

In Not-So-Sunny New Jersey, a University Goes for Solar Power in a Big Way

By SCOTT CARLSON

THIS MONTH a midsize state university will start building a 3.5-megawatt solar array, one of the largest solar-power projects on a college campus. Here's the unexpected part: The university is not in Arizona, California, or Nevada—places that get ample (even oppressive) sunlight.

It is William Paterson University of New Jersey. Solar panels, which will provide 20 percent of the university's power needs, will shade parking lots all over the campus by summertime.

New Jersey is a hotbed of solar power. Last year it surpassed 4,000 residential and commercial solar installations, making it second only to California in sheer numbers, and first in the country in solar power per square mile. That activity is driven largely by state tax incentives and regulations that benefit companies and institutions that want to go solar, colleges and universities among them.

New Jersey's largest state university system, Rutgers University, is among the institutions that have taken the leap. "The reality is that Jersey is probably not the most ideal place for solar," says Antonio Calcado, vice president for facilities for the Rutgers University system, noting that photovoltaic panels can take longer than most other renewable-power sources to pay for themselves. But with state rebates, energy savings from solar panels, and a strong market for renewable-energy certificates (in other words, selling the right to claim the "green" energy coming from the panels),

Rutgers has found a way to make solar energy pay back fast.

Mr. Calcado says a \$10-million, seven-acre array of some 7,000 panels on the university's Livingston campus, installed in 2008, will pay for itself in just over five years. The energy savings from the panels—about 10 percent of the campus's usage—amount to a mere \$200,000 a year. The university gets \$800,000 a year by selling the renewable-energy certificates to major utilities and others that want to buy them. The state's Board of Public Utilities also gave Rutgers a \$4.9-million rebate on the cost of the panels.

Put all of that money together, and "it just makes solar very appealing from a financial standpoint," Mr. Calcado says. The panels will last 25 years, he says, although the university may choose to upgrade to newer and better panels in years to come.

Michael Winka, clean-energy director at the Board of Public Utilities, says New Jersey is pushing solar energy in part because it is one of the only viable renewable-energy sources for the state. In such a densely populated area, biomass—like waste from agricultural or timber operations—is not abundant. And except off the coast, wind turbines are simply out of the question; people would raise concerns about turbines in their back yards, and there isn't a dependable flow of wind anyway.

"Our resources happen to be flat rooftops," Mr. Winka says. "People say we're the Persian Gulf of flat roofs."

The state made solar competitive

in part by requiring utilities to provide a certain amount of solar power, which they can satisfy through renewable-energy certificates.

Mr. Winka says it is in the state's interest to support distributed, renewable energy to help take pressure off the utilities, which are operating at near capacity. That approach also helps keep energy prices lower. The state has 130 megawatts of solar-energy capacity, and that could grow to 1,800 megawatts by 2020.

Mr. Winka advises colleges and other institutions in the state to look at the tax incentives and determine whether they want to own the solar-power system or enter into a partnership with a private company that can get tax breaks. "You see these very creative agreements that allow for bigger and bigger systems to be put in," he says. The state's incentives allow a private company to approach an institution, lease the land, build a system, and offer the institution a low rate on energy.

CHEAPER OFF THE GRID

That's exactly how William Paterson University has set up its solar project. The university hammered out a power-purchase agreement with Nautilus Solar Energy, a company that provides financing and makes deals with subcontractors for installation and maintenance. Nautilus, in return, gets tax breaks and the rights to sell renewable-energy credits on the market. (William Paterson has signed the

American College & University Presidents' Climate Commitment. While the solar panels might be a highly visible symbol of environmental sensibilities, the university cannot claim the green power toward its carbon-neutrality goal if Nautilus is selling the renewable-energy credits.)

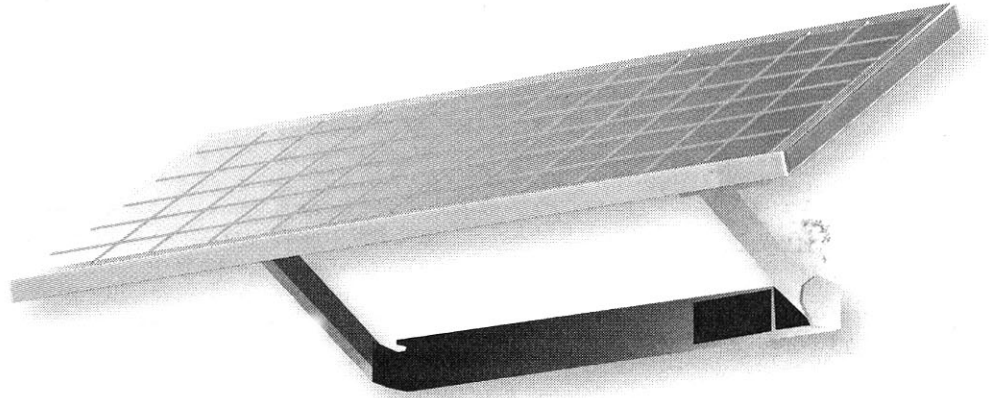
Stephen Bolyai, the university's vice president for finance and administration, says the \$18-million project would present a number of challenges if the institution tried to do it alone. For one, the university cannot front that kind of money. Second, the university does not employ people with solar-energy expertise.

"We're not staffed up to maintain projects like this," he says. The 15-year contract with Nautilus provides opportunities for the university to buy out the project if it decides to get into the solar business itself.

But under the power-purchase agreement with Nautilus, the university would seem to have little reason to make that move.

The university will initially pay 12 cents per kilowatt hour for power generated by the solar panels, compared with the 14 to 17 cents it pays for power from the grid. That 12-cent rate could go up over time, but Mr. Bolyai expects grid-power prices to rise higher and faster.

"Even if the utilities don't raise their rates, we expect to save a minimum of \$4-million over the course of this project," he says. "But we know that they will raise their rates. It's like death and taxes."



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