a production price of Euro 0.30 per KW/h means this per year a saving of **Euro 10.61**, if one refers the longer life span of the lamps due to the automatic controller also. The initial costs of the lamps including the automatic controller refers to one period of 5 years.

The next step is the off grid supply of a complete village. Unused resources from the individual SHS plants are seized together and made available to communal facilities such as hospitals or mobile phone stations.

Visit the presentation on booth **B6.410G** from **LuzLicht**. There you will receive all further information and consultation to light in solar plants.