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Department of Energy

# Nellis Air Force Base solar array provides model for renewable projects

MARCH 24, 2010



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The solar array at Nellis Air Force Base in Nevada consists of 70,000 panels. | Photo by Larry E. Reid Jr./U.S. Air Force

A public-private partnership has helped one Air Force base reduce its energy costs and convert to 25 percent renewable energy. Nellis Air Force Base, just north of Las Vegas, took a big step in 2007 when it installed a 14.2-megawatt, 70,000-panel photovoltaic solar array that reduced carbon dioxide emissions by 24,000 tons a year. Built partly on

a landfill, the field of solar panels takes advantage of two resources plentiful in Nevada: sunshine and empty land.

At its unveiling in December of 2007, the Nellis array was the largest solar panel installation in North America. The project was originally expected to produce about 30,000 megawatt-hours of electricity per year, but Steven Dumont, Air Combat Command Energy Manager, says it's actually producing closer to 32,000 megawatt-hours, which is about 8 percent above expectations.

Despite this success, Dumont said he nearly didn't pursue the project.

"It all started with a developer who called the base and subsequently called us at Air Combat Command," he said. "[They] said, 'We have an idea if you're willing to give us the land. We can make it cost-effective.'"

Dumont initially dismissed the idea because he knew the cost of installing a photovoltaic system led to energy costs of about 25 cents per kilowatt-hour. That was far above what Nellis was then paying, about 7 cents per kilowatt-hour. But that was before he realized the base could offset the installation costs with tax credits and Nevada's renewable energy credits program. This program allows utilities to meet their renewable-energy requirements by purchasing credits from someone producing "green" energy -- like Nellis. The program puts special emphasis on solar, which meant even greater savings. And renewable energy tax credits brought it down even further.

"In the end it did save us money," he says. "We were only looking to break even."

The public-private aspect of the project was essential to those savings, Dumont adds, because federal entities aren't eligible to take tax breaks or sell commodities. Instead, the Air Force sought competitive proposals from private companies, resulting in a partnership that includes MMA Renewable Ventures, SunPower Corporation and Nevada Power Company. MMA owns and operates the solar plant on Nellis land, and Nellis buys the electricity at a guaranteed fixed rate for 20 years. As a result, the project cost no federal money at all. Dumont says the Air Force wants to use this successful public-private model for all of its future renewable energy projects.

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