

*Energy 29.06.2010*

## Helping poor regions create their own green energy industry



**The development of renewable energy is on the rise in developing nations, many of which no longer rely on technology from Europe, but instead manufacture their own power plants.**

If there's one thing the residents of the Puna, a high desert plateau in northwestern Argentina, have in abundance it's the sun. It shines intensely in the thin air of the sparse region, perched several thousand meters above sea level.

The area gets more than 2,200 kilowatts of sunlight a year focused on a few square kilometers - the equivalent of the annual average energy consumption of a two-person household.

The region thus has the perfect climatic conditions for solar energy, at least in theory. The problem is that the Puna, which lies in the high Andes, is difficult to reach and is not connected to the electricity grid.

But efforts are now underway to change that and the villages in the mountainous region are slowly being outfitted with solar systems. That's brought obvious benefits - the villages get much-needed electricity and the solar technology has created jobs in the poor region, since much of the manufacturing, installation and maintenance of the solar systems is carried out by local firms.

### **The local edge**



*[A small firm in the Puna in Argentina manufactures these solar cookers](#)*

The technological know-how comes from Germany and local workers are trained through Argentina's EcoAndina environmental organization. The local work force now produces many parts of the solar systems, such as small solar cookers, without the need to import technological know-how.

Other components such as blades or water tanks come from the Argentine capital Buenos Aires, and are assembled in Puna into thermal water plants.

According to Heiner Kleine-Hering from EcoAndina, the know-how provided was meant to create a local small industry that could help its own people.

"The local production is much cheaper than the imports. That means that more people can afford the solar systems," he said.

The idea has caught on, Kleine-Hering said, pointing out that a company in Chubut, some 400 kilometers away, had now copied the plans in the Puna, and was producing its own solar systems.

The emphasis on local production as a way of enabling communities to help themselves is not new.



*Bildunterschrift: Inhabitants of a remote village in the Indian state of Andhra Pradesh have been trained to maintain their own solar plant*

Several aid groups working in India follow the same strategy as well. For instance, aid group Misereor works with the Indian organization Laya to provide solar-powered lamps in remote villages. The lamps are entirely made locally while another local company manufactures technical components for small hydropower plants which supply electricity for neighboring villages.

"We take care that the plants are made locally because the technology is less complicated here than it is in Europe," Kesuma Saddak of Misereor said.

That, Saddak said, means foreign experts and specialists aren't needed to carry out repairs either, adding that local residents could take over maintenance after being trained.

## Still a way to go in Africa

The same emphasis on local reliance is also pursued by several aid groups and companies active in Africa.

The difference is that in Africa much of the technology still comes from abroad, a point that several aid groups criticize.

"The transfer of know-how is especially important and not just a transfer of materials," Klemens Schwarzer of the Solar Global e.v, said. A non-profit organization, it's promoted a variety of projects to expand solar energy in Africa.

As in Argentina and India, the projects involve the participation of local residents and workers but the technology here mostly comes from Europe or Asia.

"The local production of plants using renewable energy would be desirable, but so far there are hardly any companies that produce them," Barbara Wagner of Atmosfair, an organization offering carbon offsets, said.

Atmosfair finances a biogas plant at a hospital in Burkina Faso. And here too, the technology comes from India because of a lack of local alternatives.



### [Local workers in Africa often install and maintain small solar plants](#)

This lack of a functioning production industry poses a challenge to companies specializing in renewable energies.

For instance, Madison Solar Engineering in Zimbabwe, which mainly constructs photovoltaic plants, assembles and installs the systems locally. But the solar components are imported from Europe, the US and India.

Importing them is expensive and complex, Andreas Knerr, CEO of [Madison Solar Engineering](#) said. He founded the company in 2005 "to give solar energy a chance," as he put it.

It's clear that there's a commitment for promoting local production in the renewable energy sector in large parts of the world. But experts agree that the only way to achieve success in Zimbabwe and other countries in Africa is to step up efforts to boost self-reliance just as in Argentina and India.

Author: Janine Rabe (sp)

Editor: Mark Mattox

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