

Wiping the slate green

Pfister Energy

(division of Pfister Industries Inc.)

Based in:
Paterson

Launched: 2003

Employees: Six, full-time

Specialties: Solar energy, wind turbines, fuel cells, natural daylighting, green roofs, energy efficiency

Major projects to date: 12

Web site:
pfisterenergy.com

By **DOUGLASS CROUSE**
STAFF WRITER

Green power is surging. As more New Jerseyans embrace renewable energy, small businesses are emerging to provide a fuller range of choices.

Although some companies specialize in a particular technology, such as the photovoltaic panels that convert sunlight to usable energy, others offer a menu of clean-energy products and services. That strategy reflects changes in materials costs, technological advances and consumer incentives.

New Jersey has become a leader in solar power, with more than 2,000 solar-powered commercial buildings and homes, compared with six in 2001. That explosion was driven largely by a five-year-old rebate program that helps offset the costs of installing solar panels and other green-power technology.

But with the rebate program facing a phase-out this year and the cost of solar-energy panels remaining high, some companies see a benefit to ex-

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PETER MONSEES/
STAFF PHOTOGRAPHER



Solar panels, top and at Teterboro Airport, left. Above, at Alternate Energy & Ecology Co., Rich Bonte, left, Mike Mazzeo, center, and Ethan Horvitz discussing how solar panels work. One such panel is behind them. A partner company installs panels that heat water for homes and in swimming pools.

Green: N.J. small businesses answering call for clean energy

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panding their energy portfolios.

Michael Winka, director of the state Board of Public Utilities' Clean Energy Program, sees no downside to diversification. He points out that the program's market innovator award in 2005 went to The Dome-Tech Group in Edison, a company with solar, fuel-cell and energy-efficient micro-turbine projects.

"Many companies are starting to look at that type of model," combined with an emphasis on energy efficiency, Winka said.

Last year, Alternate Energy & Ecology Co. of Wyckoff merged its solar-electricity business with that of Solar Living of Netcong, which installs paneling that heats water for homes and swimming pools. The partner companies now offer all three services when they meet with prospective customers.

Pfister Energy in Paterson boasts an even larger menu of options, with wind turbines, fuel cells and natural day-lighting added to its core solar-energy business. The company hopes to install its first wind-turbine farm this year on top of a commercial building in Fort Lee.

These North Jersey businesses show how diverse the state's alternative-energy scene has become.

Alternate Energy & Ecology Co. Inc., Wyckoff

Solar Living Inc., Netcong

Rich Bonte had an idea for hot water. So he climbed on his roof in Budd Lake and laid down some pipes and solar collector panels.

The setup worked so well that the engineer did the same for a few friends.

Thirty years later, Bonte is still scaling roofs. But the 60-year-old engineer now has two partners,

Ethan Horvitz and Mike Mazzeo, and a few new approaches to saving people energy and money.

The three men together own two companies: Alternate Energy & Ecology, a solar-power dealer Horvitz started in 2003, and Bonte's baby, Solar Living.

Using energy from the sun, their customers can power their homes or businesses, take a hot shower and keep their pools warm.

"For us, it just made sense to put all these renewable options in one basket," Horvitz said.

Each meeting with customers begins with an explanation of the technologies and review of the home's total energy use. Some can't afford solar energy and opt for a hot-water system. Others put philosophy above price.

"One typical line we hear is, 'I'm spending all this money on foreign oil. Why should I keep sending my money to our enemies?'" Bonte said.

A former hazardous waste chemist, Horvitz, 28, of Rutherford, started designing and installing solar-power systems after witnessing the state's clean energy rebate program take off.

With the rebates, many solar customers have recouped more than half their installation costs, which run into the tens of thousands of dollars.

The solar-collector panels used to heat water for homes are composed of an aluminum frame with a plastic glazing and underlying copper pipes. A family of four with a two-story home would pay about \$5,900 for installation, minus any tax credit.

Costs for the power and hot-water systems partly reflect the rising prices of copper, silicon, which is used in solar panels, and general building materials, Horvitz said.

In the poolside panels, sensors trigger water flow through solar-heated plastic chambers and back into the pool.

"You look at these systems on a lifetime basis and the impact on the



Rooftop wind turbines, which generate energy for use in commercial and residential buildings. Pfister Energy of Paterson expects to install more than a dozen turbines this year on top of a clothing importer's building in Fort Lee. The 10-foot-high turbines would be visible to drivers on the George Washington Bridge.

utility bills is extraordinary," Horvitz said.

The companies estimate that the average pool owner saves about \$1,000 each season. Customers who have solar power or home hot-water systems installed this year can claim a federal tax credit of up to \$2,000.

Similarly ecq-conscious pool owners aren't eligible for that credit.

Those seeking government incentives better move fast. The state rebates and federal tax credit are slated to end this year, replaced by a system of renewable energy credits that consumers get by selling surplus energy to utilities.

Horvitz and his partners worry that the value of the credits may fall short of the current incentives and dissuade would-be buyers. And that, they say, troubles them in more ways than one.

"As much as this is our livelihood," Bonte said, "we all feel that this is the only real solution to the world's energy problems."

Pfister Energy, Paterson

Say "solar-energy panel" and most North Jersey residents can probably conjure an image. But a rooftop wind turbine? That's hard.

Pfister Energy hopes to change that, starting with an array of vertical-axis turbines planted atop a clothing importer's building in Fort Lee. The proposed project includes at least a dozen 10-foot-high turbines.

"People will come across the George Washington Bridge and see these things spinning high over their heads," company project manager Jeff Pruneau said.

Although solar installations remain Pfister's forte, the four-year-old Paterson company is stretching its wings and defying the conventional thinking that New Jersey isn't fit for wind power.

In fact, winds kick up regularly along the Hudson, Pruneau says. And the company sees a rise in public interest.

"It seems like every day people are calling to ask about a wind project," he said.

So far, the project that's gotten the most attention is the Jersey-Atlantic Wind Farm in Atlantic City. The commercial plant came online in January 2006 and consists of five 380-foot-tall turbines, each producing enough energy to power 2,500 homes, according to the Atlantic City Utilities Authority.

Pfister is part of a state group working on additional ways to advance the wind market.

"We're just not a wind-rich state in New Jersey," Winka says. "As you move inland, the winds die down and the economics on the payback become

less."

Among the class of so-called urban turbines is a 5-by-10-foot model made by Aerotecture International Inc., which Pfister plans to use in the Fort Lee project. Its quiet-running blades work regardless of wind speed or direction, Pruneau said.

One of the turbines sits on the roof of Pfister's Paterson warehouse, generating an average of 125 kilowatt hours and saving the company \$20 in electricity each month.

At \$25,000 each installed, the units aren't cheap. Company President Wayne Pfisterer admits as much.

"But when you 'gang them' together, the cost per unit comes down drastically," he said.

Pfister Energy is an offshoot of Pfister Roofing Inc., which Dieter Pfisterer — Wayne's father — started a quarter-century ago. The energy division had sales of \$3.5 million last year and projects at least \$10 million in revenue for this year.

Dieter Pfisterer sees the evolution to energy as a natural one.

"Up to 80 percent of the energy projects end up on the roof so it needs to be structurally sound," he said.

Pfister recently finished a 140-kilowatt solar project at Teterboro Airport using flexible laminate sheets attached to a flat roof using industrial Velcro.

And because the wind turbines are designed to be connected in series, they, too, require a sturdy surface.

Among the prospective customers for wind projects are Stevens Institute of Technology in Hoboken, Harvard University and the Boston Museum.

"All these clean technologies are really starting to make a lot of sense," Wayne Pfisterer said. "We really look at all energy use and efficiencies and try to do what we think is the right combination."

Alternate Energy & Ecology Co./ Solar Living Inc.

Based in: Wyckoff (Alternate Energy) and Netcong

Founded: 2003 and 1977

Employees: Three full-time, two part-time

Specialties: Solar electricity and water heating, energy efficiency

Projects to date: 1,600

Web sites:

■ linktothesun.com

■ capturethesun.com

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