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## Ozone seen as a big cost-saver



Photo courtesy of The Ozone Co.

Zach Statz puts milking towels into an EcoWash laundry system at his family's Sun Prairie farm. The farm has 2,600 head of cattle, and each cow is cleaned with a fresh towel.



Photo courtesy of The Ozone Co.

Andrew Rupnow, owner of The Ozone Co., in Stoughton

## Stoughton-based company is luring big businesses with huge laundry operations

The udders on every cow need cleaning three times a day during milking, and the Statz Brothers farm cleans each cow with a fresh towel.

"We use one towel per cow, and we're milking 2,600, so we do a lot of laundry every day. We have two huge washing machines," said Joe Statz, whose family operates the farm and is now saving on energy and water bills thanks to a new kind of laundry system.

The system is EcoWash. It deploys an ozonation technology that uses the ozone molecule to disinfect and remove stains. It doesn't require hot water, so there's less natural gas needed to heat the water.

"Our gas bill was cut in half," Statz said.

When people think of ozone, they think of the ozone layer around the planet, protecting us from ultraviolet rays, or "ozone action days," which are declared when air pollution is bad.

"Breathing ozone can be harmful, that's why we have those ozone action days. But when used properly and applied properly, it's the best disinfectant we have available," said Andrew Rupnow, owner of The Ozone Co. in Stoughton.

Ozone is gaining traction as a disinfectant in a variety of applications. It has been used as a disinfectant in Europe since the 1800s, but the industry is building more slowly in the United States.

Rupnow became an ozone service company and distributor after he and his cousin bought a restaurant in Orlando, Fla. The restaurant had food left in the walk-in cooler, and it was a moldy, smelly sight to behold. They learned of the ozone technology at a restaurant trade show.

"We were fascinated by the technology. It can kill bacteria and mold and everything else, almost like a magic wand," Rupnow said.

The ozone treatment worked so well that Rupnow brought the technology back home to Wisconsin, launching his company six years ago.

He then worked to improve the efficiency of the ozone washing systems, working with Alliance Laundry Systems in Ripon, and last year launched EcoWash, a line of clothes washers.

### Energy savings

Last year, the state Focus on Energy program did an independent test of the EcoWash system after it was installed at the Fairfield Inn in Middleton. Auditors found the system cut washing costs in half, from \$1.06 a load to 50 cents.

Focus began offering incentives for customers to deploy the technology, as it fits in with the state energy efficiency program's mission to cut statewide energy use.

According to Focus, the EcoWash system cuts energy use by 45% as well as cutting detergent, chemical and hot water use. Ozone also kills bacteria faster than chlorine - which is why European swimming pools are disinfected with ozone instead of chlorine.

The technology doesn't make sense for light washing loads or home washing. But businesses can see a payback of less than a year on their investment. Focus on Energy says it's best suited for places that go through a lot of laundry, such as 150-room hotels, 100-bed nursing homes or buildings that have at least 1,000 pounds of laundry to wash every day.

The Wilderness Resort in Wisconsin Dells installed two machines in one area of the water park resort. Those machines alone handle 16,000 pounds of towels and guest room bed sheets a day.

"The laundry's coming out bright white clean, and it's reduced the amount of chemicals we have to use by about 25%, because ozone has such a high kill rate for bacteria," said Pete Tennis, Wilderness director of housekeeping.

Wilderness is also saving on hot water costs because it can run the ozone technology with cold-water wash cycles.

"We don't have water that gets over 70 degrees," Tennis said. "Except in the pools."

Ozone can be harmful at high concentrations, but the ozone systems are designed with ambient ozone safety monitors enabling automatic shutoff to prevent high concentrations from being released.

"It's a volatile chemical and that can go into the air," Tennis said. The resort hasn't experienced any problems with leaking ozone, he said.

### New markets

Rupnow also is seeing demand from correctional institutions, many of which are tapping funds from the American Recovery and Reinvestment Act grants to reduce energy use - and taxpayer-funded utility bills - in government buildings.

Last week, he installed a system in Springfield, Mo., at the local jail. The Waukesha Correctional Institution also installed the system.

"Since the installation of these units, our gas usage has dropped by 3,000 therms per month at our jail," said James Elsbury, facility supervisor for the Waukesha County Department of Public Works.

To meet demand, Ozone Co. has expanded to 11 employees and added sales offices around the country and in Puerto Rico.

Sales at the privately held firm are projected at \$1 million this year, and through the first half of the year, they have already doubled last year's sales.

Worldwide, the market for ozone disinfection technology is projected to increase to \$444 million in 2012 from \$322 million in 2007, according to a report last year by the Massachusetts market research firm BCC Research. Markets include swimming pool and spa water disinfection, agriculture, groundwater remediation, odor control and wastewater treatment plants.

A key growth market is the food industry, Rupnow said, given its desire to eliminate harmful bacteria.

"We were strictly focused on ozone laundry for a number of years and now we're branching out to other industries - drinking water applications, food applications, swimming pool applications."

Branching into new markets brought Rupnow back to the Statz Brothers farm in Sun Prairie. The farm now is using ozone to clean milk pipelines after the cows are done milking. The latest experiment: spraying ozonated water on the cows' feet to prevent heel warts.

"The ozonated water will kill the bacteria on their feet," Statz said.



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