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Off-Grid-Solar: On the way to Europe?

Power supply with off-grid solar modules has so far been widespread, especially where there are no reliable power grids. Entrepreneur Miriam Tuerk also wants to bring the technology to Germany.

To gain a foothold in Europe, Miriam Tuerk also relies on forgetfulness. At least the entrepreneur, who specializes in control computers for off-grid solar systems, has already won customers in Germany. "A toy manufacturer has built a new parking lot and forgotten to plan for a surveillance camera," Tuerk tells bizz energy in an interview. It would then have been cheaper to install a camera with a small solar module and a battery than to lay a new cable for the power supply.

However, the Canadian company Clear Blue Technologies, whose managing director is Tuerk, does not manufacture the camera, the solar module or the battery. Rather, it provides a control unit that communicates with a cloud and controls the performance of the connected device.

For example, if the weather forecast indicates that the sun will not shine for a few days, the computer can ensure that the connected device saves energy. "With a solar streetlight, for example, the light could be dimmed between one and five o'clock at night," explains Tuerk. "If you know from climate data that the maximum is seven days without the sun, the battery capacity is also selected accordingly. In this way, Clear Blue Technologies ensures that the surveillance camera or street light functions reliably."

Already on the Frankfurt Stock Exchange

According to Clear Blue Technologies, it is the only company in the world that sells off-grid control computers with these features, monitoring and maintaining the cloud. Its products are used in a total of 35 countries worldwide, for example for street lights, mobile phone masts or surveillance cameras.

Clear Blue Technologies has installed most of its systems in North America. Now the company also wants to gain a foothold in Germany and has been listed on the Frankfurt

Stock Exchange since November. "We want to find investors, partners and customers in Germany and bring our system to the European market," says Tuerk.

Potential with regard to 5G

Off-grid solar systems have so far been widespread mainly in developing countries. According to the International Renewable Energy Agency (IRENA), around 115 million people worldwide had solar lamps in 2016, and another 25 million received their entire power supply via off-grid solar - mainly in Asia and Africa.

Although the systems in these countries are often used where there are no or only unreliable power grids, Tuerk also sees potential in Europe - above all for telecommunications, lighting and smart cities. "The power supply for existing transmitter masts will not be replaced by off-grid power. But when it comes to new technologies, off-grid will play a role." Tuerk refers here to the 5G technology, for which many new radio masts have to be installed.

The necessary infrastructure renewal is another reason why Tuerk believes Off-Grid will spread across Europe: "In ten years, there won't be a single newly installed street lamp connected to the power grid," she says, "so the change to Off-Grid will happen very quickly, especially as our infrastructure gets old."

Huge market in Africa

Philipp Blechinger, off-grid expert at the Reiner Lemoine Institute in Berlin, is not quite as optimistic as the entrepreneur: "I can imagine using off-grid solar for special functions such as street lights, mobile phone masts or charging stations for e-bikes or e-cars in Germany," says Blechinger in an interview with bizz energy. "But only where they are newly built and where the network infrastructure would be expensive to install.

If there were freedom of choice between grid or off-grid, the choice would probably be the network-independent variant. "But I don't see that as a major application in Germany," he says. Especially for safety technology and sensors, for example for fine dust measurement, Blechinger believes off-grid solar makes sense. "But it's only a matter of a few watts."

The technology has enormous potential in Africa: "Millions of systems already exist and even more will be sold," says Blechinger. "Off-grid solar and battery make you competitive with a diesel generator."

Miriam Tuerk agrees. Her forecast for all markets where diesel generators are used as back-up for unreliable power grids: "In five years' time, grid-diesel hybrids will be replaced by solar grid hybrids."