



## Afghanistan Engineer District North



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### **RENEWABLE ENERGY BRINGS ADDED SECURITY, QUALITY OF LIFE TO ISOLATED AFGHAN NATIONAL ARMY OUTPOST**

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KABUL, Afghanistan -- On top of a hill that overlooks an Afghan National Army ammunition depot on the outskirts of Kabul, Afghan soldiers keep a watchful eye on the expansive area from their isolated observation post. Security is tight here, and the soldiers seldom leave the hilltop. Their living conditions at the site are spartan. Inside of what looks like a shed are two bunk beds crammed next to each other with barely enough room for the soldiers to move. On the floor is a brass pot for their traditional tea drinking, and hanging on the side of the shed is a slab of mutton kept cold by the winter air. But as bleak as the conditions appear, there has been a major technological improvement for security and quality of life.

The U.S. Army Corps of Engineers' Afghanistan Engineer District-North has in-

stalled energy-efficient solar panels that provide solar energy. Funded and initiated by the NATO Training Mission-Afghanistan, this renewable energy source will be able to keep energy-hungry spotlights on throughout the night, and bring some comfort to the soldiers.

"It gets cold here and it gets hot here," said AED-N Project Manager Elizabeth Chien. "The guard towers here that the solar panels are powering are now giving the soldiers warmth in the winter, and they'll also power air conditioning units for the summer. More importantly, there are high-powered spotlights that use a lot of energy for the security of the site. The Afghans will no longer have to rely solely on diesel fuel for generators that previously powered the lights. And they have



These solar panels will be able to store enough energy to run powerful security spotlights throughout the night.

one or two outlets in the living area so that they can have some comforts like heating elements for their tea."

According to Chien, everything the soldiers needed to do their critical job had to be brought to the site by vehicles. Fuel is sometimes scarce and becoming more expensive in Afghanistan, so renewable energy was a viable solution. Although solar energy use is rare or non-existent in this Third World country, Chien said maintenance isn't really an issue because the system runs itself.

"It's designed to be self-contained and self-operating. This particular system is fully automatic. It will take power, store the power, and it will discharge power as necessary. It will make the transfer automatically to diesel generators if stored power runs out from the batteries. (The system) can then power up the generators which will then store energy in the batteries as well as provide the power. All of this is done automatically."



Project Manager Elizabeth Chien talks with an Afghan contractor about adjustments to the solar power system.

Chien said the solar power system will be under a one year monitoring period to see how it functions in all four seasons.

"I anticipate it will be fully successful here and that we'll see more and more of these at outposts, especially if fuel becomes more and more scarce and more expensive."



An Afghan National Army soldier now has heat provided by solar energy in this small living area.