

Solar War Games to Test Green Power's Resilience for NATO



The solar flower has been developed by Austria's Smartflower Energy Technology GmbH. Source: Smartflower Energy Technology GmbH

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Green energy is going to war.

Starting in June, defense companies including Thales SA and Multicon Solar AG will join NATO to test the military's ability to use renewable power in combat and humanitarian operations.

About 1,000 North Atlantic Treaty Organization soldiers will spend 12 days deploying wind turbines, solar panels and self-contained power grids in Hungary, according to Susanne Michaelis, the group's action officer for smart energy.

The soldiers will test small solar power plants that open within 10 minutes like flowers to the sun, highly insulated tents and solar-powered battery chargers -- technologies that displace conventional fuels which must be delivered along vulnerable supply lines. The testing follows the wounding or killing of 3,000 U.S. soldiers in attacks on [fuel and water convoys](#) in Iraq and Afghanistan, according to NATO.

"A lot of people are crippled or die transporting fuel and water," Michaelis, who is helping prepare NATO's Smart Energy camp in Hungary, said by telephone. "If you attack a fuel truck, it explodes and burns all fuel. There's no stopping it. If you shoot at solar cells, one may break, but it doesn't explode and all the other cells will still be working."

NATO soldiers will conduct war-game scenarios that simulate power cuts, flooded roads and diesel and water contamination using three airdrops of "smart energy" equipment at the camp in June, according to a NATO presentation provided to Bloomberg.

Thales's U.S. unit, Thales Defense & Security, plans to showcase its lightweight battery chargers that can run on solar power and recycle electricity from wasted single-use batteries, Merdod Badie, a director at Thales, said in a telephone interview from Clarksburg, Maryland.

Military Customers

The number of companies looking at the market has grown from a "handful" three years ago, according to Michaelis. Large military customers offer power producers a market that is more resilient to the ups and downs of the global economy than private industry.

[Smartflower Energy Technology GmbH](#) will deliver its instant solar-power plants, carbon-fiber units with [petal-shaped panels](#) that can be operated by a single person and open to the morning sun. NATO command has so far been active in sunny countries, Michaelis said.

The market is “screaming” for all-in-one solutions, Smartflower’s co-founder Alexander Swatek said in an interview.

“Armed forces in many countries are viewing renewables as an important option from the point of view of security of supply and diversity of energy sources,” said Angus McCrone, an analyst at Bloomberg New Energy Finance. Armies represent “large customers not directly exposed to the macroeconomic cycle” who are willing to try out new technologies, he said.

Energy Efficiency

The U.S. Army has said it plans to install 1 gigawatt of renewable capacity at bases by 2025.

Commanders also want to learn from civilian efforts to raise energy efficiency and squeeze the most from conventional fuels to cut the number of supply convoys that are among their most dangerous missions. For every gallon of fuel NATO uses in countries like Afghanistan, it needs another five gallons to transport the fuel there, Sorin Ducaru, Nato’s assistant secretary general for emerging security challenges, wrote in the [European Security and Defence Union](#) magazine last month.

“For renewables the return on investment is still a long time,” Michaelis said. “We get much more fuel reduction by installing microgrids, insulated tents and changing behavior.”

Green Diesel

Along with deploying solar, wind and biomass for power generation at permanent bases, the U.S. Department of Defense is using smaller-scale renewables like solar-powered battery chargers to cut weight and enhance the mobility of its troops, according to Mark Wright, a spokesman for the department in Washington.

It’s not only U.S.-led forces that are taking advantage of renewables. Eni SpA last year fueled a 1,500-metric-ton Italian Navy patrol boat with 30 tons of diesel fuel from biomass. Multicon Solar, based in Duisburg, Germany, offers a container-based power plant that can be unloaded and producing electricity in 30 minutes. The ability of regular soldiers to deploy the new technology is key.

“You don’t need an expert technician on the ground,” Multicon Executive Manager Sven Leinardi said. “Anyone can start it up.”