

Ethiopia powers up with solar energy

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Germany's Solar Energy Foundation aims to improve living conditions and foster a solar industry in Ethiopia.

The rural village of Rema in Ethiopia could become a cleantech boom-town if the work of Germany's Solar Energy Foundation continues its success in the region.

Since 2006, the foundation has installed 2,000 solar systems in Rema and in nearby Rema ena Dire, the biggest solar power project in East Africa. The project has brought power to 5,500 residents in a country where only one percent of people in rural areas have access to electricity.

The charity is led by Harald Schutzeichel, the founder and former head of Freiburg, Germany's S.A.G. Solarstrom, with the Good Energies Foundation on board as a major backer. The Good Energies Foundation is an affiliate of New York-based renewable energy investor Good Energies.

Schutzeichel, who left S.A.G. Solarstrom in 2003, said he isn't interested in just installing solar systems in Ethiopia. His group is training the villagers to install and maintain the systems, and he says there is growing interest from the solar industry to set up shop in the country.

"Until now we import all the materials from China," Schutzeichel told the Cleantech Group.

"It's not necessary to do this if there's a market in Ethiopia."

"We have two interested companies. They want to invest in Ethiopia because they see this big market."

The foundation is aiming to have 50 solar training centers across the country, incorporating classroom for solar energy training, workshops for the assembly of the solar systems, and accommodations for around 30 students and solar technicians at each center.

The first International Solar Energy School opened its doors in Rema last year, with more set to be built this year. The schools will be powered by solar energy, with a photovoltaic system providing electricity and a solar thermal system providing warm water.

The initial solar installations were provided by the charity, with the residents paying only for maintenance and service. Installations in other areas will use microfinancing to enable residents to pay for the solar systems over a three year period.

The solar panels are used to power lighting, refrigeration for medicine, water pumps, and water disinfection.

The Good Energies Foundation committed \$2.7 million to the Ethiopian solar project in 2006 at the Clinton Global Initiative, an annual philanthropic meeting headed up by former President Bill Clinton.

The former president took a tour of the facilities in Rema on his recent tour of Clinton Foundation projects in Africa.

"There's already a market there because people are already paying for their energy needs, even if they're paying for the kerosene on a monthly basis and dry cell batteries," said Richenda Van Leeuwen, senior adviser at Good Energies. "This is just bringing it onto a more environmentally sustainable and viable platform."

In addition to Good Energies, Germany's Conrad Electronic and Switzerland's Industrielle Werke Basel are providing base financing for the Solar Energy Foundation's projects.

German solar cell maker Q-Cells, which is a Good Energies portfolio company, is also a partner in the project, supporting the solar training school. Energiebau Solarstromsysteme and Phocos, both based in Germany, are also project partners.

The standard system being installed by the Solar Energy Foundation is a 10 watt system, along with four LED lights and a radio, with a pricetag of about €180.

"It's not the cheapest one, but I think in this area we shouldn't use the cheapest material," said Schutzeichel. "We have very good modules, because they should work for 25 years. We have UV-resistant cable, because they have a lot of sun, and if you use cheap cable it will be damaged after two years."

The foundation already has plans to offer a double-size unit for families who can afford it, as well as a smaller system with just one high-power LED lamp. The smaller system will sell for €30.

"Thus far it's been proof of concept," said Van Leeuwen. She said the organization now has the capacity to do 4,000 installations per year.

"We're looking at the way to move from being a philanthropic model to being an at least partially microfinance-driven model in order to bring both scale and also to ensure the sustainability, building a sustainable solar sector in Ethiopia."

Schutzzeichel said the foundation is currently operating on €1 million per year and has successfully completed the biggest solar power project in East Africa with that budget. But in a country with 60 million people without power, he said it's time to move to the next level.

"We have to scale up, and one day, one year, we should have 50,000 per year installed."

He said one solar company is deciding on whether to set up operations in Tanzania or Ethiopia, and could make a decision by the end of this month. "They say in Tanzania are the better conditions, but in Ethiopia is the bigger market," said Schutzzeichel.

"Now they have to decide. If they decide against Ethiopia," he said, "we will find another."