

## Solar Array Saves Air Force Energy, Money

by Christen N. McCluney  
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10/13/2009 - WASHINGTON (AFNS) -- A solar-energy array at Nellis Air Force Base, Nev., is saving money for the Air Force and decreasing the service's reliance on fossil fuels.

"The military, perhaps better than anyone, is bound and determined to be good stewards of the incredible natural resources we have in this country," said Col. Dave Belote, the 99th Air Base Wing commander at Nellis AFB in an Oct. 8 interview on the Pentagon Channel podcast "Armed with Science: Research and Applications for the Modern Military."

The solar array, which debuted as North America's largest renewable venture in December 2007, is composed of more than 72,000 solar panels containing 6 million solar cells, and represents an enormous step toward energy efficiency, Colonel Belote said. It supplies 28 percent of the base's power, saving about \$83,000 a month and 24,000 tons of carbon dioxide emissions a year, the colonel said.

The photovoltaic system uses some of the same technology pioneered in the mid-1960s by the Bell Corp. It produces power only while the sun is shining.

"We are peak producing at about noon to 1 p.m.," Colonel Belote said.

The array's solar panels are produced and supplied by four companies, the colonel said, and officials have been keeping data on which are most effective. Data-collecting devices on the grid report real-time system performance information to each of the four companies and the main corporation. That information has led one of the companies to start creating a more energy-efficient bifacial solar panel after seeing the added efficiency was worth the cost.

The panels are located in an industrial portion of the base and are designed to absorb and convert sunlight, as opposed to reflecting it, so they do not interfere with the base's flying mission, Colonel Belote said. Of the 140 acres of land used for the array, 33 acres are a capped-off landfill.

"We couldn't have done anything else with it, and saved millions of dollars in environmental clean-up and made use of land that would not be used at all otherwise," he said. In its two years of operation, the array has posed no problems.

"One of the most pleasant surprises about this array and this climate has been the virtual total lack of maintenance," he said. Solar panels usually present a challenge because they need to be kept clean.

"As soot and grime coat the panels, efficiency drops off pretty quickly," he explained. But because of the desert climate, the panels at Nellis AFB have yet to require cleaning.

Colonel Belote said he has been in contact with other Air Force leaders interested in similar projects, and has addressed many groups about involving the military in these types of environmental partnerships. He also spoke with President Barack Obama in May, and he said the president graciously accepted his suggestions and encouraged him to continue working on these issues and partnerships.

"Because the (Defense Department) trumpets the fact that it knows it is the nation's largest consumer of energy, and the Air Force within (DOD) is the largest consumer of energy, we are all about finding ways to stop spending money on fossil fuels," he said. "We would like to use clean, renewable projects anywhere possible."

Energy saving projects like this allow the Air Force to be fiscally responsible, he added, and "allows us to be great stewards in natural resources."

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