

Solar villages in Luwero (Uganda)

The principle behind the solar villages

In order to be able to contribute towards the alleviation of poverty on a long-term basis, the Stiftung Solarenergie - Solar Energy Foundation decided to take a concentrated and comprehensive approach towards supplying villages with solar energy:

As an initial aid measure, the Solar Energy Foundation provides all households with a basic supply of solar energy at a subsidized price. The subsidized price is oriented towards what the poorest families in the village can afford to pay. In this way, we want to ensure that every family gets a basic supply of electricity.

As a means of orientation we use the monthly amount which an average family currently needs to lay out for their energy costs, i.e. approximately US\$ 6. The costs for the solar systems are paid back in monthly installments. The people can then make use of their solar systems and pay for solar power rather than kerosene.

In the solar villages not only households but also public buildings, such as schools, health centers and churches, are also provided with solar power. Since 2004, we have equipped six entire villages with solar energy:

- Ethiopia:
 - Kechemober: 150 inhabitants
 - Rema: 6,000 inhabitants
 - Dire: 4,000 inhabitants
 - Arso Amba: 4,500 inhabitants
- Cambodia:
 - Chbar Chros: 500 inhabitants
- Uganda:
 - Kasozi: 850 inhabitants

Help for self-help: Promotion of a local solar trade

The solar villages are also used to promote solar businesses. In this respect, the co-operation with a local enterprise is important when the project is finally realised: The enterprise takes over the responsibility not only for the installation work but also, which is extremely important, for the maintenance and service in the following years. As a rule, this takes place with the assistance of semi-skilled workers from the village itself.

As the households only receive a basic supply of solar power within the framework of the foundation project, the solar enterprise is also the inhabitants' first port of call when they have additional needs and would like to expand.

It is the task of the Solar Energy Foundation to accompany further development in the following years and, wherever possible, to offer solar solutions to meet increased solar requirements or, at least, to act as an intermediary to this end.

The Solar Energy Foundation has received international awards for their sustainable principle of village development on several occasions.



Solar villages in Luwero

The district of Luwero is situated to the north of the capital city of Kampala and is about as big as the German state of Saarland. 89% of the households there use kerosene lamps although they are hazardous to health.

Many of the households are situated in small hamlets with 30-50 huts. The people earn their living by growing bananas or coffee. In addition, there are a few small businesses, such as hairdressers, grocers, greengrocers etc..

In 2016 we realised our first solar village in the district of Luwero. Due to the success of this project and the great support we received from the inhabitants, we decided to give neighbouring hamlets, to the south of Luwero, the opportunity of receiving a basic supply of solar power too.

In this way, we improve the social and economic living conditions, increase the educational opportunities for the children and, which is even more important, improve healthcare: The use of solar light reduces respiratory problems caused by the fumes from kerosene lamps and even protects against malaria, as the mayor of the solar village of Kasozi told us: Some time before, the State of Uganda had distributed mosquito nets in order to reduce the spread of malaria. However, the people did not want to use them in combination with the kerosene lamps because the danger of a fire breaking out was too high. Now that they have solar energy, they can enjoy bright light without any noxious fumes and, at last, take advantage of the mosquito nets as well.



Typical household in the Nandere region.

Underlying principles behind the Solar Energy Foundation's projects

- The projects must be oriented towards the inhabitants real needs and have to be planned and realised with their active assistance.
- Only tried and tested technology is implemented. The size of the systems used is oriented towards the duration of sunshine in the rainy season (worst case calculation).
- The Solar Energy Foundation makes the solar systems available only as an initial aid measure. To ensure a sustainable development, it must be possible for the inhabitants to finance the operating costs of the solar systems themselves.
- It must be ensured that technical assistance (maintenance, service) can be provided on-site by trained technicians. The projects must therefore also serve as start-up assistance for local businesses.
- The realisation of the projects on-site takes place in close co-operation with partners of high repute who have been active in these countries for many years: In this way we can ensure that the infrastructure necessary for the successful realisation of these solar projects is available on a long-term basis.
- Particular value is placed on the operational management:
 - technical: provision of spare parts; possibility of service and maintenance on-site by trained local people
 - socio-cultural: integration of solar energy in the day-to-day life of the users
 - financial: establishing a reliable payment system which ensures payment by the user for the costs for service/maintenance as well as any spare parts which might become necessary.

Project budget:

- 200 euro for a solar system per household
- A total of 24,000 euro for the first stage (120 households)

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