

Orange County Public Schools: A VendingMiser® Case Study

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Turn off Lights, Turn down Heat & Air Conditioners, but Vending Machines Often Overlooked for Big Energy Savings

When energy prices begin to hurt, do what many schools, businesses and governments do.

They turn down the heating and air conditioning, reduce lighting use, switch off computers, office equipment and appliances, and seek out lower priced electricity.

But after a time, they run out of things to turn down, cut back or eliminate and that's when they begin considering (niche) energy conservation technology.

It's what happened at Orange County Public Schools (OCPS), Florida, one of the fifteen biggest school districts in the nation with more than 200 schools and 200,000 students and teachers.

When Florida's energy costs began to peak, hit hard by the worst hurricane season on record, Orange County Public Schools acted.

Brian Frost, President of Resource Efficiency Solutions, Inc. (RES), said Orange County Public Schools was proactive in seeking out all possible ways to save energy.

The school district set up an energy conservation committee made up of education administrators and energy professionals, local authorities, energy utility representatives, and local businesses.

With energy expertise from varying perspectives they set to work.

"Their view was either the school district could keep spending more money FOR utilities, or it could take action to save money ON utilities, and instead spend it on education," Frost said.

Savings "Power" of EnergyMisers

Brian Frost's company is a distributor of EnergyMiser products (VendingMisers®, CoolerMisers™, SnackMisers™, and PlugMisers™) developed by USA Technologies Inc., of Malvern, Pennsylvania.

Frost says the "power" of USAT'S technology lies in its capability to reduce by approximately half the amount of energy consumed by the equipment it is attached to – whether refrigerated vending machines or glass front coolers, snack machines, computer terminals, and appliances and plug loads.

"The OCPS conservation committee did the math. They estimated that they had at least 1,000 cold drink vending machines on campus, and realized the potential energy savings could be huge."

\$180,000 annual cost reduction

The school districts estimated their cold drink vending machines cost about \$30 a month to operate and in total were costing the district more than \$360,000 a year in energy. The district believed the VendingMiser could save about \$180,000 a year in energy costs, with a "payback" of eight months on the investment.

After the positive results from the high school, Orange County Public Schools decided to deploy VendingMisers for all cold drink vending machines district wide and earlier this year purchased 1,000 VendingMisers.

Immediately when the VendingMisers were delivered, the school district's energy and maintenance teams began installing the solutions. Minimal training was required.

"They devised a rapid install method that we expect will result in all 1000 misers being installed inside a month," said Frost. "The installation is plug-and-play, and the energy savings are immediate."

Smart business sense

Frost says installing VendingMisers not only makes energy and environmental sense, but it's smart for business.

"Energy costs in Florida rose about 20%, but the Northeast has been harder hit with increases of 70% or more, and when there's a payback on the investment of under a year, it's just a smart thing to do," he says.

Increasingly, some of the biggest companies in America are purchasing the miser product line from USA Technologies, including a Fortune 50 company that is currently installing VendingMisers on 20,000 of its vending machines.

"They're doing it as good corporate citizens, contributing towards energy conservation, but they are also doing it to save money and pass the savings on to their customers. When you can reduce your operating costs, you build a stronger, more financially secure company, and you're not wasting money."

VendingMisers operate on sensing occupancy and ambient temperature. For example, during lunch breaks and between classes at schools, the machines may be in constant use and in full operation mode. But when students are in class, or the schools close for the night or are shut for vacations, the VendingMiser powers down the vending machines and will only cycle on intermittently according to the ambient temperature to keep the beverages cool.

Valuable Lessons Learned

Some schools try unplugging the machines or using timers during vacations or holidays, only to cause more cost. The biggest problem with turning the machine off manually include mold and mildew damaging machines, the cost to re-cool the product, warm product, and risk involved in sending maintenance crews to constantly disconnect and reconnect machines or adjust timers.

Frost says the VendingMiser installation experience at schools and colleges exposed a number of important lessons learned for the entire vending industry.

Schools learned not to place vending machines in direct sunlight, where the energy saving potential was lessened by about 25%. Machines located outdoors should be placed under covered walkways or in shelter or shade..

High schools and middle schools in particular experienced their biggest savings from misers installed on vending machines and coolers in field houses, or concession areas located near sports fields.

"Before installing misers, these machines were largely used only during sports activities. The rest of the time they largely wasted power," said Frost.

Schools taking the lead

Another lesson learned was generating awareness of energy conservation technology. When schools saw for themselves the savings from one technology solution, they began asking about technology available for other machines and appliances, such as computer terminals and screens, personal heaters and fans, and everyday plug loads.

"We have noticed a marked increase in demand for the USA Technology energy solutions from schools. Educators and students are showing admirable leadership in responding to the President's call to conserve and use technology to lower the drain on the nation's energy grid," he said.

Frost reports the OCPS is now considering installing additional misers on another estimated 1000 glass front coolers and snack machines located on campuses, hoping to double the savings the district is already anticipating annually.

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